TRANSPORTATION AND CIRCULATION STUDY

ALCATRAZ FERRY EMBARKATION EIS

GOLDEN GATE NATIONAL RECREATION AREA
CALIFORNIA

DRAFT
December 2013

APPENDIX A
SUPPLEMENTAL TRANSPORTATION AND CIRCULATION STUDY

MEMORANDUM

To:	Patricia Sacks and Steven Culver, National Park Service	**Date:**	December 13, 2013
From:	Joshua Burnam, Anchor QEA	**Project:**	110772-01.01
Cc:	Brian Aviles, National Park Service; Chris Mitchell, Fehr and Peers; Katie Chamberlin and Lena DeSantis, Anchor QEA, LLC		
Re:	DRAFT Task 8F Alcatraz Ferry Embarkation EIS: Supplemental Transportation and Circulation Study for the Fort Mason Ferry Service		

This memorandum contains the results of the additional transportation impact analyses for the Alcatraz Ferry Embarkation Environmental Impact Statement (EIS) Transportation and Circulation Study. The Alcatraz Ferry Embarkation EIS Transportation and Circulation Study analyzes potential traffic impacts associated with developing a primary embarkation site at Pier 31½, Pier 41, and Lower Fort Mason (Pier 3) to support ferry services to Alcatraz Island and other Golden Gate National Recreation Area (GGNRA) parklands. This supplemental analysis includes an additional component: a new ferry berth located between Piers 1 and 2 at Lower Fort Mason. The berth is expected to support one 220-passenger ferry providing intermittent special ferry service within the San Francisco Bay (Bay). The service would operate under all project alternative scenarios in addition to ferry services provided at the primary embarkation sites. This analysis focuses on the impacts that may occur as a result of combining this additional service with the two Port of San Francisco (Port) sites (Pier 31½ and Pier 41).

The analysis of the Lower Fort Mason Alternative in the Transportation and Circulation Study includes the assumption that a third berth would be constructed at Lower Fort Mason in conjunction with the embarkation facility. Therefore, the combined effects of locating the embarkation facility at Lower Fort Mason and operating the ferry service from Lower Fort Mason described above have already been assessed. This memorandum focuses on the combined effects of operating the embarkation facility from either of the two Port sites and operating supplemental ferry service from Lower Fort Mason.

Each of the project alternatives assumes that trips are made to separate geographic sites. Therefore, this report analyzes the combined transportation impact of each multisite project alternative, plus the Fort Mason ferry berth, describing the travel demand associated with each alternative and how it would affect traffic, transit capacity, parking, and bicycle and pedestrian circulation.

The project study areas, regulatory framework, analysis methodologies, and affected environment described in the Transportation and Circulation Study also apply to the analysis of this Fort Mason ferry berth. The analysis identifies that the Fort Mason ferry berth would have significant impacts to the transportation network that would require mitigation.

PROPOSED PROJECT TRAVEL DEMAND

The alternatives analyzed in this report are as follows:

- Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth
- Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth

Travel demand for the Fort Mason Ferry Berth component was first analyzed separate from the primary embarkation site components at Pier 31½ and Pier 41. The results were then aggregated with the primary embarkation site components results from the Transportation and Circulation Study to represent the full project travel demand of each alternative.

TRIP GENERATION

TOTAL PERSON TRIP GENERATION

Daily and peak hour person trip generation forecasts for the Pier 31½ and Pier 41 primary embarkation site components are identical to the forecasts described in Chapter 3 of the Transportation and Circulation Study. The ultimate use of the proposed Fort Mason ferry berth is yet undefined; however, the additional ferry service could be used as a water taxi (e.g., a circular route that serves multiple Park Service sites in the San Francisco Bay [Bay]) or special event service, either bringing visitors to Fort Mason from other locations in the Bay Area or taking visitors from Fort Mason to other sites. The berth would accommodate a 220-person ferry, and the ferry would operate one trip per peak day, up to three times per week. The analysis in this memorandum examines the effects of operating the trip during either the a.m. or p.m. peak hour, as it could occur during either peak hour; however, the service would not likely operate during both peak hours on a single day.

Table 1 summarizes the existing, future, and net new daily person trips to the primary embarkation and Fort Mason ferry berth sites.

TABLE 1. EXISTING AND FUTURE DAILY PERSON TRIPS TO PRIMARY EMBARKATION AND FORT MASON FERRY BERTH SITES

Visitors	Peak Daily Person Trips[3]		
	No Action/Baseline	**Action Alternatives**	**Net New Person Trips**
Near Term			
Primary Embarkation Site Components			
Alcatraz Tour Visitors[1]	5,460	5,460	0
Non-Alcatraz Tour Visitors[1]	700	1,090	390
Fort Mason Ferry Berth Component			
Fort Mason Visitors[2]	0	220	220
Total	6,160	6,770	610
Long-term (2035)			
Primary Embarkation Site Components			
Alcatraz Tour Visitors	6,600	6,600	0
Non-Alcatraz Tour Visitors	800	1,190	390
Fort Mason Ferry Berth Component			
Fort Mason Visitors	0	220	220
Total	**7,400**	**8,010**	**610**

Notes:
1 Source: URS 2011.
2 Based on capacity of largest vessel that would operate from the berth.
3 Assumes 1 of the 3 days per week that Fort Mason ferry service is assumed to operate.

The number of peak hour trips to the primary embarkation sites at Pier 31½ and Pier 41 would be the same as described in Chapter 3 of the Transportation and Circulation Study, for those respective alternatives. To assess the peak hour trips to the Fort Mason ferry berth, this study assesses the potential for those trips to occur in the weekday a.m. and p.m. peak hours and the weekend peak hour. The analysis assumes that one ferry would be in operation per peak day, and that an at-capacity ferry would depart the berth at the end of the study's peak hour periods. This study assumes that 220 persons would travel to the site in the hour leading up to the ferry departure. Under these assumptions, there would be no outbound trips associated with the Fort Mason ferry berth during any of the study's peak hour periods.

Table 2 summarizes resulting existing and future peak hour person trips to the primary embarkation sites at Pier 31½ and Pier 41. As noted above, this trip generation forecast is identical to the respective alternatives described in the Transportation and Circulation Study. Table 3 summarizes the resulting existing and future peak hour person trips to the Fort Mason ferry berth site.

TABLE 2. EXISTING AND FUTURE PEAK HOUR PERSON TRIPS TO PRIMARY EMBARKATION SITE

Hours	Inbound Person Trips		Outbound Person Trips	
	Existing (2010)	Future (2035)	Existing (2010)	Future (2035)
No Action Alternative				
a.m. Peak Hour (8 to 9 a.m.)	1,200	1,440	0	0
p.m. Peak Hour (5 to 6 p.m.)	600	720	1,050	1,260
Saturday	1,200	1,440	1,050	1,260
Action Alternatives				
a.m. Peak Hour (8 to 9 a.m.)	1,270	1,510	0	0
p.m. Peak Hour (5 to 6 p.m.)	640	760	1,110	1,320
Saturday	1,270	1,510	1,110	1,320

TABLE 3. EXISTING AND FUTURE PEAK HOUR PERSON TRIPS TO FORT MASON FERRY BERTH SITE FOR PIER 31½ AND PIER 41 ACTION ALTERNATIVES

Hours	Inbound Person Trips		Outbound Person Trips	
	Existing (2010)	Future (2035)	Existing (2010)	Future (2035)
a.m. Peak Hour (8 to 9 a.m.)	220	220	0	0
p.m. Peak Hour (5 to 6 p.m.)	220	220	0	0
Saturday	220	220	0	0

Analysis Alternatives

The primary embarkation site alternatives are located in three distinct areas along the waterfront with differing transportation facilities and land use. Therefore, unique mode split information is required for each of the proposed sites.

Mode Split Analysis

Primary Embarkation Site Components

Mode split methodology for the primary embarkation site (at piers 31½ and 41) components were identical to the methodology for the action alternatives described in Chapter 3 of the Transportation and Circulation Study.

Fort Mason Ferry Berth Component

Mode split methodology for the Fort Mason ferry berth component was identical to the methodology for the Pier 3 Alternative scenarios described in Chapter 3 of the Transportation and Circulation Study. The assessment of impacts associated with the new berth at Fort Mason assumes no shuttle or extension of the F-Market & Wharves historic streetcar.

Project Trips by Mode

Person trips by mode were determined from the total person trip generation and mode split data described previously. Table 4 summarizes the resulting inbound and outbound person trips by mode for each of the proposed alternatives.

TABLE 4. PERSON TRIPS (INBOUND / OUTBOUND / TOTAL) BY MODE

Mode	Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative		Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative	
	Pier 31½ Component	Fort Mason Ferry Berth Component	Pier 41 Component	Fort Mason Ferry Berth Component
AM Peak Hour (8 to 9 a.m.)				
Walk/Bike	306 / 0 / 306	24 / 0 / 24	268 / 0 / 268	24 / 0 / 24
Tour Bus	64 / 0 / 64	15 / 0 / 15	102 / 0 / 102	15 / 0 / 15
Taxi	140 / 0 / 140	18 / 0 / 18	77 / 0 / 77	18 / 0 / 18
Other Public Transit	204 / 0 / 204	68 / 0 / 68	306 / 0 / 306	68 / 0 / 68
F-Line	217 / 0 / 217	0 / 0 / 0	128 / 0 / 128	0 / 0 / 0
Other Public Transit + Shuttle	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0
Walk + Shuttle	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0
Car + Shuttle	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0
Car + F Line	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0
Car + Walk (Other)	344 / 0 / 344	15 / 0 / 15	395 / 0 / 395	15 / 0 / 15
Car + Walk (Fort Mason)	0 / 0 / 0	79 / 0 / 79	0 / 0 / 0	79 / 0 / 79
Other	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0
PM Peak Hour (5 to 6 p.m.)				
Walk/Bike	153 / 268 / 421	24 / 0 / 24	134 / 234 / 368	24 / 0 / 24
Tour Bus	32 / 56 / 88	15 / 0 / 15	51 / 90 / 141	15 / 0 / 15
Taxi	70 / 123 / 193	18 / 0 / 18	39 / 67 / 106	18 / 0 / 18
Other Public Transit	102 / 179 / 281	68 / 0 / 68	153 / 268 / 421	68 / 0 / 68

Mode	Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative		Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative	
	Pier 31½ Component	Fort Mason Ferry Berth Component	Pier 41 Component	Fort Mason Ferry Berth Component
F-Line	109 / 190 / 299	0 / 0 / 0	64 / 112 / 176	0 / 0 / 0
Other Public Transit + Shuttle	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0
Walk + Shuttle	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0
Car + Shuttle	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0
Car + F Line	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0
Car + Walk (Other)	172 / 301 / 473	15 / 0 / 15	198 / 346 / 544	15 / 0 / 15
Car + Walk (Fort Mason)	0 / 0 / 0	79 / 0 / 79	0 / 0 / 0	79 / 0 / 79
Other	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0
Weekend Peak Hour				
Walk/Bike	293 / 256 / 549	22 / 0 / 22	255 / 223 / 478	22 / 0 / 22
Tour Bus	115 / 101 / 216	18 / 0 / 18	115 / 101 / 216	18 / 0 / 18
Taxi	191 / 167 / 358	24 / 0 / 24	102 / 90 / 192	24 / 0 / 24
Other Public Transit	153 / 134 / 287	44 / 0 / 44	204 / 179 / 383	44 / 0 / 44
F-Line	140 / 123 / 263	0 / 0 / 0	90 / 78 / 168	0 / 0 / 0
Other Public Transit + Shuttle	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0
Walk + Shuttle	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0
Car + Shuttle	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0
Car + F Line	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0
Car + Walk (Other)	369 / 323 / 692	18 / 0 / 18	497 / 435 / 932	18 / 0 / 18
Car + Walk (Fort Mason)	0 / 0 / 0	92 / 0 / 92	0 / 0 / 0	92 / 0 / 92
Other	13 / 12 / 25	2 / 0 /2	13 / 12 / 25	2 / 0 /2

Note:
Values represent total person trips generated by the entire alternative and not net "new" trips.

Using similar methodologies to those employed in the Transportation and Circulation Study, the number of vehicle trips generated by project alternatives (for both components of each) was calculated, and is summarized in Table 5.

TABLE 5. VEHICLE TRIPS (INBOUND / OUTBOUND / TOTAL) BY MODE

Mode	Alternative			
	Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative		Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative	
	Pier 31½ Component	Fort Mason Ferry Berth Component	Pier 41 Component	Fort Mason Ferry Berth Component
AM Peak Hour (8 to 9 a.m.)				
Tour Bus	2 / 0 / 2	1 / 0 / 1	3 / 0 / 3	1 / 0 / 1
Taxi	36 / 0 / 36	5 / 0 / 5	20 / 0 / 20	5 / 0 / 5
Car + Walk	89 / 0 / 89	4 / 0 / 4	102 / 0 / 102	4 / 0 / 4
Car + Walk (Fort Mason)	0 / 0 / 0	21 / 0 / 21	0 / 0 / 0	21 / 0 / 21
Car + Shuttle	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0
Car + F-Line	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0
Total	127 / 0 / 127	31 / 0 / 31	125 / 0 / 125	31 / 0 / 31

Mode	Alternative			
	Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative		Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative	
	Pier 31½ Component	Fort Mason Ferry Berth Component	Pier 41 Component	Fort Mason Ferry Berth Component
PM Peak Hour (5 to 6 p.m.)				
Tour Bus	1 / 2 / 3	1 / 0 / 1	2 / 3 / 5	1 / 0 / 1
Taxi	18 / 32 / 50	5 / 0 / 5	11 / 18 / 29	5 / 0 / 5
Car + Walk	45 / 77 / 122	4 / 0 / 4	51 / 89 / 140	4 / 0 / 4
Car + Walk (Fort Mason)	0 / 0 / 0	21 / 0 / 21	0 / 0 / 0	21 / 0 / 21
Car + Shuttle	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0
Car + F-Line	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0
Total	64 / 111 / 175	31 / 0 / 31	64 / 110 / 174	31 / 0 / 31
Weekend Peak Hour				
Tour Bus	3 / 3 / 6	1 / 0 / 1	3 / 3 / 6	1 / 0 / 1
Taxi	50 / 43 / 93	7 / 0 / 7	27 / 23 / 50	7 / 0 / 7
Car + Walk	95 / 84 / 179	5 / 0 / 5	127 / 111 / 238	5 / 0 / 5
Car + Walk (Fort Mason)	0 / 0 / 0	24 / 0 / 24	0 / 0 / 0	24 / 0 / 24
Car + Shuttle	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0
Car + F-Line	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0
Total	148 / 130 / 278	37 / 0 / 37	157 / 138 / 295	37 / 0 / 37

TRIP DISTRIBUTION AND ASSIGNMENT

Vehicle trip distribution and assignment methodology for the Fort Mason ferry berth was identical to the vehicle trip methodology for the primary embarkation site analysis, detailed in Chapter 3 of the Transportation and Circulation Study. The resulting total origin-destination percentages are provided in Table 6.

TABLE 6. PROJECT TRIP ORIGINS/DESTINATIONS

Component	Percent Distribution of Project Trips to Site and Leaving Site		
	a.m. Peak Hour	p.m. Peak Hour	Weekend Peak Hour
Pier 31½ Component			
West	28%	28%	28%
Southwest	46%	46%	43%
South	26%	26%	29%
Pier 41 Component			
West	54%	54%	52%
South	16%	16%	15%
Southeast	30%	30%	33%
Fort Mason Boat Berth Component (Applies to Both New Alternatives)			
West	8%	9%	10%
Southwest	11%	11%	12%
Southeast	63%	62%	60%
East	18%	18%	18%

Similar to the vehicle trip assignment, transit trips were assigned to specific routes and screenlines based on the trip distribution patterns shown in Table 6.

DAILY PARKING DEMAND

Pier 31½ and Pier 41 Primary Embarkation Site Components

Table 7 presents the parking demand estimates for the primary embarkation site components of the action alternatives for the Port sites, as described in the Transportation and Circulation Study.

TABLE 7. PARKING DEMAND ESTIMATES AT PIER 31½ AND PIER 41

Visitors and Daily Cars	Pier 31½[1]		Pier 41	
	Weekday	Weekend Days	Weekday	Weekend Days
Estimated Daily Alcatraz Island Visitors	390	390	6,550	6,550
Daily Cars Parking (Excluding Taxis)	26	27	519	653
Daily Cars Parking On-Street	3	5	114	111
Daily Cars Parking in a Lot	7	7	119	137
Daily Cars Parking in a Garage	16	17	291	405

Note:
1 Represents the net increase in visitors at the embarkation site compared to existing conditions.

Fort Mason Ferry Berth Component

Table 8 presents parking demand forecasts for the Fort Mason ferry berth component. Approximately 24 daily cars on weekdays and 28 cars on weekend days are expected to park in the parking lot at Fort Mason or on-streets in the surrounding neighborhood.

TABLE 8. PARKING DEMAND ESTIMATES FOR FORT MASON FERRY BERTH

Demand	"No F-Line Extension or Shuttle" Scenario	
	Weekday	Weekend Day
Estimated daily Fort Mason Ferry Berth Visitors	220	220
Average Vehicle Occupancy	3.9	3.9
Daily Cars Parking (Excluding Those Arriving by Taxi)	24	28

PARKING DEMAND DETERMINATION FOR IMPACT ANALYSIS

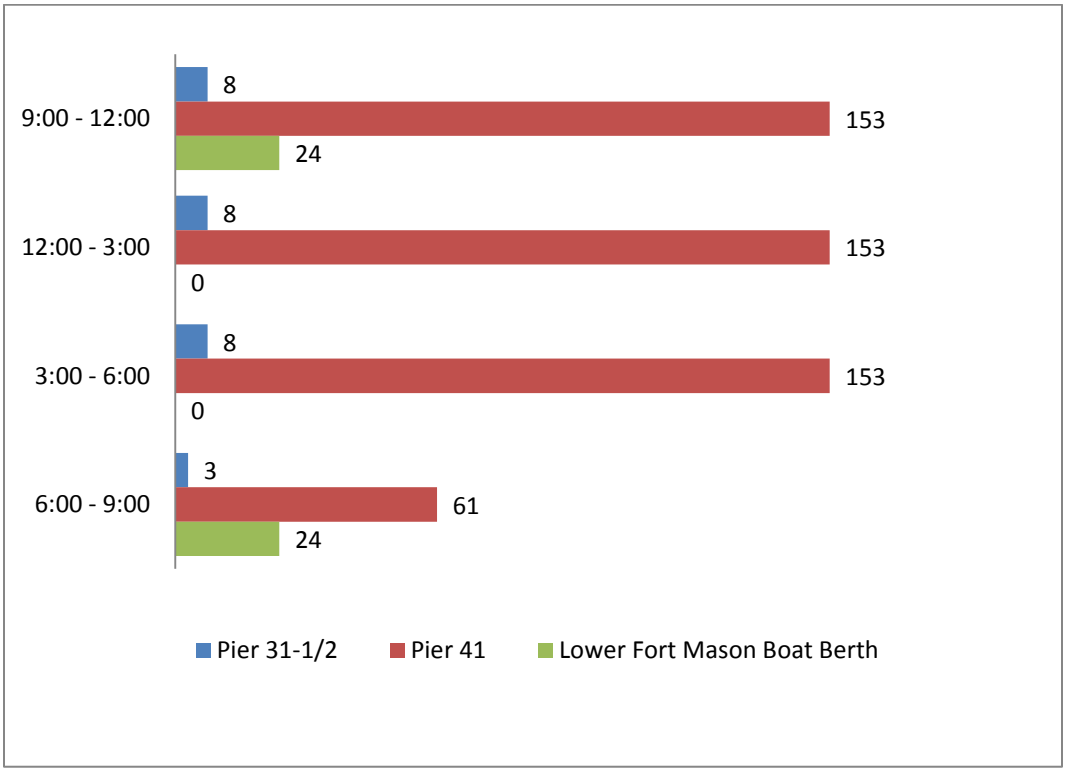
For the primary embarkation site components at Pier 31½ and Pier 41, parking demand analysis by time period (9:00 a.m. to 12:00 p.m.; 12:00 to 3:00 p.m.; 3:00 to 6:00 p.m.; and, 6:00 to 9:00 p.m.) was determined by reviewing the Alcatraz Island ferry schedule and assigning the total daily vehicle trips to the study areas on an hourly basis. The calculated parking demand over the course of a typical day was determined by comparing the total number of vehicle trips generated over the course of a day with the ferry departure and arrival schedules. This process is described in more detail in the Transportation and Circulation Study.

Parking demand for the Fort Mason ferry berth component followed the same methodology as above. To assess the highest demand scenario, the weekday a.m. peak hour analysis assumes that the ferry departs at the end of the a.m. peak hour, and the weekday p.m. peak hour analysis assumes that the ferry departs at the end of the p.m. peak hour. The weekend midday peak hour analysis assumes that one ferry departure occurs at the end of the weekend midday peak hour.

Figures 1 and 2 summarize the parking demand at each primary embarkation site and at the Fort Mason Ferry Berth site during the four analysis periods on a typical weekday and weekend day, respectively.

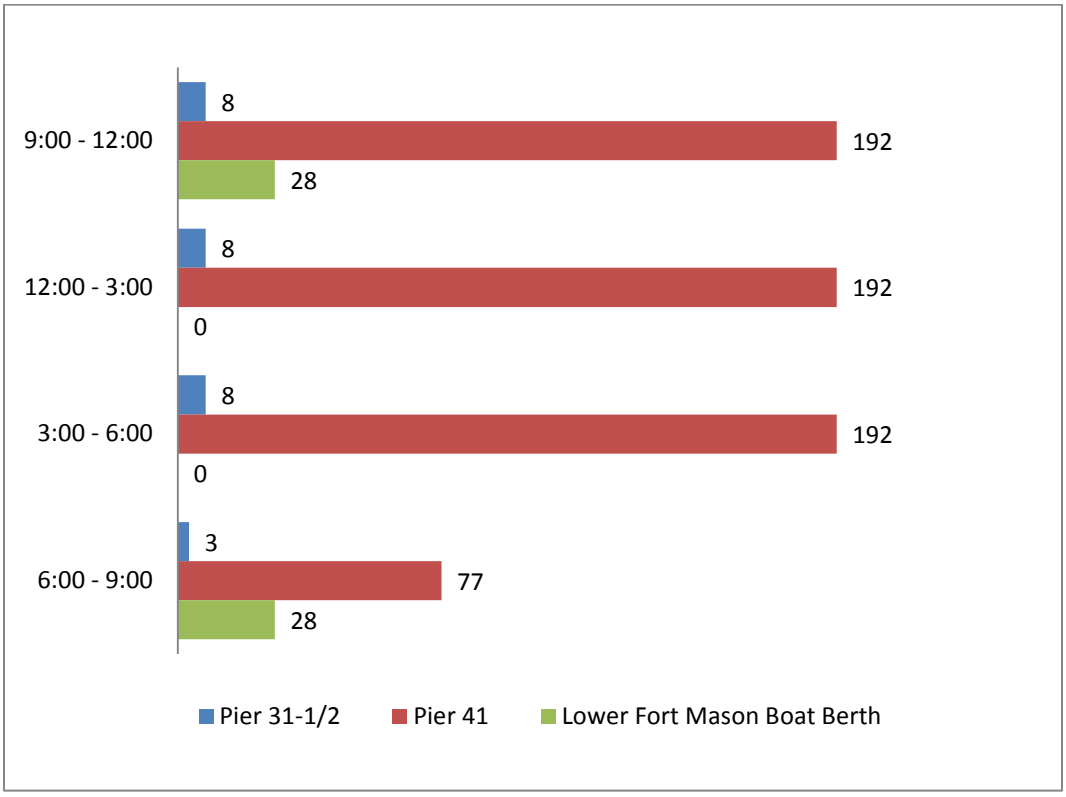
Within each time period, total parking demand was assigned to off- and on-street categories based on survey responses described previously and tabulated for existing conditions as reported in Figures 1 and 2

FIGURE 1. WEEKDAY PARKING DEMAND BY ACTION ALTERNATIVE COMPONENT



Note:
Pier 31½ demand estimates reflect only "net" new parking demand, not parking for the entire project as it is already reflected in the background parking occupancy data.

FIGURE 2. WEEKEND PARKING DEMAND BY ACTION ALTERNATIVE COMPONENT



Note:
Pier 31½ demand estimates reflect only "net" new parking demand, not parking for the entire project as it is already reflected in the background parking occupancy data.

ENVIRONMENTAL CONSEQUENCES

This section describes the anticipated operating conditions of the transportation network as a result of the addition of the proposed Fort Mason ferry berth. Specific evaluations include the alternatives' impact on study intersections, transit, bicycles, pedestrians, and parking. This section also includes discussion of the potential effects during the construction of the project.

The significance thresholds and cumulative conditions forecasts of background growth in travel demand are identical to the ones used in the Transportation and Circulation Study. The effects of the No Action Alternative are also described in the Transportation and Circulation Study.

PIER 31½ PRIMARY EMBARKATION SITE WITH FORT MASON FERRY BERTH ALTERNATIVE

This section describes the anticipated effects of implementing the Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative, in which case a permanent facility would be constructed at the site of the existing primary embarkation facility and a permanent ferry berth facility would be constructed at Lower Fort Mason.

Construction

Although a basic construction schedule exists, detailed construction plans for the Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative have not yet been finalized. However, it is anticipated that the Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative would be similar to other recent construction activities along the northern San Francisco waterfront, including the Exploratorium at Pier 15, in terms of disruption levels and duration. Construction-related activities would generally occur Monday through Friday between 7:00 a.m. and 4:00 p.m. Construction is not anticipated to regularly occur on weekends or major legal holidays, but may occur on an as-needed basis.

Construction staging for the Pier 31½ component would occur primarily within the Pier 31½ site and on barges in the water adjacent to the site. Pedestrian circulation would be maintained along the Embarcadero throughout the construction process. The Park Service does not anticipate the need to close auto lanes or bicycle lanes on the Embarcadero given the amount of staging area on the site. However, if a need does arise, the closure would likely be short-term. If traffic, bicycle, parking, or sidewalk closures are needed, they would be coordinated with the City of San Francisco (City) to minimize the effects on local circulation. In general, lane and sidewalk closures are subject to review and approval by the Department of Public Works (DPW) and the San Francisco Municipal Transportation Authority (SFMTA).

Construction staging for the Fort Mason component would primarily occur within the Fort Mason site and on barges in the water adjacent to the site. The Fort Mason site is not adjacent to the nearby streets, and pedestrian circulation along the Bay Trail would be maintained throughout the construction process. The Park Service does not anticipate the need to close auto lanes or bicycle lanes on Bay Street or Marina Boulevard given the amount of staging area at on the site. However, if a need does arise, the closure would likely be short-term. If traffic, bicycle, parking, or sidewalk closures are needed, they would be coordinated with the City to minimize the effects on local circulation. In general, lane and sidewalk closures are subject to review and approval by the DPW and the SFMTA.

During construction, there would be a number of construction-related trucks entering and exiting each of the sites. While the trip distribution and mode split of construction workers are speculative to forecast, it is anticipated that the addition of the worker-related vehicle or transit trips would not substantially affect transportation conditions, as increases on local intersections or the transit network would be relatively small in relation to existing traffic levels and would be temporary in nature.

Construction workers who drive to either site would cause a temporary increase in parking demand and a decrease in supply. Construction workers would need to park either on-street or in parking facilities that currently have availability during the day. However, parking shortfalls would be temporary and would likely be similar to or lower than those associated with the Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative.

Under the Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative, this construction would occur simultaneously with and adjacent to operation of the existing embarkation facility, which may increase conflicts with pedestrians and visitors to the site. As noted above, detailed construction plans have not yet been prepared, but the Park Service will work to ensure that safe staging areas for visitors are provided and maintained at all times.

Therefore, the Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative's construction impacts were determined to be **less than significant**.

The findings for construction impacts for the Pier 31 ½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative were found to be identical to the construction impact findings for the Pier 31½ Alternative in the Transportation and Circulation Study.

Operation

Intersection Traffic

Near Term Conditions

Intersection turning movement volumes change as a result of project implementation. In general, if the Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative is selected, traffic volumes would increase slightly due to the addition of a third ferry berth at Pier 31½ and with the ferry berth at Fort Mason, both of which could accommodate additional service elsewhere in the Bay without increasing visitor levels at Alcatraz Island.

Tables 9 and 10 present the near- and long-term level-of-service (LOS) results for the No Action Alternative and for the two action alternatives, respectively.

The Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative would cause the all-way stop controlled intersection of **Webster Street/Marina Boulevard** to deteriorate from LOS D to LOS E in the a.m. peak hour. However, the volumes do not meet the peak hour traffic signal warrant criteria, and therefore, the impact would be considered **less than significant**.

For all other intersections under the Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative, the same intersections would operate at unacceptable LOS E or F as under the No Action Alternative. However, traffic volumes would only increase slightly compared to existing conditions because the site is currently generating a substantial number of trips already. The relatively small increases in traffic associated with the third berth at Pier 31½ and the additional berth at Fort Mason would neither contribute considerably to intersections already operating at unacceptable levels (i.e., increases to critical movements operating at LOS E or F at these intersections would be less than 5 percent), nor would they cause any intersections that would operate acceptably under the No Action Alternative to deteriorate to unacceptable levels. Therefore, traffic impacts associated with the Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative would be considered **less than significant**.

TABLE 9. NEAR-TERM CONDITIONS INTERSECTION LOS

Study Intersection		Traffic Control	Peak Hour	No Action Alternative/NEPA Baseline (Near-Term)		Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth (Near-Term)		Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth (Near-Term)	
				Delay	LOS	Delay	LOS	Delay	LOS
1	Mason Street/Marina Boulevard/Yacht Road/Lyon Street	Signal	AM	16.6	B	16.7	B	16.8	B
			PM	39.6	D	39.6	D	39.4	D
			WE	53.6	D	53.4	D	52.7	D
2	Divisadero Street/Marina Boulevard	AWSC	AM	**>50 (>50)**	**F (F)**	**>50 (>50)**	**F (F)**	**>50 (>50)**	**F (F)**
			PM	**>50 (>50)**	**F (F)**	**>50 (>50)**	**F (F)**	**>50 (>50)**	**F (F)**
			WE	**37.4 (45.4)**	**E (E)**	**38.7 (46.9)**	**E (E)**	**41.8 (>50)**	**E (F)**
3	Scott Street/Cervantes Boulevard/Marina Boulevard	Signal	AM	24.1	C	24.7	C	25.8	C
			PM	10.2	B	10.2	B	10.2	B
			WE	14.9	B	15.0	B	15.2	B
4	Fillmore Street/Marina Boulevard	Signal	AM	11.8	B	11.9	B	12.0	B
			PM	10.7	B	10.8	B	10.9	B
			WE	9.5	A	9.5	A	9.6	A
5	Webster Street/Marina Boulevard	AWSC	AM	28.6 (35.0)	D (D)	**29.9 (36.7)**	**D (E)**	**31.9 (39.3)**	**D (E)**
			PM	**37.2 (47.8)**	**E (E)**	**38.0 (49.0)**	**E (E)**	**40.4 (>50)**	**E (F)**
			WE	16.3 (17.1)	C (C)	16.7 (17.5)	C (C)	17.9 (18.7)	C (C)
6	Buchanan Street/Marina Boulevard/Beach Street	Signal	AM	13.9	B	14.0	B	14.1	B
			PM	12.7	B	12.7	B	12.7	B
			WE	16.5	B	17.2	B	17.5	B
7	Laguna Street/Marina Boulevard	Signal	AM	1.6	A	1.6	A	1.6	A
			PM	3.0	A	3.1	A	3.1	A
			WE	2.6	A	2.7	A	2.8	A
8	Fillmore Street/Bay Street/Cervantes Boulevard	Signal	AM	24.1	C	24.1	C	24.1	C
			PM	23.7	C	23.7	C	23.7	C
			WE	16.8	B	16.8	B	16.8	B
9	Laguna Street/Bay Street	Signal	AM	53.1	D	52.8	D	54.2	D
			PM	40.3	D	40.3	D	40.7	D
			WE	27.5	C	27.4	C	28.0	C
10	Franklin Street/Bay Street	Signal	AM	17.2	B	18.4	B	18.6	B
			PM	11.9	B	12.6	B	12.7	B
			WE	15.3	B	15.3	B	15.2	B
11	Van Ness Avenue/Bay Street	Signal	AM	14.2	B	14.3	B	14.5	B
			PM	22.3	C	22.2	C	22.3	C
			WE	12.2	B	12.4	B	12.7	B
12	Divisadero Street/Lombard Street	Signal	AM	21.7	C	21.8	C	22.2	C
			PM	20.8	C	20.9	C	21.1	C
			WE	19.8	B	19.8	B	19.9	B

Study Intersection		Traffic Control	Peak Hour	No Action Alternative/NEPA Baseline (Near-Term)		Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth (Near-Term)		Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth (Near-Term)	
				Delay	LOS	Delay	LOS	Delay	LOS
13	Fillmore Street/Lombard Street	Signal	AM	18.8	B	18.8	B	19.0	B
			PM	10.3	B	10.3	B	10.3	B
			WE	11.3	B	11.3	B	11.3	B
14	Laguna Street/Lombard Street	Signal	AM	11.8	B	11.8	B	11.9	B
			PM	18.6	B	18.6	B	18.7	B
			WE	20.0	B	20.0	B	20.1	C
15	Franklin Street/Lombard Street	Signal	AM	26.2	C	26.5	C	26.5	C
			PM	24.5	C	24.6	C	24.8	C
			WE	**57.2**	**E**	**58.6**	**E**	**57.9**	**E**
16	Van Ness Avenue/Lombard Street	Signal	AM	47.5	D	47.6	D	48.5	D
			PM	25.4	C	25.4	C	25.7	C
			WE	26.5	C	26.5	C	28.0	C
17	Taylor Street/Jefferson Street	Signal	AM	10.8	B	10.8	B	10.8	B
			PM	13.9	B	13.9	B	13.9	B
			WE	14.0	B	14.0	B	13.9	B
18	Powell Street/Jefferson Street/The Embarcadero	Signal	AM	8.0	A	8.0	A	8.1	A
			PM	10.2	B	10.2	B	10.2	B
			WE	16.8	B	16.7	B	16.8	B
19	Columbus Avenue/Beach Street	SSSC	AM	**6.7 (>50)**	**A (F)**	**6.7 (>50)**	**A (F)**	**6.6 (>50)**	**A (F)**
			PM	**4 (>50)**	**A (F)**	**4 (>50)**	**A (F)**	**4 (>50)**	**A (F)**
			WE	**15 (>50)**	**B (F)**	**15 (>50)**	**B (F)**	**15.2 (>50)**	**C (F)**
20	Taylor Street/Beach Street	Signal	AM	11.1	B	11.1	B	11.3	B
			PM	12.8	B	12.8	B	12.9	B
			WE	13.1	B	13.1	B	14.3	B
21	Stockton Street/Beach Street	Signal	AM	20.4	C	20.9	C	20.0	B
			PM	20.1	C	20.2	C	20.1	C
			WE	21.2	C	21.3	C	21.2	C
22	Grant Street/Beach Street/The Embarcadero	Signal	AM	14.3	B	14.3	B	14.4	B
			PM	19.1	B	19.1	B	19.2	B
			WE	35.5	D	35.7	D	37.2	D
23	Leavenworth Street/Columbus Street/North Point Street	Signal	AM	17.0	B	17.0	B	16.7	B
			PM	17.9	B	17.9	B	17.7	B
			WE	15.0	B	15.0	B	14.8	B
24	Taylor Street/North Point Street	Signal	AM	14.8	B	14.8	B	15.2	B
			PM	15.4	B	15.5	B	16.2	B
			WE	12.5	B	12.5	B	13.2	B

Study Intersection		Traffic Control	Peak Hour	No Action Alternative/NEPA Baseline (Near-Term)		Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth (Near-Term)		Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth (Near-Term)	
				Delay	LOS	Delay	LOS	Delay	LOS
25	Powell Street/North Point Street	Signal	AM	17.0	B	17.0	B	17.2	B
			PM	14.4	B	14.4	B	14.3	B
			WE	13.2	B	13.3	B	13.2	B
26	Stockton Street/North Point Street	Signal	AM	12.1	B	12.2	B	12.3	B
			PM	10.1	B	10.1	B	10.1	B
			WE	12.1	B	12.2	B	12.3	B
27	Kearny Street/The Embarcadero/North Point Street	Signal	AM	48.6	D	48.7	D	48.9	D
			PM	**>80**	**F**	**>80**	**F**	**>80**	**F**
			WE	**>80**	**F**	**>80**	**F**	**>80**	**F**
28	Hyde Street/Bay Street	Signal	AM	7.0	A	7.0	A	7.3	A
			PM	5.2	A	5.2	A	5.4	A
			WE	5.7	A	5.7	A	5.9	A
29	Columbus Avenue/Jones Street/Bay Street	Signal	AM	13.0	B	13.5	B	13.7	B
			PM	17.8	B	17.8	B	18.2	B
			WE	14.0	B	14.2	B	14.1	B
30	Taylor Street/Bay Street	Signal	AM	10.3	B	9.9	A	10.2	B
			PM	6.4	A	6.4	A	7.1	A
			WE	12.2	B	12.1	B	12.3	B
31	Powell Street/Bay Street	Signal	AM	13.8	B	13.9	B	13.9	B
			PM	9.6	A	9.7	A	9.6	A
			WE	12.1	B	12.1	B	12.1	B
32	Stockton Street/Bay Street	Signal	AM	13.5	B	13.5	B	13.5	B
			PM	7.4	A	7.5	A	7.5	A
			WE	11.6	B	11.7	B	11.7	B
33	Kearny Street/Bay Street	Signal	AM	6.5	A	6.6	A	6.5	A
			PM	11.9	B	11.9	B	11.9	B
			WE	7.5	A	7.5	A	7.5	A
34	The Embarcadero/Bay Street	Signal	AM	17.6	B	17.8	B	17.6	B
			PM	16.3	B	16.4	B	16.3	B
			WE	15.4	B	15.4	B	15.4	B
35	The Embarcadero/Sansome Street/Chestnut Street	Signal	AM	10.1	B	10.3	B	10.4	B
			PM	19.1	B	19.2	B	19.1	B
			WE	15.5	B	15.6	B	15.7	B
36	The Embarcadero/Battery Street/Lombard Street	Signal	AM	14.0	B	14.0	B	13.9	B
			PM	29.0	C	29.3	C	28.3	C
			WE	13.6	B	13.7	B	13.8	B

Study Intersection		Traffic Control	Peak Hour	No Action Alternative/NEPA Baseline (Near-Term)		Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth (Near-Term)		Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth (Near-Term)	
				Delay	LOS	Delay	LOS	Delay	LOS
37	The Embarcadero/Green Street	Signal	AM	10.0	A	10.0	A	10.0	A
			PM	11.9	B	11.9	B	11.9	B
			WE	6.0	A	6.0	A	6.0	A
38	Sansome Street/Broadway	Signal	AM	**59.8**	**E**	**60.4**	**E**	54.2	D
			PM	14.9	B	15.0	B	14.4	B
			WE	10.7	B	10.7	B	10.4	B
39	Battery Street/Broadway	Signal	AM	27.9	C	28.1	C	27.6	C
			PM	21.1	C	21.2	C	20.7	C
			WE	17.8	B	17.9	B	18.0	B
40	The Embarcadero/Broadway	Signal	AM	25.4	C	25.4	C	25.4	C
			PM	22.4	C	22.4	C	22.3	C
			WE	17.1	B	17.1	B	17.1	B
41	Powell Street/Beach Street	Signal	AM	7.1	A	6.9	A	7.0	A
			PM	14.8	B	14.7	B	14.8	B
			WE	14.1	B	14.1	B	14.0	B

Notes:
AM = a.m. peak hour
AWSC = all-way stop-controlled
NEPA = National Environmental Policy Act
PM = p.m. peak hour
SSSC = side street stop-controlled
WE = weekend peak hour

TABLE 10. LONG-TERM CUMULATIVE CONDITIONS (YEAR 2035) – INTERSECTION LOS

Study Intersection		Traffic Control	Peak Hour	NEPA Baseline/No Action Alternative (Year 2035)		Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth (Year 2035)		Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth (Year 2035)	
				Delay	LOS	Delay	LOS	Delay	LOS
1	Mason Street/Marina Boulevard/Yacht Road/Lyon Street	Signal	AM	39.5	D	39.9	D	42.6	D
			PM	43.6	D	43.5	D	43.2	D
			WE	**61.3**	**E**	**61.2**	**E**	**60.3**	**E**
2	Divisadero Street/Marina Boulevard	AWSC	AM	**>50 (>50)**	**F (F)**	**>50 (>50)**	**F (F)**	**>50 (>50)**	**F (F)**
			PM	**>50 (>50)**	**F (F)**	**>50 (>50)**	**F (F)**	**>50 (>50)**	**F (F)**
			WE	**40.4 (>50)**	**E (F)**	**41.7 (>50)**	**E (F)**	**46.1 (>50)**	**E (F)**
3	Scott Street/Cervantes Boulevard/Marina Boulevard	Signal	AM	**>80**	**F**	**>80**	**F**	**>80**	**F**
			PM	11.0	B	11.0	B	11.1	B
			WE	19.1	B	19.4	B	20.1	C

Study Intersection		Traffic Control	Peak Hour	NEPA Baseline/No Action Alternative (Year 2035)		Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth (Year 2035)		Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth (Year 2035)	
				Delay	LOS	Delay	LOS	Delay	LOS
4	Fillmore Street/Marina Boulevard	Signal	AM	6.7	A	7.6	A	9.8	A
			PM	10.3	B	10.3	B	10.4	B
			WE	8.5	A	8.4	A	8.5	A
5	Webster Street/Marina Boulevard	AWSC	AM	**>50 (>50)**	**F (F)**	**>50 (>50)**	**F (F)**	**>50 (>50)**	**F (F)**
			PM	**40.8 (>50)**	**E (F)**	**41.7 (>50)**	**E (F)**	**45 (>50)**	**E (F)**
			WE	18.5 (19.8)	C (C)	19 (20.3)	C (C)	20.8 (22.1)	C (C)
6	Buchanan Street/Marina Boulevard/Beach Street	Signal	AM	21.7	C	22.5	C	23.5	C
			PM	8.5	A	8.5	A	8.5	A
			WE	12.5	B	13.2	B	13.6	B
7	Laguna Street/Marina Boulevard	Signal	AM	5.1	A	5.0	A	5.2	A
			PM	0.9	A	0.9	A	0.9	A
			WE	2.7	A	2.7	A	2.8	A
8	Fillmore Street/Bay Street/Cervantes Boulevard	Signal	AM	24.4	C	24.4	C	24.4	C
			PM	32.3	C	32.3	C	32.3	C
			WE	30.1	C	30.2	C	30.2	C
9	Laguna Street/Bay Street	Signal	AM	**>80**	**F**	**>80**	**F**	**>80**	**F**
			PM	**>80**	**F**	**>80**	**F**	**>80**	**F**
			WE	**>80**	**F**	**>80**	**F**	**>80**	**F**
10	Franklin Street/Bay Street	Signal	AM	25.1	C	25.5	C	26.3	C
			PM	16.3	B	17.0	B	17.3	B
			WE	21.6	C	22.3	C	23.7	C
11	Van Ness Avenue/Bay Street	Signal	AM	13.7	B	13.8	B	13.9	B
			PM	16.1	B	16.1	B	16.1	B
			WE	12.1	B	12.2	B	12.5	B
12	Divisadero Street/Lombard Street	Signal	AM	**56.0**	**E**	**56.1**	**E**	**58.1**	**E**
			PM	54.4	D	54.6	D	**55.9**	**E**
			WE	40.8	D	40.8	D	41.1	D
13	Fillmore Street/Lombard Street	Signal	AM	45.2	D	45.4	D	47.3	D
			PM	12.5	B	12.5	B	12.7	B
			WE	43.5	D	43.7	D	43.4	D
14	Laguna Street/Lombard Street	Signal	AM	14.8	B	15.0	B	16.7	B
			PM	23.4	C	23.4	C	23.8	C
			WE	20.6	C	20.6	C	20.8	C
15	Franklin Street/Lombard Street	Signal	AM	27.9	C	28.2	C	28.4	C
			PM	30.9	C	31.1	C	32.7	C
			WE	27.1	C	27.4	C	28.0	C

Study Intersection		Traffic Control	Peak Hour	NEPA Baseline/No Action Alternative (Year 2035)		Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth (Year 2035)		Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth (Year 2035)	
				Delay	LOS	Delay	LOS	Delay	LOS
16	Van Ness Avenue/Lombard Street	Signal	AM	40.7	D	41.2	D	45.5	D
			PM	43.1	D	43.3	D	47.7	D
			WE	43.1	D	43.9	D	52.6	D
17	Taylor Street/Jefferson Street	Signal	AM	10.9	B	10.9	B	10.9	B
			PM	14.0	B	14.0	B	13.9	B
			WE	12.2	B	12.2	B	12.2	B
18	Powell Street/Jefferson Street/The Embarcadero	Signal	AM	7.4	A	7.4	A	7.4	A
			PM	16.9	B	16.9	B	16.9	B
			WE	47.1	D	47.1	D	47.1	D
19	Columbus Avenue/Beach Street	SSSC	AM	**10.8 (>50)**	**B (F)**	**10.8 (>50)**	**B (F)**	**10.8 (>50)**	**B (F)**
			PM	**4.8 (>50)**	**A (F)**	**4.8 (>50)**	**A (F)**	**4.9 (>50)**	**A (F)**
			WE	**34.8 (>50)**	**D (F)**	**34.9 (>50)**	**D (F)**	**35.6 (>50)**	**E (F)**
20	Taylor Street/Beach Street	Signal	AM	10.8	B	10.8	B	11.0	B
			PM	23.1	C	23.4	C	22.8	C
			WE	**>80**	**F**	**>80**	**F**	**>80**	**F**
21	Stockton Street/Beach Street	Signal	AM	18.0	B	18.1	B	17.7	B
			PM	25.5	C	25.7	C	25.7	C
			WE	33.8	C	34.5	C	35.7	D
22	Grant Street/Beach Street/The Embarcadero	Signal	AM	15.1	B	15.2	B	15.2	B
			PM	27.3	C	27.4	C	27.7	C
			WE	**>80**	**F**	**>80**	**F**	**>80**	**F**
23	Leavenworth Street/Columbus Street/North Point Street	Signal	AM	13.4	B	13.4	B	13.3	B
			PM	14.4	B	14.4	B	14.3	B
			WE	12.5	B	12.5	B	12.6	B
24	Taylor Street/North Point Street	Signal	AM	13.5	B	13.6	B	14.1	B
			PM	14.5	B	14.6	B	15.5	B
			WE	17.2	B	17.3	B	18.4	B
25	Powell Street/North Point Street	Signal	AM	14.3	B	14.4	B	14.0	B
			PM	17.9	B	18.0	B	17.9	B
			WE	33.1	C	33.1	C	32.7	C
26	Stockton Street/North Point Street	Signal	AM	12.0	B	12.1	B	12.3	B
			PM	12.6	B	12.7	B	12.7	B
			WE	10.4	B	10.5	B	10.8	B
27	Kearny Street/The Embarcadero/North Point Street	Signal	AM	**55.8**	**E**	**55.8**	**E**	**56.2**	**E**
			PM	**>80**	**F**	**>80**	**F**	**>80**	**F**
			WE	**>80**	**F**	**>80**	**F**	**>80**	**F**

Study Intersection		Traffic Control	Peak Hour	NEPA Baseline/No Action Alternative (Year 2035)		Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth (Year 2035)		Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth (Year 2035)	
				Delay	LOS	Delay	LOS	Delay	LOS
28	Hyde Street/Bay Street	Signal	AM	6.7	A	6.7	A	7.0	A
			PM	5.8	A	5.8	A	6.0	A
			WE	6.0	A	6.0	A	6.2	A
29	Columbus Avenue/Jones Street/Bay Street	Signal	AM	14.4	B	14.5	B	14.7	B
			PM	17.7	B	17.8	B	18.3	B
			WE	13.5	B	13.7	B	13.6	B
30	Taylor Street/Bay Street	Signal	AM	4.7	A	4.8	A	5.5	A
			PM	8.1	A	8.1	A	9.2	A
			WE	8.2	A	8.2	A	9.3	A
31	Powell Street/Bay Street	Signal	AM	17.9	B	18.1	B	18.6	B
			PM	15.9	B	16.2	B	15.4	B
			WE	11.8	B	11.9	B	11.8	B
32	Stockton Street/Bay Street	Signal	AM	21.4	C	21.7	C	22.2	C
			PM	8.1	A	8.2	A	8.3	A
			WE	10.4	B	10.4	B	10.4	B
33	Kearny Street/Bay Street	Signal	AM	7.2	A	7.1	A	6.8	A
			PM	16.3	B	16.3	B	16.3	B
			WE	8.3	A	8.3	A	8.3	A
34	The Embarcadero/Bay Street	Signal	AM	26.9	C	27.4	C	25.8	C
			PM	14.2	B	14.3	B	14.0	B
			WE	10.3	B	10.3	B	10.3	B
35	The Embarcadero/Sansome Street/Chestnut Street	Signal	AM	20.4	C	20.7	C	20.9	C
			PM	20.8	C	21.0	C	20.5	C
			WE	15.4	B	15.6	B	15.5	B
36	The Embarcadero/Battery Street/Lombard Street	Signal	AM	21.2	C	21.5	C	20.3	C
			PM	**73.3**	**E**	**74.0**	**E**	**72.1**	**E**
			WE	14.7	B	14.7	B	14.8	B
37	The Embarcadero/Green Street	Signal	AM	49.7	D	49.7	D	49.8	D
			PM	25.1	C	25.2	C	24.9	C
			WE	8.5	A	8.5	A	8.5	A
38	Sansome Street/Broadway	Signal	AM	**>80**	**F**	**>80**	**F**	**>80**	**F**
			PM	44.4	D	45.4	D	36.6	D
			WE	12.7	B	12.7	B	12.1	B
39	Battery Street/Broadway	Signal	AM	**59.6**	**E**	**59.8**	**E**	**59.0**	**E**
			PM	47.6	D	47.7	D	46.4	D
			WE	17.4	B	17.4	B	17.6	B

Study Intersection		Traffic Control	Peak Hour	NEPA Baseline/No Action Alternative (Year 2035)		Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth (Year 2035)		Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth (Year 2035)	
				Delay	LOS	Delay	LOS	Delay	LOS
40	The Embarcadero/Broadway	Signal	AM	**>80**	**F**	**>80**	**F**	**>80**	**F**
			PM	**76.6**	**E**	**77.0**	**E**	**75.9**	**E**
			WE	19.1	B	19.2	B	19.0	B
41	Powell Street/Beach Street	Signal	AM	6.7	A	6.8	A	6.6	A
			PM	13.6	B	13.5	B	13.5	B
			WE	12.4	B	12.5	B	12.2	B

Long-Term Cumulative Conditions

In the longer-term—year 2035—traffic conditions in the project study area are projected to get more congested with the combined effect of planned and reasonably-foreseeable development. Compared to the No Action Alternative (year 2035), the long-term effects of the Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative are such that the same intersections that are projected to operate at unacceptable conditions under the No Action Alternative would continue to operate at unacceptable conditions. The Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative would not cause additional intersections to exceed established LOS thresholds, nor would it contribute considerably to intersections projected to operate at unacceptable conditions in the No Action Alternative. Therefore, long-term cumulative traffic impacts associated with the Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative would be considered less than significant.

Overall, the impacts to intersection traffic for the Pier 31 ½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative were found to be the same as for the Pier 31 ½ Alternative in the Transportation and Circulation Study. In other words, adding the berth at Lower Fort Mason to the Pier 31 ½ Alternative does not create new significant traffic impacts.

Transit

Similar to traffic conditions, transit impacts are assessed for near-term and long-term cumulative conditions. Each of the project alternatives is expected to generate new transit trips. Project transit trips were added to the transit network in order to evaluate each alternative at established screenlines.

Tables 11a through 11c present capacity utilization for near-term conditions under the No Action Alternative and action alternatives for the weekday a.m. peak hour, weekday p.m. peak hour, and weekend midday peak hour, respectively. Tables 12a through 12c present similar information for the long-term (year 2035) conditions.

TABLE 11A. NEAR-TERM MUNI CAPACITY UTILIZATION ANALYSIS—A.M. PEAK HOUR

Line/Screenline		NEPA Baseline/No Action Alternative (Near-Term)						Action Alternatives (Near-Term)					
		Inbound			Outbound			Inbound			Outbound		
		Ridership	Capacity	Utilization	Ridership	Capacity	Utilization	Ridership	Capacity	Utilization	Ridership	Capacity	Utilization
Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative Screenlines													
Pier 31½ Site	47 Van Ness	294	378	78%	276	378	73%	312	378	82%	276	378	73%
	F Market & Wharves	289	700	41%	162	627	26%	296	700	42%	162	627	26%
	Powell-Mason Cable Car	220	378	58%	92	378	24%	224	378	59%	92	378	24%
	8X Bayshore Express	616	752	82%	504	752	67%	621	752	83%	504	752	67%
Fort Mason Site	North/South Screenline	1,280	1,881	68%	1,094	1,881	58%	1,335	1,881	71%	1,094	1,881	58%
	West Screenline	471	693	68%	365	630	58%	476	693	69%	365	630	58%
	East Screenline	514	1,118	46%	726	1,291	56%	514	1,118	46%	741	1,291	57%
Total		3,684	5,900	62%	3,219	5,937	54%	3,778	5,900	64%	3,234	5,937	54%
Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative Screenlines													
Pier 41 Site	North/South Screenline	1,070	1,382	77%	1,000	1,382	72%	**1,226**	**1,382**	**89%**	1,000	1,382	72%
	Downtown Screenline	855	1,347	63%	553	1,247	44%	1,048	1,347	78%	482	1,247	39%
	Waterfront Screenline	289	700	41%	162	627	26%	196	700	28%	162	627	26%
Fort Mason Site	North/South Screenline	1,280	1,881	68%	1,094	1,881	58%	1,397	1,881	74%	1,094	1,881	58%
	West Screenline	471	693	68%	365	630	58%	476	693	69%	365	630	58%
	East Screenline	514	1,118	46%	726	1,291	56%	514	1,118	46%	811	1,291	63%
Total		4,479	7,121	63%	3,900	7,058	55%	4,862	7,121	68%	3,914	7,058	55%

Notes:
Source: SFMTA Ridership Counts 2011
SFMTA typically refers to "inbound" and "outbound" with respect to service to downtown (i.e., inbound routes travel toward Downtown and outbound routes travel away from downtown). However, for purposes of this report, "inbound" and "outbound" refer to the direction of travel relative to the project site.
Bold text indicates screenlines operating above the 85 percent capacity utilization threshold.

TABLE 11B. NEAR-TERM MUNI CAPACITY UTILIZATION ANALYSIS—P.M. PEAK HOUR

Line/Screenline		NEPA Baseline/No Action Alternative (Near-Term)						Action Alternatives (Near-Term)					
		Inbound			Outbound			Inbound			Outbound		
		Ridership	Capacity	Utilization	Ridership	Capacity	Utilization	Ridership	Capacity	Utilization	Ridership	Capacity	Utilization
Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative Screenlines													
Pier 31½ Site	47 Van Ness	276	378	73%	258	378	68%	290	378	77%	264	378	70%
	F Market & Wharves	249	700	36%	**718**	**700**	**103%**	252	700	36%	**724**	**700**	**103%**
	Powell-Mason Cable Car	356	473	75%	**411**	**473**	**87%**	358	473	76%	**415**	**473**	**88%**
	8X Bayshore Express	408	752	54%	410	752	55%	416	752	55%	420	752	56%
Fort Mason Site	North/South Screenline	1,111	1,871	59%	1,181	1,871	63%	1,162	1,871	62%	1,187	1,871	63%
	West Screenline	282	378	75%	282	378	75%	287	378	76%	282	378	75%
	East Screenline	1,423	1,924	74%	909	1,948	47%	1,423	1,924	74%	924	1,948	47%
Total		4,105	6,475	63%	4,169	6,499	64%	4,188	6,475	65%	4,216	6,499	65%
Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative Screenlines													
Pier 41 Site	North/South Screenline	856	1,382	62%	798	1,382	58%	939	1,382	68%	925	1,382	67%
	Downtown Screenline	1,433	2,193	65%	1,556	2,169	72%	1,474	2,193	67%	1,675	2,169	77%
	Waterfront Screenline	249	700	36%	**718**	**700**	**103%**	202	700	29%	**637**	**700**	**91%**
Fort Mason Site	North/South Screenline	1,111	1,871	59%	1,181	1,871	63%	1,193	1,871	64%	1,241	1,871	66%
	West Screenline	282	378	75%	282	378	75%	287	378	76%	282	378	75%
	East Screenline	1,423	1,924	74%	909	1,948	47%	1,483	1,924	77%	959	1,948	49%
Total		5,354	8,447	63%	5,444	8,447	64%	5,579	8,447	66%	5,719	8,447	68%

Notes:
Source: SFMTA Ridership Counts, 2011
SFMTA typically refers to "inbound" and "outbound" with respect to service to downtown (i.e., inbound routes travel toward Downtown and outbound routes travel away from downtown). However, for purposes of this report, "inbound" and "outbound" refer to the direction of travel relative to the project site.
Bold text indicates screenlines operating above the 85 percent capacity utilization threshold.

TABLE 11C. NEAR-TERM MUNI CAPACITY UTILIZATION ANALYSIS—WEEKEND MIDDAY PEAK HOUR

Line/Screenline		NEPA Baseline/No Action Alternative (Near-Term)						Action Alternatives (Near-Term)					
		Inbound			Outbound			Inbound			Outbound		
		Ridership	Capacity	Utilization	Ridership	Capacity	Utilization	Ridership	Capacity	Utilization	Ridership	Capacity	Utilization
Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative Screenlines													
Pier 31½ Site	47 Van Ness	220	378	58%	220	378	58%	232	378	61%	225	378	59%
	F Market & Wharves	**803**	**700**	**115%**	307	700	44%	**808**	**700**	**115%**	311	700	44%
	Powell-Mason Cable Car	**428**	**473**	**90%**	**428**	**473**	**90%**	**430**	**473**	**91%**	**430**	**473**	**91%**
	8X Bayshore Express	556	705	79%	335	705	48%	559	705	79%	338	705	48%
Fort Mason Site	North/South Screenline	825	1,758	47%	923	1,758	53%	858	1,758	49%	928	1,758	53%
	West Screenline	202	564	36%	216	564	38%	208	564	37%	216	564	38%
	East Screenline	514	1,170	44%	**1,005**	**1,170**	**86%**	514	1,170	44%	**1,016**	**1,170**	**87%**
Total		3,548	5,748	62%	3,434	5,748	60%	3,610	5,748	63%	3,463	5,748	60%
Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative Screenlines													
Pier 41 Site	North/South Screenline	888	1,459	61%	699	1,459	48%	979	1,459	67%	774	1,459	53%
	Downtown Screenline	1,160	1,415	82%	1,165	1,415	82%	**1,257**	**1,415**	**89%**	**1,231**	**1,415**	**87%**
	Waterfront Screenline	**803**	**700**	**115%**	307	700	44%	**738**	**700**	**105%**	250	700	36%
Fort Mason Site	North/South Screenline	825	1,758	47%	923	1,758	53%	897	1,758	51%	961	1,758	55%
	West Screenline	202	564	36%	216	564	38%	208	564	37%	216	564	38%
	East Screenline	514	1,170	44%	**1,005**	**1,170**	**86%**	558	1,170	48%	**1,065**	**1,170**	**91%**
Total		4,392	7,066	62%	4,315	7,066	61%	4,638	7,066	66%	4,498	7,066	64%

Notes:
Source: SFMTA Ridership Counts, 2011
SFMTA typically refers to "inbound" and "outbound" with respect to service to downtown (i.e., inbound routes travel toward Downtown and outbound routes travel away from downtown). However, for purposes of this report, "inbound" and "outbound" refer to the direction of travel relative to the project site.
Bold text indicates screenlines operating above the 85 percent capacity utilization threshold.

TABLE 12A. LONG-TERM (YEAR 2035) MUNI CAPACITY UTILIZATION ANALYSIS—A.M. PEAK HOUR

Line/Screenline		NEPA Baseline/No Action Alternative (Near-Term)						Action Alternatives (Near-Term)					
		Inbound			Outbound			Inbound			Outbound		
		Ridership	Capacity	Utilization	Ridership	Capacity	Utilization	Ridership	Capacity	Utilization	Ridership	Capacity	Utilization
Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative Screenlines													
Pier 31½ Site	F Market & Wharves	156	560	28%	129	560	23%	163	560	29%	129	560	23%
	Powell-Mason Cable Car	257	378	68%	122	378	32%	262	378	69%	122	378	32%
	8X Bayshore Express	1,157	1,504	77%	627	752	83%	1,161	1,504	77%	627	752	83%
	E Embarcadero	216	280	77%	69	280	24%	218	280	78%	69	280	24%
	11 Downtown Connector	**299**	**315**	**95%**	141	315	45%	**325**	**315**	**103%**	141	315	45%
Fort Mason Site	North/South Screenline	**2,445**	**2,359**	**104%**	**2,165**	**2,359**	**92%**	**2,488**	**2,359**	**106%**	**2,165**	**2,359**	**92%**
	West Screenline	399	756	53%	545	756	72%	405	756	54%	545	756	72%
	East Screenline	736	1,860	40%	1,245	1,961	63%	736	1,860	40%	1,273	1,961	65%
Total		5,665	8,012	71%	5,043	7,360	69%	5,758	8,012	72%	5,071	7,360	69%
Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative Screenlines													
Pier 41 Site	North/South Screenline	104	252	41%	99	252	39%	**274**	**252**	**109%**	99	252	39%
	Downtown Screenline	1,394	1,877	74%	872	1,776	49%	**1,676**	**1,877**	**89%**	800	1,776	45%
	Waterfront Screenline	465	840	55%	197	840	23%	430	840	51%	197	840	23%
Fort Mason Site	North/South Screenline	**2,445**	**2,359**	**104%**	**2,165**	**2,359**	**92%**	**2,499**	**2,359**	**106%**	**2,165**	**2,359**	**92%**
	West Screenline	399	756	53%	545	756	72%	406	756	54%	545	756	72%
	East Screenline	736	1,860	40%	1,245	1,961	63%	736	1,860	40%	1,460	1,961	74%
Total		5,543	7,943	70%	5,123	7,943	64%	6,021	7,943	76%	5,266	7,943	66%

Notes:
Source: SFMTA Ridership Counts, 2011
SFMTA typically refers to "inbound" and "outbound" with respect to service to downtown (i.e., inbound routes travel toward Downtown and outbound routes travel away from downtown). However, for purposes of this report, "inbound" and "outbound" refer to the direction of travel relative to the project site. **Bold** text indicates screenlines operating above the 85 percent capacity utilization threshold.

TABLE 12B. LONG-TERM (YEAR 2035) MUNI CAPACITY UTILIZATION ANALYSIS—P.M. PEAK HOUR

Line/Screenline		NEPA Baseline/No Action Alternative (Near-Term)						Action Alternatives (Near-Term)					
		Inbound			Outbound			Inbound			Outbound		
		Ridership	Capacity	Utilization	Ridership	Capacity	Utilization	Ridership	Capacity	Utilization	Ridership	Capacity	Utilization
Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative Screenlines													
Pier 31½ Site	F Market & Wharves	430	840	51%	**1,063**	**840**	**127%**	434	840	52%	**1,070**	**840**	**127%**
	Powell-Mason Cable Car	377	473	80%	**947**	**473**	**200%**	379	473	80%	**951**	**473**	**201%**
	8X Bayshore Express	398	752	53%	1,211	1,504	81%	400	752	53%	1,215	1,504	81%
	E Embarcadero	80	280	29%	139	280	50%	81	280	29%	140	280	50%
	11 Downtown Connector	186	315	59%	**367**	**315**	**117%**	209	315	66%	**373**	**315**	**118%**
Fort Mason Site	North/South Screenline	**2,013**	**2,321**	**87%**	**2,200**	**2,321**	**95%**	**2,056**	**2,321**	**89%**	**2,200**	**2,321**	**95%**
	West Screenline	260	420	62%	338	420	81%	266	420	63%	338	420	81%
	East Screenline	**1,645**	**1,905**	**86%**	866	1,905	45%	**1,651**	**1,905**	**87%**	889	1,905	47%
Total		5,389	7,306	74%	**7,131**	**8,058**	**89%**	5,476	7,306	75%	**7,176**	**8,058**	**89%**
Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative Screenlines													
Pier 41 Site	North/South Screenline	147	252	58%	93	252	37%	**232**	**252**	**92%**	**241**	**252**	**96%**
	Downtown Screenline	1,364	1,730	79%	**2,057**	**1,730**	**119%**	1,448	1,730	84%	**2,259**	**1,730**	**131%**
	Waterfront Screenline	557	1,120	50%	**1,284**	**1,120**	**115%**	547	1,120	49%	**1,240**	**1,120**	**111%**
Fort Mason Site	North/South Screenline	**2,013**	**2,321**	**87%**	**2,200**	**2,321**	**95%**	**2,067**	**2,321**	**89%**	**2,200**	**2,321**	**95%**
	West Screenline	260	420	62%	338	420	81%	267	420	64%	338	420	81%
	East Screenline	1,645	1,905	86%	866	1,905	45%	**1,811**	**1,905**	**95%**	986	1,905	52%
Total		5,986	7,748	77%	**6,838**	**7,748**	**88%**	6,372	7,748	82%	**7,264**	**7,748**	**94%**

Notes:
Source: SFMTA Ridership Counts, 2011
SFMTA typically refers to "inbound" and "outbound" with respect to service to downtown (i.e., inbound routes travel toward Downtown and outbound routes travel away from downtown). However, for purposes of this report, "inbound" and "outbound" refer to the direction of travel relative to the project site.
Bold text indicates screenlines operating above the 85 percent capacity utilization threshold.

TABLE 12C. LONG-TERM (YEAR 2035) MUNI CAPACITY UTILIZATION ANALYSIS—WEEKEND MIDDAY PEAK HOUR

Line/Screenline		NEPA Baseline/No Action Alternative (Near-Term)						Action Alternatives (Near-Term)					
		Inbound			Outbound			Inbound			Outbound		
		Ridership	Capacity	Utilization	Ridership	Capacity	Utilization	Ridership	Capacity	Utilization	Ridership	Capacity	Utilization
Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative Screenlines													
Pier 31½ Site	F Market & Wharves	306	840	36%	**737**	**840**	**88%**	311	840	37%	**741**	**840**	**88%**
	Powell-Mason Cable Car	**453**	**473**	**96%**	**980**	**473**	**207%**	**456**	**473**	**96%**	**983**	**473**	**208%**
	8X Bayshore Express	543	705	77%	840	1,410	60%	546	705	77%	842	1,410	60%
	E Embarcadero	58	280	21%	97	280	35%	59	280	21%	98	280	35%
	11 Downtown Connector	136	315	43%	254	315	81%	152	315	48%	258	315	82%
Fort Mason Site	North/South Screenline	1,494	1,946	77%	**1,691**	**1,946**	**87%**	1,520	1,946	78%	**1,691**	**1,946**	**87%**
	West Screenline	196	564	35%	278	564	49%	202	564	36%	278	564	49%
	East Screenline	961	1,905	50%	485	1,905	25%	965	1,905	51%	503	1,905	26%
Total		4,147	7,028	59%	5,362	7,733	69%	4,212	7,028	60%	5,394	7,733	70%
Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative Screenlines													
Pier 41 Site	North/South Screenline	95	376	25%	81	376	22%	207	376	55%	178	376	47%
	Downtown Screenline	1,282	1,730	74%	**1,891**	**1,730**	**109%**	1,434	1,730	83%	**2,009**	**1,730**	**116%**
	Waterfront Screenline	429	1,120	38%	890	1,120	79%	402	1,120	36%	858	1,120	77%
Fort Mason Site	North/South Screenline	1,494	1,946	77%	**1,691**	**1,946**	**87%**	1,526	1,946	78%	**1,691**	**1,946**	**87%**
	West Screenline	196	564	35%	278	564	49%	204	564	36%	278	564	49%
	East Screenline	961	1,905	50%	485	1,905	25%	1,076	1,905	56%	614	1,905	32%
Total		4,457	7,641	58%	5,316	7,641	70%	4,849	7,641	63%	5,628	7,641	74%

Notes:
Source: SFMTA Ridership Counts, 2011
SFMTA typically refers to "inbound" and "outbound" with respect to service to downtown (i.e., inbound routes travel toward Downtown and outbound routes travel away from downtown). However, for purposes of this report, "inbound" and "outbound" refer to the direction of travel relative to the project site.
Bold text indicates screenlines operating above the 85 percent capacity utilization threshold.

Near Term Conditions

Under the Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative, all transit lines serving the study area (both the Pier 31 ½ and the Lower Fort Mason study areas) would operate within the 85 percent capacity utilization threshold in the weekday a.m. peak hour. However, in the weekday p.m. peak hour, the F Market & Wharves and the Powell-Mason Cable Car would operate above the threshold in the outbound (i.e., away from Pier 31½) direction under both the No Action and the Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth alternatives. The growth in transit ridership associated with this alternative (compared to the No Action Alternative) would be less than 1 percent of the capacity of the lines, and therefore, would not be considerable. During the weekend midday peak hour, the F Market & Wharves would exceed the City's capacity utilization standard in the inbound direction, and the Powell-Mason Cable Car would exceed the standard in both directions under both the No Action and Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth alternatives. Similar to the weekday p.m. peak hour conditions, the Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative's increase to transit ridership on these lines would be less than 1 percent of the total capacity of the lines, and would not be considerable. Therefore, this alternative would have a **less than significant** impact on transit capacity.

Long-Term Cumulative Conditions

In the long-term cumulative conditions, the combination of changes to planned transit service in the study area and overall growth in transit ridership associated with these changes, as well as increased development in the area, will contribute to increased transit utilization. Under the Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative, the following screenlines would increase ridership by less than 1 percent of the capacity of the screenlines projected to operate above the 85 percent capacity utilization threshold under the No Action Alternative:

- F Market & Wharves (p.m. Peak Hour: Outbound Direction, Weekend Midday Peak Hour: Outbound Direction)
- Powell-Mason Cable Car (p.m. Peak Hour: Outbound Direction, Weekend Midday Peak Hour: Inbound and Outbound Directions)
- North/South Screenline (a.m. Peak Hour: Outbound Direction, p.m. Peak Hour: Outbound Direction, Weekend Midday Peak Hour: Outbound Direction)
- East Screenline (p.m. Peak Hour: Inbound Direction)

With the project contributing less than 1 percent of the capacity to the screenlines above, the Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative would have a **less than significant** impact on those lines.

The following screenlines would increase ridership by more than 1 percent of the capacity of the screenlines projected to operate above the 85 percent capacity utilization threshold under the No Action Alternative:

- 11 Downtown Connector (a.m. Peak Hour: Inbound Direction, p.m. Peak Hour: Outbound Direction

- North/South Screenline (a.m. Peak Hour: Inbound Direction, p.m. Peak Hour: Inbound Direction)

Implementation of Mitigation Measure 1, as described in Chapter 4 of the Transportation and Circulation Study, would reduce the alternative's impact on transit service. However, the implementation details of Mitigation Measure 1 would require further coordination, planning, and outreach, and therefore cannot be guaranteed at this time. Therefore, these impacts to the transit screenlines are considered to remain **significant.**

All other lines would operate within the 85 percent capacity utilization threshold and the Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative would have a **less than significant** impact on those lines.

The Transportation and Circulation Study found that the Pier 31 ½ Alternative would have a significant impact to the 11 Downtown Connector line. The Pier 31 ½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative would have this same impact, plus one additional significant impact to the Lower Fort Mason North/South Screenline. Therefore, the addition of the Fort Mason Ferry Berth component to the Pier 31 ½ Alternative from the Transportation and Circulation Study would have a greater number of significant impacts.

Overall, the significant impacts identified above would either cause some screenlines to exceed 100 percent of their capacity or substantially worsen crowding on screenlines projected to exceed 100 percent capacity utilization without the project. This means the impact would not just be a less comfortable ride, but riders would not physically be able to get on the desired transit lines and would either be forced to wait until a less crowded vehicle arrived (i.e., delay their trip) or switch modes. However, these impacts would not occur daily, as the Lower Fort Mason ferry service would only operate once per day and only up to three times per week. Therefore, the impact of the Pier 31 ½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative would be considered moderate, whereas the Pier 31 ½ Alternative in the Transportation and Circulation Study found that significant transit impacts would be minor, because significant impacts would not occur to transit lines exceeding 100 percent occupancy.

Bicycle Facilities

The Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative is expected to generate new bicycle trips. Cyclists have access to multiple routes on both roadways and shared use paths. Since many of the major bicycle facilities are shared-use paths, changes in bicycle and pedestrian activity levels directly affect one another. Specifically, pedestrian walkway LOS results presented in this report are also somewhat indicative of bicycle conditions.

Under the Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative, bicycling would largely remain similar to the No Action alternative, except that a modest increase in visitors associated with the third berth at Pier 31½ and the new ferry berth at Fort Mason would result in a commensurately moderate increase in cycling to those locations. As noted in the Transportation and Circulation Study, bicycle infrastructure in the Pier 31½ and Lower Fort Mason areas is relatively good, with both Class I and Class II facilities serving the project sites.

On busy weekend days, particularly in the summer or when the weather is warm and sunny, the Embarcadero near Pier 31½ is quite crowded with pedestrians and bicyclists, increasing conflicts between the two. However, the Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative is not likely to increase these conflicts substantially, and the impacts to bicycle circulation in the Pier 31½ area would be considered **less than significant**.

As noted in the Transportation and Circulation Study, there is a significant impact to the bicycling infrastructure under the Pier 3 Alternative (at Fort Mason) due to the high volume of cyclists and pedestrians in the narrow convergence area at the intersection of Beach and Laguna streets. Under the Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative, the contribution of cyclists to this area is projected to be much less than under the Pier 3 Alternative, where the entire embarkation facility would be located at Lower Fort Mason. Approximately 25 person trips are projected to travel to the Fort Mason ferry berth site by either walking or biking. Only a fraction of these trips are expected to arrive by bicycle, and only a portion of those bicycle trips are expected to pass through the intersection of Beach and Laguna streets. Therefore, although the condition at the intersection of Beach and Laguna streets is somewhat challenging under the No Action Alternative, the Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative's impact to bicycle circulation in the Lower Fort Mason area would be considered **less than significant**, because it would not generate a substantial increase in bicyclists at this location.

Therefore, the impacts to bicycling conditions for the Pier 31 ½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative would be similar to the Pier 31 ½ Alternative in the Transportation and Circulation Study.

Pedestrian Facilities

Pedestrian Intersection Delay and Crosswalk Space LOS

The project is expected to generate new pedestrian trips. Table 4 summarized estimated person trip generation by mode. For the Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative, all trip types would require walking at least a short distance to the site except for tour bus and taxi trips, which are assumed to be dropped off curbside or within the site. Table 13 presents pedestrian LOS based on both intersection delay and crosswalk space based on the resulting forecast of pedestrian trips for the No Action Alternative and each of the action alternatives.

The Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative is projected to add approximately 85 pedestrians to the Pier 31½ site during the weekday p.m. peak hour, which is the analysis period that experiences the greatest pedestrian demand. These additional pedestrian trips are associated with the increases in visitor levels brought about by the proposed third berth. Since implementation of the project at this location represents a net increase in visitation over current use of the same facility (because much of the existing demand for the facility is reflected in the No Action Alternative/NEPA baseline counts), the change in pedestrian activity due to this alternative is slight when compared to other alternatives. It is likely that some of the new pedestrian traffic would use crosswalks at the intersections of Embarcadero and Bay Street; Embarcadero and Chestnut and Sansome streets; and Embarcadero and Lombard and Battery streets to travel between the embarkation site and nearby parking facilities, transit stops, or other destinations. Project pedestrian trips were

assigned to crosswalks based on local knowledge, area land uses, and other transportation facilities (e.g., transit, parking facilities, etc.). Even with the added pedestrian trips, crosswalks near the Pier 31½ site are expected to operate acceptably.

The Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative is projected to add approximately 110 pedestrians to the Fort Mason site during the a.m. and p.m. peak hours and approximately 80 pedestrians during weekend midday peak hour. It is likely that some of the pedestrian traffic would use crosswalks at Laguna and Beach streets, and Buchanan and Beach streets and Marina Boulevard to travel between the Fort Mason site and nearby parking facilities, transit stops, or other destinations. Project pedestrian trips were assigned to crosswalks based on local knowledge, area land uses, and other transportation facilities (e.g., transit, parking facilities, etc.). Even with the added pedestrian trips, the crosswalks near the Fort Mason site are expected to operate acceptably.

Overall, implementation of the Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative would have a **less than significant** impact on pedestrian intersection delay and crosswalk space.

Pedestrian Walkway LOS

Table 14 presents the pedestrian LOS based on walkways near the project sites and the resulting forecast of pedestrian trips for the No Action Alternative and each of the action alternatives.

The Embarcadero Promenade between Bay Street and Chestnut Street provides the only pedestrian access to the Pier 31½ site. Therefore, the pedestrian walkway analysis of the Pier 31½ component conservatively assumes that all project trips, regardless of mode, use that portion of the Embarcadero Promenade. The Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative is projected to add approximately 72 net new pedestrian trips to the Embarcadero Promenade near the Pier 31½ site during the a.m. peak hour, approximately 99 net new pedestrian trips during the p.m. peak hour, and approximately 135 net new pedestrian trips during the weekend midday peak hour. However, even with the additional pedestrian trips, the walkway operates at an acceptable LOS and the impact would be considered **less than significant**.

At the Fort Mason ferry berth site, pedestrians may use multiple walkways to access the site, including the Bay Trail Promenade. The pedestrian walkway analysis of the Fort Mason ferry berth component conservatively assumes that 50 percent of all project trips, regardless of mode, use that portion of the Bay Trail Promenade, whether for access to the site or visitors taking advantage of the views. The Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative is projected to add approximately 110 new pedestrian trips to the Bay Trail Promenade during each of the study peak hours. However, even with the additional pedestrian trips, the walkway operates at an acceptable LOS. The impact would be considered **less than significant**.

The impacts to pedestrian conditions for the Pier 31 ½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative will be similar to the Pier 31 ½ Alternative in the Transportation and Circulation Study.

Parking Facilities

The project is expected to increase parking demand. Tables 15 and 16 present parking utilization with implementation of the project for weekday and weekend conditions, respectively.

TABLE 13. NEAR-TERM CONDITIONS—PEDESTRIAN LOS (INTERSECTION DELAY AND CROSSWALK SPACE)

Intersection	Crosswalk Location	No Action Alternative/NEPA Baseline (Near-Term)						Action Alternatives (Near-Term)					
		Weekday a.m. Peak Hour		Weekday p.m. Peak Hour		Weekend Peak Hour		Weekday a.m. Peak Hour		Weekday p.m. Peak Hour		Weekend Peak Hour	
		Delay LOS	Space LOS	Delay LOS	Space LOS	Delay LOS	Space LOS	Delay LOS	Space LOS	Delay LOS	Space LOS	Delay LOS	Space LOS
Pier 31½ Component													
Embarcadero/ Bay Street	North (Embarcadero)	7 /A	>60 / A	7 /A	>60 / A	7 /A	>60 / A	7 /A	>60 / A	7 /A	>60 / A	7 /A	>60 / A
	West (Bay)	23 / C	>60 / A	23 / C	>60 / A	23 / C	>60 / A	23 / C	>60 / A	23 / C	>60 / A	23 / C	>60 / A
Embarcadero/ Chestnut and Sansome streets	South (Embarcadero)	22/ C	>60 / A	22/ C	>60 / A	22/ C	>60 / A	22/ C	>60 / A	22/ C	>60 / A	22/ C	>60 / A
	West (Chestnut)	16 / B	>60 / A	16 / B	>60 / A	16 / B	>60 / A	16 / B	>60 / A	16 / B	>60 / A	16 / B	>60 / A
	West (Sansome)	7 / A	>60 / A	7 / A	>60 / A	7 / A	>60 / A	7 / A	>60 / A	7 / A	>60 / A	7 / A	>60 / A
Embarcadero/ Lombard and Battery streets	North (Embarcadero)	18 / B	>60 / A	18 / B	>60 / A	18 / B	>60 / A	18 / B	>60 / A	18 / B	>60 / A	18 / B	>60 / A
	West (Lombard)	20 / B	>60 / A	20 / B	>60 / A	20 / B	>60 / A	20 / B	>60 / A	20 / B	>60 / A	20 / B	>60 / A
	West (Battery)	25 / C	>60 / A	25 / C	>60 / A	25 / C	>60 / A	25 / C	>60 / A	25 / C	>60 / A	25 / C	>60 / A
Pier 41 Component													
Taylor and Jefferson streets	North (Taylor)	12 / B	>60 / A	14 / B	37 / C	11 / B	18 / D	12 / B	54 / B	14 / B	26 / C	11 / B	**12 / E**
	South (Taylor)	12 / B	>60 / A	14 / B	44 / B	11 / B	25 / C	12 / B	>60 / A	14 / B	30 / C	11 / B	18 / D
	East (Jefferson)	12 / B	>60 / A	14 / B	>60 / A	12 / B	43 / B	12 / B	>60 / A	14 / B	43 / B	12 / B	21 / D
	West (Jefferson)	12 / B	>60 / A	14 / B	>60 / A	12 / B	>60 / A	12 / B	>60 / A	14 / B	43 / B	12 / B	25 / C
Powell and Jefferson streets	North (Embarcadero)	14 / B	>60 / A	21 / C	**12 / E**	21 / C	**6 / F**	14 / B	39 / C	21 / C	**9 / E**	21 / C	**5 / F**
	South (Powell)	14 / B	>60 / A	21 / C	54 / B	21 / C	59 / B	14 / B	>60 / A	21 / C	24 / D	21 / C	21 / D
	East (Embarcadero)	14 / B	>60 / A	21 / C	46 / B	21 / C	32 / C	14 / B	29 / C	21 / C	17 / D	21 / C	**12 / E**
	West (Jefferson)	14 / B	>60 / A	21 / C	36 / C	21 / C	36 / C	14 / B	51 / B	21 / C	17 / D	21 / C	**14 / E**
Fort Mason Ferry Berth Component (Applies to Both Alternatives)													
Laguna and Beach streets	South (Laguna)	26 / C	>60 / A	26 / C	>60 / A	12 / B	>60 / A	26 / C	>60 / A	26 / C	>60 / A	12 / B	>60 / A
	West (Beach)	26 / C	>60 / A	26 / C	>60 / A	12 / B	>60 / A	26 / C	>60 / A	26 / C	>60 / A	12 / B	>60 / A
Buchanan Street/ Beach Street – Marina Boulevard	North (driveway)	6 / A	>60 / A	6 / A	>60 / A	9 / A	57 / B	6 / A	>60 / A	6 / A	>60 / A	9 / A	52 / B
	South (Buchanan)	6 / A	>60 / A	6 / A	>60 / A	9 / A	>60 / A	6 / A	>60 / A	6 / A	>60 / A	9 / A	>60 / A
	East (Marina)	25 / C	>60 / A	25 / C	>60 / A	12 / B	>60 / A	25 / C	>60 / A	25 / C	>60 / A	12 / B	>60 / A

Note:
Bold text indicates pedestrian delay and space LOS beyond established threshold.

TABLE 14. NEAR-TERM CONDITIONS—PEDESTRIAN LOS (WALKWAYS)

Analysis Location and Day of Week	NEPA Baseline/No Action Alternative (Near-Term) Hourly Flow Volumes / LOS			Action Alternatives (Near-Term) Hourly Flow Volumes / LOS		
	Weekday a.m. Peak Hour	Weekday p,m.Peak Hour	Weekend Midday Peak Hour	Weekday a.m. Peak Hour	Weekday p.m. Peak Hour	Weekend Midday Peak Hour
Pier 31½ Component - Embarcadero Promenade (between Bay and Chestnut Streets); 18' Walkway						
Volume/LOS	834/ B	777 / B	1,711 / C	906 / B	876 / B	1,846 / C
Pier 41 Component - Embarcadero Promenade (east of Taylor Street); 12' Walkway						
Volume/LOS	611 / C	817 / C	1,692 / D	1,247 / C	1,692 / D	**2,885 / E**
Fort Mason Ferry Berth Component (Applies to Both Alternatives) - Bay Trail west of Fort Mason Pier 4; 12' Walkway						
Volume/LOS	218 / A	241 / A	380 / C	328 / B	351 / C	490 / C

Note:
Bold text indicates pedestrian delay and space LOS beyond established threshold.

TABLE 15. NEAR-TERM PARKING SUPPLY AND OCCUPANCY (WEEKDAY)

Embarkation Site / Parking Area	Supply	No Action Alternative/NEPA Baseline (Near-Term)								Action Alternatives (Near-Term)							
		Occupancy				Parking Utilization				Occupancy				Parking Utilization			
		9-12	12-3	3-6	6-9	9-12	12-3	3-6	6-9	9-12	12-3	3-6	6-9	9-12	12-3	3-6	6-9
Pier 31½ Component																	
Off-Street	1,126	674	748	613	296	60%	66%	54%	26%	681	755	620	299	60%	67%	55%	27%
On-Street	687	562	**707**	**651**	438	82%	**103%**	**95%**	64%	563	**708**	**652**	438	82%	**103%**	**95%**	64%
Total	1,813	1,236	1,455	1,264	734	68%	80%	70%	40%	1,244	1,463	1,272	737	69%	81%	70%	41%
Pier 41 Component																	
Off-Street	3,325	1,025	1,730	1,713	1,195	31%	52%	52%	36%	1,146	1,851	1,834	1,243	34%	56%	55%	37%
On-Street	2,886	1,500	1,905	1,760	-	52%	66%	61%	-	1,532	1,937	1,792	-	53%	67%	62%	-
Total	6,211	2,525	3,632	3,473	-	41%	59%	56%	-	2,678	3,785	3,626	-	43%	61%	58%	-
Fort Mason Component (Applies to Both Alternatives)																	
Fort Mason Area	3,770	2,293	2,456	2,751	2,584	61%	65%	73%	69%	2,318	2,481	2,776	2,609	61%	66%	74%	69%

Note:
Bold text indicates parking utilization rate beyond established threshold.

TABLE 16. NEAR-TERM PARKING SUPPLY AND OCCUPANCY (SATURDAY)

Embarkation Site / Parking Area	Supply	No Action Alternative/NEPA Baseline (Near-Term)								Action Alternatives (Near-Term)							
		Occupancy				Parking Utilization				Occupancy				Parking Utilization			
		9-12	12-3	3-6	6-9	9-12	12-3	3-6	6-9	9-12	12-3	3-6	6-9	9-12	12-3	3-6	6-9
Pier 31½ Component																	
Off-Street	1,126	307	536	678	501	27%	48%	60%	44%	314	543	685	504	28%	48%	61%	45%
On-Street	687	205	265	294	321	30%	39%	43%	47%	206	266	295	322	30%	39%	43%	47%
Total	1,813	512	801	972	822	28%	44%	54%	45%	520	809	980	825	29%	45%	54%	46%
Pier 41 Component																	
Off-Street	3,325	916	1,970	2,630	2,209	28%	59%	79%	66%	1,075	2,129	2,789	2,273	32%	64%	84%	68%
On-Street	2,886	1,732	2,597	2,597	-	60%	90%	90%	-	1,765	2,630	2,630	-	61%	91%	91%	-
Total	6,211	2,648	4,567	5,227	-	43%	74%	84%	-	2,840	4,759	5,419	-	46%	77%	87%	-
Fort Mason Component (Applies to Both Alternatives)																	
Fort Mason Area	3,770	2,777	3,330	3,501	2,982	74%	88%	93%	79%	2,805	3,358	3,529	3,010	74%	89%	94%	80%

Note:
Bold text indicates parking utilization rate beyond established threshold.

Both off- and on-street parking demand near Pier 31½ are greater during the week than on the weekends. As described above, since implementation of the project at this location represents a relatively modest increase in visitation over baseline conditions at the existing site, the change in parking utilization between the No Action/NEPA baseline conditions and the Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative is slight compared to other alternatives. Although the proposal would operate no more than one ferry per day from the Fort Mason site, analysis of parking for the Fort Mason component assumes peak parking demand associated with the ferry occurs throughout the day, because it is unknown when the ferry and associated parking demand would occur. This represents a conservative analysis that covers all time periods in which the forecasted parking demand increases could occur.

On weekdays near Pier 31½, between noon and 6:00 p.m., on-street parking utilization is expected to exceed the 95 percent utilization threshold under both the No Action Alternative and the Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative. However, overall parking utilization in the area (including on- and off-street parking) would remain below the established threshold. This alternative is forecast to increase peak demand by fewer than ten parking spaces on weekdays and weekends at any given time between 9:00 a.m and 6:00 p.m.. This impact on parking would be considered **less than significant**.

Parking utilization near Lower Fort Mason for both on- and off-street parking would be under the threshold with the No Action Alternative and is forecast to be under the threshold with the Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative. The increased parking demand near the Fort Mason site would be considered **less than significant**.

The parking impacts for the Pier 31 ½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative would be similar to the Pier 31 ½ Alternative in the Transportation and Circulation Study.

PIER 41 PRIMARY EMBARKATION SITE WITH FORT MASON FERRY BERTH ALTERNATIVE

Construction

Detailed construction plans for the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative have not yet been finalized. However, similar to the Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative, it is anticipated that the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative would be similar to other recent construction activities along the northern San Francisco waterfront, including the Exploratorium at Pier 15, in terms of disruption levels and duration. Construction related activities would generally occur Monday through Friday, between 7:00 a.m. and 4:00 p.m. Construction is not anticipated to regularly occur on weekends or major legal holidays, but may occur on an as-needed basis.

Construction staging for the Pier 41 component would primarily occur within the project site and on barges in the water adjacent to the site. Pedestrian circulation would be maintained along The Embarcadero throughout the construction process. The Park Service does not anticipate the need to close auto lanes or bicycle lanes on The Embarcadero, given the amount of staging area on the site. However, if a need arises, the closure would likely be short-term. If traffic, bicycle, parking, or sidewalk closures are needed, they would be coordinated with the City to minimize the effects on local

circulation. In general, lane and sidewalk closures are subject to review and approval by the DPW and the SFMTA.

Construction staging for the Fort Mason component would occur primarily within the Fort Mason Project Site and on barges in the water adjacent to the project site. The Fort Mason Site is not adjacent to the nearby streets, and pedestrian circulation along the Bay Trail would be maintained throughout the construction process. The Park Service does not anticipate the need to close auto lanes or bicycle lanes on Bay Street or Marina Boulevard, given the amount of staging area on the project site. However, if a need does arise, the closure would likely be short-term. If traffic, bicycle, parking, or sidewalk closures are needed, they would be coordinated with the City in order to minimize the effects on local circulation. In general, lane and sidewalk closures are subject to review and approval by the DPW and the SFMTA.

During construction, there would be a number of construction-related trucks travelling in and out of each of the sites. The trip distribution and mode split of construction workers are speculative to forecast. However, it is anticipated that the addition of the worker-related vehicle or transit trips would not substantially affect transportation conditions, as increases on local intersections or the transit network would be relatively small in relation to existing traffic levels and would be temporary in nature.

Construction workers who drive to either site would cause a temporary increase in parking demand and a decrease in supply. Construction workers would need to park either on-street or in parking facilities that currently have availability during the day. However, parking shortfalls would be temporary and would likely be substantially less than those associated with the buildout of the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative.

Under the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative, construction would occur simultaneously with and adjacent to a major tourism area with very high levels of pedestrians and bicycles, which may increase conflicts with pedestrians and visitors to the site. As noted above, detailed construction plans have not yet been prepared, but the Park Service would work to ensure that safe staging areas for visitors are provided and maintained at all times.

Therefore, the alternative's construction impacts were determined to be **less than significant**.

The construction impacts for the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative would be similar to the construction impact findings for the Pier 41 Alternative in the Transportation and Circulation Study.

Operation

Intersection Traffic

Near-Term Conditions

Under the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative, traffic currently associated with the Pier 31½ site would shift to the Pier 41 site, in addition to anticipated growth in

visitor levels. The same intersections would operate at unacceptable LOS E or F as under the No Action Alternative, except for the intersections of Divisadero Street and Marina Boulevard; Webster Street and Marina Boulevard; and Sansome Street and Broadway.

The Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative under existing conditions would cause the all-way stop controlled intersection of **Divisadero Street and Marina Boulevard** to deteriorate from LOS E to LOS F in the weekend midday peak hour. The volumes also meet the peak hour traffic signal warrant criteria. This would be considered a **significant impact**.

Mitigation Measure 6. The Park Service should work with the City of San Francisco to analyze the potential for a new traffic signal at the intersection of Divisadero Street and Marina Boulevard and fund it, if appropriate. Installation of a traffic signal at this intersection would improve the intersection LOS to LOS B in the weekend midday peak hour. However, this recommendation is based on a general correlation between the amount of new traffic generated by the project and the need for new traffic signals. The ultimate decision as to whether a new traffic signal is an appropriate treatment at this location should be made by the City Traffic Engineer, based on a full examination of traffic signal warrants and other factors that the City Traffic Engineer may deem appropriate.

Because the Park Service cannot guarantee the implementation of a new traffic signal at this location, the alternative's impacts at this intersection may remain **significant**.

The Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative would cause the all-way stop controlled intersection of **Webster Street and Marina Boulevard** to deteriorate from LOS D to LOS E in the a.m. peak hour and from LOS E to LOS F in the p.m. peak hour. However, the volumes from the a.m. and p.m. peak hours do not meet the peak hour traffic signal warrant criteria, and therefore, the impact would be considered **less than significant.**

Currently, the intersection of **Sansome Street and Broadway** operates at LOS E in the weekday a.m. peak hour. With the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative, traffic currently associated with the Pier 31½ site would shift to Pier 41, reducing traffic volumes at this intersection such that it would improve to and acceptable LOS of LOS D in the a.m. peak hour. This would be considered a **beneficial impact** associated with the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative.

The Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative would not contribute considerably to other intersections already operating at unacceptable levels (i.e., increases to critical movements operating at LOS E or F at these intersections would be less than 5 percent), nor would it cause any intersections that would operate acceptably under the No Action Alternative to deteriorate to unacceptable levels. Therefore, traffic impacts at other locations would be **less than significant**.

Long-Term Cumulative Conditions

In the longer-term, traffic volumes are generally projected to increase over near-term conditions. Although the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative would contribute traffic to a number of intersections that are projected to operate at unacceptable LOS in the long-term No Action Alternative, the increases are not projected to be cumulatively considerable, with one exception.

The Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative would cause the intersection of **Divisadero and Lombard streets** to deteriorate from acceptable LOS D in the p.m. peak hour to unacceptable LOS E. This would be considered a **significant impact**. (The intersection is projected to operate at unacceptable LOS E in the a.m. peak hour under the No Action and the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative).

Mitigation measures that generally increase auto capacity are typically in conflict with the City of San Francisco's Transit First policy, because of their negative effects to transit service and pedestrian and bicycle circulation, all of which are prioritized over auto circulation and capacity. Therefore, even if the Park Service had the ability to implement auto capacity enhancements to mitigate the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative's long-term impacts to the intersection of Divisadero and Lombard streets, those enhancements would likely be inconsistent with City of San Francisco policy, and are thus are generally considered infeasible.

Instead, implementation of Mitigation Measure 1, as described in Chapter 4 of the Transportation and Circulation Study, would reduce the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative's auto mode share and could reduce the effect of auto traffic at this study intersection. However, its details and relative effectiveness are uncertain at this point and the cumulative impacts are considered **significant**.

All other intersections are either projected to operate acceptably or the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative is not projected to contribute cumulatively considerable volumes at these locations. Therefore, cumulative impacts to other intersection locations would be considered **less than significant**.

Overall, in the near term, the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative would have one additional significant traffic impact (at **Divisadero Street and Marina Boulevard**) compared to the Pier 41 Alternative in the Transportation and Circulation Study. The impact would be isolated to one study intersection and is not an indication of how the vehicular network would function as a whole. The heightened delay at the intersection may cause some inconvenience and could cause drivers to divert to a less congested route, using the street network more efficiently. It may also cause drivers to switch to other modes of transportation. Further, this additional impact would not occur every day, as the service at Lower Fort Mason would operate three times per week, at most. Therefore, the impact of the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative under near term conditions on overall vehicular network performance would be considered minor.

Under long term cumulative conditions, traffic impacts associated with the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative will be similar to the Pier 41 Alternative in the Transportation and Circulation Study and would be relatively minor.

Transit

Near-Term Conditions

In the a.m. peak hour under the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative, ridership on the North/South screenline in the inbound (i.e., toward Pier 41) direction would increase from 77 to 89 percent occupancy. This would be a **significant impact**.

Mitigation Measure 1, as described in Chapter 4 of the Transportation and Circulation Study, may reduce the transit impacts associated with the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative. However, the details of such a system would require further coordination, planning, and outreach, and therefore, it cannot be guaranteed at this time. Therefore, the impact is considered to remain **significant**.

All other screenlines would operate within acceptable levels during the a.m. peak hour with the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative.

In the p.m. peak hour under the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative, the Waterfront screenline in the outbound direction would exceed the 85 percent capacity utilization standard under the No Action and the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative. The Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative would reduce capacity utilization on this screenline by relocating some existing trips from Pier 31½ to Pier 41; however, the screenline would still exceed the 85 percent threshold. Because all other screenlines would operate within acceptable levels and the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative would reduce ridership on the over-capacity Waterfront screenline (but not to within acceptable levels), the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative would have a **less than significant** impact on transit in the p.m. peak hour.

In the weekend midday peak hour, the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative would cause the downtown screenline to exceed the City's capacity utilization threshold in both the inbound and outbound directions. This would be a **significant impact**.

Implementation of Mitigation Measure 1, as described in Chapter 4 of the Transportation and Circulation Study, would reduce the alternative's impact on transit service. However, the implementation details of Mitigation Measure 1 would require further coordination, planning, and outreach, and therefore it cannot be guaranteed at this time. Therefore, this impact to the downtown screenline in the weekend midday peak hour would be considered to remain **significant.**

In the weekend midday peak hour, the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative ridership on the Waterfront screenline would decrease in the inbound direction from an unacceptable 115 percent capacity utilization under the No Action Alternative to 105 percent capacity utilization. All other screenlines would operate within the 85 percent capacity utilization threshold. Because all other screenlines would operate within acceptable levels, and the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative would reduce ridership on the over-capacity Waterfront screenline (but not to within acceptable levels), the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative would have a **less than significant** impact on the North/South and Waterfront screenlines in the weekend midday peak hour.

The Fort Mason site East screenline operates unacceptably during the weekend midday peak hour, with a capacity utilization of 86 percent. With the project, the East screenline is forecast to operate at 91 percent, adding more than one percent of the screenline's capacity. This would be a **significant impact**.

Implementation of Mitigation Measure 1, as described in Chapter 4 of the Transportation and Circulation Study, would reduce the project's impact on transit service. However, the implementation details of Mitigation Measure 1 would require further coordination, planning, and outreach, and therefore it cannot be guaranteed at this time. Therefore, this impact to the East screenline in the weekend midday peak hour would be considered to remain **significant.**

Long-Term Cumulative Conditions

In the long-term, the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative would cause the following screenlines that are projected to operate within the 85 percent capacity utilization threshold under the No Action Alternative to exceed the threshold:

- North/South Screenline—Pier 41 site (a.m. Peak Hour: Inbound Direction, p.m. Peak Hour: Inbound and Outbound Direction)
- Downtown Screenline (a.m. Peak Hour: Inbound Direction)
- East Screenline (p.m. Peak Hour: Inbound Direction)

Further, the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative would increase ridership by more than 1 percent of the capacity of the following screenlines projected to operate above the 85 percent capacity utilization threshold under the No Action Alternative:

- Downtown Screenline (p.m. Peak Hour: Outbound Direction, Weekend Midday Peak Hour: Outbound Direction)
- North/South Screenline –Fort Mason site (a.m. Peak Hour: Inbound Direction, p.m. Peak Hour: Inbound Direction)

These would be considered cumulatively **significant impacts** associated with the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative.

As with the near-term transit impacts, implementation of Mitigation Measure 1, as described in Chapter 4 of the Transportation and Circulation Study, would reduce the project's impact on transit service. However, the implementation details of Mitigation Measure 1 would require further coordination, planning, and outreach, and therefore it cannot be guaranteed at this time. Therefore, the impacts to these screenlines are considered to remain **significant.**

All other transit screenlines would operate acceptably within the 85 percent capacity utilization threshold, or the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative would not considerably contribute to unacceptable operations, and therefore, impacts to other screenlines would be considered **less than significant**.

Overall, near- and long-term impacts identified for the North/South and Downtown screenlines would occur with the Pier 41 Alternative from the Transportation and Circulation Study and for the Pier 41

Primary Embarkation Site with Fort Mason Ferry Berth Alternative. However, the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative would cause an additional significant impact to the East screenline at the Fort Mason site (in the near- and long-term), and to the North/South screenline at Fort Mason (in the long-term only) that were not identified as part of the Pier 41 Alternative from the Transportation and Circulation Study.

Overall, these impacts would occur either during different time periods or separate geographic areas on different transit lines, so the impacts would not compound transit crowding in the same area at the same time. Near-term impacts would not cause any lines or screenlines to exceed 100 percent occupancy, and would be considered minor. However, over the long-term, the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth would either cause or contribute considerable increases in demand to lines or screenlines that would exceed 100 percent capacity utilization. This means that the impact would not just be a less comfortable ride, but riders would not physically be able to get on the desired transit lines and would either be forced to wait until a less crowded vehicle arrived (i.e., delay their trip) or to switch modes. These impacts would occur daily, because they are projected to occur with or without the additional Fort Mason Ferry Berth. Therefore, the long-term impact of the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative would be considered major, similar to the Pier 41 Alternative in the Transportation and Circulation Study.

Bicycle Facilities

Under the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative, the relocation of the embarkation site from Pier 31½ to Pier 41 would increase the overall number of visitors to the Fisherman's Wharf area, which would increase cycling. However, similar to the Pier 31½ Alternative, the Fisherman's Wharf area is relatively well-served by bicycle infrastructure. The Class II bicycle lane provided along the Embarcadero (as part of Route 5) currently terminates at North Point Street. However, the Class I portion of the Embarcadero, which also is part of the Bay Trail, continues until Pier 41, providing a continuous Class I connection between this site and downtown San Francisco. Relocating the embarkation facility from Pier 31½ to Pier 41 may increase conflicts between pedestrians and bicyclists in the vicinity of Pier 41; however, the area provides good bicycle infrastructure and the impacts would be considered **less than significant**.

As noted in the Transportation and Circulation Study, there would be a significant impact to the bicycling infrastructure under the Pier 3 Alternative due to the high volume of cyclists and pedestrians in the narrow convergence area at the intersection of Beach and Laguna streets. Under the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative, the contribution of cyclists to this area would be projected to be much less than under the Pier 3 Alternative. Approximately 25 person trips are projected to travel to the Fort Mason ferry berth site by either walking or biking. Only a fraction of these trips are expected to arrive by bicycle, and only a portion of those bicycle trips are expected to pass through the intersection of Beach and Laguna streets. Therefore, although the condition at the intersection of Beach and Laguna streets is somewhat challenging under the No Action Alternative, the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative's impact to bicycle circulation in the Lower Fort Mason area would be considered **less than significant** because it would not generate a substantial increase in bicyclists at this location.

The impacts to bicycle conditions for the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative would be similar to the Pier 41 Alternative in the Transportation and Circulation Study.

Pedestrian Facilities

Pedestrian Intersection Delay and Crosswalk Space LOS

The area surrounding Pier 41 is a major tourist area of San Francisco, and thus experiences very high pedestrian volumes. The Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative is projected to add up to 1,097 pedestrians to the Pier 41 area during the a.m. peak hour, up to 1,509 pedestrians during the p.m. peak hour, and up to 1,961 pedestrians during the weekend midday peak hour. It is likely that some of the project pedestrian traffic would use crosswalks at the intersections of Taylor and Jefferson streets, and Powell and Jefferson streets to travel to and from the Pier 41 primary embarkation site. Project pedestrian trips were assigned to crosswalks based on local knowledge, area land uses, and other transportation facilities (e.g., transit, parking facilities, etc.).

The Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative is projected to add approximately 110 pedestrians to the Fort Mason ferry berth site during the a.m. and p.m. peak hours and approximately 80 pedestrians during weekend midday peak hour. It is likely that some of the pedestrian traffic would use crosswalks at Laguna and Beach streets, and Buchanan and Beach Street and Marina Boulevard to travel between the Fort Mason ferry berth site and nearby parking facilities, transit stops, or other destinations. Project pedestrian trips were assigned to crosswalks based on local knowledge, area land uses, and other transportation facilities (e.g., transit, parking facilities, etc.).

As shown in Table 13, the addition of project trips to study crosswalks would degrade conditions at four locations to an unacceptable level:

- Taylor and Jefferson streets (north crosswalk, crossing Jefferson Street)—weekend midday peak hour (LOS E)
- Powell and Jefferson streets (north crosswalk, crossing Embarcadero)—weekday p.m. peak hour (LOS E) and weekend midday peak hour (LOS F)
- Powell and Jefferson streets (east crosswalk, crossing Embarcadero)—weekend midday peak hour (LOS E)
- Powell and Jefferson streets (west crosswalk, crossing Jefferson)—weekend midday peak hour (LOS E)

The alternative's increases in pedestrian traffic at these crossing locations would be considered a **significant impact**.

Mitigation Measure 2, as defined in Chapter 4 of the Transportation and Circulation Study, would improve pedestrian conditions in the area. Because these improvements would need to be constructed in cooperation with the City DPW and SFMTA, their implementation cannot be guaranteed. Thus, the feasibility of this mitigation measure is uncertain, and the impacts would be considered **significant**.

Pedestrian Walkway LOS

At the Pier 41 site, pedestrians may use multiple walkways to access the site, including the Embarcadero Promenade east of Taylor Street. The pedestrian analysis of the Pier 41 component conservatively assumes that 50 percent of all project trips, regardless of mode, use that portion of the Embarcadero Promenade.

As shown in Table 14, the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative would create congestion along the Embarcadero Promenade, just east of Taylor Street in front of the proposed embarkation facility, associated with visitor arrivals and departures, as well as queuing. Specifically, these increases would degrade the promenade from LOS D during the weekend midday peak hour to LOS E. This would be considered a **significant impact**.

Mitigation Measure 3, as defined in Chapter 4 of the Transportation and Circulation Study, might improve pedestrian conditions in the area. While these measures would decrease the conflicts with other pedestrians, it is uncertain whether they would be fully effective in improving LOS to acceptable levels, and therefore, the impact would be considered **significant**.

At the Fort Mason ferry berth site, pedestrians may use multiple walkways to access the site, including the Bay Trail Promenade. The pedestrian walkway analysis of the Fort Mason ferry berth component conservatively assumes that 50 percent of all project trips, regardless of mode, utilize that portion of the Bay Trail Promenade. The Pier 41 Primary Embarkation Site with Fort Mason Alternative is estimated to add approximately 110 new pedestrian trips to the Bay Trail Promenade during the a.m. peak hour, p.m. peak hour, and weekend midday peak hour. However, even with the additional pedestrian trips, the walkway operates at an acceptable LOS. The impact would be considered **less than significant**.

The weekend midday peak hour has the highest impact, with three crosswalks impacted at the same intersection. The pedestrian network as a whole would likely still perform reasonably well despite the project impact. Further, given that the embarkation facility operated at Pier 41 for many years, conditions would not likely be substantially worse than was previously the case. Pedestrians inconvenienced by the crowding may shift to crossing at other intersections, including the other study intersection, which has excess capacity. Therefore, the impact of the Pier 41 Alternative on the pedestrian network as a whole would be considered minor.

The impacts to pedestrian conditions due to the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative would be similar to the Pier 41 Alternative in the Transportation and Circulation Study.

Parking Facilities

Both on- and off-street parking demand near Pier 41 are greater on the weekend than during the week, except for off-street facilities during the 9:00 a.m. to 12:00 p.m. time period. As presented in Chapter 3 of the Transportation and Circulation Study, this alternative is forecast to require up to 153 and 192 parking spaces on weekdays and weekends, respectively. Off-street, on-street and the combined total

parking supply are expected to be sufficient to support project demand during all analysis periods. This alternative would also reduce the parking demand in the area surrounding Pier 31½.

Parking utilization near Lower Fort Mason for both on- and off-street parking would be under the threshold with the No Action Alternative and is forecast to be under the threshold with the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative.

Although the proposal is to operate no more than one ferry per day from the Fort Mason ferry berth site, analysis of parking for the Fort Mason component assumes that peak parking demand associated with the ferry occurs throughout the day, because it is unknown when the ferry and associated parking demand would occur. This represents a worst case scenario.

Overall, the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative would have a **less than significant** impact on parking.

The impacts to parking conditions for the Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative would be similar to the Pier 41 Alternative in the Transportation and Circulation Study.

SUMMARY

Table 17 summarizes the impact findings for the Pier 31 ½ and Pier 41 Alternatives, both with and without the Fort Mason Ferry Berth components. Impacts are assessed by comparing to the No Action Alternative. Mitigation Measures 1 through 3, as identified in the Transportation and Circulation Study, as well a new measure, Mitigation Measure 6, have been identified throughout this report as likely candidates to reduce the severity of the project's impacts. However, many of the mitigation measures require cooperation and approval from other agencies and cannot be guaranteed, and therefore, the impacts remain significant unless those measures can be implemented. Overall, the addition of the Fort Mason Ferry Berth components to the Pier 31½ and Pier 41 Alternatives would result in impacts to the same impact areas, except for near-term intersection traffic, in which case adding the Fort Mason Ferry Berth components to the Pier 41 Alternative would create additional significant impacts. Overall, for impact areas where significant impacts are projected with or without Fort Mason Ferry Berth components, adding the additional travel demand associated with the Fort Mason Ferry Berth would increase the severity of significant impacts in many cases, as discussed above.

TABLE 17. SUMMARY OF IMPACT FINDINGS

Impact Area	Pier 31½ Alternative	Pier 31½ Primary Embarkation Site with Fort Mason Ferry Berth Alternative	Pier 41 Alternative	Pier 41 Primary Embarkation Site with Fort Mason Ferry Berth Alternative
Intersection Traffic (Near Term)	Less Than Significant	Less Than Significant	Beneficial/Less Than Significant	Beneficial/ Significant
Intersection Traffic (Long Term)	Less Than Significant	Less Than Significant	Significant	Significant
Transit (Near Term)	Less Than Significant	Less Than Significant	Significant	Significant
Transit (Long Term)	Significant	Significant	Significant	Significant
Bicycle Facilities	Less Than Significant	Less Than Significant	Less Than Significant	Less Than Significant
Pedestrian Facilities	Less Than Significant	Less Than Significant	Significant	Significant
Parking Facilities	Less Than Significant	Less Than Significant	Less Than Significant	Less Than Significant
Construction	Less Than Significant	Less Than Significant	Less Than Significant	Less Than Significant

APPENDIX B
TRAFFIC ANALYSIS CALCULATIONS

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	1105	20	285	199	38	8	20	4	5	5	187	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.34		0.67	1.00	0.95			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.74	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	558	3110	478		947	1555	1328			1146	1175
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.99	1.00
Satd. Flow (perm)	3110	558	3110	478		947	1555	1328			1195	1175
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	1242	22	320	224	43	9	22	4	6	6	210	15
RTOR Reduction (vph)	0	5	0	121	0	4	0	4	0	0	0	11
Lane Group Flow (vph)	1242	17	320	146	0	5	22	6	0	0	216	4
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Effective Green, g (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Actuated g/C Ratio	0.55	0.55	0.55	0.55		0.29	0.29	0.29			0.29	0.29
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1700	305	1700	261		278	456	390			351	345
v/s Ratio Prot	c0.40		0.10									
v/s Ratio Perm		0.03		0.31		0.01	0.01	0.00			c0.18	0.00
v/c Ratio	0.73	0.06	0.19	0.56		0.02	0.05	0.01			0.62	0.01
Uniform Delay, d1	12.8	7.9	8.6	11.1		18.8	19.0	18.8			22.9	18.8
Progression Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	2.8	0.3	0.2	8.4		0.1	0.2	0.1			7.8	0.1
Delay (s)	15.6	8.3	8.8	19.5		18.9	19.2	18.9			30.7	18.9
Level of Service	B	A	A	B		B	B	B			C	B
Approach Delay (s)	15.5		13.7								29.9	
Approach LOS	B		B								C	

Intersection Summary			
HCM Average Control Delay	16.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.8%	ICU Level of Service	C
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	1127	54	14	431	88	35
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1199	57	15	459	94	37

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	799	457	168	306	131
Volume Left (vph)	0	0	15	0	94
Volume Right (vph)	0	57	0	0	37
Hadj (s)	0.02	-0.07	0.06	0.02	-0.01
Departure Headway (s)	5.6	5.5	6.3	6.3	6.5
Degree Utilization, x	1.24	0.70	0.29	0.53	0.24
Capacity (veh/h)	638	639	554	563	535
Control Delay (s)	140.5	19.1	10.8	15.1	11.5
Approach Delay (s)	96.3		13.5		11.5
Approach LOS	F		B		B

Intersection Summary			
Delay	69.3		
HCM Level of Service	F		
Intersection Capacity Utilization	56.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	995	140	11	1	355	20	6	7	3	11	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4				5.4		4.0			5.0	5.0
Lane Util. Factor		0.95				0.95		1.00			1.00	1.00
Frpb, ped/bikes		0.93				0.98		0.78			1.00	0.55
Flpb, ped/bikes		1.00				1.00		1.00			1.00	1.00
Frt		0.98				0.99		0.86			1.00	0.85
Flt Protected		1.00				1.00		1.00			0.98	1.00
Satd. Flow (prot)		2635				3020		1106			1598	768
Flt Permitted		0.94				0.95		1.00			0.98	1.00
Satd. Flow (perm)		2484				2879		1106			1598	768
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	25	1082	152	12	1	386	22	7	8	3	12	18
RTOR Reduction (vph)	0	1	0	0	0	5	0	0	0	0	0	16
Lane Group Flow (vph)	0	1270	0	0	0	404	0	7	0	0	23	2
Confl. Peds. (#/hr)	400		400	400	400		400	400	400	400		400
Confl. Bikes (#/hr)			30	30			30	10				10
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm			Free	Split	Split		Perm
Protected Phases		2				6			4	4	4	
Permitted Phases	2				6			Free				4
Actuated Green, G (s)		41.6				41.6		75.0			9.0	9.0
Effective Green, g (s)		41.6				41.6		75.0			9.0	9.0
Actuated g/C Ratio		0.55				0.55		1.00			0.12	0.12
Clearance Time (s)		5.4				5.4					5.0	5.0
Lane Grp Cap (vph)		1378				1597		1106			192	92
v/s Ratio Prot											c0.01	
v/s Ratio Perm		c0.51				0.14		0.01				0.00
v/c Ratio		0.92				0.25		0.01			0.12	0.02
Uniform Delay, d1		15.2				8.6		0.0			29.5	29.1
Progression Factor		1.00				1.47		1.00			1.00	1.00
Incremental Delay, d2		11.6				0.4		0.0			1.3	0.5
Delay (s)		26.8				13.1		0.0			30.7	29.6
Level of Service		C				B		A			C	C
Approach Delay (s)		26.8				13.1					30.2	
Approach LOS		C				B					C	

Intersection Summary			
HCM Average Control Delay	24.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	95.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	NWL	NWR	NWR2
Lane Configurations			
Volume (vph)	81	18	2
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	5.0		5.0
Lane Util. Factor	0.97		1.00
Frpb, ped/bikes	0.86		0.55
Flpb, ped/bikes	1.00		1.00
Frt	0.97		0.85
Flt Protected	0.96		1.00
Satd. Flow (prot)	2556		768
Flt Permitted	0.96		1.00
Satd. Flow (perm)	2556		768
Peak-hour factor, PHF	0.92	0.92	0.92
Adj. Flow (vph)	88	20	2
RTOR Reduction (vph)	0	0	2
Lane Group Flow (vph)	108	0	0
Confl. Peds. (#/hr)	400	400	400
Confl. Bikes (#/hr)		10	10
Parking (#/hr)			
Turn Type			Perm
Protected Phases	8		
Permitted Phases			8
Actuated Green, G (s)	9.0		9.0
Effective Green, g (s)	9.0		9.0
Actuated g/C Ratio	0.12		0.12
Clearance Time (s)	5.0		5.0
Lane Grp Cap (vph)	307		92
v/s Ratio Prot	c0.04		
v/s Ratio Perm			0.00
v/c Ratio	0.35		0.00
Uniform Delay, d1	30.3		29.0
Progression Factor	1.00		1.00
Incremental Delay, d2	3.1		0.1
Delay (s)	33.5		29.1
Level of Service	C		C
Approach Delay (s)	33.4		
Approach LOS	C		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1001	30	8	330	53	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.99			1.00	0.91	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	1.00			1.00	0.96	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2872			3102	1379	
Flt Permitted	1.00			0.93	0.97	
Satd. Flow (perm)	2872			2900	1379	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1054	32	8	347	56	22
RTOR Reduction (vph)	3	0	0	0	11	0
Lane Group Flow (vph)	1083	0	0	355	67	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1723			1740	414	
v/s Ratio Prot	c0.38				c0.05	
v/s Ratio Perm				0.12		
v/c Ratio	0.63			0.20	0.16	
Uniform Delay, d1	9.6			6.8	19.3	
Progression Factor	1.25			1.00	1.00	
Incremental Delay, d2	0.7			0.3	0.8	
Delay (s)	12.7			7.1	20.1	
Level of Service	B			A	C	
Approach Delay (s)	12.7			7.1	20.1	
Approach LOS	B			A	C	

Intersection Summary			
HCM Average Control Delay	11.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	1007	7	4	320	9	8
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1071	7	4	340	10	9

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	714	365	118	227	18
Volume Left (vph)	0	0	4	0	10
Volume Right (vph)	0	7	0	0	9
Hadj (s)	0.02	0.00	0.04	0.02	-0.16
Departure Headway (s)	4.9	4.9	5.7	5.6	6.1
Degree Utilization, x	0.97	0.49	0.18	0.36	0.03
Capacity (veh/h)	724	727	618	627	563
Control Delay (s)	47.0	11.4	8.7	10.5	9.3
Approach Delay (s)	35.0		9.9		9.3
Approach LOS	D		A		A

Intersection Summary			
Delay	28.6		
HCM Level of Service	D		
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR2
Lane Configurations												
Volume (vph)	9	948	22	4	321	50	42	30	41	14	12	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5	5.5		5.5		5.5	5.5	5.5
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	1.00
Frpb, ped/bikes		0.99			1.00	0.66		0.88		1.00	1.00	0.65
Flpb, ped/bikes		1.00			1.00	1.00		0.88		0.73	0.96	1.00
Frt		1.00			1.00	0.85		0.95		1.00	1.00	0.85
Flt Protected		1.00			1.00	1.00		0.98		0.95	0.99	1.00
Satd. Flow (prot)		2857			3110	808		1027		1080	1484	911
Flt Permitted		0.95			1.00	1.00		0.89		0.70	0.97	1.00
Satd. Flow (perm)		2720			3110	808		934		791	1455	911
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)	9	967	22	4	328	51	43	31	42	14	12	3
RTOR Reduction (vph)	0	0	0	0	0	4	0	18	0	0	0	2
Lane Group Flow (vph)	0	1002	0	0	328	47	0	98	0	12	14	1
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10	10		10			10			10
Parking (#/hr)		5	5	5		5	5	5	5			
Turn Type	Perm					Perm	Perm			Perm		Perm
Protected Phases		2			6			8			4	
Permitted Phases	2				6	6	8			4		4
Actuated Green, G (s)		56.5			56.5	56.5		22.5		22.5	22.5	22.5
Effective Green, g (s)		56.5			56.5	56.5		22.5		22.5	22.5	22.5
Actuated g/C Ratio		0.63			0.63	0.63		0.25		0.25	0.25	0.25
Clearance Time (s)		5.5			5.5	5.5		5.5		5.5	5.5	5.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		1708			1952	507		234		198	364	228
v/s Ratio Prot					0.11							
v/s Ratio Perm		c0.37				0.06		c0.10		0.02	0.01	0.00
v/c Ratio		0.59			0.17	0.09		0.42		0.06	0.04	0.00
Uniform Delay, d1		9.9			7.0	6.6		28.3		25.7	25.6	25.3
Progression Factor		1.00			2.02	2.15		1.00		1.00	1.00	1.00
Incremental Delay, d2		1.5			0.2	0.4		5.4		0.1	0.0	0.0
Delay (s)		11.3			14.3	14.6		33.7		25.8	25.6	25.3
Level of Service		B			B	B		C		C	C	C
Approach Delay (s)		11.3			14.3			33.7			25.7	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	NER2
Lane Configurations	
Volume (vph)	17
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.78
Flpb, ped/bikes	1.00
Frt	0.86
Flt Protected	1.00
Satd. Flow (prot)	967
Flt Permitted	1.00
Satd. Flow (perm)	967
Peak-hour factor, PHF	0.98
Adj. Flow (vph)	17
RTOR Reduction (vph)	0
Lane Group Flow (vph)	17
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	10
Parking (#/hr)	5
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Actuated Green, G (s)	90.0
Effective Green, g (s)	90.0
Actuated g/C Ratio	1.00
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	967
v/s Ratio Prot	
v/s Ratio Perm	0.02
v/c Ratio	0.02
Uniform Delay, d1	0.0
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	0.0
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	986	0	0	382	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1060	0	0	411	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	1060	0	0	411	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)		30				30
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		76.0			76.0	
Effective Green, g (s)		76.0			76.0	
Actuated g/C Ratio		0.84			0.84	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		2067			2547	
v/s Ratio Prot		c0.43			0.14	
v/s Ratio Perm						
v/c Ratio		0.51			0.16	
Uniform Delay, d1		1.9			1.3	
Progression Factor		0.50			1.00	
Incremental Delay, d2		0.8			0.1	
Delay (s)		1.7			1.4	
Level of Service		A			A	
Approach Delay (s)	1.7			0.0	1.4	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	1.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	54.2%	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												
Volume (vph)	5	368	78	78	104	8	71	80	124	24	75	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.89		1.00	0.96			1.00	0.62		1.00	0.37
Flpb, ped/bikes		0.99		0.73	1.00			0.74	1.00		0.93	1.00
Frt		0.97		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.99	1.00
Satd. Flow (prot)		2673		1134	1354			1012	844		1500	508
Flt Permitted		0.95		0.37	1.00			0.84	1.00		0.93	1.00
Satd. Flow (perm)		2547		443	1354			869	844		1409	508
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)	5	387	82	82	109	8	75	84	131	25	79	18
RTOR Reduction (vph)	0	30	0	0	4	0	0	0	19	0	0	7
Lane Group Flow (vph)	0	444	0	82	113	0	0	159	112	0	104	11
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		23.1		23.1	23.1			56.9	56.9		56.9	56.9
Effective Green, g (s)		23.1		23.1	23.1			56.9	56.9		56.9	56.9
Actuated g/C Ratio		0.26		0.26	0.26			0.63	0.63		0.63	0.63
Clearance Time (s)		5.5		5.5	5.5			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)		654		114	348			549	534		891	321
v/s Ratio Prot					0.08							
v/s Ratio Perm		0.17		c0.19				c0.18	0.13		0.07	0.02
v/c Ratio		0.68		0.72	0.32			0.29	0.21		0.12	0.04
Uniform Delay, d1		30.1		30.5	27.1			7.5	7.0		6.6	6.2
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		2.8		19.4	0.5			1.3	0.9		0.3	0.2
Delay (s)		32.9		49.9	27.7			8.8	7.9		6.8	6.4
Level of Service		C		D	C			A	A		A	A
Approach Delay (s)		32.9			36.8			8.4			6.8	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM Average Control Delay	24.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
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												
Volume (vph)	0	447	106	12	175	429	88	0	33	990	75	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.98			1.00	0.96		0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		0.99		1.00	1.00	
Frt		0.97			1.00	0.85		0.96		1.00	1.00	
Flt Protected		1.00			1.00	1.00		0.96		0.95	0.96	
Satd. Flow (prot)		2789			1627	2362		1305		1477	1489	
Flt Permitted		1.00			0.78	1.00		0.50		0.73	0.76	
Satd. Flow (perm)		2789			1272	2362		675		1132	1177	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	461	109	12	180	442	91	0	34	1021	77	3
RTOR Reduction (vph)	0	23	0	0	0	0	0	15	0	0	0	0
Lane Group Flow (vph)	0	547	0	0	192	442	0	110	0	551	550	0
Confl. Peds. (#/hr)	50			50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		17.0			17.0	65.5		17.5		45.0	45.0	
Effective Green, g (s)		17.0			17.0	65.5		17.5		45.0	45.0	
Actuated g/C Ratio		0.19			0.19	0.73		0.19		0.50	0.50	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		527			240	1719		131		566	589	
v/s Ratio Prot		c0.20										
v/s Ratio Perm					0.15	0.19		c0.16		c0.49	0.47	
v/c Ratio		1.04			0.80	0.26		0.84		0.97	0.93	
Uniform Delay, d1		36.5			34.9	4.1		34.9		21.9	21.1	
Progression Factor		1.00			1.00	1.00		1.00		1.18	1.18	
Incremental Delay, d2		49.5			23.7	0.4		44.1		30.1	22.4	
Delay (s)		86.0			58.6	4.5		79.0		55.9	47.2	
Level of Service		F			E	A		E		E	D	
Approach Delay (s)		86.0			20.9			79.0			51.6	
Approach LOS		F			C			E			D	

Intersection Summary			
HCM Average Control Delay	53.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	67.3%	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												
Volume (vph)	17	1445	19	34	516	17	102	51	179	23	18	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Lane Util. Factor		0.95			0.95	1.00		0.95			1.00	1.00
Frpb, ped/bikes		1.00			1.00	0.62		0.79			1.00	0.62
Flpb, ped/bikes		1.00			1.00	1.00		0.89			0.89	1.00
Frt		1.00			1.00	0.85		0.92			1.00	0.85
Flt Protected		1.00			1.00	1.00		0.98			0.97	1.00
Satd. Flow (prot)		3081			3100	754		1866			1414	858
Flt Permitted		0.95			0.80	1.00		0.84			0.77	1.00
Satd. Flow (perm)		2917			2501	754		1600			1120	858
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	18	1505	20	35	538	18	106	53	186	24	19	24
RTOR Reduction (vph)	0	1	0	0	0	1	0	11	0	0	0	19
Lane Group Flow (vph)	0	1542	0	0	573	17	0	334	0	0	43	5
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Actuated Green, G (s)		62.9			62.9	62.9		20.1			20.1	20.1
Effective Green, g (s)		62.9			62.9	62.9		20.1			20.1	20.1
Actuated g/C Ratio		0.70			0.70	0.70		0.22			0.22	0.22
Clearance Time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)		2039			1748	527		357			250	192
v/s Ratio Prot												
v/s Ratio Perm		c0.53			0.23	0.02		c0.21			0.04	0.01
v/c Ratio		0.76			0.33	0.03		0.94			0.17	0.03
Uniform Delay, d1		8.7			5.3	4.2		34.3			28.2	27.3
Progression Factor		1.00			0.80	0.72		1.00			1.00	1.00
Incremental Delay, d2		1.6			0.1	0.0		33.9			1.5	0.3
Delay (s)		10.3			4.3	3.0		68.2			29.7	27.6
Level of Service		B			A	A		E			C	C
Approach Delay (s)		10.3			4.3			68.2			29.0	
Approach LOS		B			A			E			C	

Intersection Summary			
HCM Average Control Delay	17.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	89.0%	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												
Volume (vph)	20	1505	109	0	457	27	63	266	195	7	129	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.95		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.80		0.99		1.00	0.85			0.88	
Flpb, ped/bikes		1.00	1.00		1.00		0.74	1.00			0.99	
Frt		1.00	0.85		0.99		1.00	0.94			0.95	
Flt Protected		1.00	1.00		1.00		0.95	1.00			1.00	
Satd. Flow (prot)		3104	974		3049		1144	3543			3714	
Flt Permitted		0.94	1.00		1.00		0.61	1.00			0.92	
Satd. Flow (perm)		2934	974		3049		740	3543			3425	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	21	1568	114	0	476	28	66	277	203	7	134	69
RTOR Reduction (vph)	0	0	1	0	0	0	0	7	0	0	54	0
Lane Group Flow (vph)	0	1589	113	0	504	0	66	473	0	0	156	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm				Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4				2			6		
Actuated Green, G (s)		59.8	59.8		59.8		20.2	20.2			20.2	
Effective Green, g (s)		59.8	59.8		59.8		20.2	20.2			20.2	
Actuated g/C Ratio		0.66	0.66		0.66		0.22	0.22			0.22	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1949	647		2026		166	795			769	
v/s Ratio Prot					0.17			c0.13				
v/s Ratio Perm		c0.54	0.12				0.09				0.05	
v/c Ratio		0.82	0.18		0.25		0.40	0.59			0.20	
Uniform Delay, d1		11.1	5.7		6.1		29.7	31.2			28.4	
Progression Factor		0.61	0.50		0.98		1.00	1.00			1.00	
Incremental Delay, d2		1.8	0.1		0.1		7.0	3.3			0.6	
Delay (s)		8.5	2.9		6.0		36.7	34.5			29.0	
Level of Service		A	A		A		D	C			C	
Approach Delay (s)		8.1			6.0			34.8			29.0	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	14.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	106.1%	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												
Volume (vph)	0	2043	196	0	1241	55	128	125	28	89	104	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.97			0.98		1.00	0.94		1.00	0.92	
Flpb, ped/bikes		1.00			1.00		0.74	1.00		0.75	1.00	
Frt		0.99			0.99		1.00	0.97		1.00	0.96	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4269			4188		1149	1496		1161	1261	
Flt Permitted		1.00			1.00		0.67	1.00		0.64	1.00	
Satd. Flow (perm)		4269			4188		805	1496		788	1261	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	2106	202	0	1279	57	132	129	29	92	107	37
RTOR Reduction (vph)	0	8	0	0	5	0	0	1	0	0	6	0
Lane Group Flow (vph)	0	2300	0	0	1331	0	132	157	0	92	138	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2467			2420		246	457		241	385	
v/s Ratio Prot		c0.54			0.32			0.11			0.11	
v/s Ratio Perm							c0.16			0.12		
v/c Ratio		0.93			0.55		0.54	0.34		0.38	0.36	
Uniform Delay, d1		17.4			11.8		26.0	24.3		24.6	24.4	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		8.0			0.9		8.2	2.1		4.5	2.6	
Delay (s)		25.4			12.7		34.1	26.3		29.1	27.0	
Level of Service		C			B		C	C		C	C	
Approach Delay (s)		25.4			12.7			29.9			27.8	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM Average Control Delay	21.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	93.7%	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												
Volume (vph)	0	2040	67	0	1120	67	54	128	33	42	121	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			1.00	
Frpb, ped/bikes		0.99			0.98		1.00	0.93			0.94	
Flpb, ped/bikes		1.00			1.00		0.80	1.00			0.95	
Frt		1.00			0.99		1.00	0.97			0.98	
Flt Protected		1.00			1.00		0.95	1.00			0.99	
Satd. Flow (prot)		4396			4341		1236	1479			1408	
Flt Permitted		1.00			1.00		0.55	1.00			0.90	
Satd. Flow (perm)		4396			4341		720	1479			1285	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	2217	73	0	1217	73	59	139	36	46	132	40
RTOR Reduction (vph)	0	4	0	0	6	0	0	1	0	0	7	0
Lane Group Flow (vph)	0	2286	0	0	1284	0	59	174	0	0	211	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2603			2571		215	442			384	
v/s Ratio Prot		c0.52			0.30			0.12				
v/s Ratio Perm							0.08				c0.16	
v/c Ratio		0.88			0.50		0.27	0.39			0.55	
Uniform Delay, d1		15.6			10.6		24.1	25.1			26.5	
Progression Factor		1.00			1.11		1.00	1.00			1.00	
Incremental Delay, d2		4.6			0.6		3.1	2.6			5.6	
Delay (s)		20.2			12.4		27.2	27.7			32.0	
Level of Service		C			B		C	C			C	
Approach Delay (s)		20.2			12.4			27.6			32.0	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM Average Control Delay	18.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	103.0%	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												
Volume (vph)	0	1878	95	0	1123	42	35	78	18	47	145	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.98			0.99			0.96			0.96	
Flpb, ped/bikes		1.00			1.00			0.95			0.95	
Frt		0.99			0.99			0.98			0.98	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		4179			4204			1255			1262	
Flt Permitted		1.00			1.00			0.89			0.91	
Satd. Flow (perm)		4179			4204			1128			1159	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	1998	101	0	1195	45	37	83	19	50	154	31
RTOR Reduction (vph)	0	6	0	0	4	0	0	1	0	0	6	0
Lane Group Flow (vph)	0	2093	0	0	1236	0	0	138	0	0	229	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2507			2522			338			348	
v/s Ratio Prot		c0.50			0.29							
v/s Ratio Perm								0.12			c0.20	
v/c Ratio		0.84			0.49			0.41			0.66	
Uniform Delay, d1		14.4			10.2			25.1			27.5	
Progression Factor		0.47			1.00			1.00			1.00	
Incremental Delay, d2		1.7			0.7			3.6			9.3	
Delay (s)		8.4			10.9			28.7			36.8	
Level of Service		A			B			C			D	
Approach Delay (s)		8.4			10.9			28.7			36.8	
Approach LOS		A			B			C			D	

Intersection Summary			
HCM Average Control Delay	11.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	75.0%	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		↑↑↑			↑↑↑		↰	↕				↱
Volume (vph)	0	1737	0	0	533	27	527	437	45	0	0	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.98		1.00	0.98				0.97
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.99				1.00
Satd. Flow (prot)		4282			4366		1415	2666				1367
Flt Permitted		1.00			1.00		0.95	0.99				1.00
Satd. Flow (perm)		4282			4366		1415	2666				1367
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	1828	0	0	561	28	555	460	47	0	0	25
RTOR Reduction (vph)	0	0	0	0	6	0	0	6	0	0	0	0
Lane Group Flow (vph)	0	1828	0	0	583	0	350	706	0	0	0	25
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		53.0			41.0		27.0	27.0				9.0
Effective Green, g (s)		53.0			41.0		27.0	27.0				9.0
Actuated g/C Ratio		0.59			0.46		0.30	0.30				0.10
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		2522			1989		425	800				137
v/s Ratio Prot		c0.43			0.13							
v/s Ratio Perm							0.25	0.26				0.02
v/c Ratio		0.72			0.29		0.82	0.88				0.18
Uniform Delay, d1		13.3			15.4		29.3	30.0				37.1
Progression Factor		1.00			1.78		1.00	1.00				1.00
Incremental Delay, d2		1.9			0.3		16.4	13.5				2.9
Delay (s)		15.1			27.7		45.7	43.5				40.0
Level of Service		B			C		D	D				D
Approach Delay (s)		15.1			27.7			44.2			40.0	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM Average Control Delay	26.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	68.1%	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												
Volume (vph)	238	150	1386	0	78	8	384	274	26	0	425	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		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.97		1.00	0.96			1.00	0.67
Flpb, ped/bikes		0.83	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.99		1.00	0.99			1.00	0.85
Flt Protected		0.97	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1311	2448		1334		4385	1354			3110	815
Flt Permitted		0.76	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		1028	2448		1334		4385	1354			3110	815
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	248	156	1444	0	81	8	400	285	27	0	443	40
RTOR Reduction (vph)	0	0	3	0	4	0	0	4	0	0	0	28
Lane Group Flow (vph)	0	404	1441	0	85	0	400	308	0	0	443	12
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		39.5	54.5		39.5		11.5	42.5			27.5	27.5
Effective Green, g (s)		39.5	51.0		39.5		11.5	42.5			27.5	27.5
Actuated g/C Ratio		0.44	0.57		0.44		0.13	0.47			0.31	0.31
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		451	1387		585		560	639			950	249
v/s Ratio Prot			c0.59		0.06		0.09	c0.23			0.14	
v/s Ratio Perm		0.39										0.01
v/c Ratio		0.90	1.04		0.15		0.71	0.48			0.47	0.05
Uniform Delay, d1		23.3	19.5		15.1		37.7	16.2			25.3	22.0
Progression Factor		1.23	1.73		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		14.4	30.7		0.1		7.6	2.6			1.6	0.4
Delay (s)		43.2	64.5		15.2		45.3	18.8			27.0	22.4
Level of Service		D	E		B		D	B			C	C
Approach Delay (s)		59.8			15.2			33.7			26.6	
Approach LOS		E			B			C			C	

Intersection Summary			
HCM Average Control Delay	47.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	83.0%	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												
Volume (vph)	0	0	0	27	94	45	13	32	0	0	45	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.70		1.00			0.99	
Flpb, ped/bikes					0.95	1.00		0.99			1.00	
Frt					1.00	0.85		1.00			0.97	
Flt Protected					0.99	1.00		0.99			1.00	
Satd. Flow (prot)					2747	954		1595			1567	
Flt Permitted					0.99	1.00		0.93			1.00	
Satd. Flow (perm)					2747	954		1512			1567	
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	0	0	0	35	121	58	17	41	0	0	58	17
RTOR Reduction (vph)	0	0	0	0	0	34	0	0	0	0	10	0
Lane Group Flow (vph)	0	0	0	0	156	24	0	58	0	0	65	0
Confl. Peds. (#/hr)				154		203	51					51
Confl. Bikes (#/hr)						14						3
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					25.0	25.0		25.0			25.0	
Effective Green, g (s)					25.0	25.0		25.0			25.0	
Actuated g/C Ratio					0.42	0.42		0.42			0.42	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1145	398		630			653	
v/s Ratio Prot											c0.04	
v/s Ratio Perm					0.06	0.03		0.04				
v/c Ratio					0.14	0.06		0.09			0.10	
Uniform Delay, d1					10.8	10.5		10.6			10.7	
Progression Factor					1.00	1.00		0.89			1.00	
Incremental Delay, d2					0.2	0.3		0.3			0.3	
Delay (s)					11.1	10.8		9.7			11.0	
Level of Service					B	B		A			B	
Approach Delay (s)		0.0			11.0			9.7			11.0	
Approach LOS		A			B			A			B	

Intersection Summary			
HCM Average Control Delay	10.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.12		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	45.0%	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												
Volume (vph)	0	0	0	24	113	5	20	5	0	0	3	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.99		1.00	1.00			0.95	
Flpb, ped/bikes				1.00	1.00		0.89	1.00			1.00	
Frt				1.00	0.99		1.00	1.00			0.94	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	3054		1388	1637			1464	
Flt Permitted				0.95	1.00		0.75	1.00			1.00	
Satd. Flow (perm)				1555	3054		1100	1637			1464	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	0	0	0	31	147	6	26	6	0	0	4	3
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	31	151	0	26	6	0	0	7	0
Confl. Peds. (#/hr)						369	74					74
Confl. Bikes (#/hr)						16			1			
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				38.4	38.4		12.3	12.3			12.3	
Effective Green, g (s)				38.4	38.4		12.3	12.3			12.3	
Actuated g/C Ratio				0.64	0.64		0.21	0.21			0.21	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				995	1955		226	336			300	
v/s Ratio Prot				0.02	c0.05			0.00			0.00	
v/s Ratio Perm							c0.02					
v/c Ratio				0.03	0.08		0.12	0.02			0.02	
Uniform Delay, d1				4.0	4.1		19.4	19.0			19.1	
Progression Factor				1.00	1.00		1.40	1.41			1.00	
Incremental Delay, d2				0.1	0.1		1.0	0.1			0.1	
Delay (s)				4.0	4.2		28.2	26.9			19.2	
Level of Service				A	A		C	C			B	
Approach Delay (s)		0.0			4.1			28.0			19.2	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM Average Control Delay	8.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.09		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	127	36	6	65	30	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	132	38	6	68	31	4
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	291					
pX, platoon unblocked						
vC, conflicting volume			570		1031	885
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			570		1031	885
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		72	97
cM capacity (veh/h)			698		110	140

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	88	82	74	35
Volume Left	0	0	6	31
Volume Right	0	38	0	4
cSH	1700	1700	698	113
Volume to Capacity	0.05	0.05	0.01	0.31
Queue Length 95th (ft)	0	0	1	30
Control Delay (s)	0.0	0.0	0.9	50.8
Lane LOS			A	F
Approach Delay (s)	0.0		0.9	50.8
Approach LOS				F

Intersection Summary			
Average Delay	6.7		
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												
Volume (vph)	16	136	16	8	92	8	10	23	13	19	42	9
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		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.57		0.97			0.85			0.93	
Flpb, ped/bikes		0.96	1.00		0.98			0.90			0.87	
Frt		1.00	0.85		0.99			0.96			0.98	
Flt Protected		0.99	1.00		1.00			0.99			0.99	
Satd. Flow (prot)		1570	793		1337			1045			1129	
Flt Permitted		0.97	1.00		0.98			0.96			0.94	
Satd. Flow (perm)		1535	793		1318			1009			1072	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	18	156	18	9	106	9	11	26	15	22	48	10
RTOR Reduction (vph)	0	0	9	0	5	0	0	10	0	0	6	0
Lane Group Flow (vph)	0	174	9	0	119	0	0	43	0	0	74	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4			4		
Actuated Green, G (s)		29.0	29.0		29.0			22.0			22.0	
Effective Green, g (s)		29.0	29.0		29.0			22.0			22.0	
Actuated g/C Ratio		0.48	0.48		0.48			0.37			0.37	
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)		742	383		637			370			393	
v/s Ratio Prot												
v/s Ratio Perm		c0.11	0.01		0.09			0.04			c0.07	
v/c Ratio		0.23	0.02		0.19			0.11			0.19	
Uniform Delay, d1		9.0	8.1		8.8			12.6			12.9	
Progression Factor		1.00	1.00		1.00			1.00			1.15	
Incremental Delay, d2		0.7	0.1		0.7			0.6			1.1	
Delay (s)		9.8	8.2		9.5			13.2			15.9	
Level of Service		A	A		A			B			B	
Approach Delay (s)		9.6			9.5			13.2			15.9	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	11.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	77.9%	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												
Volume (vph)	0	160	12	18	131	0	8	0	10	5	2	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		1.00	1.00		0.95			1.00			1.00	
Frpb, ped/bikes		1.00	0.42		1.00			0.69			1.00	
Flpb, ped/bikes		1.00	1.00		0.95			0.86			0.61	
Frt		1.00	0.85		1.00			0.92			1.00	
Flt Protected		1.00	1.00		0.99			0.98			0.96	
Satd. Flow (prot)		1637	571		2934			876			960	
Flt Permitted		1.00	1.00		0.91			0.95			0.93	
Satd. Flow (perm)		1637	571		2686			850			925	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	0	188	14	21	154	0	9	0	12	6	2	0
RTOR Reduction (vph)	0	0	11	0	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	188	3	0	175	0	0	19	0	0	8	0
Confl. Peds. (#/hr)			400	400			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	
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)		396	138		649			517			563	
v/s Ratio Prot		c0.11										
v/s Ratio Perm			0.01		0.07			c0.02			0.01	
v/c Ratio		0.47	0.02		0.27			0.04			0.01	
Uniform Delay, d1		19.5	17.4		18.5			4.7			4.6	
Progression Factor		1.01	1.15		1.00			1.00			1.00	
Incremental Delay, d2		4.0	0.3		1.0			0.1			0.0	
Delay (s)		23.6	20.3		19.5			4.8			4.7	
Level of Service		C	C		B			A			A	
Approach Delay (s)		23.4			19.5			4.8			4.7	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM Average Control Delay	20.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.16		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	156	6	8	16	16	0	153	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		0.82		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		0.93		1.00			1.00
Flt Protected		1.00		0.98		1.00			0.97
Satd. Flow (prot)		942		1070		1637			3014
Flt Permitted		1.00		0.98		1.00			0.95
Satd. Flow (perm)		942		1070		1637			2970
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	179	7	9	18	18	0	176	100
RTOR Reduction (vph)	0	0	0	13	0	0	0	0	0
Lane Group Flow (vph)	0	179	0	21	0	18	0	0	276
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		303		314			891
v/s Ratio Prot						0.01			
v/s Ratio Perm		c0.19		0.02					0.09
v/c Ratio		0.34		0.07		0.06			0.31
Uniform Delay, d1		7.2		15.7		19.8			16.2
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		1.8		0.4		0.1			0.9
Delay (s)		9.0		16.2		19.9			17.1
Level of Service		A		B		B			B
Approach Delay (s)	9.0			16.2		19.9			17.1
Approach LOS	A			B		B			B

Intersection Summary			
HCM Average Control Delay	14.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	53.6%	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												
Volume (vph)	20	204	36	32	115	35	24	66	10	13	50	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.97			1.00	0.59	1.00	0.92			0.88	
Flpb, ped/bikes		0.98			1.00	1.00	0.51	1.00			0.92	
Frt		0.98			1.00	0.85	1.00	0.98			0.97	
Flt Protected		1.00			0.99	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1322			1417	722	791	1293			2419	
Flt Permitted		0.98			0.90	1.00	0.70	1.00			0.90	
Satd. Flow (perm)		1295			1289	722	580	1293			2185	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	22	229	40	36	129	39	27	74	11	15	56	17
RTOR Reduction (vph)	0	2	0	0	0	2	0	7	0	0	0	0
Lane Group Flow (vph)	0	289	0	0	165	37	27	78	0	0	88	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		70.3			70.3	70.3	9.6	9.6			9.6	
Effective Green, g (s)		70.3			70.3	70.3	9.6	9.6			9.6	
Actuated g/C Ratio		0.78			0.78	0.78	0.11	0.11			0.11	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		1012			1007	564	62	138			233	
v/s Ratio Prot								c0.06				
v/s Ratio Perm		c0.22			0.13	0.05	0.05				0.04	
v/c Ratio		0.29			0.16	0.07	0.44	0.56			0.38	
Uniform Delay, d1		2.8			2.5	2.3	37.7	38.2			37.4	
Progression Factor		1.00			1.00	1.00	1.46	1.48			1.00	
Incremental Delay, d2		0.7			0.3	0.2	4.8	5.2			1.0	
Delay (s)		3.5			2.8	2.5	59.7	61.9			38.4	
Level of Service		A			A	A	E	E			D	
Approach Delay (s)		3.5			2.8			61.4			38.4	
Approach LOS		A			A			E			D	

Intersection Summary			
HCM Average Control Delay	17.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	110.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Volume (vph)	17	229	31	6	123	6	9	29	29	22	24	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.97			0.99			0.74			0.81	
Flpb, ped/bikes		0.99			0.99			0.93			0.83	
Frt		0.99			0.99			0.94			0.96	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		1338			1390			919			914	
Flt Permitted		0.98			0.99			0.96			0.90	
Satd. Flow (perm)		1318			1375			893			834	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	20	269	36	7	145	7	11	34	34	26	28	24
RTOR Reduction (vph)	0	1	0	0	1	0	0	27	0	0	17	0
Lane Group Flow (vph)	0	324	0	0	158	0	0	52	0	0	61	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.6			62.6			18.6			18.6	
Effective Green, g (s)		62.6			62.6			18.6			18.6	
Actuated g/C Ratio		0.70			0.70			0.21			0.21	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		917			956			185			172	
v/s Ratio Prot												
v/s Ratio Perm		c0.25			0.11			0.06			c0.07	
v/c Ratio		0.35			0.17			0.28			0.35	
Uniform Delay, d1		5.5			4.7			30.1			30.5	
Progression Factor		1.00			1.00			1.45			1.00	
Incremental Delay, d2		1.1			0.4			3.3			5.6	
Delay (s)		6.6			5.1			47.0			36.1	
Level of Service		A			A			D			D	
Approach Delay (s)		6.6			5.1			47.0			36.1	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	14.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	16	223	30	13	92	8	11	17	82	4	22	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.96			1.00	0.66		0.58			0.86	
Flpb, ped/bikes		0.98			0.97	1.00		0.95			0.95	
Frt		0.98			1.00	0.85		0.90			0.97	
Flt Protected		1.00			0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1331			1388	802		706			1136	
Flt Permitted		0.99			0.96	1.00		0.98			0.98	
Satd. Flow (perm)		1315			1339	802		695			1119	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	242	33	14	100	9	12	18	89	4	24	9
RTOR Reduction (vph)	0	5	0	0	0	3	0	64	0	0	7	0
Lane Group Flow (vph)	0	287	0	0	114	6	0	55	0	0	31	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		57.0			57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0			57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63			0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		833			848	508		193			311	
v/s Ratio Prot												
v/s Ratio Perm		c0.22			0.09	0.01		c0.08			0.03	
v/c Ratio		0.34			0.13	0.01		0.28			0.10	
Uniform Delay, d1		7.7			6.6	6.1		25.5			24.1	
Progression Factor		1.00			0.79	0.61		1.70			1.00	
Incremental Delay, d2		1.1			0.3	0.0		3.3			0.6	
Delay (s)		8.9			5.6	3.7		46.7			24.8	
Level of Service		A			A	A		D			C	
Approach Delay (s)		8.9			5.4			46.7			24.8	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM Average Control Delay	17.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	216	64	6	95	8	30	34	33	5	25	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.66		1.00	0.66		0.81			0.84	
Flpb, ped/bikes		0.97	1.00		0.99	1.00		0.84			0.95	
Frt		1.00	0.85		1.00	0.85		0.95			0.96	
Flt Protected		1.00	1.00		1.00	1.00		0.98			0.99	
Satd. Flow (prot)		1387	786		1409	786		919			1236	
Flt Permitted		0.97	1.00		0.98	1.00		0.92			0.98	
Satd. Flow (perm)		1355	786		1391	786		855			1213	
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)	26	240	71	7	106	9	33	38	37	6	28	14
RTOR Reduction (vph)	0	0	7	0	0	3	0	21	0	0	10	0
Lane Group Flow (vph)	0	266	64	0	113	6	0	87	0	0	38	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63	0.63		0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		858	498		881	498		238			337	
v/s Ratio Prot												
v/s Ratio Perm		c0.20	0.08		0.08	0.01		c0.10			0.03	
v/c Ratio		0.31	0.13		0.13	0.01		0.37			0.11	
Uniform Delay, d1		7.5	6.6		6.6	6.1		26.1			24.2	
Progression Factor		0.74	0.63		1.00	1.00		1.07			1.00	
Incremental Delay, d2		0.9	0.5		0.3	0.0		3.5			0.7	
Delay (s)		6.5	4.7		6.9	6.1		31.4			24.9	
Level of Service		A	A		A	A		C			C	
Approach Delay (s)		6.1			6.8			31.4			24.9	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	12.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations										
Volume (vph)	2	229	29	1	5	17	157	19	131	232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				5.0		5.0		5.0	5.0
Lane Util. Factor	1.00				1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.88				0.74		0.93		1.00	1.00
Flpb, ped/bikes	1.00				0.88		1.00		1.00	1.00
Frt	0.87				0.90		0.98		1.00	1.00
Flt Protected	1.00				0.99		1.00		0.95	1.00
Satd. Flow (prot)	1246				943		2847		1555	3110
Flt Permitted	1.00				0.99		1.00		0.95	1.00
Satd. Flow (perm)	1246				943		2847		1555	3110
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	2	229	29	1	5	17	157	19	131	232
RTOR Reduction (vph)	5	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	255	0	0	0	23	0	176	0	131	232
Confl. Peds. (#/hr)				400	400	400		400		
Confl. Bikes (#/hr)		30	30			10		30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0
Turn Type				Perm					Split	
Protected Phases	4				3		6		2	2
Permitted Phases				3						
Actuated Green, G (s)	19.7				20.0		17.0		13.3	13.3
Effective Green, g (s)	19.7				20.0		17.0		13.3	13.3
Actuated g/C Ratio	0.22				0.22		0.19		0.15	0.15
Clearance Time (s)	5.0				5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	273				210		538		230	460
v/s Ratio Prot	c0.20						c0.06		c0.08	0.07
v/s Ratio Perm					0.02					
v/c Ratio	0.94				0.11		0.33		0.57	0.50
Uniform Delay, d1	34.5				27.9		31.6		35.7	35.3
Progression Factor	1.00				0.91		1.00		0.99	0.99
Incremental Delay, d2	37.2				0.2		1.6		9.8	3.9
Delay (s)	71.7				25.6		33.2		45.1	38.8
Level of Service	E				C		C		D	D
Approach Delay (s)	71.7				25.6		33.2			41.1
Approach LOS	E				C		C			D

Intersection Summary			
HCM Average Control Delay	48.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	73.7%	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												
Volume (vph)	0	1638	33	0	480	9	0	17	25	0	44	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.77			0.93	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.92			0.98	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2890			2891			1013			1306	
Flt Permitted		1.00			1.00			1.00			1.00	
Satd. Flow (perm)		2890			2891			1013			1306	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1780	36	0	522	10	0	18	27	0	48	10
RTOR Reduction (vph)	0	0	0	0	0	0	0	7	0	0	9	0
Lane Group Flow (vph)	0	1816	0	0	532	0	0	38	0	0	49	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type												
Protected Phases		2			6			8			4	
Permitted Phases												
Actuated Green, G (s)		73.3			73.3			7.9			7.9	
Effective Green, g (s)		73.3			73.3			7.9			7.9	
Actuated g/C Ratio		0.81			0.81			0.09			0.09	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2354			2355			89			115	
v/s Ratio Prot		c0.63			0.18			0.04			c0.04	
v/s Ratio Perm												
v/c Ratio		0.77			0.23			0.42			0.43	
Uniform Delay, d1		4.2			1.9			38.9			38.9	
Progression Factor		1.19			1.00			1.00			1.00	
Incremental Delay, d2		1.6			0.0			3.2			2.5	
Delay (s)		6.6			1.9			42.1			41.4	
Level of Service		A			A			D			D	
Approach Delay (s)		6.6			1.9			42.1			41.4	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	7.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	6	1373	375	25	313	21	112	73	65	0	110	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.77		1.00	0.77	1.00	1.00	0.67		0.98	
Flpb, ped/bikes		1.00	1.00		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	0.85		0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3109	1077		3098	1077	3016	1637	932		2837	
Flt Permitted		0.95	1.00		0.82	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		2966	1077		2555	1077	3016	1637	932		2837	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	6	1415	387	26	323	22	115	75	67	0	113	6
RTOR Reduction (vph)	0	0	62	0	0	7	0	0	3	0	5	0
Lane Group Flow (vph)	0	1421	325	0	349	15	115	75	64	0	115	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type	Perm		Perm	Perm		Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		61.5	61.5		61.5	61.5	6.0	19.5	19.5		9.0	
Effective Green, g (s)		61.5	61.5		61.5	61.5	6.0	19.5	19.5		9.0	
Actuated g/C Ratio		0.68	0.68		0.68	0.68	0.07	0.22	0.22		0.10	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		2027	736		1746	736	201	355	202		284	
v/s Ratio Prot							c0.04	0.05			0.04	
v/s Ratio Perm		c0.48	0.30		0.14	0.01			c0.07			
v/c Ratio		0.70	0.44		0.20	0.02	0.57	0.21	0.32		0.40	
Uniform Delay, d1		8.7	6.5		5.2	4.6	40.8	28.9	29.6		38.0	
Progression Factor		1.00	1.00		0.95	0.92	1.00	1.00	1.00		0.73	
Incremental Delay, d2		2.1	1.9		0.3	0.1	3.9	0.3	0.9		0.9	
Delay (s)		10.7	8.4		5.2	4.3	44.7	29.2	30.5		28.5	
Level of Service		B	A		A	A	D	C	C		C	
Approach Delay (s)		10.2			5.2			36.5			28.5	
Approach LOS		B			A			D			C	

Intersection Summary			
HCM Average Control Delay	13.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	120.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	44	1273	354	22	37	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	0.98		0.85	
Flpb, ped/bikes		0.99	1.00		1.00	
Frt		1.00	0.99		0.95	
Flt Protected		1.00	1.00		0.97	
Satd. Flow (prot)		2895	3028		1112	
Flt Permitted		0.93	1.00		0.97	
Satd. Flow (perm)		2684	3028		1112	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	48	1384	385	24	40	27
RTOR Reduction (vph)	0	0	6	0	22	0
Lane Group Flow (vph)	0	1432	403	0	45	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		65.2	65.2		17.8	
Effective Green, g (s)		65.2	65.2		17.8	
Actuated g/C Ratio		0.72	0.72		0.20	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1944	2194		220	
v/s Ratio Prot			0.13		c0.04	
v/s Ratio Perm		c0.53				
v/c Ratio		0.74	0.18		0.21	
Uniform Delay, d1		7.3	3.9		30.2	
Progression Factor		1.37	1.00		0.96	
Incremental Delay, d2		1.1	0.0		2.0	
Delay (s)		11.1	4.0		31.1	
Level of Service		B	A		C	
Approach Delay (s)		11.1	4.0		31.1	
Approach LOS		B	A		C	

Intersection Summary			
HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	94.6%	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												
Volume (vph)	32	1228	31	18	378	60	29	21	58	15	40	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.96			0.81			0.91	
Flpb, ped/bikes		1.00			1.00			0.92			0.95	
Frt		1.00			0.98			0.93			0.97	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		2868			2729			976			1184	
Flt Permitted		0.93			0.88			0.91			0.94	
Satd. Flow (perm)		2678			2408			903			1124	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	34	1306	33	19	402	64	31	22	62	16	43	19
RTOR Reduction (vph)	0	2	0	0	3	0	0	12	0	0	13	0
Lane Group Flow (vph)	0	1371	0	0	482	0	0	103	0	0	65	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		60.6			60.6			20.6			20.6	
Effective Green, g (s)		60.6			60.6			20.6			20.6	
Actuated g/C Ratio		0.67			0.67			0.23			0.23	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1803			1621			207			257	
v/s Ratio Prot												
v/s Ratio Perm		c0.51			0.20			c0.11			0.06	
v/c Ratio		0.76			0.30			0.50			0.25	
Uniform Delay, d1		9.8			6.0			30.2			28.4	
Progression Factor		1.00			1.11			1.00			1.13	
Incremental Delay, d2		3.1			0.4			8.4			2.3	
Delay (s)		12.9			7.1			38.6			34.4	
Level of Service		B			A			D			C	
Approach Delay (s)		12.9			7.1			38.6			34.4	
Approach LOS		B			A			D			C	

Intersection Summary			
HCM Average Control Delay	13.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	89.1%	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												
Volume (vph)	32	1311	18	26	425	51	35	20	101	33	16	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			0.97			0.77			0.82	
Flpb, ped/bikes		1.00			1.00			0.94			0.92	
Frt		1.00			0.98			0.91			0.93	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2885			2768			929			998	
Flt Permitted		0.93			0.83			0.91			0.85	
Satd. Flow (perm)		2685			2302			860			868	
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)	36	1457	20	29	472	57	39	22	112	37	18	53
RTOR Reduction (vph)	0	1	0	0	2	0	0	10	0	0	39	0
Lane Group Flow (vph)	0	1512	0	0	556	0	0	163	0	0	69	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.4			62.4			18.7			18.7	
Effective Green, g (s)		62.4			62.4			18.7			18.7	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1862			1596			179			180	
v/s Ratio Prot												
v/s Ratio Perm		c0.56			0.24			c0.19			0.08	
v/c Ratio		0.81			0.35			0.91			0.38	
Uniform Delay, d1		9.7			5.6			34.9			30.7	
Progression Factor		0.31			1.53			1.00			1.27	
Incremental Delay, d2		2.9			0.1			43.1			1.4	
Delay (s)		6.0			8.6			78.0			40.3	
Level of Service		A			A			E			D	
Approach Delay (s)		6.0			8.6			78.0			40.3	
Approach LOS		A			A			E			D	

Intersection Summary			
HCM Average Control Delay	13.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	91.9%	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												
Volume (vph)	9	1265	176	10	446	2	37	2	12	1	12	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.96			1.00			0.92			0.81	
Flpb, ped/bikes		1.00			1.00			0.75			0.99	
Frt		0.98			1.00			0.97			0.93	
Flt Protected		1.00			1.00			0.96			1.00	
Satd. Flow (prot)		2752			3098			1055			1220	
Flt Permitted		0.95			0.92			0.81			0.99	
Satd. Flow (perm)		2622			2852			887			1215	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	9	1304	181	10	460	2	38	2	12	1	12	14
RTOR Reduction (vph)	0	2	0	0	0	0	0	9	0	0	11	0
Lane Group Flow (vph)	0	1492	0	0	472	0	0	43	0	0	16	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1809			1968			190			261	
v/s Ratio Prot												
v/s Ratio Perm		c0.57			0.17			c0.05			0.01	
v/c Ratio		0.82			0.24			0.22			0.06	
Uniform Delay, d1		10.0			5.2			29.2			28.1	
Progression Factor		0.39			0.18			1.00			1.91	
Incremental Delay, d2		2.5			0.3			2.7			0.3	
Delay (s)		6.5			1.2			31.9			54.1	
Level of Service		A			A			C			D	
Approach Delay (s)		6.5			1.2			31.9			54.1	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM Average Control Delay	6.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	76.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	21	1259	463	339	376	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3037	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3037	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	23	1368	503	368	409	28
RTOR Reduction (vph)	0	59	0	0	6	0
Lane Group Flow (vph)	23	1309	503	368	431	0
Confl. Peds. (#/hr)						63
Confl. Bikes (#/hr)		22				160
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	11.0	54.1	39.1	69.0	25.9	
Effective Green, g (s)	11.0	54.1	39.1	69.0	25.9	
Actuated g/C Ratio	0.12	0.60	0.43	0.77	0.29	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	190	1472	1310	2235	874	
v/s Ratio Prot	0.01	c0.53	0.17	0.13	c0.14	
v/s Ratio Perm						
v/c Ratio	0.12	0.89	0.38	0.16	0.49	
Uniform Delay, d1	35.2	15.4	17.3	2.8	26.6	
Progression Factor	1.25	0.66	1.24	0.99	1.25	
Incremental Delay, d2	0.2	4.4	0.2	0.2	0.4	
Delay (s)	44.1	14.6	21.6	2.9	33.6	
Level of Service	D	B	C	A	C	
Approach Delay (s)	15.0			13.7	33.6	
Approach LOS	B			B	C	

Intersection Summary			
HCM Average Control Delay	17.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	78.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	132	11	10	0	1623	0	13	94	692
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			1.00			1.00	1.00
Flpb, ped/bikes				0.68			1.00			1.00	1.00
Frt				0.99			1.00			1.00	1.00
Flt Protected				0.96			1.00			0.95	1.00
Satd. Flow (prot)				1919			4458			1555	3110
Flt Permitted				0.96			1.00			0.95	1.00
Satd. Flow (perm)				1919			4458			1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	143	12	11	0	1764	0	14	102	752
RTOR Reduction (vph)	0	0	0	7	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	0	0	159	0	0	1777	0	0	102	752
Confl. Peds. (#/hr)			96	119					96		
Confl. Bikes (#/hr)					4				178		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				11.6			56.2			9.2	69.4
Effective Green, g (s)				11.6			56.2			9.2	69.4
Actuated g/C Ratio				0.13			0.62			0.10	0.77
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				247			2784			159	2398
v/s Ratio Prot							c0.40			c0.07	0.24
v/s Ratio Perm				0.08							
v/c Ratio				0.97dl			0.64			0.64	0.31
Uniform Delay, d1				37.2			10.6			38.8	3.1
Progression Factor				1.00			0.72			1.00	1.00
Incremental Delay, d2				5.7			0.2			6.5	0.3
Delay (s)				42.9			7.8			45.3	3.5
Level of Service				D			A			D	A
Approach Delay (s)	0.0			42.9			7.8				8.4
Approach LOS	A			D			A				A

Intersection Summary			
HCM Average Control Delay	10.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

Movement	EBL2	EBR	EBR2	SEL	SET	SER2	NWL2	NWT	NWR	SWR2
Lane Configurations										
Volume (vph)	9	12	175	21	1042	573	66	773	77	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		7.0	7.0	7.0	7.0	7.0		
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00	1.00	0.95		
Frpb, ped/bikes	1.00	0.93		1.00	1.00	0.96	1.00	0.95		
Flpb, ped/bikes	1.00	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	0.99		
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1555	1137		1555	3110	1336	1555	2901		
Flt Permitted	0.95	1.00		0.27	1.00	1.00	0.19	1.00		
Satd. Flow (perm)	1555	1137		437	3110	1336	314	2901		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	13	190	23	1133	623	72	840	84	0
RTOR Reduction (vph)	0	136	0	0	0	276	0	9	0	0
Lane Group Flow (vph)	10	67	0	23	1133	347	72	915	0	0
Confl. Peds. (#/hr)			38						1000	100
Confl. Bikes (#/hr)		10	10			30			30	10
Parking (#/hr)		5	5							
Turn Type	custom	custom		Perm		Perm	Perm			custom
Protected Phases					6			2		
Permitted Phases	4	4		6		6	2			8
Actuated Green, G (s)	22.5	22.5		44.0	44.0	44.0	44.0	44.0		
Effective Green, g (s)	22.5	22.5		44.0	44.0	44.0	44.0	44.0		
Actuated g/C Ratio	0.28	0.28		0.56	0.56	0.56	0.56	0.56		
Clearance Time (s)	5.5	5.5		7.0	7.0	7.0	7.0	7.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	443	324		243	1732	744	175	1616		
v/s Ratio Prot					c0.36			0.32		
v/s Ratio Perm	0.01	c0.06		0.05		0.26	0.23			
v/c Ratio	0.02	0.21		0.09	0.65	0.47	0.41	0.57		
Uniform Delay, d1	20.3	21.5		8.2	12.2	10.5	10.1	11.3		
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.0	0.3		0.8	1.9	2.1	7.0	1.4		
Delay (s)	20.4	21.8		9.0	14.1	12.6	17.1	12.8		
Level of Service	C	C		A	B	B	B	B		
Approach Delay (s)					13.5			13.1		
Approach LOS					B			B		

Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	96.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	6	0	21	0	0	0	109	911	0	0	7	989
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.74					1.00	1.00				0.97
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.90					1.00	1.00				0.99
Flt Protected		0.99					0.95	1.00				1.00
Satd. Flow (prot)		936					1555	3110				2994
Flt Permitted		0.99					0.95	1.00				0.95
Satd. Flow (perm)		936					1555	3110				2840
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)	7	0	23	0	0	0	121	1012	0	0	8	1099
RTOR Reduction (vph)	0	22	0	0	0	0	0	0	0	0	0	3
Lane Group Flow (vph)	0	8	0	0	0	0	121	1012	0	0	0	1173
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		4.8					9.0	76.2				62.2
Effective Green, g (s)		4.8					9.0	76.2				62.2
Actuated g/C Ratio		0.05					0.10	0.85				0.69
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		50					156	2633				1963
v/s Ratio Prot		c0.01					c0.08	0.33				
v/s Ratio Perm												c0.41
v/c Ratio		0.16					0.78	0.38				0.60
Uniform Delay, d1		40.7					39.5	1.6				7.3
Progression Factor		1.00					1.14	2.27				1.00
Incremental Delay, d2		1.6					20.1	0.4				1.4
Delay (s)		42.2					65.1	4.0				8.7
Level of Service		D					E	A				A
Approach Delay (s)		42.2			0.0			10.5				8.7
Approach LOS		D			A			B				A

Intersection Summary			
HCM Average Control Delay	10.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	96.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	62
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.90
Adj. Flow (vph)	69
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	228	1021	0	0	391	131	115	226	57	0	0	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				
Lane Util. Factor		0.95			0.95			0.95				
Frpb, ped/bikes		1.00			0.93			0.95				
Flpb, ped/bikes		0.98			1.00			0.91				
Frt		1.00			0.96			0.98				
Flt Protected		0.99			1.00			0.99				
Satd. Flow (prot)		2788			2578			2410				
Flt Permitted		0.72			1.00			0.99				
Satd. Flow (perm)		2021			2578			2410				
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)	233	1042	0	0	399	134	117	231	58	0	0	0
RTOR Reduction (vph)	0	0	0	0	8	0	0	17	0	0	0	0
Lane Group Flow (vph)	0	1275	0	0	525	0	0	389	0	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm					
Protected Phases		2			6			8				
Permitted Phases	2						8					
Actuated Green, G (s)		44.0			44.0			27.0				
Effective Green, g (s)		44.0			44.0			27.0				
Actuated g/C Ratio		0.55			0.55			0.34				
Clearance Time (s)		4.5			4.5			4.5				
Vehicle Extension (s)		3.0			3.0			3.0				
Lane Grp Cap (vph)		1112			1418			813				
v/s Ratio Prot					0.20							
v/s Ratio Perm		c0.63						0.16				
v/c Ratio		1.15			0.37			0.48				
Uniform Delay, d1		18.0			10.2			20.9				
Progression Factor		1.00			0.32			1.00				
Incremental Delay, d2		76.8			0.7			2.0				
Delay (s)		94.8			3.9			23.0				
Level of Service		F			A			C				
Approach Delay (s)		94.8			3.9			23.0			0.0	
Approach LOS		F			A			C			A	

Intersection Summary			
HCM Average Control Delay	59.8	HCM Level of Service	E
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	103.3%	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												
Volume (vph)	0	614	464	22	437	0	0	0	0	59	601	83
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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.86			1.00						0.97	
Flpb, ped/bikes		1.00			1.00						0.98	
Frt		0.94			1.00						0.98	
Flt Protected		1.00			1.00						1.00	
Satd. Flow (prot)		2503			3095						2712	
Flt Permitted		1.00			0.85						1.00	
Satd. Flow (perm)		2503			2637						2712	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	633	478	23	451	0	0	0	0	61	620	86
RTOR Reduction (vph)	0	10	0	0	0	0	0	0	0	0	12	0
Lane Group Flow (vph)	0	1101	0	0	474	0	0	0	0	0	755	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		34.0			34.0						37.0	
Effective Green, g (s)		34.0			34.0						37.0	
Actuated g/C Ratio		0.42			0.42						0.46	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		1064			1121						1254	
v/s Ratio Prot		c0.44										
v/s Ratio Perm					0.18						0.28	
v/c Ratio		1.03			0.42						0.60	
Uniform Delay, d1		23.0			16.1						16.0	
Progression Factor		0.87			1.00						1.00	
Incremental Delay, d2		19.4			0.3						2.1	
Delay (s)		39.5			16.4						18.2	
Level of Service		D			B						B	
Approach Delay (s)		39.5			16.4			0.0			18.2	
Approach LOS		D			B			A			B	

Intersection Summary			
HCM Average Control Delay	27.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	52	417	549	970	0	987	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.66	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		1.00	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	916	3016	3110		3073	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	916	3016	3110		3073	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	52	417	549	970	0	987	25
RTOR Reduction (vph)	0	355	0	0	0	2	0
Lane Group Flow (vph)	52	62	549	970	0	1010	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	13.4	13.4	22.1	65.6		37.5	
Effective Green, g (s)	13.4	13.4	22.1	65.6		37.5	
Actuated g/C Ratio	0.15	0.15	0.25	0.73		0.42	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	232	136	741	2267		1280	
v/s Ratio Prot	0.03		c0.18	0.31		c0.33	
v/s Ratio Perm		c0.07					
v/c Ratio	0.22	0.46	0.74	0.43		0.79	
Uniform Delay, d1	33.7	35.0	31.3	4.8		22.8	
Progression Factor	1.00	1.00	1.00	1.00		1.30	
Incremental Delay, d2	0.5	2.4	4.0	0.6		4.2	
Delay (s)	34.2	37.4	35.3	5.4		33.8	
Level of Service	C	D	D	A		C	
Approach Delay (s)	37.0			16.2		33.8	
Approach LOS	D			B		C	

Intersection Summary			
HCM Average Control Delay	25.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	101.0%	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												
Volume (vph)	5	150	10	20	100	5	10	10	20	10	5	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
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.59		1.00	0.75		0.84			1.00	0.44
Flpb, ped/bikes		0.99	1.00		0.95	1.00		0.87			0.80	1.00
Frt		1.00	0.85		1.00	0.85		0.93			1.00	0.85
Flt Protected		1.00	1.00		0.99	1.00		0.99			0.97	1.00
Satd. Flow (prot)		1624	823		1539	1050		1100			1264	618
Flt Permitted		1.00	1.00		0.96	1.00		0.91			0.91	1.00
Satd. Flow (perm)		1620	823		1485	1050		1011			1193	618
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	160	11	21	106	5	11	11	21	11	5	5
RTOR Reduction (vph)	0	0	2	0	0	1	0	20	0	0	0	5
Lane Group Flow (vph)	0	165	9	0	127	4	0	23	0	0	16	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		47.3	47.3		47.3	47.3		3.7			3.7	3.7
Effective Green, g (s)		47.3	47.3		47.3	47.3		3.7			3.7	3.7
Actuated g/C Ratio		0.79	0.79		0.79	0.79		0.06			0.06	0.06
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)		1277	649		1171	828		62			74	38
v/s Ratio Prot												
v/s Ratio Perm		c0.10	0.01		0.09	0.00		c0.02			0.01	0.00
v/c Ratio		0.13	0.01		0.11	0.00		0.38			0.22	0.01
Uniform Delay, d1		1.5	1.4		1.5	1.3		27.0			26.8	26.4
Progression Factor		1.00	1.00		1.44	0.82		1.00			1.20	1.47
Incremental Delay, d2		0.0	0.0		0.2	0.0		3.8			1.5	0.1
Delay (s)		1.5	1.4		2.3	1.1		30.8			33.7	39.0
Level of Service		A	A		A	A		C			C	D
Approach Delay (s)		1.5			2.3			30.8			35.0	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	7.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.15		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	457	9	870	407	56	54	53	14	17	8	291	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.34		0.67	1.00	0.95			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.81	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	558	3110	478		947	1555	1328			1254	1175
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.99	1.00
Satd. Flow (perm)	3110	558	3110	478		947	1555	1328			1300	1175
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)	481	9	916	428	59	57	56	15	18	8	306	34
RTOR Reduction (vph)	0	4	0	181	0	33	0	13	0	0	0	24
Lane Group Flow (vph)	481	5	916	306	0	24	56	20	0	0	314	10
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Effective Green, g (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Actuated g/C Ratio	0.55	0.55	0.55	0.55		0.29	0.29	0.29			0.29	0.29
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1700	305	1700	261		278	456	390			381	345
v/s Ratio Prot	0.15		0.29									
v/s Ratio Perm		0.01		c0.64		0.03	0.04	0.02			c0.24	0.01
v/c Ratio	0.28	0.02	0.54	1.17		0.09	0.12	0.05			0.82	0.03
Uniform Delay, d1	9.1	7.8	10.9	17.0		19.2	19.4	19.0			24.7	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	0.4	0.1	1.2	110.0		0.6	0.6	0.3			18.0	0.2
Delay (s)	9.5	7.9	12.2	127.0		19.8	20.0	19.3			42.7	19.0
Level of Service	A	A	B	F		B	B	B			D	B
Approach Delay (s)	9.5		52.0								40.4	
Approach LOS	A		D								D	

Intersection Summary			
HCM Average Control Delay	39.6	HCM Level of Service	D
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.6%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	506	69	32	1133	79	37
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	544	74	34	1218	85	40

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	363	256	441	812	125
Volume Left (vph)	0	0	34	0	85
Volume Right (vph)	0	74	0	0	40
Hadj (s)	0.02	-0.19	0.06	0.02	-0.04
Departure Headway (s)	6.3	6.1	5.8	5.8	6.6
Degree Utilization, x	0.63	0.43	0.71	1.30	0.23
Capacity (veh/h)	561	580	611	634	526
Control Delay (s)	18.3	12.4	20.6	165.4	11.6
Approach Delay (s)	15.9		114.5		11.6
Approach LOS	C		F		B

Intersection Summary			
Delay	77.5		
HCM Level of Service	F		
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT
Lane Configurations												
Volume (vph)	7	406	102	23	1	6	1017	19	11	11	6	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4					5.4		4.0			5.0
Lane Util. Factor		0.95					0.95		1.00			1.00
Frpb, ped/bikes		0.87					0.99		0.78			1.00
Flpb, ped/bikes		1.00					1.00		1.00			1.00
Frt		0.97					1.00		0.86			1.00
Flt Protected		1.00					1.00		1.00			0.98
Satd. Flow (prot)		2436					3073		1106			1598
Flt Permitted		0.94					0.95		1.00			0.98
Satd. Flow (perm)		2288					2923		1106			1598
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	8	441	111	25	1	7	1105	21	12	12	7	20
RTOR Reduction (vph)	0	4	0	0	0	0	2	0	0	0	0	0
Lane Group Flow (vph)	0	581	0	0	0	0	1132	0	12	0	0	39
Confl. Peds. (#/hr)	400		400	400	400	400		400	400	400	400	
Confl. Bikes (#/hr)			30	30				30	10			
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm	Perm			Free	Split	Split	
Protected Phases		2					6			4	4	4
Permitted Phases	2				6	6			Free			
Actuated Green, G (s)		41.6					41.6		75.0			9.0
Effective Green, g (s)		41.6					41.6		75.0			9.0
Actuated g/C Ratio		0.55					0.55		1.00			0.12
Clearance Time (s)		5.4					5.4					5.0
Lane Grp Cap (vph)		1269					1621		1106			192
v/s Ratio Prot												0.02
v/s Ratio Perm		0.25					c0.39		0.01			
v/c Ratio		0.46					0.70		0.01			0.20
Uniform Delay, d1		10.0					12.1		0.0			29.8
Progression Factor		1.00					0.23		1.00			1.00
Incremental Delay, d2		1.2					1.9		0.0			2.4
Delay (s)		11.2					4.7		0.0			32.1
Level of Service		B					A		A			C
Approach Delay (s)		11.2					4.7					40.4
Approach LOS		B					A					D

Intersection Summary			
HCM Average Control Delay	10.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR	NWL	NWR	NWR2
Lane Configurations				
Volume (vph)	46	107	9	7
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0
Lane Util. Factor	1.00	0.97		1.00
Frpb, ped/bikes	0.55	0.94		0.55
Flpb, ped/bikes	1.00	1.00		1.00
Frt	0.85	0.99		0.85
Flt Protected	1.00	0.96		1.00
Satd. Flow (prot)	768	2821		768
Flt Permitted	1.00	0.96		1.00
Satd. Flow (perm)	768	2821		768
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	50	116	10	8
RTOR Reduction (vph)	7	0	0	7
Lane Group Flow (vph)	43	126	0	1
Confl. Peds. (#/hr)	400	400	400	400
Confl. Bikes (#/hr)	10		10	10
Parking (#/hr)				
Turn Type	Perm			Perm
Protected Phases		8		
Permitted Phases	4			8
Actuated Green, G (s)	9.0	9.0		9.0
Effective Green, g (s)	9.0	9.0		9.0
Actuated g/C Ratio	0.12	0.12		0.12
Clearance Time (s)	5.0	5.0		5.0
Lane Grp Cap (vph)	92	339		92
v/s Ratio Prot		c0.04		
v/s Ratio Perm	c0.06			0.00
v/c Ratio	0.47	0.37		0.01
Uniform Delay, d1	30.8	30.4		29.1
Progression Factor	1.00	1.00		1.00
Incremental Delay, d2	16.1	3.1		0.2
Delay (s)	46.8	33.5		29.3
Level of Service	D	C		C
Approach Delay (s)		33.3		
Approach LOS		C		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	391	36	22	1032	31	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.97			1.00	0.86	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.99			1.00	0.94	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2790			3095	1291	
Flt Permitted	1.00			0.94	0.97	
Satd. Flow (perm)	2790			2915	1291	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	430	40	24	1134	34	25
RTOR Reduction (vph)	9	0	0	0	18	0
Lane Group Flow (vph)	461	0	0	1158	42	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1674			1749	387	
v/s Ratio Prot	0.17				c0.03	
v/s Ratio Perm				c0.40		
v/c Ratio	0.28			0.66	0.11	
Uniform Delay, d1	7.2			10.0	19.0	
Progression Factor	0.88			1.00	1.00	
Incremental Delay, d2	0.4			2.0	0.6	
Delay (s)	6.7			11.9	19.5	
Level of Service	A			B	B	
Approach Delay (s)	6.7			11.9	19.5	
Approach LOS	A			B	B	

Intersection Summary			
HCM Average Control Delay	10.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	74.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	398	14	7	1028	5	4
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	437	15	8	1130	5	4

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	292	161	384	753	10
Volume Left (vph)	0	0	8	0	5
Volume Right (vph)	0	15	0	0	4
Hadj (s)	0.02	-0.05	0.03	0.02	-0.14
Departure Headway (s)	5.7	5.6	5.0	5.0	6.3
Degree Utilization, x	0.46	0.25	0.53	1.04	0.02
Capacity (veh/h)	620	629	706	725	547
Control Delay (s)	12.1	9.2	12.4	65.9	9.4
Approach Delay (s)	11.1		47.8		9.4
Approach LOS	B		E		A

Intersection Summary			
Delay	37.2		
HCM Level of Service	E		
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	424	39	1	1006	65	49	23	27	72	36	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frpb, ped/bikes		0.95			1.00	0.66		0.91		1.00	0.98	
Flpb, ped/bikes		1.00			1.00	1.00		0.85		0.72	0.91	
Frt		0.99			1.00	0.85		0.96		1.00	0.99	
Flt Protected		1.00			1.00	1.00		0.98		0.95	0.98	
Satd. Flow (prot)		2736			3110	808		1033		1066	1359	
Flt Permitted		0.89			1.00	1.00		0.83		0.72	0.90	
Satd. Flow (perm)		2444			3110	808		883		806	1247	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	21	442	41	1	1048	68	51	24	28	75	38	2
RTOR Reduction (vph)	0	0	0	0	0	4	0	15	0	0	0	0
Lane Group Flow (vph)	0	505	0	0	1048	64	0	88	0	56	59	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10	10		10			10			10
Parking (#/hr)		5	5	5		5	5	5	5			
Turn Type	Perm					Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2				6	6	8			4		
Actuated Green, G (s)		56.5			56.5	56.5		22.5		22.5	22.5	
Effective Green, g (s)		56.5			56.5	56.5		22.5		22.5	22.5	
Actuated g/C Ratio		0.63			0.63	0.63		0.25		0.25	0.25	
Clearance Time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		1534			1952	507		221		202	312	
v/s Ratio Prot					c0.34							
v/s Ratio Perm		0.21				0.08		c0.10		0.07	0.05	
v/c Ratio		0.33			0.54	0.13		0.40		0.28	0.19	
Uniform Delay, d1		7.9			9.4	6.8		28.1		27.2	26.6	
Progression Factor		1.00			1.09	1.29		1.00		1.00	1.00	
Incremental Delay, d2		0.6			1.0	0.5		5.3		0.8	0.3	
Delay (s)		8.4			11.2	9.2		33.4		27.9	26.9	
Level of Service		A			B	A		C		C	C	
Approach Delay (s)		8.4			11.1			33.4			27.1	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM Average Control Delay	12.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR2	NER2
Lane Configurations		
Volume (vph)	28	25
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.5	4.0
Lane Util. Factor	1.00	1.00
Frpb, ped/bikes	0.65	0.78
Flpb, ped/bikes	1.00	1.00
Frt	0.85	0.86
Flt Protected	1.00	1.00
Satd. Flow (prot)	911	967
Flt Permitted	1.00	1.00
Satd. Flow (perm)	911	967
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	29	26
RTOR Reduction (vph)	15	0
Lane Group Flow (vph)	14	26
Confl. Peds. (#/hr)	400	400
Confl. Bikes (#/hr)	10	10
Parking (#/hr)		5
Turn Type	Perm	Free
Protected Phases		
Permitted Phases	4	Free
Actuated Green, G (s)	22.5	90.0
Effective Green, g (s)	22.5	90.0
Actuated g/C Ratio	0.25	1.00
Clearance Time (s)	5.5	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	228	967
v/s Ratio Prot		
v/s Ratio Perm	0.02	0.03
v/c Ratio	0.06	0.03
Uniform Delay, d1	25.7	0.0
Progression Factor	1.00	1.00
Incremental Delay, d2	0.1	0.1
Delay (s)	25.8	0.1
Level of Service	C	A
Approach Delay (s)		
Approach LOS		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	420	0	0	1063	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	467	0	0	1181	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	467	0	0	1181	0
Confl. Peds. (#/hr)						
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		76.0			76.0	
Effective Green, g (s)		76.0			76.0	
Actuated g/C Ratio		0.84			0.84	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		2067			2547	
v/s Ratio Prot		0.19			c0.39	
v/s Ratio Perm						
v/c Ratio		0.23			0.46	
Uniform Delay, d1		1.3			1.8	
Progression Factor		1.15			1.75	
Incremental Delay, d2		0.2			0.4	
Delay (s)		1.8			3.5	
Level of Service		A			A	
Approach Delay (s)	1.8			0.0	3.5	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	3.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	54.2%	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												
Volume (vph)	10	187	50	149	364	28	70	114	77	13	88	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.87		1.00	0.95			1.00	0.62		1.00	0.36
Flpb, ped/bikes		0.99		0.57	1.00			0.80	1.00		0.97	1.00
Frt		0.97		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.99	1.00
Satd. Flow (prot)		2592		892	1352			1087	844		1572	507
Flt Permitted		0.93		0.58	1.00			0.86	1.00		0.96	1.00
Satd. Flow (perm)		2428		547	1352			948	844		1522	507
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)	11	208	56	166	404	31	78	127	86	14	98	46
RTOR Reduction (vph)	0	24	0	0	4	0	0	0	41	0	0	24
Lane Group Flow (vph)	0	251	0	166	431	0	0	205	45	0	112	22
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		36.4		36.4	36.4			43.6	43.6		43.6	43.6
Effective Green, g (s)		36.4		36.4	36.4			43.6	43.6		43.6	43.6
Actuated g/C Ratio		0.40		0.40	0.40			0.48	0.48		0.48	0.48
Clearance Time (s)		5.5		5.5	5.5			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)		982		221	547			459	409		737	246
v/s Ratio Prot					c0.32							
v/s Ratio Perm		0.10		0.30				c0.22	0.05		0.07	0.04
v/c Ratio		0.26		0.75	0.79			0.45	0.11		0.15	0.09
Uniform Delay, d1		17.8		22.9	23.4			15.3	12.6		12.9	12.5
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		0.1		13.4	7.4			3.1	0.5		0.4	0.7
Delay (s)		17.9		36.3	30.9			18.4	13.2		13.3	13.2
Level of Service		B		D	C			B	B		B	B
Approach Delay (s)		17.9			32.4			16.9			13.3	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	23.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
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												
Volume (vph)	0	210	104	19	348	1208	173	0	34	529	151	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.96			1.00	0.96		1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		0.98		1.00	1.00	
Frt		0.95			1.00	0.85		0.98		1.00	0.99	
Flt Protected		1.00			1.00	1.00		0.96		0.95	0.97	
Satd. Flow (prot)		2650			1628	2362		1312		1477	1503	
Flt Permitted		1.00			0.97	1.00		0.53		0.84	0.91	
Satd. Flow (perm)		2650			1589	2362		729		1302	1398	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	219	108	20	362	1258	180	0	35	551	157	14
RTOR Reduction (vph)	0	68	0	0	0	0	0	8	0	0	2	0
Lane Group Flow (vph)	0	259	0	0	382	1258	0	207	0	358	362	0
Confl. Peds. (#/hr)			50	50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		28.0			28.0	65.5		17.5		34.0	34.0	
Effective Green, g (s)		28.0			28.0	65.5		17.5		34.0	34.0	
Actuated g/C Ratio		0.31			0.31	0.73		0.19		0.38	0.38	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		824			494	1719		142		492	528	
v/s Ratio Prot		0.10										
v/s Ratio Perm					c0.24	c0.53		c0.28		0.28	0.26	
v/c Ratio		0.31			0.77	0.73		1.46		0.73	0.69	
Uniform Delay, d1		23.7			28.1	7.1		36.2		24.0	23.5	
Progression Factor		1.00			1.00	1.00		1.00		0.94	0.94	
Incremental Delay, d2		1.0			11.2	2.8		240.4		9.1	7.1	
Delay (s)		24.7			39.3	9.9		276.6		31.8	29.3	
Level of Service		C			D	A		F		C	C	
Approach Delay (s)		24.7			16.8			276.6			30.5	
Approach LOS		C			B			F			C	

Intersection Summary			
HCM Average Control Delay	40.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	90.5%	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												
Volume (vph)	21	557	15	82	1583	17	174	29	104	25	35	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5			3.5			3.5	3.5
Lane Util. Factor		0.95			0.91			0.95			1.00	1.00
Frpb, ped/bikes		0.99			1.00			0.87			1.00	0.62
Flpb, ped/bikes		1.00			0.99			0.81			0.92	1.00
Frt		1.00			1.00			0.95			1.00	0.85
Flt Protected		1.00			1.00			0.97			0.98	1.00
Satd. Flow (prot)		3060			4404			1887			1467	858
Flt Permitted		0.84			0.86			0.77			0.80	1.00
Satd. Flow (perm)		2576			3780			1499			1204	858
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)	23	619	17	91	1759	19	193	32	116	28	39	47
RTOR Reduction (vph)	0	1	0	0	1	0	0	62	0	0	0	6
Lane Group Flow (vph)	0	658	0	0	1868	0	0	279	0	0	67	41
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		62.5			62.5			20.5			20.5	20.5
Effective Green, g (s)		62.5			62.5			20.5			20.5	20.5
Actuated g/C Ratio		0.69			0.69			0.23			0.23	0.23
Clearance Time (s)		3.5			3.5			3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		1789			2625			341			274	195
v/s Ratio Prot												
v/s Ratio Perm		0.26			c0.49			c0.19			0.06	0.05
v/c Ratio		0.37			0.71			0.82			0.24	0.21
Uniform Delay, d1		5.6			8.3			33.0			28.4	28.2
Progression Factor		1.00			0.56			1.00			1.00	1.00
Incremental Delay, d2		0.1			0.9			19.3			2.1	2.4
Delay (s)		5.8			5.5			52.3			30.5	30.6
Level of Service		A			A			D			C	C
Approach Delay (s)		5.8			5.5			52.3			30.6	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM Average Control Delay	11.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	91.7%	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												
Volume (vph)	9	581	114	0	1281	21	73	173	122	5	329	191
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.91		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.80		1.00		1.00	0.86			0.88	
Flpb, ped/bikes		1.00	1.00		1.00		0.85	1.00			1.00	
Frt		1.00	0.85		1.00		1.00	0.94			0.95	
Flt Protected		1.00	1.00		1.00		0.95	1.00			1.00	
Satd. Flow (prot)		3106	973		4443		1315	3602			3690	
Flt Permitted		0.93	1.00		1.00		0.43	1.00			0.94	
Satd. Flow (perm)		2886	973		4443		592	3602			3460	
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)	9	593	116	0	1307	21	74	177	124	5	336	195
RTOR Reduction (vph)	0	0	1	0	3	0	0	32	0	0	6	0
Lane Group Flow (vph)	0	602	115	0	1325	0	74	269	0	0	530	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm				Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4				2			6		
Actuated Green, G (s)		41.1	41.1		41.1		38.9	38.9			38.9	
Effective Green, g (s)		41.1	41.1		41.1		38.9	38.9			38.9	
Actuated g/C Ratio		0.46	0.46		0.46		0.43	0.43			0.43	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1318	444		2029		256	1557			1495	
v/s Ratio Prot					c0.30			0.07				
v/s Ratio Perm		0.21	0.12				0.12				c0.15	
v/c Ratio		0.46	0.26		0.65		0.29	0.17			0.35	
Uniform Delay, d1		16.8	15.1		18.9		16.6	15.7			17.1	
Progression Factor		0.79	0.80		1.57		1.00	1.00			1.00	
Incremental Delay, d2		0.2	0.3		0.7		2.8	0.2			0.7	
Delay (s)		13.5	12.4		30.5		19.4	15.9			17.8	
Level of Service		B	B		C		B	B			B	
Approach Delay (s)		13.3			30.5			16.6			17.8	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	22.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	98.3%	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												
Volume (vph)	0	1327	172	0	1976	120	179	153	27	67	140	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.96			0.98		1.00	0.95		1.00	0.94	
Flpb, ped/bikes		1.00			1.00		0.76	1.00		0.76	1.00	
Frt		0.98			0.99		1.00	0.98		1.00	0.97	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4207			4157		1178	1520		1182	1300	
Flt Permitted		1.00			1.00		0.61	1.00		0.60	1.00	
Satd. Flow (perm)		4207			4157		760	1520		752	1300	
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)	0	1354	176	0	2016	122	183	156	28	68	143	35
RTOR Reduction (vph)	0	7	0	0	6	0	0	4	0	0	1	0
Lane Group Flow (vph)	0	1523	0	0	2132	0	183	180	0	68	177	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2431			2402		232	464		230	397	
v/s Ratio Prot		0.36			c0.51			0.12			0.14	
v/s Ratio Perm							c0.24			0.09		
v/c Ratio		0.63			0.89		0.79	0.39		0.30	0.45	
Uniform Delay, d1		12.6			16.5		28.6	24.6		23.9	25.1	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.2			5.3		23.3	2.4		3.3	3.6	
Delay (s)		13.8			21.8		51.9	27.1		27.1	28.7	
Level of Service		B			C		D	C		C	C	
Approach Delay (s)		13.8			21.8			39.4			28.3	
Approach LOS		B			C			D			C	

Intersection Summary			
HCM Average Control Delay	20.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	93.2%	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												
Volume (vph)	0	1071	65	0	1903	65	47	126	36	14	199	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			0.95	
Frpb, ped/bikes		0.99			0.99		1.00	0.93			0.93	
Flpb, ped/bikes		1.00			1.00		0.79	1.00			0.99	
Frt		0.99			1.00		1.00	0.97			0.97	
Flt Protected		1.00			1.00		0.95	1.00			1.00	
Satd. Flow (prot)		4376			4394		1221	1466			2769	
Flt Permitted		1.00			1.00		0.57	1.00			0.94	
Satd. Flow (perm)		4376			4394		729	1466			2602	
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	1127	68	0	2003	68	49	133	38	15	209	57
RTOR Reduction (vph)	0	4	0	0	4	0	0	9	0	0	1	0
Lane Group Flow (vph)	0	1191	0	0	2067	0	49	162	0	0	280	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2592			2602		218	438			778	
v/s Ratio Prot		0.27			c0.47			c0.11				
v/s Ratio Perm							0.07				0.11	
v/c Ratio		0.46			0.79		0.22	0.37			0.36	
Uniform Delay, d1		10.3			14.1		23.7	24.9			24.8	
Progression Factor		1.00			0.32		1.00	1.00			1.00	
Incremental Delay, d2		0.6			1.5		2.4	2.4			1.3	
Delay (s)		10.9			6.0		26.1	27.3			26.1	
Level of Service		B			A		C	C			C	
Approach Delay (s)		10.9			6.0			27.0			26.1	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	96.0%	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												
Volume (vph)	0	1235	58	0	1862	54	34	94	20	27	158	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.98			0.99			0.96			0.94	
Flpb, ped/bikes		1.00			1.00			0.96			0.97	
Frt		0.99			1.00			0.98			0.97	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		4186			4221			1269			1265	
Flt Permitted		1.00			1.00			0.90			0.95	
Satd. Flow (perm)		4186			4221			1153			1212	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1342	63	0	2024	59	37	102	22	29	172	47
RTOR Reduction (vph)	0	5	0	0	3	0	0	6	0	0	1	0
Lane Group Flow (vph)	0	1400	0	0	2080	0	0	155	0	0	247	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2512			2533			346			364	
v/s Ratio Prot		0.33			c0.49							
v/s Ratio Perm								0.13			c0.20	
v/c Ratio		0.56			0.82			0.45			0.68	
Uniform Delay, d1		10.8			14.2			25.5			27.7	
Progression Factor		1.38			1.00			1.00			1.00	
Incremental Delay, d2		0.8			3.1			4.2			9.8	
Delay (s)		15.8			17.3			29.7			37.5	
Level of Service		B			B			C			D	
Approach Delay (s)		15.8			17.3			29.7			37.5	
Approach LOS		B			B			C			D	

Intersection Summary			
HCM Average Control Delay	18.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	75.0%	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		↑↑↑			↑↑↑		↰	↕				↱
Volume (vph)	0	1037	0	0	1021	43	814	417	33	0	0	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.99		1.00	0.99				0.97
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.98				1.00
Satd. Flow (prot)		4282			4382		1415	2685				1367
Flt Permitted		1.00			1.00		0.95	0.98				1.00
Satd. Flow (perm)		4282			4382		1415	2685				1367
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1115	0	0	1098	46	875	448	35	0	0	52
RTOR Reduction (vph)	0	0	0	0	5	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	1115	0	0	1139	0	446	909	0	0	0	52
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		38.0			26.0		42.0	42.0				9.0
Effective Green, g (s)		38.0			26.0		42.0	42.0				9.0
Actuated g/C Ratio		0.42			0.29		0.47	0.47				0.10
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		1808			1266		660	1253				137
v/s Ratio Prot		c0.26			c0.26							
v/s Ratio Perm							0.32	0.34				0.04
v/c Ratio		0.62			0.90		0.68	0.73				0.38
Uniform Delay, d1		20.3			30.7		18.7	19.3				37.9
Progression Factor		1.00			0.68		1.00	1.00				1.00
Incremental Delay, d2		1.6			6.4		5.5	3.7				7.8
Delay (s)		21.9			27.3		24.2	23.0				45.7
Level of Service		C			C		C	C				D
Approach Delay (s)		21.9			27.3			23.4			45.7	
Approach LOS		C			C			C			D	

Intersection Summary			
HCM Average Control Delay	24.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	73.4%	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												
Volume (vph)	114	112	853	0	92	9	1020	227	34	0	442	98
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		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.97		1.00	0.95			1.00	0.67
Flpb, ped/bikes		0.86	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.99		1.00	0.98			1.00	0.85
Flt Protected		0.98	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1373	2448		1332		4385	1341			3110	815
Flt Permitted		0.79	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		1105	2448		1332		4385	1341			3110	815
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	123	120	917	0	99	10	1097	244	37	0	475	105
RTOR Reduction (vph)	0	0	2	0	4	0	0	6	0	0	0	6
Lane Group Flow (vph)	0	243	915	0	105	0	1097	275	0	0	475	99
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		26.5	55.5		26.5		25.5	55.5			26.5	26.5
Effective Green, g (s)		26.5	52.0		26.5		25.5	55.5			26.5	26.5
Actuated g/C Ratio		0.29	0.58		0.29		0.28	0.62			0.29	0.29
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		325	1414		392		1242	827			916	240
v/s Ratio Prot			0.37		0.08		c0.25	0.21			c0.15	
v/s Ratio Perm		c0.22										0.12
v/c Ratio		0.75	0.65		0.27		0.88	0.33			0.52	0.41
Uniform Delay, d1		28.7	12.8		24.3		30.8	8.3			26.4	25.5
Progression Factor		0.94	0.56		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		7.3	0.8		0.4		9.3	1.1			2.1	5.1
Delay (s)		34.3	8.0		24.7		40.1	9.4			28.5	30.6
Level of Service		C	A		C		D	A			C	C
Approach Delay (s)		13.5			24.7			33.9			28.9	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM Average Control Delay	25.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	76.1%	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												
Volume (vph)	0	0	0	63	207	40	29	36	0	0	46	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.29		1.00			0.90	
Flpb, ped/bikes					0.85	1.00		0.87			1.00	
Frt					1.00	0.85		1.00			0.96	
Flt Protected					0.99	1.00		0.98			1.00	
Satd. Flow (prot)					2450	398		1392			1419	
Flt Permitted					0.99	1.00		0.88			1.00	
Satd. Flow (perm)					2450	398		1258			1419	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	0	72	238	46	33	41	0	0	53	22
RTOR Reduction (vph)	0	0	0	0	0	26	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	310	20	0	74	0	0	75	0
Confl. Peds. (#/hr)				945		1084	569					569
Confl. Bikes (#/hr)						76			2			4
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					32.0	32.0		33.0			33.0	
Effective Green, g (s)					32.0	32.0		33.0			33.0	
Actuated g/C Ratio					0.43	0.43		0.44			0.44	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1045	170		554			624	
v/s Ratio Prot											0.05	
v/s Ratio Perm					0.13	0.05		c0.06				
v/c Ratio					0.30	0.12		0.13			0.12	
Uniform Delay, d1					14.1	13.0		12.5			12.4	
Progression Factor					1.00	1.00		0.85			1.00	
Incremental Delay, d2					0.7	1.4		0.5			0.4	
Delay (s)					14.8	14.3		11.1			12.8	
Level of Service					B	B		B			B	
Approach Delay (s)		0.0			14.8			11.1			12.8	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	57.5%	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												
Volume (vph)	0	0	0	99	242	25	32	25	0	0	40	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.94		1.00	1.00			0.92	
Flpb, ped/bikes				1.00	1.00		0.66	1.00			1.00	
Frt				1.00	0.99		1.00	1.00			0.97	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	2869		1020	1637			1473	
Flt Permitted				0.95	1.00		0.72	1.00			1.00	
Satd. Flow (perm)				1555	2869		773	1637			1473	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	0	111	272	28	36	28	0	0	45	11
RTOR Reduction (vph)	0	0	0	0	6	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	111	294	0	36	28	0	0	56	0
Confl. Peds. (#/hr)						1700	537					569
Confl. Bikes (#/hr)						76			2			4
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				47.4	47.4		18.3	18.3			18.3	
Effective Green, g (s)				47.4	47.4		18.3	18.3			18.3	
Actuated g/C Ratio				0.63	0.63		0.24	0.24			0.24	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				983	1813		189	399			359	
v/s Ratio Prot				0.07	c0.10			0.02			0.04	
v/s Ratio Perm							c0.05					
v/c Ratio				0.11	0.16		0.19	0.07			0.16	
Uniform Delay, d1				5.5	5.7		22.5	21.8			22.3	
Progression Factor				1.00	1.00		1.15	1.14			1.00	
Incremental Delay, d2				0.2	0.2		2.2	0.3			0.9	
Delay (s)				5.7	5.9		28.1	25.3			23.2	
Level of Service				A	A		C	C			C	
Approach Delay (s)		0.0			5.8			26.9			23.2	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	10.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.17		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	157	92	9	76	18	8
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	167	98	10	81	19	9
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	306					
pX, platoon unblocked						
vC, conflicting volume			665		1116	932
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			665		1116	932
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		80	93
cM capacity (veh/h)			644		97	130

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	111	154	90	28
Volume Left	0	0	10	19
Volume Right	0	98	0	9
cSH	1700	1700	644	105
Volume to Capacity	0.07	0.09	0.01	0.26
Queue Length 95th (ft)	0	0	1	24
Control Delay (s)	0.0	0.0	1.3	51.2
Lane LOS			A	F
Approach Delay (s)	0.0		1.3	51.2
Approach LOS				F

Intersection Summary			
Average Delay	4.0		
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												
Volume (vph)	20	151	14	22	84	7	12	46	9	26	56	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	
Lane Util. Factor		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.44		0.97			0.93			0.94	
Flpb, ped/bikes		0.95	1.00		0.92			0.92			0.87	
Frt		1.00	0.85		0.99			0.98			0.99	
Flt Protected		0.99	1.00		0.99			0.99			0.99	
Satd. Flow (prot)		1539	609		1249			1191			1138	
Flt Permitted		0.97	1.00		0.93			0.96			0.92	
Satd. Flow (perm)		1494	609		1176			1149			1061	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	24	178	16	26	99	8	14	54	11	31	66	12
RTOR Reduction (vph)	0	0	7	0	3	0	0	7	0	0	6	0
Lane Group Flow (vph)	0	202	9	0	130	0	0	72	0	0	103	0
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4			4		
Actuated Green, G (s)		40.0	40.0		40.0			26.0			26.0	
Effective Green, g (s)		40.0	40.0		40.0			26.0			26.0	
Actuated g/C Ratio		0.53	0.53		0.53			0.35			0.35	
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)		797	325		627			398			368	
v/s Ratio Prot												
v/s Ratio Perm		c0.14	0.01		0.11			0.06			c0.10	
v/c Ratio		0.25	0.03		0.21			0.18			0.28	
Uniform Delay, d1		9.4	8.3		9.2			17.1			17.7	
Progression Factor		1.00	1.00		1.00			1.00			0.91	
Incremental Delay, d2		0.8	0.1		0.7			1.0			1.9	
Delay (s)		10.2	8.4		9.9			18.1			18.0	
Level of Service		B	A		A			B			B	
Approach Delay (s)		10.1			9.9			18.1			18.0	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM Average Control Delay	12.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	99.6%	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												
Volume (vph)	0	227	11	10	67	0	15	0	42	15	11	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
Lane Util. Factor		1.00	1.00		0.95			1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.26		1.00			0.59			1.00	0.67
Flpb, ped/bikes		1.00	1.00		0.94			0.92			0.72	1.00
Frt		1.00	0.85		1.00			0.90			1.00	0.85
Flt Protected		1.00	1.00		0.99			0.99			0.97	1.00
Satd. Flow (prot)		1637	354		2891			795			1142	933
Flt Permitted		1.00	1.00		0.91			0.96			0.91	1.00
Satd. Flow (perm)		1637	354		2648			771			1067	933
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	241	12	11	71	0	16	0	45	16	12	12
RTOR Reduction (vph)	0	0	9	0	0	0	0	0	0	0	0	5
Lane Group Flow (vph)	0	241	3	0	82	0	0	61	0	0	28	7
Confl. Peds. (#/hr)			800	800			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	36.5
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	36.5
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	0.61
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)		396	86		640			469			649	568
v/s Ratio Prot		c0.15										
v/s Ratio Perm			0.01		0.03			c0.08			0.03	0.01
v/c Ratio		0.61	0.03		0.13			0.13			0.04	0.01
Uniform Delay, d1		20.2	17.4		17.8			5.0			4.7	4.6
Progression Factor		1.00	1.00		1.00			1.00			1.00	1.00
Incremental Delay, d2		6.8	0.7		0.4			0.6			0.0	0.0
Delay (s)		27.0	18.1		18.2			5.6			4.8	4.6
Level of Service		C	B		B			A			A	A
Approach Delay (s)		26.6			18.2			5.6			4.7	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM Average Control Delay	20.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	308	17	73	8	141	4	149	335
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		0.97		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		0.99		1.00			1.00
Flt Protected		1.00		0.96		1.00			0.98
Satd. Flow (prot)		942		1315		1628			3062
Flt Permitted		1.00		0.96		1.00			0.95
Satd. Flow (perm)		942		1315		1628			2970
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	335	18	79	9	153	4	162	364
RTOR Reduction (vph)	0	0	0	6	0	0	0	0	0
Lane Group Flow (vph)	0	335	0	100	0	157	0	0	526
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		373		312			891
v/s Ratio Prot						0.10			
v/s Ratio Perm		c0.36		0.08					0.18
v/c Ratio		0.64		0.27		0.50			0.59
Uniform Delay, d1		9.1		16.7		21.7			17.9
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		5.8		1.8		1.3			2.9
Delay (s)		14.9		18.4		23.0			20.7
Level of Service		B		B		C			C
Approach Delay (s)	14.9			18.4		23.0			20.7
Approach LOS	B			B		C			C

Intersection Summary			
HCM Average Control Delay	19.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	66.8%	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												
Volume (vph)	21	131	44	28	292	29	62	38	22	22	76	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.94			1.00	0.59	1.00	0.80			0.79	
Flpb, ped/bikes		0.98			1.00	1.00	0.60	1.00			0.94	
Frt		0.97			1.00	0.85	1.00	0.95			0.94	
Flt Protected		0.99			1.00	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1273			1426	721	938	1085			2167	
Flt Permitted		0.95			0.96	1.00	0.64	1.00			0.91	
Satd. Flow (perm)		1212			1379	721	631	1085			1985	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	24	151	51	32	336	33	71	44	25	25	87	67
RTOR Reduction (vph)	0	7	0	0	0	6	0	21	0	0	0	0
Lane Group Flow (vph)	0	219	0	0	368	27	71	48	0	0	179	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		63.8			63.8	63.8	16.1	16.1			16.1	
Effective Green, g (s)		63.8			63.8	63.8	16.1	16.1			16.1	
Actuated g/C Ratio		0.71			0.71	0.71	0.18	0.18			0.18	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		859			978	511	113	194			355	
v/s Ratio Prot								0.04				
v/s Ratio Perm		0.18			c0.27	0.04	c0.11				0.09	
v/c Ratio		0.25			0.38	0.05	0.63	0.25			0.50	
Uniform Delay, d1		4.7			5.2	4.0	34.2	31.8			33.3	
Progression Factor		1.00			1.00	1.00	1.28	1.44			1.00	
Incremental Delay, d2		0.7			1.1	0.2	10.4	0.7			1.1	
Delay (s)		5.4			6.3	4.2	54.3	46.5			34.5	
Level of Service		A			A	A	D	D			C	
Approach Delay (s)		5.4			6.1			50.5			34.5	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM Average Control Delay	17.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	118.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Volume (vph)	23	201	25	10	309	16	20	32	23	20	38	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.95			0.98			0.81			0.78	
Flpb, ped/bikes		0.98			0.99			0.87			0.89	
Frt		0.99			0.99			0.96			0.95	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		1310			1377			964			937	
Flt Permitted		0.96			0.99			0.92			0.93	
Satd. Flow (perm)		1258			1366			897			885	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	24	214	27	11	329	17	21	34	24	21	40	34
RTOR Reduction (vph)	0	1	0	0	1	0	0	17	0	0	22	0
Lane Group Flow (vph)	0	264	0	0	356	0	0	62	0	0	73	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.6			62.6			18.6			18.6	
Effective Green, g (s)		62.6			62.6			18.6			18.6	
Actuated g/C Ratio		0.70			0.70			0.21			0.21	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		875			950			185			183	
v/s Ratio Prot												
v/s Ratio Perm		0.21			c0.26			0.07			c0.08	
v/c Ratio		0.30			0.37			0.33			0.40	
Uniform Delay, d1		5.3			5.6			30.4			30.9	
Progression Factor		1.00			1.00			1.79			1.00	
Incremental Delay, d2		0.9			1.1			4.5			6.3	
Delay (s)		6.2			6.8			58.8			37.2	
Level of Service		A			A			E			D	
Approach Delay (s)		6.2			6.8			58.8			37.2	
Approach LOS		A			A			E			D	

Intersection Summary			
HCM Average Control Delay	15.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	14	253	81	21	208	12	26	21	29	19	54	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.89			1.00	0.51		0.79			0.80	
Flpb, ped/bikes		0.99			0.98	1.00		0.86			0.92	
Frt		0.97			1.00	0.85		0.95			0.95	
Flt Protected		1.00			1.00	1.00		0.98			0.99	
Satd. Flow (prot)		1209			1391	617		903			995	
Flt Permitted		0.99			0.95	1.00		0.89			0.95	
Satd. Flow (perm)		1194			1330	617		818			957	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	16	284	91	24	234	13	29	24	33	21	61	47
RTOR Reduction (vph)	0	6	0	0	0	5	0	24	0	0	23	0
Lane Group Flow (vph)	0	385	0	0	258	8	0	62	0	0	106	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		57.0			57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0			57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63			0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		756			842	391		227			266	
v/s Ratio Prot												
v/s Ratio Perm		c0.32			0.19	0.01		0.08			c0.11	
v/c Ratio		0.51			0.31	0.02		0.27			0.40	
Uniform Delay, d1		8.9			7.5	6.1		25.4			26.4	
Progression Factor		1.00			0.84	0.79		0.93			1.00	
Incremental Delay, d2		2.4			0.9	0.1		2.8			4.4	
Delay (s)		11.4			7.2	4.9		26.3			30.8	
Level of Service		B			A	A		C			C	
Approach Delay (s)		11.4			7.1			26.3			30.8	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM Average Control Delay	14.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	17	235	57	7	152	5	23	20	32	14	37	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.51		1.00	0.51		0.76			0.83	
Flpb, ped/bikes		0.98	1.00		0.99	1.00		0.86			0.91	
Frt		1.00	0.85		1.00	0.85		0.94			0.96	
Flt Protected		1.00	1.00		1.00	1.00		0.98			0.99	
Satd. Flow (prot)		1392	604		1409	604		865			1178	
Flt Permitted		0.98	1.00		0.99	1.00		0.91			0.95	
Satd. Flow (perm)		1368	604		1394	604		803			1132	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	19	264	64	8	171	6	26	22	36	16	42	25
RTOR Reduction (vph)	0	0	6	0	0	2	0	26	0	0	17	0
Lane Group Flow (vph)	0	283	58	0	179	4	0	58	0	0	66	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63	0.63		0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		866	383		883	383		223			314	
v/s Ratio Prot												
v/s Ratio Perm		c0.21	0.10		0.13	0.01		c0.07			0.06	
v/c Ratio		0.33	0.15		0.20	0.01		0.26			0.21	
Uniform Delay, d1		7.6	6.7		6.9	6.1		25.3			24.9	
Progression Factor		0.44	0.38		1.00	1.00		0.86			1.00	
Incremental Delay, d2		0.9	0.7		0.5	0.0		2.5			1.5	
Delay (s)		4.3	3.3		7.5	6.1		24.3			26.4	
Level of Service		A	A		A	A		C			C	
Approach Delay (s)		4.1			7.4			24.3			26.4	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	10.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	19	243	13	4	25	10	412	54	1	154	468
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				5.0		5.0			5.0	5.0
Lane Util. Factor	1.00				1.00		0.95			1.00	0.95
Frpb, ped/bikes	0.89				0.90		0.90			1.00	1.00
Flpb, ped/bikes	1.00				0.67		1.00			1.00	1.00
Frt	0.87				0.96		0.98			1.00	1.00
Flt Protected	1.00				0.96		1.00			0.95	1.00
Satd. Flow (prot)	1267				917		2749			1555	3110
Flt Permitted	1.00				0.96		1.00			0.95	1.00
Satd. Flow (perm)	1267				917		2749			1555	3110
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
Adj. Flow (vph)	20	256	14	4	26	11	434	57	1	162	493
RTOR Reduction (vph)	2	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	288	0	0	0	41	0	492	0	0	162	493
Confl. Peds. (#/hr)				400	400	400		400	400		
Confl. Bikes (#/hr)		30	30			10		30	30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0
Turn Type				Perm						Split	
Protected Phases	4				3		6			2	2
Permitted Phases				3							
Actuated Green, G (s)	20.0				20.0		17.0			13.0	13.0
Effective Green, g (s)	20.0				20.0		17.0			13.0	13.0
Actuated g/C Ratio	0.22				0.22		0.19			0.14	0.14
Clearance Time (s)	5.0				5.0		5.0			5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	282				204		519			225	449
v/s Ratio Prot	c0.23						c0.18			0.10	c0.16
v/s Ratio Perm					0.04						
v/c Ratio	1.02				0.20		0.95			0.72	1.10
Uniform Delay, d1	35.0				28.5		36.1			36.8	38.5
Progression Factor	1.00				1.04		1.00			0.85	0.82
Incremental Delay, d2	58.8				0.5		28.5			17.5	71.2
Delay (s)	93.8				30.2		64.6			48.8	102.6
Level of Service	F				C		E			D	F
Approach Delay (s)	93.8				30.2		64.6				89.3
Approach LOS	F				C		E				F

Intersection Summary			
HCM Average Control Delay	80.3	HCM Level of Service	F
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	77.3%	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												
Volume (vph)	0	683	32	0	1365	21	0	36	10	0	71	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.91			1.00			1.00	
Frpb, ped/bikes		0.99			1.00			0.92			0.92	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.97			0.97	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2857			4253			1276			1280	
Flt Permitted		1.00			1.00			1.00			1.00	
Satd. Flow (perm)		2857			4253			1276			1280	
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)	0	759	36	0	1517	23	0	40	11	0	79	21
RTOR Reduction (vph)	0	0	0	0	0	0	0	10	0	0	12	0
Lane Group Flow (vph)	0	795	0	0	1540	0	0	41	0	0	88	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type												
Protected Phases		2			6			8			4	
Permitted Phases												
Actuated Green, G (s)		71.0			71.0			10.2			10.2	
Effective Green, g (s)		71.0			71.0			10.2			10.2	
Actuated g/C Ratio		0.79			0.79			0.11			0.11	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2254			3355			145			145	
v/s Ratio Prot		0.28			c0.36			0.03			c0.07	
v/s Ratio Perm												
v/c Ratio		0.35			0.46			0.28			0.61	
Uniform Delay, d1		2.8			3.1			36.6			38.0	
Progression Factor		0.56			1.00			1.00			1.00	
Incremental Delay, d2		0.4			0.1			1.1			7.4	
Delay (s)		2.0			3.2			37.6			45.4	
Level of Service		A			A			D			D	
Approach Delay (s)		2.0			3.2			37.6			45.4	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	5.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	0	577	187	0	1041	34	341	86	66	0	145	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.70		1.00	0.70	1.00	1.00	0.74		0.99	
Flpb, ped/bikes		1.00	1.00		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	0.85		1.00	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3110	974		3110	974	3016	1637	1024		2876	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		3110	974		3110	974	3016	1637	1024		2876	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	614	199	0	1107	36	363	91	70	0	154	4
RTOR Reduction (vph)	0	0	78	0	0	16	0	0	7	0	3	0
Lane Group Flow (vph)	0	614	121	0	1107	20	363	91	63	0	155	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type			Perm			Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases			2			6			8			
Actuated Green, G (s)		50.3	50.3		50.3	50.3	16.0	30.7	30.7		10.2	
Effective Green, g (s)		50.3	50.3		50.3	50.3	16.0	30.7	30.7		10.2	
Actuated g/C Ratio		0.56	0.56		0.56	0.56	0.18	0.34	0.34		0.11	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		1738	544		1738	544	536	558	349		326	
v/s Ratio Prot		0.20			c0.36		c0.12	0.06			c0.05	
v/s Ratio Perm			0.12			0.02			0.06			
v/c Ratio		0.35	0.22		0.64	0.04	0.68	0.16	0.18		0.48	
Uniform Delay, d1		10.9	10.0		13.6	8.9	34.6	20.7	20.8		37.4	
Progression Factor		1.00	1.00		0.85	0.87	1.00	1.00	1.00		0.92	
Incremental Delay, d2		0.6	0.9		1.7	0.1	3.4	0.1	0.3		1.1	
Delay (s)		11.5	11.0		13.2	7.9	38.0	20.8	21.1		35.5	
Level of Service		B	B		B	A	D	C	C		D	
Approach Delay (s)		11.3			13.1			32.7			35.5	
Approach LOS		B			B			C			D	

Intersection Summary			
HCM Average Control Delay	17.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	76.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	51	517	1036	31	47	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.91		1.00	
Frpb, ped/bikes		1.00	0.99		0.83	
Flpb, ped/bikes		0.99	1.00		1.00	
Frt		1.00	1.00		0.94	
Flt Protected		1.00	1.00		0.97	
Satd. Flow (prot)		2888	4410		1088	
Flt Permitted		0.78	1.00		0.97	
Satd. Flow (perm)		2248	4410		1088	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	54	550	1102	33	50	43
RTOR Reduction (vph)	0	0	3	0	23	0
Lane Group Flow (vph)	0	604	1132	0	70	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		64.0	64.0		19.0	
Effective Green, g (s)		64.0	64.0		19.0	
Actuated g/C Ratio		0.71	0.71		0.21	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1599	3136		230	
v/s Ratio Prot			0.26		c0.06	
v/s Ratio Perm		c0.27				
v/c Ratio		0.38	0.36		0.30	
Uniform Delay, d1		5.1	5.1		29.9	
Progression Factor		0.50	1.00		1.44	
Incremental Delay, d2		0.1	0.1		3.3	
Delay (s)		2.7	5.1		46.4	
Level of Service		A	A		D	
Approach Delay (s)		2.7	5.1		46.4	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	6.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	82.2%	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												
Volume (vph)	16	413	48	41	1064	15	25	37	55	31	81	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			1.00			0.83			0.89	
Flpb, ped/bikes		1.00			0.99			0.95			0.95	
Frt		0.98			1.00			0.94			0.96	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		2770			2877			1054			1149	
Flt Permitted		0.90			0.92			0.93			0.93	
Satd. Flow (perm)		2504			2642			986			1075	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	17	444	52	44	1144	16	27	40	59	33	87	55
RTOR Reduction (vph)	0	2	0	0	1	0	0	35	0	0	17	0
Lane Group Flow (vph)	0	511	0	0	1203	0	0	91	0	0	158	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		60.6			60.6			20.6			20.6	
Effective Green, g (s)		60.6			60.6			20.6			20.6	
Actuated g/C Ratio		0.67			0.67			0.23			0.23	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1686			1779			226			246	
v/s Ratio Prot												
v/s Ratio Perm		0.20			c0.46			0.09			c0.15	
v/c Ratio		0.30			0.68			0.40			0.64	
Uniform Delay, d1		6.0			8.8			29.5			31.4	
Progression Factor		1.00			0.23			1.00			0.96	
Incremental Delay, d2		0.5			1.7			5.2			11.1	
Delay (s)		6.5			3.7			34.7			41.2	
Level of Service		A			A			C			D	
Approach Delay (s)		6.5			3.7			34.7			41.2	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM Average Control Delay	9.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	91.1%	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												
Volume (vph)	22	506	20	23	1089	30	21	25	58	40	33	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.80			0.89	
Flpb, ped/bikes		1.00			1.00			0.95			0.90	
Frt		0.99			1.00			0.92			0.96	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2855			2870			989			1080	
Flt Permitted		0.88			0.94			0.93			0.80	
Satd. Flow (perm)		2515			2689			928			884	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	550	22	25	1184	33	23	27	63	43	36	34
RTOR Reduction (vph)	0	1	0	0	1	0	0	54	0	0	18	0
Lane Group Flow (vph)	0	595	0	0	1241	0	0	59	0	0	95	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		68.8			68.8			12.3			12.3	
Effective Green, g (s)		68.8			68.8			12.3			12.3	
Actuated g/C Ratio		0.76			0.76			0.14			0.14	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1923			2056			127			121	
v/s Ratio Prot												
v/s Ratio Perm		0.24			c0.46			0.06			c0.11	
v/c Ratio		0.31			0.60			0.46			0.78	
Uniform Delay, d1		3.3			4.6			35.8			37.6	
Progression Factor		0.79			0.36			1.00			0.83	
Incremental Delay, d2		0.4			0.4			2.6			27.2	
Delay (s)		3.0			2.1			38.4			58.5	
Level of Service		A			A			D			E	
Approach Delay (s)		3.0			2.1			38.4			58.5	
Approach LOS		A			A			D			E	

Intersection Summary			
HCM Average Control Delay	7.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	76.6%	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												
Volume (vph)	10	543	57	19	1004	2	124	3	24	2	3	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			1.00			0.94			0.72	
Flpb, ped/bikes		1.00			1.00			0.72			0.98	
Frt		0.99			1.00			0.98			0.90	
Flt Protected		1.00			1.00			0.96			1.00	
Satd. Flow (prot)		2787			3098			1042			1036	
Flt Permitted		0.93			0.94			0.75			0.98	
Satd. Flow (perm)		2607			2906			813			1019	
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)	11	603	63	21	1116	2	138	3	27	2	3	16
RTOR Reduction (vph)	0	2	0	0	0	0	0	8	0	0	13	0
Lane Group Flow (vph)	0	675	0	0	1139	0	0	160	0	0	8	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1799			2005			174			219	
v/s Ratio Prot												
v/s Ratio Perm		0.26			c0.39			c0.20			0.01	
v/c Ratio		0.38			0.57			0.92			0.04	
Uniform Delay, d1		5.8			7.1			34.6			28.0	
Progression Factor		1.55			0.22			1.00			0.83	
Incremental Delay, d2		0.6			0.8			49.9			0.1	
Delay (s)		9.6			2.4			84.5			23.3	
Level of Service		A			A			F			C	
Approach Delay (s)		9.6			2.4			84.5			23.3	
Approach LOS		A			A			F			C	

Intersection Summary			
HCM Average Control Delay	11.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	16	552	947	606	639	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3059	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3059	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	600	1029	659	695	33
RTOR Reduction (vph)	0	11	0	0	3	0
Lane Group Flow (vph)	17	589	1029	659	725	0
Confl. Peds. (#/hr)						95
Confl. Bikes (#/hr)		10				81
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	11.0	52.0	37.0	69.0	28.0	
Effective Green, g (s)	11.0	52.0	37.0	69.0	28.0	
Actuated g/C Ratio	0.12	0.58	0.41	0.77	0.31	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	190	1414	1240	2235	952	
v/s Ratio Prot	0.01	c0.24	c0.34	0.23	c0.24	
v/s Ratio Perm						
v/c Ratio	0.09	0.42	0.83	0.29	0.76	
Uniform Delay, d1	35.1	10.6	23.7	3.2	28.0	
Progression Factor	1.40	0.90	0.86	1.27	0.71	
Incremental Delay, d2	0.2	0.2	3.6	0.3	1.4	
Delay (s)	49.1	9.7	24.0	4.3	21.1	
Level of Service	D	A	C	A	C	
Approach Delay (s)	10.8			16.3	21.1	
Approach LOS	B			B	C	

Intersection Summary			
HCM Average Control Delay	16.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	68.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	79	316	15	0	116	0	25	36	1215
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			0.98			1.00	1.00
Flpb, ped/bikes				0.78			1.00			1.00	1.00
Frt				0.99			0.97			1.00	1.00
Flt Protected				0.95			1.00			0.95	1.00
Satd. Flow (prot)				2187			4252			1555	3110
Flt Permitted				0.95			1.00			0.95	1.00
Satd. Flow (perm)				2187			4252			1555	3110
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
Adj. Flow (vph)	0	0	88	351	17	0	129	0	28	40	1350
RTOR Reduction (vph)	0	0	0	3	0	0	12	0	0	0	0
Lane Group Flow (vph)	0	0	0	453	0	0	145	0	0	40	1350
Confl. Peds. (#/hr)			125	64					125		
Confl. Bikes (#/hr)					34				86		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				21.9			50.2			4.9	59.1
Effective Green, g (s)				21.9			50.2			4.9	59.1
Actuated g/C Ratio				0.24			0.56			0.05	0.66
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				532			2372			85	2042
v/s Ratio Prot							0.03			0.03	c0.43
v/s Ratio Perm				0.21							
v/c Ratio				0.85			0.06			0.47	0.66
Uniform Delay, d1				32.5			9.1			41.3	9.4
Progression Factor				1.00			0.79			1.00	1.00
Incremental Delay, d2				12.4			0.0			1.5	1.7
Delay (s)				44.9			7.2			42.8	11.1
Level of Service				D			A			D	B
Approach Delay (s)	0.0			44.9			7.2				12.0
Approach LOS	A			D			A				B

Intersection Summary			
HCM Average Control Delay	19.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	57.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBR	EBR2	SEL	SET	SER2	NWL2	NWL	NWT	NWR	SWR2
Lane Configurations											
Volume (vph)	30	7	250	12	828	346	103	0	1191	11	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		7.0	7.0	7.0		4.0	7.0		
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00		1.00	0.95		
Frpb, ped/bikes	1.00	0.91		1.00	1.00	0.95		1.00	0.99		
Flpb, ped/bikes	1.00	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	1.00		
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95	1.00		
Satd. Flow (prot)	1555	1105		1555	3110	1323		1555	3088		
Flt Permitted	0.95	1.00		0.21	1.00	1.00		0.40	1.00		
Satd. Flow (perm)	1555	1105		337	3110	1323		655	3088		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	8	272	13	900	376	112	0	1295	12	0
RTOR Reduction (vph)	0	195	0	0	0	233	0	0	1	0	0
Lane Group Flow (vph)	33	85	0	13	900	143	0	112	1306	0	0
Confl. Peds. (#/hr)			64							1000	100
Confl. Bikes (#/hr)		10	10			30				30	10
Parking (#/hr)		5	5								
Turn Type	custom	custom		Perm		Perm	custom	Prot			custom
Protected Phases					6			5	2		
Permitted Phases	4	4		6		6	5				8
Actuated Green, G (s)	22.5	22.5		30.0	30.0	30.0		10.0	44.0		
Effective Green, g (s)	22.5	22.5		30.0	30.0	30.0		10.0	44.0		
Actuated g/C Ratio	0.28	0.28		0.38	0.38	0.38		0.13	0.56		
Clearance Time (s)	5.5	5.5		7.0	7.0	7.0		4.0	7.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	443	315		128	1181	502		83	1720		
v/s Ratio Prot					0.29				c0.42		
v/s Ratio Perm	0.02	c0.08		0.04		0.11		c0.17			
v/c Ratio	0.07	0.27		0.10	0.76	0.28		1.35	0.76		
Uniform Delay, d1	20.6	21.9		15.8	21.4	17.0		34.5	13.4		
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2	0.1	0.5		1.6	4.7	1.4		217.7	3.2		
Delay (s)	20.7	22.4		17.4	26.1	18.5		252.2	16.6		
Level of Service	C	C		B	C	B		F	B		
Approach Delay (s)					23.8				35.2		
Approach LOS					C				D		

Intersection Summary			
HCM Average Control Delay	29.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	105.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	27	0	64	0	0	0	46	1256	0	0	4	919
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.77					1.00	1.00				0.99
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.91					1.00	1.00				1.00
Flt Protected		0.99					0.95	1.00				1.00
Satd. Flow (prot)		982					1555	3110				3085
Flt Permitted		0.99					0.95	1.00				0.95
Satd. Flow (perm)		982					1555	3110				2933
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	29	0	68	0	0	0	49	1336	0	0	4	978
RTOR Reduction (vph)	0	3	0	0	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	0	94	0	0	0	0	49	1336	0	0	0	993
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		12.6					5.4	68.4				58.0
Effective Green, g (s)		12.6					5.4	68.4				58.0
Actuated g/C Ratio		0.14					0.06	0.76				0.64
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		137					93	2364				1890
v/s Ratio Prot		c0.10					0.03	c0.43				
v/s Ratio Perm												0.34
v/c Ratio		0.69					0.53	0.57				0.53
Uniform Delay, d1		36.8					41.1	4.5				8.6
Progression Factor		1.00					1.23	1.82				1.00
Incremental Delay, d2		13.5					4.8	0.9				1.0
Delay (s)		50.3					55.3	9.2				9.7
Level of Service		D					E	A				A
Approach Delay (s)		50.3			0.0			10.8				9.7
Approach LOS		D			A			B				A

Intersection Summary			
HCM Average Control Delay	11.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	96.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	11
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	12
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	76	543	0	0	766	107	274	286	39	0	0	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			
Lane Util. Factor		0.95			0.95			0.95	1.00			
Frpb, ped/bikes		1.00			0.97			1.00	0.71			
Flpb, ped/bikes		0.99			1.00			0.86	1.00			
Frt		1.00			0.98			1.00	0.85			
Flt Protected		0.99			1.00			0.98	1.00			
Satd. Flow (prot)		2837			2728			2420	986			
Flt Permitted		0.70			1.00			0.98	1.00			
Satd. Flow (perm)		1989			2728			2420	986			
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	572	0	0	806	113	288	301	41	0	0	0
RTOR Reduction (vph)	0	0	0	0	13	0	0	0	24	0	0	0
Lane Group Flow (vph)	0	652	0	0	906	0	0	589	17	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm		Perm			
Protected Phases		2			6			8				
Permitted Phases	2						8		8			
Actuated Green, G (s)		37.0			37.0			34.0	34.0			
Effective Green, g (s)		37.0			37.0			34.0	34.0			
Actuated g/C Ratio		0.46			0.46			0.42	0.42			
Clearance Time (s)		4.5			4.5			4.5	4.5			
Vehicle Extension (s)		3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)		920			1262			1029	419			
v/s Ratio Prot					c0.33							
v/s Ratio Perm		0.33						0.24	0.02			
v/c Ratio		0.71			0.72			0.57	0.04			
Uniform Delay, d1		17.2			17.3			17.5	13.5			
Progression Factor		1.00			0.27			1.00	1.00			
Incremental Delay, d2		4.6			2.3			2.3	0.2			
Delay (s)		21.8			7.0			19.8	13.6			
Level of Service		C			A			B	B			
Approach Delay (s)		21.8			7.0			19.4			0.0	
Approach LOS		C			A			B			A	

Intersection Summary			
HCM Average Control Delay	14.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
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												
Volume (vph)	0	322	257	37	719	0	0	0	0	54	597	155
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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.86			1.00						0.96	
Flpb, ped/bikes		1.00			0.99						0.99	
Frt		0.93			1.00						0.97	
Flt Protected		1.00			1.00						1.00	
Satd. Flow (prot)		2483			3084						2659	
Flt Permitted		1.00			0.90						1.00	
Satd. Flow (perm)		2483			2779						2659	
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)	0	329	262	38	734	0	0	0	0	55	609	158
RTOR Reduction (vph)	0	23	0	0	0	0	0	0	0	0	25	0
Lane Group Flow (vph)	0	568	0	0	772	0	0	0	0	0	797	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		26.4			26.4						44.6	
Effective Green, g (s)		26.4			26.4						44.6	
Actuated g/C Ratio		0.33			0.33						0.56	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		819			917						1482	
v/s Ratio Prot		0.23										
v/s Ratio Perm					c0.28						0.30	
v/c Ratio		0.69			0.84						0.54	
Uniform Delay, d1		23.3			24.9						11.2	
Progression Factor		0.73			1.00						1.00	
Incremental Delay, d2		1.9			7.1						1.4	
Delay (s)		18.8			31.9						12.6	
Level of Service		B			C						B	
Approach Delay (s)		18.8			31.9			0.0			12.6	
Approach LOS		B			C			A			B	

Intersection Summary			
HCM Average Control Delay	21.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	94.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	69	319	435	1216	0	945	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.66	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		0.99	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	914	3016	3110		3046	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	914	3016	3110		3046	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	69	319	435	1216	0	945	42
RTOR Reduction (vph)	0	274	0	0	0	3	0
Lane Group Flow (vph)	69	45	435	1216	0	984	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	12.6	12.6	17.5	66.4		42.9	
Effective Green, g (s)	12.6	12.6	17.5	66.4		42.9	
Actuated g/C Ratio	0.14	0.14	0.19	0.74		0.48	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	218	128	586	2294		1452	
v/s Ratio Prot	0.04		c0.14	0.39		c0.32	
v/s Ratio Perm		c0.05					
v/c Ratio	0.32	0.35	0.74	0.53		0.68	
Uniform Delay, d1	34.8	35.0	34.1	5.1		18.2	
Progression Factor	1.00	1.00	1.00	1.00		1.50	
Incremental Delay, d2	0.8	1.6	5.1	0.9		2.3	
Delay (s)	35.7	36.6	39.2	6.0		29.6	
Level of Service	D	D	D	A		C	
Approach Delay (s)	36.5			14.7		29.6	
Approach LOS	D			B		C	

Intersection Summary			
HCM Average Control Delay	22.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	90.1%	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												
Volume (vph)	5	160	25	15	80	10	15	15	25	50	75	15
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		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.46		1.00	0.67		0.84			1.00	0.43
Flpb, ped/bikes		0.99	1.00		0.93	1.00		0.88			0.88	1.00
Frt		1.00	0.85		1.00	0.85		0.94			1.00	0.85
Flt Protected		1.00	1.00		0.99	1.00		0.99			0.98	1.00
Satd. Flow (prot)		1621	635		1516	937		1124			1413	603
Flt Permitted		1.00	1.00		0.96	1.00		0.90			0.86	1.00
Satd. Flow (perm)		1617	635		1466	937		1025			1233	603
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	170	27	16	85	11	16	16	27	53	80	16
RTOR Reduction (vph)	0	0	4	0	0	3	0	18	0	0	0	14
Lane Group Flow (vph)	0	175	23	0	101	8	0	41	0	0	133	2
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		54.3	54.3		54.3	54.3		11.7			11.7	11.7
Effective Green, g (s)		54.3	54.3		54.3	54.3		11.7			11.7	11.7
Actuated g/C Ratio		0.72	0.72		0.72	0.72		0.16			0.16	0.16
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)		1171	460		1061	678		160			192	94
v/s Ratio Prot												
v/s Ratio Perm		c0.11	0.04		0.07	0.01		0.04			c0.11	0.00
v/c Ratio		0.15	0.05		0.10	0.01		0.26			0.69	0.03
Uniform Delay, d1		3.2	3.0		3.1	2.9		27.8			29.9	26.8
Progression Factor		1.00	1.00		1.00	1.00		1.00			0.85	0.63
Incremental Delay, d2		0.1	0.0		0.2	0.0		0.9			10.3	0.1
Delay (s)		3.3	3.0		3.2	2.9		28.7			35.8	17.1
Level of Service		A	A		A	A		C			D	B
Approach Delay (s)		3.2			3.2			28.7			33.8	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	14.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	104.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	471	34	538	399	79	67	43	16	26	6	377	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.34		0.67	1.00	0.95			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.81	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	558	3110	478		947	1555	1328			1258	1175
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.99	1.00
Satd. Flow (perm)	3110	558	3110	478		947	1555	1328			1314	1175
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	491	35	560	416	82	70	45	17	27	6	393	86
RTOR Reduction (vph)	0	16	0	181	0	33	0	19	0	0	0	61
Lane Group Flow (vph)	491	19	560	317	0	37	45	25	0	0	399	25
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Effective Green, g (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Actuated g/C Ratio	0.55	0.55	0.55	0.55		0.29	0.29	0.29			0.29	0.29
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1700	305	1700	261		278	456	390			385	345
v/s Ratio Prot	0.16		0.18									
v/s Ratio Perm		0.03		c0.66		0.04	0.03	0.02			c0.30	0.02
v/c Ratio	0.29	0.06	0.33	1.21		0.13	0.10	0.06			1.04	0.07
Uniform Delay, d1	9.2	8.0	9.4	17.0		19.5	19.3	19.1			26.5	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	0.4	0.4	0.5	125.9		1.0	0.4	0.3			55.6	0.4
Delay (s)	9.6	8.4	9.9	142.9		20.5	19.7	19.4			82.1	19.5
Level of Service	A	A	A	F		C	B	B			F	B
Approach Delay (s)	9.5		72.5								71.0	
Approach LOS	A		E								E	

Intersection Summary			
HCM Average Control Delay	53.6	HCM Level of Service	D
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	731	101	34	784	136	85
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	754	104	35	808	140	88

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	502	355	304	539	228
Volume Left (vph)	0	0	35	0	140
Volume Right (vph)	0	104	0	0	88
Hadj (s)	0.02	-0.19	0.07	0.02	-0.09
Departure Headway (s)	6.6	6.4	6.7	6.6	6.9
Degree Utilization, x	0.93	0.63	0.57	0.99	0.44
Capacity (veh/h)	537	560	528	539	521
Control Delay (s)	47.1	18.7	16.9	61.6	15.1
Approach Delay (s)	35.4		45.4		15.1
Approach LOS	E		E		C

Intersection Summary			
Delay	37.4		
HCM Level of Service	E		
Intersection Capacity Utilization	76.2%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT
Lane Configurations												
Volume (vph)	67	625	89	18	4	17	639	40	28	22	20	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4					5.4		4.0			5.0
Lane Util. Factor		0.95					0.95		1.00			1.00
Frpb, ped/bikes		0.92					0.98		0.78			1.00
Flpb, ped/bikes		0.99					1.00		1.00			1.00
Frt		0.98					0.99		0.86			1.00
Flt Protected		1.00					1.00		1.00			0.98
Satd. Flow (prot)		2600					2996		1106			1599
Flt Permitted		0.82					0.92		1.00			0.98
Satd. Flow (perm)		2148					2753		1106			1599
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	71	665	95	19	4	18	680	43	30	23	21	50
RTOR Reduction (vph)	0	0	0	0	0	0	6	0	0	0	0	0
Lane Group Flow (vph)	0	850	0	0	0	0	739	0	30	0	0	94
Confl. Peds. (#/hr)	400		400	400	400	400		400	400	400	400	
Confl. Bikes (#/hr)			30	30				30	10			
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm	Perm			Free	Split	Split	
Protected Phases		2					6			4	4	4
Permitted Phases	2				6	6			Free			
Actuated Green, G (s)		41.6					41.6		75.0			9.0
Effective Green, g (s)		41.6					41.6		75.0			9.0
Actuated g/C Ratio		0.55					0.55		1.00			0.12
Clearance Time (s)		5.4					5.4					5.0
Lane Grp Cap (vph)		1191					1527		1106			192
v/s Ratio Prot												c0.06
v/s Ratio Perm		c0.40					0.27		0.03			
v/c Ratio		0.71					0.48		0.03			0.49
Uniform Delay, d1		12.3					10.2		0.0			30.9
Progression Factor		1.00					0.38		1.00			1.00
Incremental Delay, d2		3.7					1.0		0.0			8.7
Delay (s)		16.0					4.9		0.0			39.5
Level of Service		B					A		A			D
Approach Delay (s)		16.0					4.9					39.8
Approach LOS		B					A					D

Intersection Summary			
HCM Average Control Delay	14.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	113.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR	NWL	NWR	NWR2
Lane Configurations				
Volume (vph)	50	110	30	11
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0
Lane Util. Factor	1.00	0.97		1.00
Frpb, ped/bikes	0.55	0.84		0.55
Flpb, ped/bikes	1.00	1.00		1.00
Frt	0.85	0.97		0.85
Flt Protected	1.00	0.96		1.00
Satd. Flow (prot)	768	2482		768
Flt Permitted	1.00	0.96		1.00
Satd. Flow (perm)	768	2482		768
Peak-hour factor, PHF	0.94	0.94	0.94	0.94
Adj. Flow (vph)	53	117	32	12
RTOR Reduction (vph)	21	0	0	11
Lane Group Flow (vph)	32	149	0	1
Confl. Peds. (#/hr)	400	400	400	400
Confl. Bikes (#/hr)	10		10	10
Parking (#/hr)				
Turn Type	Perm			Perm
Protected Phases		8		
Permitted Phases	4			8
Actuated Green, G (s)	9.0	9.0		9.0
Effective Green, g (s)	9.0	9.0		9.0
Actuated g/C Ratio	0.12	0.12		0.12
Clearance Time (s)	5.0	5.0		5.0
Lane Grp Cap (vph)	92	298		92
v/s Ratio Prot		c0.06		
v/s Ratio Perm	0.04			0.00
v/c Ratio	0.35	0.50		0.02
Uniform Delay, d1	30.3	30.9		29.1
Progression Factor	1.00	1.00		1.00
Incremental Delay, d2	10.0	5.9		0.3
Delay (s)	40.3	36.8		29.4
Level of Service	D	D		C
Approach Delay (s)		36.2		
Approach LOS		D		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	653	47	34	657	76	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.98			1.00	0.85	
Flpb, ped/bikes	1.00			0.99	1.00	
Frt	0.99			1.00	0.94	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2816			3086	1274	
Flt Permitted	1.00			0.89	0.97	
Satd. Flow (perm)	2816			2756	1274	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	734	53	38	738	85	70
RTOR Reduction (vph)	7	0	0	0	25	0
Lane Group Flow (vph)	780	0	0	776	131	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1690			1654	382	
v/s Ratio Prot	0.28				c0.10	
v/s Ratio Perm				c0.28		
v/c Ratio	0.46			0.47	0.34	
Uniform Delay, d1	8.3			8.4	20.5	
Progression Factor	0.76			1.00	1.00	
Incremental Delay, d2	0.7			1.0	2.4	
Delay (s)	7.0			9.3	22.9	
Level of Service	A			A	C	
Approach Delay (s)	7.0			9.3	22.9	
Approach LOS	A			A	C	

Intersection Summary			
HCM Average Control Delay	9.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	654	42	17	689	9	16
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	703	45	18	741	10	17

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	469	280	265	494	27
Volume Left (vph)	0	0	18	0	10
Volume Right (vph)	0	45	0	0	17
Hadj (s)	0.02	-0.10	0.05	0.02	-0.29
Departure Headway (s)	5.4	5.3	5.4	5.4	6.3
Degree Utilization, x	0.70	0.41	0.40	0.74	0.05
Capacity (veh/h)	469	656	645	653	536
Control Delay (s)	18.8	10.7	10.7	20.6	9.6
Approach Delay (s)	15.7		17.1		9.6
Approach LOS	C		C		A

Intersection Summary			
Delay	16.3		
HCM Level of Service	C		
Intersection Capacity Utilization	54.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	65	550	34	12	593	169	66	50	25	90	66	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frpb, ped/bikes		0.96			1.00	0.54		0.94		1.00	0.96	
Flpb, ped/bikes		0.98			1.00	1.00		0.87		0.76	0.97	
Frt		0.99			1.00	0.85		0.98		1.00	0.99	
Flt Protected		1.00			1.00	1.00		0.98		0.95	0.99	
Satd. Flow (prot)		2701			3110	657		1127		1119	1407	
Flt Permitted		0.83			1.00	1.00		0.83		0.71	0.96	
Satd. Flow (perm)		2244			3110	657		952		837	1357	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	71	604	37	13	652	186	73	55	27	99	73	8
RTOR Reduction (vph)	0	2	0	0	0	24	0	11	0	0	0	0
Lane Group Flow (vph)	0	723	0	0	652	162	0	144	0	86	94	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10	10		10			10			10
Parking (#/hr)		5	5	5		5	5	5	5			
Turn Type	Perm					Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2				6	6	8			4		
Actuated Green, G (s)		27.5			27.5	27.5		21.5		21.5	21.5	
Effective Green, g (s)		27.5			27.5	27.5		21.5		21.5	21.5	
Actuated g/C Ratio		0.46			0.46	0.46		0.36		0.36	0.36	
Clearance Time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		1029			1425	301		341		300	486	
v/s Ratio Prot					0.21							
v/s Ratio Perm		c0.32				0.25		c0.15		0.10	0.07	
v/c Ratio		0.70			0.46	0.54		0.42		0.29	0.19	
Uniform Delay, d1		13.0			11.1	11.7		14.6		13.8	13.3	
Progression Factor		1.00			1.29	1.53		1.00		1.00	1.00	
Incremental Delay, d2		4.0			1.0	6.5		3.8		0.5	0.2	
Delay (s)		17.0			15.4	24.4		18.4		14.3	13.5	
Level of Service		B			B	C		B		B	B	
Approach Delay (s)		17.0			17.4			18.4			13.7	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	16.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	92.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR2	NER2
Lane Configurations		
Volume (vph)	48	42
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.5	4.0
Lane Util. Factor	1.00	1.00
Frpb, ped/bikes	0.68	0.78
Flpb, ped/bikes	1.00	1.00
Frt	0.85	0.86
Flt Protected	1.00	1.00
Satd. Flow (prot)	952	967
Flt Permitted	1.00	1.00
Satd. Flow (perm)	952	967
Peak-hour factor, PHF	0.91	0.91
Adj. Flow (vph)	53	46
RTOR Reduction (vph)	9	0
Lane Group Flow (vph)	44	46
Confl. Peds. (#/hr)	400	400
Confl. Bikes (#/hr)	10	10
Parking (#/hr)		5
Turn Type	Perm	Free
Protected Phases		
Permitted Phases	4	Free
Actuated Green, G (s)	21.5	60.0
Effective Green, g (s)	21.5	60.0
Actuated g/C Ratio	0.36	1.00
Clearance Time (s)	5.5	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	341	967
v/s Ratio Prot		
v/s Ratio Perm	0.05	0.05
v/c Ratio	0.13	0.05
Uniform Delay, d1	13.0	0.0
Progression Factor	1.00	1.00
Incremental Delay, d2	0.2	0.1
Delay (s)	13.1	0.1
Level of Service	B	A
Approach Delay (s)		
Approach LOS		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	638	0	0	765	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	701	0	0	841	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	701	0	0	841	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)		30				30
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		46.0			46.0	
Effective Green, g (s)		46.0			46.0	
Actuated g/C Ratio		0.77			0.77	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1877			2312	
v/s Ratio Prot		c0.29			0.28	
v/s Ratio Perm						
v/c Ratio		0.37			0.36	
Uniform Delay, d1		2.3			2.3	
Progression Factor		0.49			1.36	
Incremental Delay, d2		0.4			0.4	
Delay (s)		1.6			3.5	
Level of Service		A			A	
Approach Delay (s)	1.6			0.0	3.5	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	2.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	29.2%	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												
Volume (vph)	20	187	77	162	182	28	67	159	105	27	149	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.84		1.00	0.92			1.00	0.66		1.00	0.44
Flpb, ped/bikes		0.97		0.64	1.00			0.87	1.00		0.96	1.00
Frt		0.96		1.00	0.98			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.99	1.00		0.99	1.00
Satd. Flow (prot)		2438		996	1297			1199	903		1566	609
Flt Permitted		0.92		0.57	1.00			0.87	1.00		0.94	1.00
Satd. Flow (perm)		2263		593	1297			1059	903		1481	609
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	201	83	174	196	30	72	171	113	29	160	27
RTOR Reduction (vph)	0	24	0	0	11	0	0	0	29	0	0	14
Lane Group Flow (vph)	0	282	0	174	215	0	0	243	84	0	189	13
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		21.4		21.4	21.4			28.6	28.6		28.6	28.6
Effective Green, g (s)		21.4		21.4	21.4			28.6	28.6		28.6	28.6
Actuated g/C Ratio		0.36		0.36	0.36			0.48	0.48		0.48	0.48
Clearance Time (s)		5.5		5.5	5.5			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)		807		212	463			505	430		706	290
v/s Ratio Prot					0.17							
v/s Ratio Perm		0.12		c0.29				c0.23	0.09		0.13	0.02
v/c Ratio		0.35		0.82	0.46			0.48	0.20		0.27	0.04
Uniform Delay, d1		14.2		17.6	14.9			10.7	9.1		9.4	8.4
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		0.3		21.8	0.7			3.3	1.0		0.9	0.3
Delay (s)		14.4		39.3	15.6			13.9	10.1		10.3	8.7
Level of Service		B		D	B			B	B		B	A
Approach Delay (s)		14.4			25.9			12.7			10.1	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	16.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	70.5%	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												
Volume (vph)	0	215	106	13	239	752	157	0	30	621	137	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.93			1.00	0.96		1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		0.98		1.00	1.00	
Frt		0.95			1.00	0.85		0.98		1.00	0.99	
Flt Protected		1.00			1.00	1.00		0.96		0.95	0.97	
Satd. Flow (prot)		2583			1625	2357		1316		1477	1494	
Flt Permitted		1.00			0.97	1.00		0.51		0.84	0.90	
Satd. Flow (perm)		2583			1580	2357		698		1308	1382	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	224	110	14	249	783	164	0	31	647	143	20
RTOR Reduction (vph)	0	90	0	0	0	0	0	11	0	0	3	0
Lane Group Flow (vph)	0	244	0	0	263	783	0	184	0	401	406	0
Confl. Peds. (#/hr)	50		50	50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		11.0			11.0	38.5		14.5		24.0	24.0	
Effective Green, g (s)		11.0			11.0	38.5		14.5		24.0	24.0	
Actuated g/C Ratio		0.18			0.18	0.64		0.24		0.40	0.40	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		474			290	1512		169		523	553	
v/s Ratio Prot		0.09										
v/s Ratio Perm					c0.17	0.33		c0.26		c0.31	0.29	
v/c Ratio		0.52			0.91	0.52		1.09		0.77	0.73	
Uniform Delay, d1		22.1			24.0	5.8		22.8		15.6	15.3	
Progression Factor		1.00			1.00	1.00		1.00		0.49	0.48	
Incremental Delay, d2		4.0			33.6	1.3		94.2		10.1	8.2	
Delay (s)		26.1			57.6	7.0		117.0		17.7	15.5	
Level of Service		C			E	A		F		B	B	
Approach Delay (s)		26.1			19.7			117.0			16.6	
Approach LOS		C			B			F			B	

Intersection Summary			
HCM Average Control Delay	27.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	71.3%	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												
Volume (vph)	43	741	28	34	791	32	257	54	159	26	31	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Lane Util. Factor		0.95			0.95	1.00		0.95			1.00	1.00
Frpb, ped/bikes		0.98			1.00	0.66		0.89			1.00	0.66
Flpb, ped/bikes		1.00			0.99	1.00		0.83			0.93	1.00
Frt		0.99			1.00	0.85		0.95			1.00	0.85
Flt Protected		1.00			1.00	1.00		0.97			0.98	1.00
Satd. Flow (prot)		3014			3087	806		1989			1486	921
Flt Permitted		0.88			0.90	1.00		0.78			0.79	1.00
Satd. Flow (perm)		2656			2789	806		1587			1208	921
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	45	772	29	35	824	33	268	56	166	27	32	44
RTOR Reduction (vph)	0	5	0	0	0	13	0	16	0	0	0	14
Lane Group Flow (vph)	0	841	0	0	859	20	0	474	0	0	59	30
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Actuated Green, G (s)		27.1			27.1	27.1		25.9			25.9	25.9
Effective Green, g (s)		27.1			27.1	27.1		25.9			25.9	25.9
Actuated g/C Ratio		0.45			0.45	0.45		0.43			0.43	0.43
Clearance Time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)		1200			1260	364		685			521	398
v/s Ratio Prot												
v/s Ratio Perm		c0.32			0.31	0.03		c0.30			0.05	0.03
v/c Ratio		0.70			0.68	0.06		0.69			0.11	0.07
Uniform Delay, d1		13.2			13.0	9.3		13.8			10.2	10.0
Progression Factor		1.00			0.96	1.18		1.00			1.00	1.00
Incremental Delay, d2		1.9			1.3	0.1		5.7			0.4	0.4
Delay (s)		15.1			13.8	10.9		19.5			10.6	10.4
Level of Service		B			B	B		B			B	B
Approach Delay (s)		15.1			13.7			19.5			10.5	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	15.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	88.4%	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												
Volume (vph)	59	738	139	100	539	12	63	220	138	9	233	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.95		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.76		1.00		1.00	0.87			0.86	
Flpb, ped/bikes		0.99	1.00		0.99		0.83	1.00			1.00	
Frt		1.00	0.85		1.00		1.00	0.94			0.94	
Flt Protected		1.00	1.00		0.99		0.95	1.00			1.00	
Satd. Flow (prot)		3079	922		3034		1293	3683			3599	
Flt Permitted		0.85	1.00		0.67		0.48	1.00			0.93	
Satd. Flow (perm)		2626	922		2040		655	3683			3349	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	64	802	151	109	586	13	68	239	150	10	253	190
RTOR Reduction (vph)	0	0	6	0	2	0	0	10	0	0	18	0
Lane Group Flow (vph)	0	866	145	0	706	0	68	379	0	0	435	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		27.0	27.0		27.0		23.0	23.0			23.0	
Effective Green, g (s)		27.0	27.0		27.0		23.0	23.0			23.0	
Actuated g/C Ratio		0.45	0.45		0.45		0.38	0.38			0.38	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1182	415		918		251	1412			1284	
v/s Ratio Prot								0.10				
v/s Ratio Perm		0.33	0.16		c0.35		0.10				c0.13	
v/c Ratio		0.73	0.35		0.77		0.27	0.27			0.34	
Uniform Delay, d1		13.5	10.8		13.9		12.7	12.7			13.1	
Progression Factor		0.51	0.56		0.85		1.00	1.00			1.00	
Incremental Delay, d2		2.0	0.4		3.8		2.6	0.5			0.7	
Delay (s)		9.0	6.5		15.6		15.4	13.2			13.8	
Level of Service		A	A		B		B	B			B	
Approach Delay (s)		8.6			15.6			13.5			13.8	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	12.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	100.0%	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												
Volume (vph)	0	1333	197	0	1630	89	207	186	39	80	139	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.95			0.98		1.00	0.94		1.00	0.92	
Flpb, ped/bikes		1.00			1.00		0.76	1.00		0.78	1.00	
Frt		0.98			0.99		1.00	0.97		1.00	0.97	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4177			4168		1183	1503		1219	1277	
Flt Permitted		1.00			1.00		0.60	1.00		0.53	1.00	
Satd. Flow (perm)		4177			4168		750	1503		684	1277	
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)	0	1360	201	0	1663	91	211	190	40	82	142	43
RTOR Reduction (vph)	0	7	0	0	5	0	0	4	0	0	2	0
Lane Group Flow (vph)	0	1554	0	0	1749	0	211	226	0	82	183	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2413			2408		229	459		209	390	
v/s Ratio Prot		0.37			c0.42			0.15			0.14	
v/s Ratio Perm							c0.28			0.12		
v/c Ratio		0.64			0.73		0.92	0.49		0.39	0.47	
Uniform Delay, d1		12.8			13.8		30.2	25.5		24.7	25.3	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.3			2.0		42.1	3.7		5.5	4.0	
Delay (s)		14.1			15.8		72.3	29.3		30.1	29.3	
Level of Service		B			B		E	C		C	C	
Approach Delay (s)		14.1			15.8			49.9			29.6	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM Average Control Delay	19.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	92.3%	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												
Volume (vph)	0	1276	62	0	1471	65	68	155	25	32	173	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			1.00	
Frpb, ped/bikes		0.98			0.99		1.00	0.95			0.93	
Flpb, ped/bikes		1.00			1.00		0.82	1.00			0.97	
Frt		0.99			0.99		1.00	0.98			0.97	
Flt Protected		1.00			1.00		0.95	1.00			0.99	
Satd. Flow (prot)		4364			4373		1278	1530			1420	
Flt Permitted		1.00			1.00		0.47	1.00			0.94	
Satd. Flow (perm)		4364			4373		631	1530			1348	
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	1343	65	0	1548	68	72	163	26	34	182	62
RTOR Reduction (vph)	0	5	0	0	5	0	0	5	0	0	3	0
Lane Group Flow (vph)	0	1403	0	0	1611	0	72	184	0	0	275	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2584			2590		189	457			403	
v/s Ratio Prot		0.32			c0.37			0.12				
v/s Ratio Perm							0.11				c0.20	
v/c Ratio		0.54			0.62		0.38	0.40			0.68	
Uniform Delay, d1		11.0			11.8		25.0	25.1			27.8	
Progression Factor		1.00			0.23		1.00	1.00			1.00	
Incremental Delay, d2		0.8			0.8		5.7	2.6			9.0	
Delay (s)		11.9			3.6		30.7	27.8			36.8	
Level of Service		B			A		C	C			D	
Approach Delay (s)		11.9			3.6			28.6			36.8	
Approach LOS		B			A			C			D	

Intersection Summary			
HCM Average Control Delay	11.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	99.7%	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												
Volume (vph)	0	1378	49	0	1535	59	45	91	18	36	141	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.96			0.93	
Flpb, ped/bikes		1.00			1.00			0.94			0.96	
Frt		0.99			0.99			0.98			0.97	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		4209			4203			1260			1237	
Flt Permitted		1.00			1.00			0.86			0.93	
Satd. Flow (perm)		4209			4203			1101			1161	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	1466	52	0	1633	63	48	97	19	38	150	50
RTOR Reduction (vph)	0	4	0	0	4	0	0	4	0	0	3	0
Lane Group Flow (vph)	0	1514	0	0	1692	0	0	160	0	0	235	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2525			2522			330			348	
v/s Ratio Prot		0.36			c0.40							
v/s Ratio Perm								0.15			c0.20	
v/c Ratio		0.60			0.67			0.48			0.68	
Uniform Delay, d1		11.2			12.0			25.8			27.7	
Progression Factor		1.98			1.00			1.00			1.00	
Incremental Delay, d2		0.9			1.4			5.0			10.1	
Delay (s)		23.2			13.5			30.8			37.7	
Level of Service		C			B			C			D	
Approach Delay (s)		23.2			13.5			30.8			37.7	
Approach LOS		C			B			C			D	

Intersection Summary			
HCM Average Control Delay	20.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	75.0%	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		↑↑↑			↑↑↑		↰	↕				↱
Volume (vph)	0	1255	0	0	896	46	667	576	46	0	0	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.98		1.00	0.98				0.97
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.99				1.00
Satd. Flow (prot)		4282			4363		1415	2684				1367
Flt Permitted		1.00			1.00		0.95	0.99				1.00
Satd. Flow (perm)		4282			4363		1415	2684				1367
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	1443	0	0	1030	53	767	662	53	0	0	43
RTOR Reduction (vph)	0	0	0	0	6	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	1443	0	0	1077	0	483	995	0	0	0	43
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		53.0			41.0		27.0	27.0				9.0
Effective Green, g (s)		53.0			41.0		27.0	27.0				9.0
Actuated g/C Ratio		0.59			0.46		0.30	0.30				0.10
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		2522			1988		425	805				137
v/s Ratio Prot		c0.34			0.25							
v/s Ratio Perm							0.34	0.37				0.03
v/c Ratio		0.57			0.54		1.14	1.24				0.31
Uniform Delay, d1		11.5			17.7		31.5	31.5				37.6
Progression Factor		1.00			0.32		1.00	1.00				1.00
Incremental Delay, d2		0.9			0.8		86.5	116.7				5.9
Delay (s)		12.4			6.4		118.0	148.2				43.5
Level of Service		B			A		F	F				D
Approach Delay (s)		12.4			6.4			138.4			43.5	
Approach LOS		B			A			F			D	

Intersection Summary			
HCM Average Control Delay	57.2	HCM Level of Service	E
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
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												
Volume (vph)	160	140	829	0	88	5	779	250	41	0	443	110
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		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.98		1.00	0.95			1.00	0.67
Flpb, ped/bikes		0.85	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.99		1.00	0.98			1.00	0.85
Flt Protected		0.97	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1355	2448		1358		4385	1327			3110	815
Flt Permitted		0.78	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		1087	2448		1358		4385	1327			3110	815
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	165	144	855	0	91	5	803	258	42	0	457	113
RTOR Reduction (vph)	0	0	2	0	2	0	0	6	0	0	0	17
Lane Group Flow (vph)	0	309	853	0	94	0	803	294	0	0	457	96
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		31.0	54.0		31.0		19.5	51.0			28.0	28.0
Effective Green, g (s)		31.0	50.5		31.0		19.5	51.0			28.0	28.0
Actuated g/C Ratio		0.34	0.56		0.34		0.22	0.57			0.31	0.31
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		374	1374		468		950	752			968	254
v/s Ratio Prot			0.35		0.07		c0.18	0.22			c0.15	
v/s Ratio Perm		c0.28										0.12
v/c Ratio		0.83	0.62		0.20		0.85	0.39			0.47	0.38
Uniform Delay, d1		27.0	13.3		20.8		33.8	10.9			25.0	24.2
Progression Factor		1.03	0.81		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		11.5	0.7		0.2		9.1	1.5			1.7	4.2
Delay (s)		39.3	11.5		21.0		43.0	12.4			26.7	28.4
Level of Service		D	B		C		D	B			C	C
Approach Delay (s)		18.9			21.0			34.6			27.0	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM Average Control Delay	26.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	73.7%	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												
Volume (vph)	0	0	0	62	264	56	40	57	0	0	43	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.11		1.00			0.93	
Flpb, ped/bikes					0.86	1.00		0.86			1.00	
Frt					1.00	0.85		1.00			0.97	
Flt Protected					0.99	1.00		0.98			1.00	
Satd. Flow (prot)					2481	156		1375			1481	
Flt Permitted					0.99	1.00		0.89			1.00	
Satd. Flow (perm)					2481	156		1244			1481	
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)	0	0	0	69	293	62	44	63	0	0	48	11
RTOR Reduction (vph)	0	0	0	0	0	36	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	362	26	0	107	0	0	59	0
Confl. Peds. (#/hr)				1245		1700	831					831
Confl. Bikes (#/hr)						158			9			17
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					25.0	25.0		25.0			25.0	
Effective Green, g (s)					25.0	25.0		25.0			25.0	
Actuated g/C Ratio					0.42	0.42		0.42			0.42	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1034	65		518			617	
v/s Ratio Prot											0.04	
v/s Ratio Perm					0.15	c0.17		c0.09				
v/c Ratio					0.35	0.40		0.21			0.10	
Uniform Delay, d1					12.0	12.2		11.2			10.6	
Progression Factor					1.00	1.00		0.89			1.00	
Incremental Delay, d2					0.9	17.2		0.7			0.3	
Delay (s)					12.9	29.4		10.6			10.9	
Level of Service					B	C		B			B	
Approach Delay (s)		0.0			15.3			10.6			10.9	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	45.0%	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												
Volume (vph)	0	0	0	136	306	29	103	28	0	0	41	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.94		1.00	1.00			0.88	
Flpb, ped/bikes				1.00	1.00		0.62	1.00			1.00	
Frt				1.00	0.99		1.00	1.00			0.96	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	2882		970	1637			1390	
Flt Permitted				0.95	1.00		0.72	1.00			1.00	
Satd. Flow (perm)				1555	2882		730	1637			1390	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	0	153	344	33	116	31	0	0	46	18
RTOR Reduction (vph)	0	0	0	0	6	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	153	371	0	116	31	0	0	64	0
Confl. Peds. (#/hr)						1700	585					585
Confl. Bikes (#/hr)						113			6			3
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				38.4	38.4		12.3	12.3			12.3	
Effective Green, g (s)				38.4	38.4		12.3	12.3			12.3	
Actuated g/C Ratio				0.64	0.64		0.21	0.21			0.21	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				995	1844		150	336			285	
v/s Ratio Prot				0.10	c0.13			0.02			0.05	
v/s Ratio Perm							c0.16					
v/c Ratio				0.15	0.20		0.77	0.09			0.22	
Uniform Delay, d1				4.3	4.5		22.5	19.3			19.9	
Progression Factor				1.00	1.00		1.52	1.58			1.00	
Incremental Delay, d2				0.3	0.2		31.2	0.5			1.8	
Delay (s)				4.6	4.7		65.4	31.1			21.7	
Level of Service				A	A		E	C			C	
Approach Delay (s)		0.0			4.7			58.1			21.7	
Approach LOS		A			A			E			C	

Intersection Summary			
HCM Average Control Delay	16.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	269	95	14	82	39	23
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	292	103	15	89	42	25
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	306					
pX, platoon unblocked						
vC, conflicting volume			796		1264	998
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			796		1264	998
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		45	79
cM capacity (veh/h)			575		76	118

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	195	201	104	67
Volume Left	0	0	15	42
Volume Right	0	103	0	25
cSH	1700	1700	575	88
Volume to Capacity	0.11	0.12	0.03	0.77
Queue Length 95th (ft)	0	0	2	98
Control Delay (s)	0.0	0.0	1.9	123.5
Lane LOS			A	F
Approach Delay (s)	0.0		1.9	123.5
Approach LOS				F

Intersection Summary			
Average Delay	15.0		
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												
Volume (vph)	0	196	25	0	114	6	37	92	48	17	64	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	
Lane Util. Factor		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.42		0.97			0.86			0.90	
Flpb, ped/bikes		1.00	1.00		1.00			0.91			0.94	
Frt		1.00	0.85		0.99			0.96			0.98	
Flt Protected		1.00	1.00		1.00			0.99			0.99	
Satd. Flow (prot)		1637	588		1381			1071			1180	
Flt Permitted		1.00	1.00		1.00			0.92			0.93	
Satd. Flow (perm)		1637	588		1381			996			1110	
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	0	261	33	0	152	8	49	123	64	23	85	24
RTOR Reduction (vph)	0	0	17	0	3	0	0	3	0	0	4	0
Lane Group Flow (vph)	0	261	16	0	157	0	0	233	0	0	128	0
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type			Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases			2	2			4			4		
Actuated Green, G (s)		29.0	29.0		29.0			22.0			22.0	
Effective Green, g (s)		29.0	29.0		29.0			22.0			22.0	
Actuated g/C Ratio		0.48	0.48		0.48			0.37			0.37	
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)		791	284		667			365			407	
v/s Ratio Prot		c0.16			0.11							
v/s Ratio Perm			0.03					c0.23			0.11	
v/c Ratio		0.33	0.06		0.24			0.64			0.31	
Uniform Delay, d1		9.5	8.2		9.0			15.7			13.6	
Progression Factor		1.00	1.00		1.00			0.67			0.85	
Incremental Delay, d2		1.1	0.4		0.8			7.9			2.0	
Delay (s)		10.6	8.6		9.9			18.4			13.5	
Level of Service		B	A		A			B			B	
Approach Delay (s)		10.4			9.9			18.4			13.5	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM Average Control Delay	13.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	77.9%	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												
Volume (vph)	0	234	31	16	77	0	50	0	63	12	15	21
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		1.00	1.00		0.95			1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.26		1.00			0.69			1.00	0.67
Flpb, ped/bikes		1.00	1.00		0.93			0.86			0.80	1.00
Frt		1.00	0.85		1.00			0.92			1.00	0.85
Flt Protected		1.00	1.00		0.99			0.98			0.98	1.00
Satd. Flow (prot)		1637	354		2854			887			1276	933
Flt Permitted		1.00	1.00		0.89			0.89			0.91	1.00
Satd. Flow (perm)		1637	354		2556			808			1193	933
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	269	36	18	89	0	57	0	72	14	17	24
RTOR Reduction (vph)	0	0	27	0	0	0	0	0	0	0	0	9
Lane Group Flow (vph)	0	269	9	0	107	0	0	129	0	0	31	15
Confl. Peds. (#/hr)			800	800			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	36.5
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	36.5
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	0.61
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)		396	86		618			492			726	568
v/s Ratio Prot		c0.16										
v/s Ratio Perm			0.02		0.04			c0.16			0.03	0.02
v/c Ratio		0.68	0.10		0.17			0.26			0.04	0.03
Uniform Delay, d1		20.6	17.7		18.0			5.5			4.7	4.7
Progression Factor		1.07	1.38		1.00			1.26			1.00	1.00
Incremental Delay, d2		9.0	2.3		0.6			1.3			0.0	0.0
Delay (s)		31.1	26.7		18.6			8.1			4.7	4.7
Level of Service		C	C		B			A			A	A
Approach Delay (s)		30.6			18.6			8.1			4.7	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM Average Control Delay	21.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	315	9	59	0	155	0	349	484
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		1.00		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		1.00		1.00			1.00
Flt Protected		1.00		0.95		1.00			0.98
Satd. Flow (prot)		942		1360		1637			3046
Flt Permitted		1.00		0.95		1.00			0.95
Satd. Flow (perm)		942		1360		1637			2970
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	332	9	62	0	163	0	367	509
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	332	0	71	0	163	0	0	876
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		385		314			891
v/s Ratio Prot						0.10			
v/s Ratio Perm		c0.35		0.05					c0.29
v/c Ratio		0.63		0.18		0.52			0.98
Uniform Delay, d1		9.0		16.3		21.8			20.8
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		5.7		1.1		1.5			26.3
Delay (s)		14.7		17.3		23.2			47.2
Level of Service		B		B		C			D
Approach Delay (s)	14.7			17.3		23.2			47.2
Approach LOS	B			B		C			D

Intersection Summary			
HCM Average Control Delay	35.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	77.8%	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												
Volume (vph)	28	171	50	41	188	44	42	98	33	31	75	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.95			1.00	0.56	1.00	0.86			0.82	
Flpb, ped/bikes		0.97			1.00	1.00	0.60	1.00			0.92	
Frt		0.97			1.00	0.85	1.00	0.96			0.95	
Flt Protected		0.99			0.99	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1268			1419	682	931	1184			2212	
Flt Permitted		0.95			0.91	1.00	0.64	1.00			0.87	
Satd. Flow (perm)		1214			1307	682	627	1184			1949	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	32	194	57	47	214	50	48	111	38	35	85	57
RTOR Reduction (vph)	0	11	0	0	0	12	0	26	0	0	0	0
Lane Group Flow (vph)	0	272	0	0	261	38	48	123	0	0	177	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		38.2			38.2	38.2	11.7	11.7			11.7	
Effective Green, g (s)		38.2			38.2	38.2	11.7	11.7			11.7	
Actuated g/C Ratio		0.64			0.64	0.64	0.19	0.19			0.19	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		773			832	434	122	231			380	
v/s Ratio Prot								c0.10				
v/s Ratio Perm		c0.22			0.20	0.06	0.08				0.09	
v/c Ratio		0.35			0.31	0.09	0.39	0.53			0.47	
Uniform Delay, d1		5.1			4.9	4.2	21.1	21.7			21.4	
Progression Factor		1.00			1.00	1.00	1.45	1.58			1.00	
Incremental Delay, d2		1.3			1.0	0.4	2.1	2.4			0.9	
Delay (s)		6.4			5.9	4.6	32.7	36.6			22.3	
Level of Service		A			A	A	C	D			C	
Approach Delay (s)		6.4			5.7			35.6			22.3	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM Average Control Delay	15.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	89.3%	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		✣			✣			✣			✣	
Volume (vph)	49	228	44	17	185	21	17	96	32	32	46	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.93			0.95			0.88			0.85	
Flpb, ped/bikes		0.95			0.98			0.95			0.88	
Frt		0.98			0.99			0.97			0.96	
Flt Protected		0.99			1.00			0.99			0.99	
Satd. Flow (prot)		1225			1308			1153			1020	
Flt Permitted		0.93			0.97			0.96			0.89	
Satd. Flow (perm)		1144			1269			1118			923	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	54	251	48	19	203	23	19	105	35	35	51	33
RTOR Reduction (vph)	0	10	0	0	6	0	0	17	0	0	23	0
Lane Group Flow (vph)	0	343	0	0	239	0	0	142	0	0	96	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		32.6			32.6			18.6			18.6	
Effective Green, g (s)		32.6			32.6			18.6			18.6	
Actuated g/C Ratio		0.54			0.54			0.31			0.31	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		622			689			347			286	
v/s Ratio Prot												
v/s Ratio Perm		c0.30			0.19			c0.13			0.10	
v/c Ratio		0.55			0.35			0.41			0.34	
Uniform Delay, d1		8.9			7.7			16.4			15.9	
Progression Factor		1.00			1.00			1.08			0.34	
Incremental Delay, d2		3.5			1.4			3.3			3.1	
Delay (s)		12.4			9.1			21.0			8.4	
Level of Service		B			A			C			A	
Approach Delay (s)		12.4			9.1			21.0			8.4	
Approach LOS		B			A			C			A	

Intersection Summary			
HCM Average Control Delay	12.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	57.0%	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												
Volume (vph)	19	205	64	18	119	29	31	55	73	33	64	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.88			1.00	0.46		0.76			0.88	
Flpb, ped/bikes		0.97			0.96	1.00		0.92			0.90	
Frt		0.97			1.00	0.85		0.94			0.97	
Flt Protected		1.00			0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1185			1365	565		927			1089	
Flt Permitted		0.98			0.95	1.00		0.94			0.91	
Satd. Flow (perm)		1168			1307	565		876			1000	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	20	220	69	19	128	31	33	59	78	35	69	30
RTOR Reduction (vph)	0	17	0	0	0	15	0	17	0	0	18	0
Lane Group Flow (vph)	0	292	0	0	147	16	0	153	0	0	116	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		31.0			31.0	31.0		21.0			21.0	
Effective Green, g (s)		31.0			31.0	31.0		21.0			21.0	
Actuated g/C Ratio		0.52			0.52	0.52		0.35			0.35	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		603			675	292		307			350	
v/s Ratio Prot												
v/s Ratio Perm		c0.25			0.11	0.03		c0.17			0.12	
v/c Ratio		0.48			0.22	0.05		0.50			0.33	
Uniform Delay, d1		9.3			7.9	7.2		15.4			14.3	
Progression Factor		1.00			0.82	0.64		0.89			1.03	
Incremental Delay, d2		2.8			0.7	0.4		5.3			2.5	
Delay (s)		12.1			7.2	5.0		18.9			17.2	
Level of Service		B			A	A		B			B	
Approach Delay (s)		12.1			6.8			18.9			17.2	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM Average Control Delay	13.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	79.2%	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												
Volume (vph)	22	209	63	17	81	13	16	54	52	15	25	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.48		1.00	0.48		0.76			0.83	
Flpb, ped/bikes		0.96	1.00		0.94	1.00		0.94			0.89	
Frt		1.00	0.85		1.00	0.85		0.94			0.96	
Flt Protected		1.00	1.00		0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1368	573		1333	573		950			1148	
Flt Permitted		0.98	1.00		0.94	1.00		0.97			0.92	
Satd. Flow (perm)		1340	573		1266	573		924			1074	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	25	240	72	20	93	15	18	62	60	17	29	20
RTOR Reduction (vph)	0	0	6	0	0	5	0	32	0	0	15	0
Lane Group Flow (vph)	0	265	66	0	113	10	0	108	0	0	51	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		36.0	36.0		36.0	36.0		16.0			16.0	
Effective Green, g (s)		36.0	36.0		36.0	36.0		16.0			16.0	
Actuated g/C Ratio		0.60	0.60		0.60	0.60		0.27			0.27	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		804	344		760	344		246			286	
v/s Ratio Prot												
v/s Ratio Perm		c0.20	0.11		0.09	0.02		c0.12			0.05	
v/c Ratio		0.33	0.19		0.15	0.03		0.44			0.18	
Uniform Delay, d1		6.0	5.4		5.3	4.9		18.3			16.9	
Progression Factor		0.96	0.97		1.00	1.00		1.07			1.40	
Incremental Delay, d2		1.0	1.1		0.4	0.2		5.4			1.4	
Delay (s)		6.7	6.4		5.7	5.0		25.0			25.1	
Level of Service		A	A		A	A		C			C	
Approach Delay (s)		6.6			5.6			25.0			25.1	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	12.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations										
Volume (vph)	24	148	50	4	34	14	314	166	112	826
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				4.0		5.0		5.0	5.0
Lane Util. Factor	1.00				1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.89				0.90		0.78		1.00	1.00
Flpb, ped/bikes	1.00				0.63		1.00		1.00	1.00
Frt	0.88				0.96		0.95		1.00	1.00
Flt Protected	0.99				0.96		1.00		0.95	1.00
Satd. Flow (prot)	1269				856		2294		1555	3110
Flt Permitted	0.99				0.96		1.00		0.95	1.00
Satd. Flow (perm)	1269				856		2294		1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	161	54	4	37	15	341	180	122	898
RTOR Reduction (vph)	12	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	229	0	0	0	56	0	521	0	122	898
Confl. Peds. (#/hr)				400	400	400		400		
Confl. Bikes (#/hr)		30	30			10		30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0
Turn Type				custom					Split	
Protected Phases	4!				8!		6		2	2
Permitted Phases				3						
Actuated Green, G (s)	18.6				44.6		17.0		14.4	14.4
Effective Green, g (s)	18.6				44.6		17.0		14.4	14.4
Actuated g/C Ratio	0.21				0.50		0.19		0.16	0.16
Clearance Time (s)	5.0				4.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	262				424		433		249	498
v/s Ratio Prot	c0.18						c0.23		0.08	c0.29
v/s Ratio Perm					0.07					
v/c Ratio	0.87				0.13		1.20		0.49	1.80
Uniform Delay, d1	34.6				12.3		36.5		34.5	37.8
Progression Factor	1.00				1.03		1.00		0.76	0.85
Incremental Delay, d2	26.0				0.1		111.6		6.3	368.9
Delay (s)	60.5				12.7		148.1		32.4	401.1
Level of Service	E				B		F		C	F
Approach Delay (s)	60.5				12.7		148.1			357.0
Approach LOS	E				B		F			F

Intersection Summary			
HCM Average Control Delay	248.4	HCM Level of Service	F
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	71.3%	ICU Level of Service	C
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	763	26	0	612	14	0	51	19	0	95	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.91			0.91	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.96			0.96	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2866			2880			1251			1249	
Flt Permitted		1.00			1.00			1.00			1.00	
Satd. Flow (perm)		2866			2880			1251			1249	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	795	27	0	638	15	0	53	20	0	99	38
RTOR Reduction (vph)	0	3	0	0	2	0	0	17	0	0	27	0
Lane Group Flow (vph)	0	819	0	0	651	0	0	56	0	0	110	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type												
Protected Phases		2			6			8			4	
Permitted Phases												
Actuated Green, G (s)		41.8			41.8			9.4			9.4	
Effective Green, g (s)		41.8			41.8			9.4			9.4	
Actuated g/C Ratio		0.70			0.70			0.16			0.16	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1997			2006			196			196	
v/s Ratio Prot		c0.29			0.23			0.04			c0.09	
v/s Ratio Perm												
v/c Ratio		0.41			0.32			0.29			0.56	
Uniform Delay, d1		3.9			3.6			22.3			23.4	
Progression Factor		0.46			1.00			1.00			1.00	
Incremental Delay, d2		0.5			0.1			0.8			3.6	
Delay (s)		2.3			3.7			23.1			27.0	
Level of Service		A			A			C			C	
Approach Delay (s)		2.3			3.7			23.1			27.0	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	5.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	50.0%	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												
Volume (vph)	0	588	130	0	474	36	173	125	69	0	158	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.69		1.00	0.69	1.00	1.00	0.72		0.98	
Flpb, ped/bikes		1.00	1.00		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	0.85		0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3110	959		3110	959	3016	1637	1005		2847	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		3110	959		3110	959	3016	1637	1005		2847	
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)	0	600	133	0	484	37	177	128	70	0	161	8
RTOR Reduction (vph)	0	0	57	0	0	16	0	0	5	0	7	0
Lane Group Flow (vph)	0	600	76	0	484	21	177	128	65	0	162	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type	Perm		Perm	Perm		Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		34.1	34.1		34.1	34.1	4.9	16.9	16.9		7.5	
Effective Green, g (s)		34.1	34.1		34.1	34.1	4.9	16.9	16.9		7.5	
Actuated g/C Ratio		0.57	0.57		0.57	0.57	0.08	0.28	0.28		0.12	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		1768	545		1768	545	246	461	283		356	
v/s Ratio Prot		c0.19			0.16		c0.06	0.08			c0.06	
v/s Ratio Perm			0.08			0.02			0.06			
v/c Ratio		0.34	0.14		0.27	0.04	0.72	0.28	0.23		0.46	
Uniform Delay, d1		6.9	6.1		6.6	5.7	26.9	16.8	16.6		24.4	
Progression Factor		1.00	1.00		1.61	2.51	1.00	1.00	1.00		0.98	
Incremental Delay, d2		0.5	0.5		0.4	0.1	9.7	0.3	0.4		0.9	
Delay (s)		7.4	6.6		11.0	14.4	36.5	17.1	17.0		24.7	
Level of Service		A	A		B	B	D	B	B		C	
Approach Delay (s)		7.3			11.3			26.3			24.7	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	72.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	88	514	505	63	47	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	0.96		0.81	
Flpb, ped/bikes		0.98	1.00		1.00	
Frt		1.00	0.98		0.92	
Flt Protected		0.99	1.00		0.98	
Satd. Flow (prot)		2837	2942		1051	
Flt Permitted		0.80	1.00		0.98	
Satd. Flow (perm)		2285	2942		1051	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	94	547	537	67	50	63
RTOR Reduction (vph)	0	0	19	0	39	0
Lane Group Flow (vph)	0	641	585	0	74	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		32.3	32.3		20.7	
Effective Green, g (s)		32.3	32.3		20.7	
Actuated g/C Ratio		0.54	0.54		0.34	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1230	1584		363	
v/s Ratio Prot			0.20		c0.07	
v/s Ratio Perm		c0.28				
v/c Ratio		0.52	0.37		0.20	
Uniform Delay, d1		8.9	8.0		13.8	
Progression Factor		1.65	1.00		1.17	
Incremental Delay, d2		0.4	0.1		1.1	
Delay (s)		15.0	8.1		17.4	
Level of Service		B	A		B	
Approach Delay (s)		15.0	8.1		17.4	
Approach LOS		B	A		B	

Intersection Summary			
HCM Average Control Delay	12.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	80.0%	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												
Volume (vph)	34	347	41	23	510	71	33	60	46	24	73	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.96			0.95			0.89			0.88	
Flpb, ped/bikes		0.99			0.99			0.95			0.96	
Frt		0.99			0.98			0.96			0.95	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		2712			2699			1143			1142	
Flt Permitted		0.88			0.93			0.91			0.95	
Satd. Flow (perm)		2401			2519			1055			1090	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	36	369	44	24	543	76	35	64	49	26	78	63
RTOR Reduction (vph)	0	14	0	0	18	0	0	30	0	0	20	0
Lane Group Flow (vph)	0	435	0	0	625	0	0	118	0	0	147	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		30.6			30.6			20.6			20.6	
Effective Green, g (s)		30.6			30.6			20.6			20.6	
Actuated g/C Ratio		0.51			0.51			0.34			0.34	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1225			1285			362			374	
v/s Ratio Prot												
v/s Ratio Perm		0.18			c0.25			0.11			c0.13	
v/c Ratio		0.36			0.49			0.33			0.39	
Uniform Delay, d1		8.8			9.6			14.6			14.9	
Progression Factor		1.00			1.06			1.00			0.96	
Incremental Delay, d2		0.8			1.3			2.4			2.9	
Delay (s)		9.6			11.4			17.0			17.2	
Level of Service		A			B			B			B	
Approach Delay (s)		9.6			11.4			17.0			17.2	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	12.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	67.0%	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												
Volume (vph)	37	561	33	29	447	47	55	42	59	24	44	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.98			0.96			0.88			0.88	
Flpb, ped/bikes		0.99			0.99			0.91			0.95	
Frt		0.99			0.99			0.95			0.95	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		2794			2741			1063			1129	
Flt Permitted		0.91			0.91			0.88			0.92	
Satd. Flow (perm)		2542			2493			947			1052	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	38	578	34	30	461	48	57	43	61	25	45	39
RTOR Reduction (vph)	0	5	0	0	9	0	0	26	0	0	31	0
Lane Group Flow (vph)	0	645	0	0	530	0	0	135	0	0	78	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		39.0			39.0			12.1			12.1	
Effective Green, g (s)		39.0			39.0			12.1			12.1	
Actuated g/C Ratio		0.65			0.65			0.20			0.20	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1652			1620			191			212	
v/s Ratio Prot												
v/s Ratio Perm		c0.25			0.21			c0.14			0.07	
v/c Ratio		0.39			0.33			0.71			0.37	
Uniform Delay, d1		4.9			4.7			22.3			20.6	
Progression Factor		1.93			1.00			1.00			0.99	
Incremental Delay, d2		0.7			0.1			11.4			1.1	
Delay (s)		10.2			4.8			33.7			21.5	
Level of Service		B			A			C			C	
Approach Delay (s)		10.2			4.8			33.7			21.5	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM Average Control Delay	11.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	76.8%	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												
Volume (vph)	20	568	62	20	436	9	58	7	14	7	9	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			0.99			0.94			0.76	
Flpb, ped/bikes		1.00			1.00			0.76			0.96	
Frt		0.99			1.00			0.98			0.91	
Flt Protected		1.00			1.00			0.96			0.99	
Satd. Flow (prot)		2773			3063			1096			1080	
Flt Permitted		0.93			0.91			0.77			0.96	
Satd. Flow (perm)		2590			2804			872			1048	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	22	638	70	22	490	10	65	8	16	8	10	34
RTOR Reduction (vph)	0	2	0	0	2	0	0	9	0	0	27	0
Lane Group Flow (vph)	0	728	0	0	520	0	0	80	0	0	25	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1787			1935			187			225	
v/s Ratio Prot												
v/s Ratio Perm		c0.28			0.19			c0.09			0.02	
v/c Ratio		0.41			0.27			0.43			0.11	
Uniform Delay, d1		6.0			5.3			30.6			28.5	
Progression Factor		1.00			0.20			1.00			0.99	
Incremental Delay, d2		0.7			0.3			7.1			0.1	
Delay (s)		6.7			1.4			37.6			28.2	
Level of Service		A			A			D			C	
Approach Delay (s)		6.7			1.4			37.6			28.2	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM Average Control Delay	7.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	75.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	36	552	459	902	442	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3026	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3026	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	37	569	473	930	456	37
RTOR Reduction (vph)	0	44	0	0	5	0
Lane Group Flow (vph)	37	525	473	930	488	0
Confl. Peds. (#/hr)						109
Confl. Bikes (#/hr)		10				64
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	11.0	36.2	21.2	69.0	43.8	
Effective Green, g (s)	11.0	36.2	21.2	69.0	43.8	
Actuated g/C Ratio	0.12	0.40	0.24	0.77	0.49	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	190	985	710	2235	1473	
v/s Ratio Prot	0.02	c0.21	c0.16	c0.32	0.16	
v/s Ratio Perm						
v/c Ratio	0.19	0.53	0.67	0.42	0.33	
Uniform Delay, d1	35.5	20.5	31.2	3.6	14.1	
Progression Factor	1.26	0.67	0.89	1.72	1.21	
Incremental Delay, d2	0.5	0.5	2.0	0.5	0.0	
Delay (s)	45.1	14.3	29.8	6.6	17.1	
Level of Service	D	B	C	A	B	
Approach Delay (s)	16.2			14.5	17.1	
Approach LOS	B			B	B	

Intersection Summary			
HCM Average Control Delay	15.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	83	222	16	0	939	0	55	28	1141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			0.99			1.00	1.00
Flpb, ped/bikes				0.71			1.00			1.00	1.00
Frt				0.99			0.99			1.00	1.00
Flt Protected				0.95			1.00			0.95	1.00
Satd. Flow (prot)				1988			4402			1555	3110
Flt Permitted				0.95			1.00			0.95	1.00
Satd. Flow (perm)				1988			4402			1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	90	241	17	0	1021	0	60	30	1240
RTOR Reduction (vph)	0	0	0	5	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	0	0	343	0	0	1076	0	0	30	1240
Confl. Peds. (#/hr)			107	139					107		
Confl. Bikes (#/hr)					8				106		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				19.1			52.8			5.1	61.9
Effective Green, g (s)				19.1			52.8			5.1	61.9
Actuated g/C Ratio				0.21			0.59			0.06	0.69
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				422			2583			88	2139
v/s Ratio Prot							0.24			0.02	c0.40
v/s Ratio Perm				0.17							
v/c Ratio				0.81			0.42			0.34	0.58
Uniform Delay, d1				33.8			10.2			40.8	7.3
Progression Factor				1.00			1.30			1.00	1.00
Incremental Delay, d2				11.4			0.0			0.8	1.2
Delay (s)				45.2			13.3			41.7	8.4
Level of Service				D			B			D	A
Approach Delay (s)	0.0			45.2			13.3				9.2
Approach LOS	A			D			B				A

Intersection Summary			
HCM Average Control Delay	15.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	52.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBL	EBR	EBR2	SEL	SET	SER2	NWL2	NWL	NWT	NWR	SWR2
Lane Configurations												
Volume (vph)	29	0	0	134	17	756	189	27	0	1130	29	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5		7.0	7.0	7.0		7.0	7.0		
Lane Util. Factor		1.00	1.00		1.00	0.95	1.00		1.00	0.95		
Frpb, ped/bikes		1.00	0.86		1.00	1.00	0.96		1.00	0.98		
Flpb, ped/bikes		1.00	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	1.00		
Flt Protected		0.95	1.00		0.95	1.00	1.00		0.95	1.00		
Satd. Flow (prot)		1555	1052		1555	3110	1334		1555	3050		
Flt Permitted		0.95	1.00		0.15	1.00	1.00		0.32	1.00		
Satd. Flow (perm)		1555	1052		249	3110	1334		517	3050		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	0	0	146	18	822	205	29	0	1228	32	0
RTOR Reduction (vph)	0	0	106	0	0	0	96	0	0	2	0	0
Lane Group Flow (vph)	0	32	40	0	18	822	109	0	29	1258	0	0
Confl. Peds. (#/hr)				130							1000	100
Confl. Bikes (#/hr)			10	10			30				30	10
Parking (#/hr)			5	5								
Turn Type	Perm		Perm		Perm		Perm	Perm	Perm			custom
Protected Phases		4				6				2		
Permitted Phases	4		4		6		6	2	2			8
Actuated Green, G (s)		18.0	18.0		34.5	34.5	34.5		34.5	34.5		
Effective Green, g (s)		18.0	18.0		34.5	34.5	34.5		34.5	34.5		
Actuated g/C Ratio		0.28	0.28		0.53	0.53	0.53		0.53	0.53		
Clearance Time (s)		5.5	5.5		7.0	7.0	7.0		7.0	7.0		
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)		431	291		132	1651	708		274	1619		
v/s Ratio Prot						0.26				c0.41		
v/s Ratio Perm		0.02	c0.04		0.07		0.08		0.06			
v/c Ratio		0.07	0.14		0.14	0.50	0.15		0.11	0.78		
Uniform Delay, d1		17.3	17.7		7.7	9.7	7.8		7.6	12.2		
Progression Factor		1.00	1.00		1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2		0.1	0.2		2.1	1.1	0.5		0.8	3.7		
Delay (s)		17.4	17.9		9.9	10.8	8.3		8.4	15.9		
Level of Service		B	B		A	B	A		A	B		
Approach Delay (s)		17.8				10.3				15.7		
Approach LOS		B				B				B		

Intersection Summary			
HCM Average Control Delay	13.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	81.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	17	0	7	0	0	0	30	1190	0	0	9	749
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.90					1.00	1.00				0.99
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.96					1.00	1.00				1.00
Flt Protected		0.97					0.95	1.00				1.00
Satd. Flow (prot)		1200					1555	3110				3070
Flt Permitted		0.97					0.95	1.00				0.94
Satd. Flow (perm)		1200					1555	3110				2878
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	18	0	7	0	0	0	32	1266	0	0	10	797
RTOR Reduction (vph)	0	5	0	0	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	0	20	0	0	0	0	32	1266	0	0	0	822
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		3.6					5.4	77.4				67.0
Effective Green, g (s)		3.6					5.4	77.4				67.0
Actuated g/C Ratio		0.04					0.06	0.86				0.74
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		48					93	2675				2143
v/s Ratio Prot		c0.02					0.02	c0.41				
v/s Ratio Perm												0.29
v/c Ratio		0.42					0.34	0.47				0.38
Uniform Delay, d1		42.2					40.6	1.5				4.1
Progression Factor		1.00					1.23	2.90				1.00
Incremental Delay, d2		5.9					2.0	0.5				0.5
Delay (s)		48.0					51.8	4.8				4.6
Level of Service		D					D	A				A
Approach Delay (s)		48.0			0.0			6.0				4.6
Approach LOS		D			A			A				A

Intersection Summary			
HCM Average Control Delay	6.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	94.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	15
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	16
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	72	417	0	0	421	38	145	152	18	0	0	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				
Lane Util. Factor		0.95			0.95			0.95				
Frpb, ped/bikes		1.00			0.98			0.98				
Flpb, ped/bikes		0.98			1.00			0.86				
Frt		1.00			0.99			0.99				
Flt Protected		0.99			1.00			0.98				
Satd. Flow (prot)		2801			2777			2346				
Flt Permitted		0.81			1.00			0.98				
Satd. Flow (perm)		2299			2777			2346				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	77	444	0	0	448	40	154	162	19	0	0	0
RTOR Reduction (vph)	0	0	0	0	8	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	521	0	0	480	0	0	330	0	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm					
Protected Phases		2			6			8				
Permitted Phases	2						8					
Actuated Green, G (s)		44.0			44.0			27.0				
Effective Green, g (s)		44.0			44.0			27.0				
Actuated g/C Ratio		0.55			0.55			0.34				
Clearance Time (s)		4.5			4.5			4.5				
Vehicle Extension (s)		3.0			3.0			3.0				
Lane Grp Cap (vph)		1264			1527			792				
v/s Ratio Prot					0.17							
v/s Ratio Perm		c0.23						0.14				
v/c Ratio		0.41			0.31			0.42				
Uniform Delay, d1		10.5			9.8			20.4				
Progression Factor		1.00			0.16			1.00				
Incremental Delay, d2		1.0			0.5			1.6				
Delay (s)		11.5			2.1			22.0				
Level of Service		B			A			C				
Approach Delay (s)		11.5			2.1			22.0			0.0	
Approach LOS		B			A			C			A	

Intersection Summary			
HCM Average Control Delay	10.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	95.4%	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												
Volume (vph)	0	276	161	34	376	0	0	0	0	15	261	83
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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.88			1.00						0.95	
Flpb, ped/bikes		1.00			0.99						0.99	
Frt		0.94			1.00						0.97	
Flt Protected		1.00			1.00						1.00	
Satd. Flow (prot)		2582			3058						2637	
Flt Permitted		1.00			0.88						1.00	
Satd. Flow (perm)		2582			2705						2637	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	297	173	37	404	0	0	0	0	16	281	89
RTOR Reduction (vph)	0	59	0	0	0	0	0	0	0	0	29	0
Lane Group Flow (vph)	0	411	0	0	441	0	0	0	0	0	357	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		20.9			20.9						50.1	
Effective Green, g (s)		20.9			20.9						50.1	
Actuated g/C Ratio		0.26			0.26						0.63	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		675			707						1651	
v/s Ratio Prot		0.16										
v/s Ratio Perm					c0.16						0.14	
v/c Ratio		0.61			0.62						0.22	
Uniform Delay, d1		26.0			26.1						6.5	
Progression Factor		0.62			1.00						1.00	
Incremental Delay, d2		1.5			1.7						0.3	
Delay (s)		17.5			27.8						6.8	
Level of Service		B			C						A	
Approach Delay (s)		17.5			27.8			0.0			6.8	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM Average Control Delay	17.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	83.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	52	245	369	1193	0	726	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.65	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		0.99	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	910	3016	3110		3051	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	910	3016	3110		3051	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	52	245	369	1193	0	726	30
RTOR Reduction (vph)	0	215	0	0	0	2	0
Lane Group Flow (vph)	52	30	369	1193	0	754	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	11.0	11.0	16.1	68.0		45.9	
Effective Green, g (s)	11.0	11.0	16.1	68.0		45.9	
Actuated g/C Ratio	0.12	0.12	0.18	0.76		0.51	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	190	111	540	2350		1556	
v/s Ratio Prot	c0.03		c0.12	c0.38		0.25	
v/s Ratio Perm		0.03					
v/c Ratio	0.27	0.27	0.68	0.51		0.48	
Uniform Delay, d1	35.9	35.9	34.6	4.4		14.3	
Progression Factor	1.00	1.00	1.00	1.00		1.17	
Incremental Delay, d2	0.8	1.3	3.6	0.8		1.0	
Delay (s)	36.7	37.2	38.1	5.1		17.9	
Level of Service	D	D	D	A		B	
Approach Delay (s)	37.1			12.9		17.9	
Approach LOS	D			B		B	

Intersection Summary			
HCM Average Control Delay	17.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	78.3%	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												
Volume (vph)	15	220	10	10	120	15	5	75	20	30	105	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
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.43		1.00	0.66		0.94			1.00	0.46
Flpb, ped/bikes		0.98	1.00		0.97	1.00		0.98			0.94	1.00
Frt		1.00	0.85		1.00	0.85		0.97			1.00	0.85
Flt Protected		1.00	1.00		1.00	1.00		1.00			0.99	1.00
Satd. Flow (prot)		1603	600		1579	917		1458			1527	643
Flt Permitted		0.98	1.00		0.98	1.00		0.98			0.92	1.00
Satd. Flow (perm)		1583	600		1552	917		1437			1426	643
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	16	234	11	11	128	16	5	80	21	32	112	5
RTOR Reduction (vph)	0	0	3	0	0	5	0	6	0	0	0	4
Lane Group Flow (vph)	0	250	8	0	139	11	0	100	0	0	144	1
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		41.0	41.0		41.0	41.0		10.0			10.0	10.0
Effective Green, g (s)		41.0	41.0		41.0	41.0		10.0			10.0	10.0
Actuated g/C Ratio		0.68	0.68		0.68	0.68		0.17			0.17	0.17
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)		1082	410		1061	627		240			238	107
v/s Ratio Prot												
v/s Ratio Perm		c0.16	0.01		0.09	0.01		0.07			c0.10	0.00
v/c Ratio		0.23	0.02		0.13	0.02		0.42			0.61	0.01
Uniform Delay, d1		3.6	3.0		3.3	3.0		22.4			23.2	20.9
Progression Factor		1.00	1.00		1.32	1.51		1.06			1.31	1.64
Incremental Delay, d2		0.1	0.0		0.3	0.1		1.1			4.3	0.0
Delay (s)		3.7	3.1		4.6	4.7		24.8			34.5	34.2
Level of Service		A	A		A	A		C			C	C
Approach Delay (s)		3.7			4.6			24.8			34.5	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	14.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	1106	20	285	199	38	8	20	4	5	5	187	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.34		0.67	1.00	0.95			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.74	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	558	3110	478		947	1555	1328			1146	1175
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.99	1.00
Satd. Flow (perm)	3110	558	3110	478		947	1555	1328			1195	1175
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	1243	22	320	224	43	9	22	4	6	6	210	15
RTOR Reduction (vph)	0	5	0	121	0	4	0	4	0	0	0	11
Lane Group Flow (vph)	1243	17	320	146	0	5	22	6	0	0	216	4
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Effective Green, g (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Actuated g/C Ratio	0.55	0.55	0.55	0.55		0.29	0.29	0.29			0.29	0.29
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1700	305	1700	261		278	456	390			351	345
v/s Ratio Prot	c0.40		0.10									
v/s Ratio Perm		0.03		0.31		0.01	0.01	0.00			c0.18	0.00
v/c Ratio	0.73	0.06	0.19	0.56		0.02	0.05	0.01			0.62	0.01
Uniform Delay, d1	12.8	7.9	8.6	11.1		18.8	19.0	18.8			22.9	18.8
Progression Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	2.8	0.3	0.2	8.4		0.1	0.2	0.1			7.8	0.1
Delay (s)	15.7	8.3	8.8	19.5		18.9	19.2	18.9			30.7	18.9
Level of Service	B	A	A	B		B	B	B			C	B
Approach Delay (s)	15.5		13.7								29.9	
Approach LOS	B		B								C	

Intersection Summary			
HCM Average Control Delay	16.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.8%	ICU Level of Service	C
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	1128	54	14	431	88	35
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1200	57	15	459	94	37

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	800	457	168	306	131
Volume Left (vph)	0	0	15	0	94
Volume Right (vph)	0	57	0	0	37
Hadj (s)	0.02	-0.07	0.06	0.02	-0.01
Departure Headway (s)	5.6	5.5	6.3	6.3	6.5
Degree Utilization, x	1.24	0.70	0.29	0.53	0.24
Capacity (veh/h)	638	639	554	563	535
Control Delay (s)	140.9	19.2	10.8	15.1	11.5
Approach Delay (s)	96.6		13.5		11.5
Approach LOS	F		B		B

Intersection Summary			
Delay	69.5		
HCM Level of Service	F		
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	996	140	11	1	355	20	6	7	3	11	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4				5.4		4.0			5.0	5.0
Lane Util. Factor		0.95				0.95		1.00			1.00	1.00
Frpb, ped/bikes		0.93				0.98		0.78			1.00	0.55
Flpb, ped/bikes		1.00				1.00		1.00			1.00	1.00
Frt		0.98				0.99		0.86			1.00	0.85
Flt Protected		1.00				1.00		1.00			0.98	1.00
Satd. Flow (prot)		2635				3020		1106			1598	768
Flt Permitted		0.94				0.95		1.00			0.98	1.00
Satd. Flow (perm)		2484				2879		1106			1598	768
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	25	1083	152	12	1	386	22	7	8	3	12	18
RTOR Reduction (vph)	0	1	0	0	0	5	0	0	0	0	0	16
Lane Group Flow (vph)	0	1271	0	0	0	404	0	7	0	0	23	2
Confl. Peds. (#/hr)	400		400	400	400		400	400	400	400		400
Confl. Bikes (#/hr)			30	30			30	10				10
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm			Free	Split	Split		Perm
Protected Phases		2				6			4	4	4	
Permitted Phases	2				6			Free				4
Actuated Green, G (s)		41.6				41.6		75.0			9.0	9.0
Effective Green, g (s)		41.6				41.6		75.0			9.0	9.0
Actuated g/C Ratio		0.55				0.55		1.00			0.12	0.12
Clearance Time (s)		5.4				5.4					5.0	5.0
Lane Grp Cap (vph)		1378				1597		1106			192	92
v/s Ratio Prot											c0.01	
v/s Ratio Perm		c0.51				0.14		0.01				0.00
v/c Ratio		0.92				0.25		0.01			0.12	0.02
Uniform Delay, d1		15.2				8.6		0.0			29.5	29.1
Progression Factor		1.00				1.47		1.00			1.00	1.00
Incremental Delay, d2		11.6				0.4		0.0			1.3	0.5
Delay (s)		26.9				13.1		0.0			30.7	29.6
Level of Service		C				B		A			C	C
Approach Delay (s)		26.9				13.1					30.2	
Approach LOS		C				B					C	

Intersection Summary			
HCM Average Control Delay	24.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	95.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NWL	NWR	NWR2
Lane Configurations			
Volume (vph)	81	18	2
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	5.0		5.0
Lane Util. Factor	0.97		1.00
Frpb, ped/bikes	0.86		0.55
Flpb, ped/bikes	1.00		1.00
Frt	0.97		0.85
Flt Protected	0.96		1.00
Satd. Flow (prot)	2556		768
Flt Permitted	0.96		1.00
Satd. Flow (perm)	2556		768
Peak-hour factor, PHF	0.92	0.92	0.92
Adj. Flow (vph)	88	20	2
RTOR Reduction (vph)	0	0	2
Lane Group Flow (vph)	108	0	0
Confl. Peds. (#/hr)	400	400	400
Confl. Bikes (#/hr)		10	10
Parking (#/hr)			
Turn Type			Perm
Protected Phases	8		
Permitted Phases			8
Actuated Green, G (s)	9.0		9.0
Effective Green, g (s)	9.0		9.0
Actuated g/C Ratio	0.12		0.12
Clearance Time (s)	5.0		5.0
Lane Grp Cap (vph)	307		92
v/s Ratio Prot	c0.04		
v/s Ratio Perm			0.00
v/c Ratio	0.35		0.00
Uniform Delay, d1	30.3		29.0
Progression Factor	1.00		1.00
Incremental Delay, d2	3.1		0.1
Delay (s)	33.5		29.1
Level of Service	C		C
Approach Delay (s)	33.4		
Approach LOS	C		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1002	30	8	330	53	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.99			1.00	0.91	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	1.00			1.00	0.96	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2872			3102	1379	
Flt Permitted	1.00			0.93	0.97	
Satd. Flow (perm)	2872			2900	1379	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1055	32	8	347	56	22
RTOR Reduction (vph)	3	0	0	0	11	0
Lane Group Flow (vph)	1084	0	0	355	67	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1723			1740	414	
v/s Ratio Prot	c0.38				c0.05	
v/s Ratio Perm				0.12		
v/c Ratio	0.63			0.20	0.16	
Uniform Delay, d1	9.6			6.8	19.3	
Progression Factor	1.25			1.00	1.00	
Incremental Delay, d2	0.7			0.3	0.8	
Delay (s)	12.7			7.1	20.1	
Level of Service	B			A	C	
Approach Delay (s)	12.7			7.1	20.1	
Approach LOS	B			A	C	

Intersection Summary			
HCM Average Control Delay	11.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	1008	7	4	320	9	8
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1072	7	4	340	10	9

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	715	365	118	227	18
Volume Left (vph)	0	0	4	0	10
Volume Right (vph)	0	7	0	0	9
Hadj (s)	0.02	0.00	0.04	0.02	-0.16
Departure Headway (s)	4.9	4.9	5.7	5.6	6.1
Degree Utilization, x	0.97	0.49	0.19	0.36	0.03
Capacity (veh/h)	724	727	618	627	563
Control Delay (s)	47.2	11.4	8.7	10.5	9.3
Approach Delay (s)	35.1		9.9		9.3
Approach LOS	E		A		A

Intersection Summary			
Delay	28.8		
HCM Level of Service	D		
Intersection Capacity Utilization	51.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR2
Lane Configurations												
Volume (vph)	9	949	22	4	321	50	42	30	41	14	12	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5	5.5		5.5		5.5	5.5	5.5
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	1.00
Frpb, ped/bikes		0.99			1.00	0.66		0.88		1.00	1.00	0.65
Flpb, ped/bikes		1.00			1.00	1.00		0.88		0.73	0.96	1.00
Frt		1.00			1.00	0.85		0.95		1.00	1.00	0.85
Flt Protected		1.00			1.00	1.00		0.98		0.95	0.99	1.00
Satd. Flow (prot)		2857			3110	808		1027		1080	1484	911
Flt Permitted		0.95			1.00	1.00		0.89		0.70	0.97	1.00
Satd. Flow (perm)		2720			3110	808		934		791	1455	911
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)	9	968	22	4	328	51	43	31	42	14	12	3
RTOR Reduction (vph)	0	0	0	0	0	4	0	18	0	0	0	2
Lane Group Flow (vph)	0	1003	0	0	328	47	0	98	0	12	14	1
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10	10		10			10			10
Parking (#/hr)		5	5	5		5	5	5	5			
Turn Type	Perm					Perm	Perm			Perm		Perm
Protected Phases		2			6			8			4	
Permitted Phases	2				6	6	8			4		4
Actuated Green, G (s)		56.5			56.5	56.5		22.5		22.5	22.5	22.5
Effective Green, g (s)		56.5			56.5	56.5		22.5		22.5	22.5	22.5
Actuated g/C Ratio		0.63			0.63	0.63		0.25		0.25	0.25	0.25
Clearance Time (s)		5.5			5.5	5.5		5.5		5.5	5.5	5.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		1708			1952	507		234		198	364	228
v/s Ratio Prot					0.11							
v/s Ratio Perm		c0.37				0.06		c0.10		0.02	0.01	0.00
v/c Ratio		0.59			0.17	0.09		0.42		0.06	0.04	0.00
Uniform Delay, d1		9.9			7.0	6.6		28.3		25.7	25.6	25.3
Progression Factor		1.00			2.02	2.15		1.00		1.00	1.00	1.00
Incremental Delay, d2		1.5			0.2	0.4		5.4		0.1	0.0	0.0
Delay (s)		11.4			14.3	14.6		33.7		25.8	25.6	25.3
Level of Service		B			B	B		C		C	C	C
Approach Delay (s)		11.4			14.3			33.7			25.7	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	NER2
Lane Configurations	
Volume (vph)	17
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.78
Flpb, ped/bikes	1.00
Frt	0.86
Flt Protected	1.00
Satd. Flow (prot)	967
Flt Permitted	1.00
Satd. Flow (perm)	967
Peak-hour factor, PHF	0.98
Adj. Flow (vph)	17
RTOR Reduction (vph)	0
Lane Group Flow (vph)	17
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	10
Parking (#/hr)	5
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Actuated Green, G (s)	90.0
Effective Green, g (s)	90.0
Actuated g/C Ratio	1.00
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	967
v/s Ratio Prot	
v/s Ratio Perm	0.02
v/c Ratio	0.02
Uniform Delay, d1	0.0
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	0.0
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	987	0	0	382	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1061	0	0	411	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	1061	0	0	411	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)		30				30
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		76.0			76.0	
Effective Green, g (s)		76.0			76.0	
Actuated g/C Ratio		0.84			0.84	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		2067			2547	
v/s Ratio Prot		c0.43			0.14	
v/s Ratio Perm						
v/c Ratio		0.51			0.16	
Uniform Delay, d1		1.9			1.3	
Progression Factor		0.50			1.00	
Incremental Delay, d2		0.8			0.1	
Delay (s)		1.7			1.4	
Level of Service		A			A	
Approach Delay (s)	1.7			0.0	1.4	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	1.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	54.2%	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												
Volume (vph)	5	368	78	78	104	8	71	80	124	24	75	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.89		1.00	0.96			1.00	0.62		1.00	0.37
Flpb, ped/bikes		0.99		0.73	1.00			0.74	1.00		0.93	1.00
Frt		0.97		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.99	1.00
Satd. Flow (prot)		2673		1134	1354			1012	844		1500	508
Flt Permitted		0.95		0.37	1.00			0.84	1.00		0.93	1.00
Satd. Flow (perm)		2547		443	1354			869	844		1409	508
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)	5	387	82	82	109	8	75	84	131	25	79	18
RTOR Reduction (vph)	0	30	0	0	4	0	0	0	19	0	0	7
Lane Group Flow (vph)	0	444	0	82	113	0	0	159	112	0	104	11
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		23.1		23.1	23.1			56.9	56.9		56.9	56.9
Effective Green, g (s)		23.1		23.1	23.1			56.9	56.9		56.9	56.9
Actuated g/C Ratio		0.26		0.26	0.26			0.63	0.63		0.63	0.63
Clearance Time (s)		5.5		5.5	5.5			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)		654		114	348			549	534		891	321
v/s Ratio Prot					0.08							
v/s Ratio Perm		0.17		c0.19				c0.18	0.13		0.07	0.02
v/c Ratio		0.68		0.72	0.32			0.29	0.21		0.12	0.04
Uniform Delay, d1		30.1		30.5	27.1			7.5	7.0		6.6	6.2
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		2.8		19.4	0.5			1.3	0.9		0.3	0.2
Delay (s)		32.9		49.9	27.7			8.8	7.9		6.8	6.4
Level of Service		C		D	C			A	A		A	A
Approach Delay (s)		32.9			36.8			8.4			6.8	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM Average Control Delay	24.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
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												
Volume (vph)	0	447	106	12	175	429	88	0	33	991	75	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.98			1.00	0.96		0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		0.99		1.00	1.00	
Frt		0.97			1.00	0.85		0.96		1.00	1.00	
Flt Protected		1.00			1.00	1.00		0.96		0.95	0.96	
Satd. Flow (prot)		2789			1627	2362		1305		1477	1489	
Flt Permitted		1.00			0.78	1.00		0.50		0.73	0.76	
Satd. Flow (perm)		2789			1272	2362		675		1132	1177	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	461	109	12	180	442	91	0	34	1022	77	3
RTOR Reduction (vph)	0	23	0	0	0	0	0	15	0	0	0	0
Lane Group Flow (vph)	0	547	0	0	192	442	0	110	0	552	550	0
Confl. Peds. (#/hr)	50			50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		17.0			17.0	65.5		17.5		45.0	45.0	
Effective Green, g (s)		17.0			17.0	65.5		17.5		45.0	45.0	
Actuated g/C Ratio		0.19			0.19	0.73		0.19		0.50	0.50	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		527			240	1719		131		566	589	
v/s Ratio Prot		c0.20										
v/s Ratio Perm					0.15	0.19		c0.16		c0.49	0.47	
v/c Ratio		1.04			0.80	0.26		0.84		0.98	0.93	
Uniform Delay, d1		36.5			34.9	4.1		34.9		22.0	21.1	
Progression Factor		1.00			1.00	1.00		1.00		1.18	1.18	
Incremental Delay, d2		49.5			23.7	0.4		44.1		30.5	22.4	
Delay (s)		86.0			58.6	4.5		79.0		56.3	47.2	
Level of Service		F			E	A		E		E	D	
Approach Delay (s)		86.0			20.9			79.0			51.8	
Approach LOS		F			C			E			D	

Intersection Summary			
HCM Average Control Delay	53.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	67.3%	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												
Volume (vph)	17	1446	19	34	516	17	102	51	180	23	18	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Lane Util. Factor		0.95			0.95	1.00		0.95			1.00	1.00
Frpb, ped/bikes		1.00			1.00	0.62		0.79			1.00	0.62
Flpb, ped/bikes		1.00			1.00	1.00		0.89			0.89	1.00
Frt		1.00			1.00	0.85		0.92			1.00	0.85
Flt Protected		1.00			1.00	1.00		0.98			0.97	1.00
Satd. Flow (prot)		3081			3100	754		1865			1415	858
Flt Permitted		0.95			0.80	1.00		0.84			0.77	1.00
Satd. Flow (perm)		2917			2500	754		1599			1120	858
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	18	1506	20	35	538	18	106	53	188	24	19	24
RTOR Reduction (vph)	0	1	0	0	0	1	0	11	0	0	0	19
Lane Group Flow (vph)	0	1543	0	0	573	17	0	336	0	0	43	5
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Actuated Green, G (s)		62.9			62.9	62.9		20.1			20.1	20.1
Effective Green, g (s)		62.9			62.9	62.9		20.1			20.1	20.1
Actuated g/C Ratio		0.70			0.70	0.70		0.22			0.22	0.22
Clearance Time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)		2039			1747	527		357			250	192
v/s Ratio Prot												
v/s Ratio Perm		c0.53			0.23	0.02		c0.21			0.04	0.01
v/c Ratio		0.76			0.33	0.03		0.94			0.17	0.03
Uniform Delay, d1		8.7			5.3	4.2		34.4			28.2	27.3
Progression Factor		1.00			0.80	0.72		1.00			1.00	1.00
Incremental Delay, d2		1.6			0.1	0.0		34.9			1.5	0.3
Delay (s)		10.3			4.3	3.0		69.3			29.7	27.6
Level of Service		B			A	A		E			C	C
Approach Delay (s)		10.3			4.3			69.3			29.0	
Approach LOS		B			A			E			C	

Intersection Summary			
HCM Average Control Delay	17.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	89.0%	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												
Volume (vph)	20	1507	109	0	457	27	63	266	197	7	129	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.95		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.80		0.99		1.00	0.85			0.88	
Flpb, ped/bikes		1.00	1.00		1.00		0.74	1.00			0.99	
Frt		1.00	0.85		0.99		1.00	0.94			0.95	
Flt Protected		1.00	1.00		1.00		0.95	1.00			1.00	
Satd. Flow (prot)		3104	974		3049		1144	3538			3714	
Flt Permitted		0.94	1.00		1.00		0.61	1.00			0.92	
Satd. Flow (perm)		2935	974		3049		740	3538			3424	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	21	1570	114	0	476	28	66	277	205	7	134	69
RTOR Reduction (vph)	0	0	1	0	0	0	0	7	0	0	54	0
Lane Group Flow (vph)	0	1591	113	0	504	0	66	475	0	0	156	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm				Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4				2			6		
Actuated Green, G (s)		59.9	59.9		59.9		20.1	20.1			20.1	
Effective Green, g (s)		59.9	59.9		59.9		20.1	20.1			20.1	
Actuated g/C Ratio		0.67	0.67		0.67		0.22	0.22			0.22	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1953	648		2029		165	790			765	
v/s Ratio Prot					0.17			c0.13				
v/s Ratio Perm		c0.54	0.12				0.09				0.05	
v/c Ratio		0.81	0.17		0.25		0.40	0.60			0.20	
Uniform Delay, d1		11.0	5.7		6.0		29.8	31.4			28.4	
Progression Factor		0.61	0.50		0.98		1.00	1.00			1.00	
Incremental Delay, d2		1.8	0.1		0.1		7.1	3.4			0.6	
Delay (s)		8.5	2.9		6.0		36.9	34.7			29.0	
Level of Service		A	A		A		D	C			C	
Approach Delay (s)		8.1			6.0			35.0			29.0	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	14.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	106.1%	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												
Volume (vph)	0	2045	196	0	1241	55	128	125	28	89	104	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.97			0.98		1.00	0.94		1.00	0.92	
Flpb, ped/bikes		1.00			1.00		0.74	1.00		0.75	1.00	
Frt		0.99			0.99		1.00	0.97		1.00	0.96	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4269			4188		1149	1496		1161	1261	
Flt Permitted		1.00			1.00		0.67	1.00		0.64	1.00	
Satd. Flow (perm)		4269			4188		805	1496		788	1261	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	2108	202	0	1279	57	132	129	29	92	107	37
RTOR Reduction (vph)	0	8	0	0	5	0	0	1	0	0	6	0
Lane Group Flow (vph)	0	2302	0	0	1331	0	132	157	0	92	138	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2467			2420		246	457		241	385	
v/s Ratio Prot		c0.54			0.32			0.11			0.11	
v/s Ratio Perm							c0.16			0.12		
v/c Ratio		0.93			0.55		0.54	0.34		0.38	0.36	
Uniform Delay, d1		17.4			11.8		26.0	24.3		24.6	24.4	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		8.0			0.9		8.2	2.1		4.5	2.6	
Delay (s)		25.4			12.7		34.1	26.3		29.1	27.0	
Level of Service		C			B		C	C		C	C	
Approach Delay (s)		25.4			12.7			29.9			27.8	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM Average Control Delay	21.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	93.7%	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												
Volume (vph)	0	2042	67	0	1120	67	54	128	33	42	121	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			1.00	
Frpb, ped/bikes		0.99			0.98		1.00	0.93			0.94	
Flpb, ped/bikes		1.00			1.00		0.80	1.00			0.95	
Frt		1.00			0.99		1.00	0.97			0.98	
Flt Protected		1.00			1.00		0.95	1.00			0.99	
Satd. Flow (prot)		4396			4341		1236	1479			1408	
Flt Permitted		1.00			1.00		0.55	1.00			0.90	
Satd. Flow (perm)		4396			4341		720	1479			1285	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	2220	73	0	1217	73	59	139	36	46	132	40
RTOR Reduction (vph)	0	4	0	0	6	0	0	1	0	0	7	0
Lane Group Flow (vph)	0	2289	0	0	1284	0	59	174	0	0	211	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2603			2571		215	442			384	
v/s Ratio Prot		c0.52			0.30			0.12				
v/s Ratio Perm							0.08				c0.16	
v/c Ratio		0.88			0.50		0.27	0.39			0.55	
Uniform Delay, d1		15.6			10.6		24.1	25.1			26.5	
Progression Factor		1.00			1.11		1.00	1.00			1.00	
Incremental Delay, d2		4.6			0.6		3.1	2.6			5.6	
Delay (s)		20.3			12.4		27.2	27.7			32.0	
Level of Service		C			B		C	C			C	
Approach Delay (s)		20.3			12.4			27.6			32.0	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM Average Control Delay	18.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	103.0%	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												
Volume (vph)	0	1880	95	0	1123	42	35	78	18	47	145	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.98			0.99			0.96			0.96	
Flpb, ped/bikes		1.00			1.00			0.95			0.95	
Frt		0.99			0.99			0.98			0.98	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		4179			4204			1255			1262	
Flt Permitted		1.00			1.00			0.89			0.91	
Satd. Flow (perm)		4179			4204			1128			1159	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	2000	101	0	1195	45	37	83	19	50	154	31
RTOR Reduction (vph)	0	6	0	0	4	0	0	1	0	0	6	0
Lane Group Flow (vph)	0	2095	0	0	1236	0	0	138	0	0	229	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2507			2522			338			348	
v/s Ratio Prot		c0.50			0.29							
v/s Ratio Perm								0.12			c0.20	
v/c Ratio		0.84			0.49			0.41			0.66	
Uniform Delay, d1		14.4			10.2			25.1			27.5	
Progression Factor		0.47			1.00			1.00			1.00	
Incremental Delay, d2		1.7			0.7			3.6			9.3	
Delay (s)		8.4			10.9			28.7			36.8	
Level of Service		A			B			C			D	
Approach Delay (s)		8.4			10.9			28.7			36.8	
Approach LOS		A			B			C			D	

Intersection Summary			
HCM Average Control Delay	11.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	75.0%	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		↑↑↑			↑↑↑		↰	↕				↱
Volume (vph)	0	1739	0	0	533	27	527	438	45	0	0	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.98		1.00	0.98				0.97
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.99				1.00
Satd. Flow (prot)		4282			4366		1415	2667				1367
Flt Permitted		1.00			1.00		0.95	0.99				1.00
Satd. Flow (perm)		4282			4366		1415	2667				1367
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	1831	0	0	561	28	555	461	47	0	0	25
RTOR Reduction (vph)	0	0	0	0	6	0	0	6	0	0	0	0
Lane Group Flow (vph)	0	1831	0	0	583	0	350	707	0	0	0	25
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		53.0			41.0		27.0	27.0				9.0
Effective Green, g (s)		53.0			41.0		27.0	27.0				9.0
Actuated g/C Ratio		0.59			0.46		0.30	0.30				0.10
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		2522			1989		425	800				137
v/s Ratio Prot		c0.43			0.13							
v/s Ratio Perm							0.25	0.27				0.02
v/c Ratio		0.73			0.29		0.82	0.88				0.18
Uniform Delay, d1		13.3			15.4		29.3	30.0				37.1
Progression Factor		1.00			1.78		1.00	1.00				1.00
Incremental Delay, d2		1.9			0.3		16.4	13.6				2.9
Delay (s)		15.1			27.7		45.7	43.6				40.0
Level of Service		B			C		D	D				D
Approach Delay (s)		15.1			27.7			44.3			40.0	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM Average Control Delay	26.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	68.2%	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												
Volume (vph)	240	150	1387	0	78	8	384	275	26	0	425	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		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.97		1.00	0.96			1.00	0.67
Flpb, ped/bikes		0.83	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.99		1.00	0.99			1.00	0.85
Flt Protected		0.97	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1310	2448		1334		4385	1354			3110	815
Flt Permitted		0.76	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		1027	2448		1334		4385	1354			3110	815
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	250	156	1445	0	81	8	400	286	27	0	443	40
RTOR Reduction (vph)	0	0	3	0	4	0	0	4	0	0	0	28
Lane Group Flow (vph)	0	406	1442	0	85	0	400	309	0	0	443	12
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		39.5	54.5		39.5		11.5	42.5			27.5	27.5
Effective Green, g (s)		39.5	51.0		39.5		11.5	42.5			27.5	27.5
Actuated g/C Ratio		0.44	0.57		0.44		0.13	0.47			0.31	0.31
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		451	1387		585		560	639			950	249
v/s Ratio Prot			c0.59		0.06		0.09	c0.23			0.14	
v/s Ratio Perm		0.40										0.01
v/c Ratio		0.90	1.04		0.15		0.71	0.48			0.47	0.05
Uniform Delay, d1		23.4	19.5		15.1		37.7	16.2			25.3	22.0
Progression Factor		1.23	1.73		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		15.1	30.9		0.1		7.6	2.6			1.6	0.4
Delay (s)		44.0	64.7		15.2		45.3	18.9			27.0	22.4
Level of Service		D	E		B		D	B			C	C
Approach Delay (s)		60.2			15.2			33.7			26.6	
Approach LOS		E			B			C			C	

Intersection Summary			
HCM Average Control Delay	47.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	83.1%	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												
Volume (vph)	0	0	0	27	94	45	13	32	0	0	45	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.70		1.00			0.99	
Flpb, ped/bikes					0.95	1.00		0.99			1.00	
Frt					1.00	0.85		1.00			0.97	
Flt Protected					0.99	1.00		0.99			1.00	
Satd. Flow (prot)					2747	954		1595			1567	
Flt Permitted					0.99	1.00		0.93			1.00	
Satd. Flow (perm)					2747	954		1512			1567	
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	0	0	0	35	121	58	17	41	0	0	58	17
RTOR Reduction (vph)	0	0	0	0	0	34	0	0	0	0	10	0
Lane Group Flow (vph)	0	0	0	0	156	24	0	58	0	0	65	0
Confl. Peds. (#/hr)				154		203	51					51
Confl. Bikes (#/hr)						14						3
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					25.0	25.0		25.0			25.0	
Effective Green, g (s)					25.0	25.0		25.0			25.0	
Actuated g/C Ratio					0.42	0.42		0.42			0.42	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1145	398		630			653	
v/s Ratio Prot											c0.04	
v/s Ratio Perm					0.06	0.03		0.04				
v/c Ratio					0.14	0.06		0.09			0.10	
Uniform Delay, d1					10.8	10.5		10.6			10.7	
Progression Factor					1.00	1.00		0.88			1.00	
Incremental Delay, d2					0.2	0.3		0.3			0.3	
Delay (s)					11.1	10.8		9.7			11.0	
Level of Service					B	B		A			B	
Approach Delay (s)		0.0			11.0			9.7			11.0	
Approach LOS		A			B			A			B	

Intersection Summary			
HCM Average Control Delay	10.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.12		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	45.0%	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												
Volume (vph)	0	0	0	24	113	5	20	5	0	0	3	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.99		1.00	1.00			0.95	
Flpb, ped/bikes				1.00	1.00		0.89	1.00			1.00	
Frt				1.00	0.99		1.00	1.00			0.94	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	3054		1388	1637			1464	
Flt Permitted				0.95	1.00		0.75	1.00			1.00	
Satd. Flow (perm)				1555	3054		1100	1637			1464	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	0	0	0	31	147	6	26	6	0	0	4	3
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	31	151	0	26	6	0	0	7	0
Confl. Peds. (#/hr)						369	74					74
Confl. Bikes (#/hr)						16			1			
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				38.4	38.4		12.3	12.3			12.3	
Effective Green, g (s)				38.4	38.4		12.3	12.3			12.3	
Actuated g/C Ratio				0.64	0.64		0.21	0.21			0.21	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				995	1955		226	336			300	
v/s Ratio Prot				0.02	c0.05			0.00			0.00	
v/s Ratio Perm							c0.02					
v/c Ratio				0.03	0.08		0.12	0.02			0.02	
Uniform Delay, d1				4.0	4.1		19.4	19.0			19.1	
Progression Factor				1.00	1.00		1.39	1.40			1.00	
Incremental Delay, d2				0.1	0.1		1.0	0.1			0.1	
Delay (s)				4.0	4.2		28.0	26.7			19.2	
Level of Service				A	A		C	C			B	
Approach Delay (s)		0.0			4.1			27.8			19.2	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM Average Control Delay	8.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.09		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	127	36	6	65	30	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	132	38	6	68	31	4
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	291					
pX, platoon unblocked						
vC, conflicting volume			570		1031	885
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			570		1031	885
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		72	97
cM capacity (veh/h)			698		110	140

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	88	82	74	35
Volume Left	0	0	6	31
Volume Right	0	38	0	4
cSH	1700	1700	698	113
Volume to Capacity	0.05	0.05	0.01	0.31
Queue Length 95th (ft)	0	0	1	30
Control Delay (s)	0.0	0.0	0.9	50.8
Lane LOS			A	F
Approach Delay (s)	0.0		0.9	50.8
Approach LOS				F

Intersection Summary			
Average Delay	6.7		
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												
Volume (vph)	16	136	16	8	92	8	10	23	14	19	42	9
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		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.57		0.97			0.84			0.93	
Flpb, ped/bikes		0.96	1.00		0.98			0.91			0.87	
Frt		1.00	0.85		0.99			0.96			0.98	
Flt Protected		0.99	1.00		1.00			0.99			0.99	
Satd. Flow (prot)		1570	793		1337			1036			1129	
Flt Permitted		0.97	1.00		0.98			0.96			0.94	
Satd. Flow (perm)		1535	793		1318			1002			1072	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	18	156	18	9	106	9	11	26	16	22	48	10
RTOR Reduction (vph)	0	0	9	0	5	0	0	10	0	0	6	0
Lane Group Flow (vph)	0	174	9	0	119	0	0	43	0	0	74	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4			4		
Actuated Green, G (s)		29.0	29.0		29.0			22.0			22.0	
Effective Green, g (s)		29.0	29.0		29.0			22.0			22.0	
Actuated g/C Ratio		0.48	0.48		0.48			0.37			0.37	
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)		742	383		637			367			393	
v/s Ratio Prot												
v/s Ratio Perm		c0.11	0.01		0.09			0.04			c0.07	
v/c Ratio		0.23	0.02		0.19			0.12			0.19	
Uniform Delay, d1		9.0	8.1		8.8			12.6			12.9	
Progression Factor		1.00	1.00		1.00			1.00			1.15	
Incremental Delay, d2		0.7	0.1		0.7			0.6			1.1	
Delay (s)		9.8	8.2		9.5			13.2			15.9	
Level of Service		A	A		A			B			B	
Approach Delay (s)		9.6			9.5			13.2			15.9	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	11.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	77.9%	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												
Volume (vph)	0	162	12	18	131	0	8	0	11	5	2	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		1.00	1.00		0.95			1.00			1.00	
Frpb, ped/bikes		1.00	0.42		1.00			0.68			1.00	
Flpb, ped/bikes		1.00	1.00		0.95			0.87			0.61	
Frt		1.00	0.85		1.00			0.92			1.00	
Flt Protected		1.00	1.00		0.99			0.98			0.96	
Satd. Flow (prot)		1637	571		2935			867			961	
Flt Permitted		1.00	1.00		0.91			0.95			0.93	
Satd. Flow (perm)		1637	571		2686			842			926	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	0	191	14	21	154	0	9	0	13	6	2	0
RTOR Reduction (vph)	0	0	11	0	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	191	3	0	175	0	0	20	0	0	8	0
Confl. Peds. (#/hr)			400	400			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	
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)		396	138		649			512			563	
v/s Ratio Prot		c0.12										
v/s Ratio Perm			0.01		0.07			c0.02			0.01	
v/c Ratio		0.48	0.02		0.27			0.04			0.01	
Uniform Delay, d1		19.5	17.4		18.5			4.7			4.6	
Progression Factor		1.04	1.27		1.00			1.00			1.00	
Incremental Delay, d2		4.2	0.3		1.0			0.1			0.0	
Delay (s)		24.5	22.4		19.5			4.9			4.7	
Level of Service		C	C		B			A			A	
Approach Delay (s)		24.4			19.5			4.9			4.7	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM Average Control Delay	20.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.17		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	156	6	8	16	16	0	154	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		0.82		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		0.93		1.00			1.00
Flt Protected		1.00		0.98		1.00			0.97
Satd. Flow (prot)		942		1070		1637			3013
Flt Permitted		1.00		0.98		1.00			0.95
Satd. Flow (perm)		942		1070		1637			2970
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	179	7	9	18	18	0	177	100
RTOR Reduction (vph)	0	0	0	13	0	0	0	0	0
Lane Group Flow (vph)	0	179	0	21	0	18	0	0	277
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		303		314			891
v/s Ratio Prot						0.01			
v/s Ratio Perm		c0.19		0.02					0.09
v/c Ratio		0.34		0.07		0.06			0.31
Uniform Delay, d1		7.2		15.7		19.8			16.2
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		1.8		0.4		0.1			0.9
Delay (s)		9.0		16.2		19.9			17.1
Level of Service		A		B		B			B
Approach Delay (s)	9.0			16.2		19.9			17.1
Approach LOS	A			B		B			B

Intersection Summary			
HCM Average Control Delay	14.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	53.6%	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												
Volume (vph)	20	204	36	32	115	35	24	66	10	13	50	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.97			1.00	0.59	1.00	0.92			0.88	
Flpb, ped/bikes		0.98			1.00	1.00	0.51	1.00			0.92	
Frt		0.98			1.00	0.85	1.00	0.98			0.97	
Flt Protected		1.00			0.99	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1322			1417	722	791	1293			2419	
Flt Permitted		0.98			0.90	1.00	0.70	1.00			0.90	
Satd. Flow (perm)		1295			1289	722	580	1293			2185	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	22	229	40	36	129	39	27	74	11	15	56	17
RTOR Reduction (vph)	0	2	0	0	0	2	0	7	0	0	0	0
Lane Group Flow (vph)	0	289	0	0	165	37	27	78	0	0	88	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		70.3			70.3	70.3	9.6	9.6			9.6	
Effective Green, g (s)		70.3			70.3	70.3	9.6	9.6			9.6	
Actuated g/C Ratio		0.78			0.78	0.78	0.11	0.11			0.11	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		1012			1007	564	62	138			233	
v/s Ratio Prot								c0.06				
v/s Ratio Perm		c0.22			0.13	0.05	0.05				0.04	
v/c Ratio		0.29			0.16	0.07	0.44	0.56			0.38	
Uniform Delay, d1		2.8			2.5	2.3	37.7	38.2			37.4	
Progression Factor		1.00			1.00	1.00	1.46	1.48			1.00	
Incremental Delay, d2		0.7			0.3	0.2	4.8	5.2			1.0	
Delay (s)		3.5			2.8	2.5	59.7	61.9			38.4	
Level of Service		A			A	A	E	E			D	
Approach Delay (s)		3.5			2.8			61.3			38.4	
Approach LOS		A			A			E			D	

Intersection Summary			
HCM Average Control Delay	17.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	110.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Volume (vph)	17	229	31	6	123	6	9	30	29	22	24	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.97			0.99			0.74			0.81	
Flpb, ped/bikes		0.99			0.99			0.93			0.83	
Frt		0.99			0.99			0.94			0.96	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		1338			1390			925			914	
Flt Permitted		0.98			0.99			0.96			0.90	
Satd. Flow (perm)		1318			1375			898			834	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	20	269	36	7	145	7	11	35	34	26	28	24
RTOR Reduction (vph)	0	1	0	0	1	0	0	27	0	0	17	0
Lane Group Flow (vph)	0	324	0	0	158	0	0	53	0	0	61	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.6			62.6			18.6			18.6	
Effective Green, g (s)		62.6			62.6			18.6			18.6	
Actuated g/C Ratio		0.70			0.70			0.21			0.21	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		917			956			186			172	
v/s Ratio Prot												
v/s Ratio Perm		c0.25			0.11			0.06			c0.07	
v/c Ratio		0.35			0.17			0.29			0.35	
Uniform Delay, d1		5.5			4.7			30.1			30.5	
Progression Factor		1.00			1.00			1.45			1.00	
Incremental Delay, d2		1.1			0.4			3.4			5.6	
Delay (s)		6.6			5.1			47.0			36.1	
Level of Service		A			A			D			D	
Approach Delay (s)		6.6			5.1			47.0			36.1	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	14.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	16	223	30	13	92	8	11	19	82	4	22	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.96			1.00	0.66		0.59			0.86	
Flpb, ped/bikes		0.98			0.97	1.00		0.95			0.95	
Frt		0.98			1.00	0.85		0.90			0.97	
Flt Protected		1.00			0.99	1.00		1.00			0.99	
Satd. Flow (prot)		1331			1388	802		722			1136	
Flt Permitted		0.99			0.96	1.00		0.98			0.98	
Satd. Flow (perm)		1315			1339	802		711			1120	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	242	33	14	100	9	12	21	89	4	24	9
RTOR Reduction (vph)	0	5	0	0	0	3	0	64	0	0	7	0
Lane Group Flow (vph)	0	287	0	0	114	6	0	58	0	0	31	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		57.0			57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0			57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63			0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		833			848	508		198			311	
v/s Ratio Prot												
v/s Ratio Perm		c0.22			0.09	0.01		c0.08			0.03	
v/c Ratio		0.34			0.13	0.01		0.29			0.10	
Uniform Delay, d1		7.7			6.6	6.1		25.5			24.1	
Progression Factor		1.00			0.79	0.61		1.66			1.00	
Incremental Delay, d2		1.1			0.3	0.0		3.3			0.6	
Delay (s)		8.9			5.5	3.7		45.7			24.8	
Level of Service		A			A	A		D			C	
Approach Delay (s)		8.9			5.4			45.7			24.8	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM Average Control Delay	17.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	216	64	6	95	8	30	35	33	5	25	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.66		1.00	0.66		0.81			0.84	
Flpb, ped/bikes		0.97	1.00		0.99	1.00		0.85			0.95	
Frt		1.00	0.85		1.00	0.85		0.95			0.96	
Flt Protected		1.00	1.00		1.00	1.00		0.99			0.99	
Satd. Flow (prot)		1387	786		1409	786		923			1237	
Flt Permitted		0.97	1.00		0.98	1.00		0.92			0.98	
Satd. Flow (perm)		1355	786		1391	786		859			1213	
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)	26	240	71	7	106	9	33	39	37	6	28	14
RTOR Reduction (vph)	0	0	7	0	0	3	0	20	0	0	10	0
Lane Group Flow (vph)	0	266	64	0	113	6	0	89	0	0	38	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63	0.63		0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		858	498		881	498		239			337	
v/s Ratio Prot												
v/s Ratio Perm		c0.20	0.08		0.08	0.01		c0.10			0.03	
v/c Ratio		0.31	0.13		0.13	0.01		0.37			0.11	
Uniform Delay, d1		7.5	6.6		6.6	6.1		26.2			24.2	
Progression Factor		0.75	0.64		1.00	1.00		1.07			1.00	
Incremental Delay, d2		0.9	0.5		0.3	0.0		3.5			0.7	
Delay (s)		6.5	4.7		6.9	6.1		31.5			24.9	
Level of Service		A	A		A	A		C			C	
Approach Delay (s)		6.1			6.8			31.5			24.9	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	12.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations										
Volume (vph)	2	229	29	1	5	17	157	19	131	233
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				5.0		5.0		5.0	5.0
Lane Util. Factor	1.00				1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.88				0.74		0.93		1.00	1.00
Flpb, ped/bikes	1.00				0.88		1.00		1.00	1.00
Frt	0.87				0.90		0.98		1.00	1.00
Flt Protected	1.00				0.99		1.00		0.95	1.00
Satd. Flow (prot)	1246				943		2847		1555	3110
Flt Permitted	1.00				0.99		1.00		0.95	1.00
Satd. Flow (perm)	1246				943		2847		1555	3110
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	2	229	29	1	5	17	157	19	131	233
RTOR Reduction (vph)	5	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	255	0	0	0	23	0	176	0	131	233
Confl. Peds. (#/hr)				400	400	400		400		
Confl. Bikes (#/hr)		30	30			10		30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0
Turn Type				Perm					Split	
Protected Phases	4				3		6		2	2
Permitted Phases				3						
Actuated Green, G (s)	19.7				20.0		17.0		13.3	13.3
Effective Green, g (s)	19.7				20.0		17.0		13.3	13.3
Actuated g/C Ratio	0.22				0.22		0.19		0.15	0.15
Clearance Time (s)	5.0				5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	273				210		538		230	460
v/s Ratio Prot	c0.20						c0.06		c0.08	0.07
v/s Ratio Perm					0.02					
v/c Ratio	0.94				0.11		0.33		0.57	0.51
Uniform Delay, d1	34.5				27.9		31.6		35.7	35.3
Progression Factor	1.00				0.91		1.00		0.99	0.99
Incremental Delay, d2	37.2				0.2		1.6		9.8	3.9
Delay (s)	71.7				25.6		33.2		45.2	38.9
Level of Service	E				C		C		D	D
Approach Delay (s)	71.7				25.6		33.2			41.2
Approach LOS	E				C		C			D

Intersection Summary			
HCM Average Control Delay	48.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	73.7%	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												
Volume (vph)	0	1641	33	0	480	9	0	17	26	0	44	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.77			0.93	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.92			0.98	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2890			2891			1007			1306	
Flt Permitted		1.00			1.00			1.00			1.00	
Satd. Flow (perm)		2890			2891			1007			1306	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1784	36	0	522	10	0	18	28	0	48	10
RTOR Reduction (vph)	0	0	0	0	0	0	0	7	0	0	9	0
Lane Group Flow (vph)	0	1820	0	0	532	0	0	39	0	0	49	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type												
Protected Phases		2			6			8			4	
Permitted Phases												
Actuated Green, G (s)		73.2			73.2			8.0			8.0	
Effective Green, g (s)		73.2			73.2			8.0			8.0	
Actuated g/C Ratio		0.81			0.81			0.09			0.09	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2351			2351			90			116	
v/s Ratio Prot		c0.63			0.18			c0.04			0.04	
v/s Ratio Perm												
v/c Ratio		0.77			0.23			0.43			0.42	
Uniform Delay, d1		4.2			1.9			38.8			38.8	
Progression Factor		1.17			1.00			1.00			1.00	
Incremental Delay, d2		1.6			0.0			3.3			2.5	
Delay (s)		6.6			2.0			42.1			41.3	
Level of Service		A			A			D			D	
Approach Delay (s)		6.6			2.0			42.1			41.3	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	7.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	6	1376	375	25	313	21	112	73	65	0	110	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.77		1.00	0.77	1.00	1.00	0.67		0.98	
Flpb, ped/bikes		1.00	1.00		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	0.85		0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3109	1077		3098	1077	3016	1637	932		2837	
Flt Permitted		0.95	1.00		0.82	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		2966	1077		2554	1077	3016	1637	932		2837	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	6	1419	387	26	323	22	115	75	67	0	113	6
RTOR Reduction (vph)	0	0	62	0	0	7	0	0	3	0	5	0
Lane Group Flow (vph)	0	1425	325	0	349	15	115	75	64	0	115	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type	Perm		Perm	Perm		Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		61.5	61.5		61.5	61.5	6.0	19.5	19.5		9.0	
Effective Green, g (s)		61.5	61.5		61.5	61.5	6.0	19.5	19.5		9.0	
Actuated g/C Ratio		0.68	0.68		0.68	0.68	0.07	0.22	0.22		0.10	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		2027	736		1745	736	201	355	202		284	
v/s Ratio Prot							c0.04	0.05			0.04	
v/s Ratio Perm		c0.48	0.30		0.14	0.01			c0.07			
v/c Ratio		0.70	0.44		0.20	0.02	0.57	0.21	0.32		0.40	
Uniform Delay, d1		8.7	6.5		5.2	4.6	40.8	28.9	29.6		38.0	
Progression Factor		1.00	1.00		0.95	0.92	1.00	1.00	1.00		0.73	
Incremental Delay, d2		2.1	1.9		0.3	0.1	3.9	0.3	0.9		0.9	
Delay (s)		10.8	8.4		5.2	4.3	44.7	29.2	30.5		28.5	
Level of Service		B	A		A	A	D	C	C		C	
Approach Delay (s)		10.2			5.2			36.5			28.5	
Approach LOS		B			A			D			C	

Intersection Summary			
HCM Average Control Delay	13.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	120.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	45	1276	354	22	37	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	0.98		0.85	
Flpb, ped/bikes		0.99	1.00		1.00	
Frt		1.00	0.99		0.95	
Flt Protected		1.00	1.00		0.97	
Satd. Flow (prot)		2894	3028		1112	
Flt Permitted		0.92	1.00		0.97	
Satd. Flow (perm)		2681	3028		1112	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	1387	385	24	40	27
RTOR Reduction (vph)	0	0	6	0	22	0
Lane Group Flow (vph)	0	1436	403	0	45	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		65.2	65.2		17.8	
Effective Green, g (s)		65.2	65.2		17.8	
Actuated g/C Ratio		0.72	0.72		0.20	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1942	2194		220	
v/s Ratio Prot			0.13		c0.04	
v/s Ratio Perm		c0.54				
v/c Ratio		0.74	0.18		0.21	
Uniform Delay, d1		7.4	3.9		30.2	
Progression Factor		1.37	1.00		0.96	
Incremental Delay, d2		1.1	0.0		2.0	
Delay (s)		11.2	4.0		31.1	
Level of Service		B	A		C	
Approach Delay (s)		11.2	4.0		31.1	
Approach LOS		B	A		C	

Intersection Summary			
HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
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												
Volume (vph)	33	1230	31	18	378	60	29	22	58	15	40	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.96			0.81			0.91	
Flpb, ped/bikes		1.00			1.00			0.92			0.95	
Frt		1.00			0.98			0.93			0.97	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		2868			2729			979			1185	
Flt Permitted		0.93			0.88			0.91			0.94	
Satd. Flow (perm)		2676			2407			907			1124	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	35	1309	33	19	402	64	31	23	62	16	43	19
RTOR Reduction (vph)	0	2	0	0	3	0	0	12	0	0	13	0
Lane Group Flow (vph)	0	1375	0	0	482	0	0	104	0	0	65	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		60.6			60.6			20.6			20.6	
Effective Green, g (s)		60.6			60.6			20.6			20.6	
Actuated g/C Ratio		0.67			0.67			0.23			0.23	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1802			1621			208			257	
v/s Ratio Prot												
v/s Ratio Perm		c0.51			0.20			c0.12			0.06	
v/c Ratio		0.76			0.30			0.50			0.25	
Uniform Delay, d1		9.9			6.0			30.2			28.4	
Progression Factor		1.00			1.11			1.00			1.13	
Incremental Delay, d2		3.1			0.4			8.4			2.3	
Delay (s)		13.0			7.1			38.6			34.4	
Level of Service		B			A			D			C	
Approach Delay (s)		13.0			7.1			38.6			34.4	
Approach LOS		B			A			D			C	

Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	90.0%	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												
Volume (vph)	33	1313	18	26	425	51	35	20	101	33	16	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			0.97			0.77			0.82	
Flpb, ped/bikes		1.00			1.00			0.94			0.92	
Frt		1.00			0.98			0.91			0.93	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2885			2768			929			998	
Flt Permitted		0.93			0.83			0.91			0.85	
Satd. Flow (perm)		2682			2301			860			868	
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)	37	1459	20	29	472	57	39	22	112	37	18	53
RTOR Reduction (vph)	0	1	0	0	2	0	0	10	0	0	39	0
Lane Group Flow (vph)	0	1515	0	0	556	0	0	163	0	0	69	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.4			62.4			18.7			18.7	
Effective Green, g (s)		62.4			62.4			18.7			18.7	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1860			1595			179			180	
v/s Ratio Prot												
v/s Ratio Perm		c0.56			0.24			c0.19			0.08	
v/c Ratio		0.81			0.35			0.91			0.38	
Uniform Delay, d1		9.7			5.6			34.9			30.7	
Progression Factor		0.31			1.54			1.00			1.27	
Incremental Delay, d2		3.0			0.1			43.1			1.4	
Delay (s)		6.0			8.7			78.0			40.3	
Level of Service		A			A			E			D	
Approach Delay (s)		6.0			8.7			78.0			40.3	
Approach LOS		A			A			E			D	

Intersection Summary			
HCM Average Control Delay	13.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	92.8%	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												
Volume (vph)	9	1266	176	10	448	2	37	2	12	1	12	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.96			1.00			0.92			0.81	
Flpb, ped/bikes		1.00			1.00			0.75			0.99	
Frt		0.98			1.00			0.97			0.93	
Flt Protected		1.00			1.00			0.96			1.00	
Satd. Flow (prot)		2752			3098			1055			1220	
Flt Permitted		0.95			0.92			0.81			0.99	
Satd. Flow (perm)		2622			2852			887			1215	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	9	1305	181	10	462	2	38	2	12	1	12	14
RTOR Reduction (vph)	0	2	0	0	0	0	0	9	0	0	11	0
Lane Group Flow (vph)	0	1493	0	0	474	0	0	43	0	0	16	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1809			1968			190			261	
v/s Ratio Prot												
v/s Ratio Perm		c0.57			0.17			c0.05			0.01	
v/c Ratio		0.83			0.24			0.22			0.06	
Uniform Delay, d1		10.0			5.2			29.2			28.1	
Progression Factor		0.40			0.18			1.00			1.91	
Incremental Delay, d2		2.5			0.3			2.7			0.3	
Delay (s)		6.5			1.2			31.9			54.1	
Level of Service		A			A			C			D	
Approach Delay (s)		6.5			1.2			31.9			54.1	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM Average Control Delay	6.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	76.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	21	1260	465	340	376	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3037	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3037	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	23	1370	505	370	409	28
RTOR Reduction (vph)	0	59	0	0	6	0
Lane Group Flow (vph)	23	1311	505	370	431	0
Confl. Peds. (#/hr)						63
Confl. Bikes (#/hr)		22				160
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	11.0	54.1	39.1	69.0	25.9	
Effective Green, g (s)	11.0	54.1	39.1	69.0	25.9	
Actuated g/C Ratio	0.12	0.60	0.43	0.77	0.29	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	190	1472	1310	2235	874	
v/s Ratio Prot	0.01	c0.54	0.17	0.13	c0.14	
v/s Ratio Perm						
v/c Ratio	0.12	0.89	0.39	0.17	0.49	
Uniform Delay, d1	35.2	15.4	17.3	2.8	26.6	
Progression Factor	1.24	0.66	1.25	0.98	1.25	
Incremental Delay, d2	0.2	4.6	0.2	0.2	0.4	
Delay (s)	43.8	14.8	21.7	2.9	33.6	
Level of Service	D	B	C	A	C	
Approach Delay (s)	15.2			13.8	33.6	
Approach LOS	B			B	C	

Intersection Summary			
HCM Average Control Delay	17.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	78.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	132	12	10	0	1624	0	13	96	694
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			1.00			1.00	1.00
Flpb, ped/bikes				0.68			1.00			1.00	1.00
Frt				0.99			1.00			1.00	1.00
Flt Protected				0.96			1.00			0.95	1.00
Satd. Flow (prot)				1921			4458			1555	3110
Flt Permitted				0.96			1.00			0.95	1.00
Satd. Flow (perm)				1921			4458			1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	143	13	11	0	1765	0	14	104	754
RTOR Reduction (vph)	0	0	0	7	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	0	0	160	0	0	1778	0	0	104	754
Confl. Peds. (#/hr)			96	119					96		
Confl. Bikes (#/hr)					4				178		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				11.7			56.0			9.3	69.3
Effective Green, g (s)				11.7			56.0			9.3	69.3
Actuated g/C Ratio				0.13			0.62			0.10	0.77
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				250			2774			161	2395
v/s Ratio Prot							c0.40			c0.07	0.24
v/s Ratio Perm				0.08							
v/c Ratio				0.97dl			0.64			0.65	0.31
Uniform Delay, d1				37.2			10.7			38.8	3.1
Progression Factor				1.00			0.73			1.00	1.00
Incremental Delay, d2				5.5			0.2			6.5	0.3
Delay (s)				42.7			8.0			45.3	3.5
Level of Service				D			A			D	A
Approach Delay (s)	0.0			42.7			8.0				8.6
Approach LOS	A			D			A				A

Intersection Summary			
HCM Average Control Delay	10.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

Movement	EBL2	EBR	EBR2	SEL	SET	SER2	NWL2	NWT	NWR	SWR2
Lane Configurations										
Volume (vph)	9	12	175	21	1042	574	67	775	77	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		7.0	7.0	7.0	7.0	7.0		
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00	1.00	0.95		
Frpb, ped/bikes	1.00	0.93		1.00	1.00	0.96	1.00	0.95		
Flpb, ped/bikes	1.00	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	0.99		
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1555	1137		1555	3110	1336	1555	2901		
Flt Permitted	0.95	1.00		0.27	1.00	1.00	0.19	1.00		
Satd. Flow (perm)	1555	1137		436	3110	1336	314	2901		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	13	190	23	1133	624	73	842	84	0
RTOR Reduction (vph)	0	136	0	0	0	276	0	9	0	0
Lane Group Flow (vph)	10	67	0	23	1133	348	73	917	0	0
Confl. Peds. (#/hr)			38						1000	100
Confl. Bikes (#/hr)		10	10			30			30	10
Parking (#/hr)		5	5							
Turn Type	custom	custom		Perm		Perm	Perm			custom
Protected Phases					6			2		
Permitted Phases	4	4		6		6	2			8
Actuated Green, G (s)	22.5	22.5		44.0	44.0	44.0	44.0	44.0		
Effective Green, g (s)	22.5	22.5		44.0	44.0	44.0	44.0	44.0		
Actuated g/C Ratio	0.28	0.28		0.56	0.56	0.56	0.56	0.56		
Clearance Time (s)	5.5	5.5		7.0	7.0	7.0	7.0	7.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	443	324		243	1732	744	175	1616		
v/s Ratio Prot					c0.36			0.32		
v/s Ratio Perm	0.01	c0.06		0.05		0.26	0.23			
v/c Ratio	0.02	0.21		0.09	0.65	0.47	0.42	0.57		
Uniform Delay, d1	20.3	21.5		8.2	12.2	10.5	10.1	11.3		
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.0	0.3		0.8	1.9	2.1	7.2	1.4		
Delay (s)	20.4	21.8		9.0	14.1	12.6	17.3	12.8		
Level of Service	C	C		A	B	B	B	B		
Approach Delay (s)					13.5			13.1		
Approach LOS					B			B		

Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	97.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	6	0	21	0	0	0	109	913	0	0	7	989
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.74					1.00	1.00				0.97
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.90					1.00	1.00				0.99
Flt Protected		0.99					0.95	1.00				1.00
Satd. Flow (prot)		936					1555	3110				2994
Flt Permitted		0.99					0.95	1.00				0.95
Satd. Flow (perm)		936					1555	3110				2840
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)	7	0	23	0	0	0	121	1014	0	0	8	1099
RTOR Reduction (vph)	0	22	0	0	0	0	0	0	0	0	0	3
Lane Group Flow (vph)	0	8	0	0	0	0	121	1014	0	0	0	1173
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		4.8					9.0	76.2				62.2
Effective Green, g (s)		4.8					9.0	76.2				62.2
Actuated g/C Ratio		0.05					0.10	0.85				0.69
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		50					156	2633				1963
v/s Ratio Prot		c0.01					c0.08	0.33				
v/s Ratio Perm												c0.41
v/c Ratio		0.16					0.78	0.39				0.60
Uniform Delay, d1		40.7					39.5	1.6				7.3
Progression Factor		1.00					1.14	2.27				1.00
Incremental Delay, d2		1.6					20.1	0.4				1.4
Delay (s)		42.2					65.0	4.0				8.7
Level of Service		D					E	A				A
Approach Delay (s)		42.2			0.0			10.5				8.7
Approach LOS		D			A			B				A

Intersection Summary			
HCM Average Control Delay	10.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	96.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	62
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.90
Adj. Flow (vph)	69
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	229	1022	0	0	391	131	115	228	57	0	0	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				
Lane Util. Factor		0.95			0.95			0.95				
Frpb, ped/bikes		1.00			0.93			0.95				
Flpb, ped/bikes		0.98			1.00			0.91				
Frt		1.00			0.96			0.98				
Flt Protected		0.99			1.00			0.99				
Satd. Flow (prot)		2788			2578			2413				
Flt Permitted		0.72			1.00			0.99				
Satd. Flow (perm)		2020			2578			2413				
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)	234	1043	0	0	399	134	117	233	58	0	0	0
RTOR Reduction (vph)	0	0	0	0	8	0	0	17	0	0	0	0
Lane Group Flow (vph)	0	1277	0	0	525	0	0	391	0	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm					
Protected Phases		2			6			8				
Permitted Phases	2						8					
Actuated Green, G (s)		44.0			44.0			27.0				
Effective Green, g (s)		44.0			44.0			27.0				
Actuated g/C Ratio		0.55			0.55			0.34				
Clearance Time (s)		4.5			4.5			4.5				
Vehicle Extension (s)		3.0			3.0			3.0				
Lane Grp Cap (vph)		1111			1418			814				
v/s Ratio Prot					0.20							
v/s Ratio Perm		c0.63						0.16				
v/c Ratio		1.15			0.37			0.48				
Uniform Delay, d1		18.0			10.2			21.0				
Progression Factor		1.00			0.32			1.00				
Incremental Delay, d2		78.0			0.7			2.0				
Delay (s)		96.0			3.9			23.0				
Level of Service		F			A			C				
Approach Delay (s)		96.0			3.9			23.0			0.0	
Approach LOS		F			A			C			A	

Intersection Summary			
HCM Average Control Delay	60.4	HCM Level of Service	E
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	103.4%	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												
Volume (vph)	0	615	464	22	437	0	0	0	0	59	601	83
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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.86			1.00						0.97	
Flpb, ped/bikes		1.00			1.00						0.98	
Frt		0.94			1.00						0.98	
Flt Protected		1.00			1.00						1.00	
Satd. Flow (prot)		2503			3095						2712	
Flt Permitted		1.00			0.85						1.00	
Satd. Flow (perm)		2503			2636						2712	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	634	478	23	451	0	0	0	0	61	620	86
RTOR Reduction (vph)	0	10	0	0	0	0	0	0	0	0	12	0
Lane Group Flow (vph)	0	1102	0	0	474	0	0	0	0	0	755	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		34.0			34.0						37.0	
Effective Green, g (s)		34.0			34.0						37.0	
Actuated g/C Ratio		0.42			0.42						0.46	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		1064			1120						1254	
v/s Ratio Prot		c0.44										
v/s Ratio Perm					0.18						0.28	
v/c Ratio		1.04			0.42						0.60	
Uniform Delay, d1		23.0			16.1						16.0	
Progression Factor		0.87			1.00						1.00	
Incremental Delay, d2		19.8			0.3						2.1	
Delay (s)		39.9			16.4						18.2	
Level of Service		D			B						B	
Approach Delay (s)		39.9			16.4			0.0			18.2	
Approach LOS		D			B			A			B	

Intersection Summary			
HCM Average Control Delay	28.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	77.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	53	417	549	972	0	987	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.66	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		1.00	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	916	3016	3110		3073	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	916	3016	3110		3073	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	53	417	549	972	0	987	25
RTOR Reduction (vph)	0	355	0	0	0	2	0
Lane Group Flow (vph)	53	62	549	972	0	1010	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	13.4	13.4	22.1	65.6		37.5	
Effective Green, g (s)	13.4	13.4	22.1	65.6		37.5	
Actuated g/C Ratio	0.15	0.15	0.25	0.73		0.42	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	232	136	741	2267		1280	
v/s Ratio Prot	0.03		c0.18	0.31		c0.33	
v/s Ratio Perm		c0.07					
v/c Ratio	0.23	0.46	0.74	0.43		0.79	
Uniform Delay, d1	33.7	35.0	31.3	4.8		22.8	
Progression Factor	1.00	1.00	1.00	1.00		1.30	
Incremental Delay, d2	0.5	2.4	4.0	0.6		4.2	
Delay (s)	34.3	37.4	35.3	5.4		33.8	
Level of Service	C	D	D	A		C	
Approach Delay (s)	37.0			16.2		33.8	
Approach LOS	D			B		C	

Intersection Summary			
HCM Average Control Delay	25.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	101.0%	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												
Volume (vph)	5	151	10	20	100	5	10	10	22	10	5	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
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.59		1.00	0.75		0.83			1.00	0.45
Flpb, ped/bikes		0.99	1.00		0.95	1.00		0.88			0.80	1.00
Frt		1.00	0.85		1.00	0.85		0.93			1.00	0.85
Flt Protected		1.00	1.00		0.99	1.00		0.99			0.97	1.00
Satd. Flow (prot)		1624	823		1539	1050		1097			1265	629
Flt Permitted		1.00	1.00		0.96	1.00		0.91			0.77	1.00
Satd. Flow (perm)		1620	823		1484	1050		1012			1003	629
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	161	11	21	106	5	11	11	23	11	5	5
RTOR Reduction (vph)	0	0	3	0	0	1	0	21	0	0	0	5
Lane Group Flow (vph)	0	166	8	0	127	4	0	24	0	0	16	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		46.0	46.0		46.0	46.0		5.0			5.0	5.0
Effective Green, g (s)		46.0	46.0		46.0	46.0		5.0			5.0	5.0
Actuated g/C Ratio		0.77	0.77		0.77	0.77		0.08			0.08	0.08
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)		1242	631		1138	805		84			84	52
v/s Ratio Prot												
v/s Ratio Perm		c0.10	0.01		0.09	0.00		c0.02			0.02	0.00
v/c Ratio		0.13	0.01		0.11	0.00		0.28			0.19	0.01
Uniform Delay, d1		1.8	1.7		1.8	1.6		25.8			25.6	25.2
Progression Factor		1.00	1.00		1.31	0.86		1.00			1.21	1.48
Incremental Delay, d2		0.0	0.0		0.2	0.0		1.9			1.1	0.1
Delay (s)		1.9	1.7		2.5	1.4		27.7			32.1	37.3
Level of Service		A	A		A	A		C			C	D
Approach Delay (s)		1.9			2.5			27.7			33.3	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	6.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.15		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	458	9	871	407	56	54	53	14	17	8	291	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.34		0.67	1.00	0.95			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.81	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	558	3110	478		947	1555	1328			1254	1175
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.99	1.00
Satd. Flow (perm)	3110	558	3110	478		947	1555	1328			1300	1175
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)	482	9	917	428	59	57	56	15	18	8	306	34
RTOR Reduction (vph)	0	4	0	181	0	33	0	13	0	0	0	24
Lane Group Flow (vph)	482	5	917	306	0	24	56	20	0	0	314	10
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Effective Green, g (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Actuated g/C Ratio	0.55	0.55	0.55	0.55		0.29	0.29	0.29			0.29	0.29
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1700	305	1700	261		278	456	390			381	345
v/s Ratio Prot	0.16		0.29									
v/s Ratio Perm		0.01		c0.64		0.03	0.04	0.02			c0.24	0.01
v/c Ratio	0.28	0.02	0.54	1.17		0.09	0.12	0.05			0.82	0.03
Uniform Delay, d1	9.1	7.8	10.9	17.0		19.2	19.4	19.0			24.7	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	0.4	0.1	1.2	110.0		0.6	0.6	0.3			18.0	0.2
Delay (s)	9.5	7.9	12.2	127.0		19.8	20.0	19.3			42.7	19.0
Level of Service	A	A	B	F		B	B	B			D	B
Approach Delay (s)	9.5		52.0								40.4	
Approach LOS	A		D								D	

Intersection Summary			
HCM Average Control Delay	39.6	HCM Level of Service	D
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.7%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	507	69	32	1134	79	37
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	545	74	34	1219	85	40

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	363	256	441	813	125
Volume Left (vph)	0	0	34	0	85
Volume Right (vph)	0	74	0	0	40
Hadj (s)	0.02	-0.19	0.06	0.02	-0.04
Departure Headway (s)	6.3	6.1	5.8	5.8	6.6
Degree Utilization, x	0.63	0.43	0.71	1.30	0.23
Capacity (veh/h)	561	580	610	634	526
Control Delay (s)	18.3	12.4	20.7	166.0	11.6
Approach Delay (s)	15.9		114.9		11.6
Approach LOS	C		F		B

Intersection Summary			
Delay	77.8		
HCM Level of Service	F		
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT
Lane Configurations												
Volume (vph)	7	407	102	23	1	6	1018	19	11	11	6	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4					5.4		4.0			5.0
Lane Util. Factor		0.95					0.95		1.00			1.00
Frpb, ped/bikes		0.87					0.99		0.78			1.00
Flpb, ped/bikes		1.00					1.00		1.00			1.00
Frt		0.97					1.00		0.86			1.00
Flt Protected		1.00					1.00		1.00			0.98
Satd. Flow (prot)		2437					3073		1106			1598
Flt Permitted		0.94					0.95		1.00			0.98
Satd. Flow (perm)		2288					2923		1106			1598
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	8	442	111	25	1	7	1107	21	12	12	7	20
RTOR Reduction (vph)	0	4	0	0	0	0	2	0	0	0	0	0
Lane Group Flow (vph)	0	582	0	0	0	0	1134	0	12	0	0	39
Confl. Peds. (#/hr)	400		400	400	400	400		400	400	400	400	
Confl. Bikes (#/hr)			30	30				30	10			
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm	Perm			Free	Split	Split	
Protected Phases		2					6			4	4	4
Permitted Phases	2				6	6			Free			
Actuated Green, G (s)		41.6					41.6		75.0			9.0
Effective Green, g (s)		41.6					41.6		75.0			9.0
Actuated g/C Ratio		0.55					0.55		1.00			0.12
Clearance Time (s)		5.4					5.4					5.0
Lane Grp Cap (vph)		1269					1621		1106			192
v/s Ratio Prot												0.02
v/s Ratio Perm		0.25					c0.39		0.01			
v/c Ratio		0.46					0.70		0.01			0.20
Uniform Delay, d1		10.0					12.2		0.0			29.8
Progression Factor		1.00					0.23		1.00			1.00
Incremental Delay, d2		1.2					1.9		0.0			2.4
Delay (s)		11.2					4.7		0.0			32.1
Level of Service		B					A		A			C
Approach Delay (s)		11.2					4.7					40.4
Approach LOS		B					A					D

Intersection Summary			
HCM Average Control Delay	10.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR	NWL	NWR	NWR2
Lane Configurations				
Volume (vph)	46	107	9	7
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0
Lane Util. Factor	1.00	0.97		1.00
Frpb, ped/bikes	0.55	0.94		0.55
Flpb, ped/bikes	1.00	1.00		1.00
Frt	0.85	0.99		0.85
Flt Protected	1.00	0.96		1.00
Satd. Flow (prot)	768	2821		768
Flt Permitted	1.00	0.96		1.00
Satd. Flow (perm)	768	2821		768
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	50	116	10	8
RTOR Reduction (vph)	7	0	0	7
Lane Group Flow (vph)	43	126	0	1
Confl. Peds. (#/hr)	400	400	400	400
Confl. Bikes (#/hr)	10		10	10
Parking (#/hr)				
Turn Type	Perm			Perm
Protected Phases		8		
Permitted Phases	4			8
Actuated Green, G (s)	9.0	9.0		9.0
Effective Green, g (s)	9.0	9.0		9.0
Actuated g/C Ratio	0.12	0.12		0.12
Clearance Time (s)	5.0	5.0		5.0
Lane Grp Cap (vph)	92	339		92
v/s Ratio Prot		c0.04		
v/s Ratio Perm	c0.06			0.00
v/c Ratio	0.47	0.37		0.01
Uniform Delay, d1	30.8	30.4		29.1
Progression Factor	1.00	1.00		1.00
Incremental Delay, d2	16.1	3.1		0.2
Delay (s)	46.8	33.5		29.3
Level of Service	D	C		C
Approach Delay (s)		33.3		
Approach LOS		C		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	392	36	22	1033	31	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.97			1.00	0.86	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.99			1.00	0.94	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2790			3095	1291	
Flt Permitted	1.00			0.94	0.97	
Satd. Flow (perm)	2790			2915	1291	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	431	40	24	1135	34	25
RTOR Reduction (vph)	9	0	0	0	18	0
Lane Group Flow (vph)	462	0	0	1159	42	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1674			1749	387	
v/s Ratio Prot	0.17				c0.03	
v/s Ratio Perm				c0.40		
v/c Ratio	0.28			0.66	0.11	
Uniform Delay, d1	7.2			10.0	19.0	
Progression Factor	0.88			1.00	1.00	
Incremental Delay, d2	0.4			2.0	0.6	
Delay (s)	6.7			12.0	19.5	
Level of Service	A			B	B	
Approach Delay (s)	6.7			12.0	19.5	
Approach LOS	A			B	B	

Intersection Summary			
HCM Average Control Delay	10.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	74.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	399	14	7	1029	5	4
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	438	15	8	1131	5	4

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	292	162	385	754	10
Volume Left (vph)	0	0	8	0	5
Volume Right (vph)	0	15	0	0	4
Hadj (s)	0.02	-0.05	0.03	0.02	-0.14
Departure Headway (s)	5.7	5.6	5.0	5.0	6.3
Degree Utilization, x	0.46	0.25	0.53	1.04	0.02
Capacity (veh/h)	620	629	706	725	547
Control Delay (s)	12.2	9.2	12.4	66.3	9.4
Approach Delay (s)	11.1		48.1		9.4
Approach LOS	B		E		A

Intersection Summary			
Delay	37.4		
HCM Level of Service	E		
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	425	39	1	1007	65	49	23	27	72	36	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frpb, ped/bikes		0.95			1.00	0.66		0.91		1.00	0.98	
Flpb, ped/bikes		1.00			1.00	1.00		0.85		0.72	0.91	
Frt		0.99			1.00	0.85		0.96		1.00	0.99	
Flt Protected		1.00			1.00	1.00		0.98		0.95	0.98	
Satd. Flow (prot)		2736			3110	808		1033		1066	1359	
Flt Permitted		0.89			1.00	1.00		0.83		0.72	0.90	
Satd. Flow (perm)		2444			3110	808		883		806	1247	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	21	443	41	1	1049	68	51	24	28	75	38	2
RTOR Reduction (vph)	0	0	0	0	0	4	0	15	0	0	0	0
Lane Group Flow (vph)	0	506	0	0	1049	64	0	88	0	56	59	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10	10		10			10			10
Parking (#/hr)		5	5	5		5	5	5	5			
Turn Type	Perm					Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2				6	6	8			4		
Actuated Green, G (s)		56.5			56.5	56.5		22.5		22.5	22.5	
Effective Green, g (s)		56.5			56.5	56.5		22.5		22.5	22.5	
Actuated g/C Ratio		0.63			0.63	0.63		0.25		0.25	0.25	
Clearance Time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		1534			1952	507		221		202	312	
v/s Ratio Prot					c0.34							
v/s Ratio Perm		0.21				0.08		c0.10		0.07	0.05	
v/c Ratio		0.33			0.54	0.13		0.40		0.28	0.19	
Uniform Delay, d1		7.9			9.4	6.8		28.1		27.2	26.6	
Progression Factor		1.00			1.09	1.29		1.00		1.00	1.00	
Incremental Delay, d2		0.6			1.0	0.5		5.3		0.8	0.3	
Delay (s)		8.4			11.3	9.2		33.4		27.9	26.9	
Level of Service		A			B	A		C		C	C	
Approach Delay (s)		8.4			11.1			33.4			27.1	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM Average Control Delay	12.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR2	NER2
Lane Configurations		
Volume (vph)	28	25
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.5	4.0
Lane Util. Factor	1.00	1.00
Frpb, ped/bikes	0.65	0.78
Flpb, ped/bikes	1.00	1.00
Frt	0.85	0.86
Flt Protected	1.00	1.00
Satd. Flow (prot)	911	967
Flt Permitted	1.00	1.00
Satd. Flow (perm)	911	967
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	29	26
RTOR Reduction (vph)	15	0
Lane Group Flow (vph)	14	26
Confl. Peds. (#/hr)	400	400
Confl. Bikes (#/hr)	10	10
Parking (#/hr)		5
Turn Type	Perm	Free
Protected Phases		
Permitted Phases	4	Free
Actuated Green, G (s)	22.5	90.0
Effective Green, g (s)	22.5	90.0
Actuated g/C Ratio	0.25	1.00
Clearance Time (s)	5.5	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	228	967
v/s Ratio Prot		
v/s Ratio Perm	0.02	0.03
v/c Ratio	0.06	0.03
Uniform Delay, d1	25.7	0.0
Progression Factor	1.00	1.00
Incremental Delay, d2	0.1	0.1
Delay (s)	25.8	0.1
Level of Service	C	A
Approach Delay (s)		
Approach LOS		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	421	0	0	1064	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	468	0	0	1182	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	468	0	0	1182	0
Confl. Peds. (#/hr)						
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		76.0			76.0	
Effective Green, g (s)		76.0			76.0	
Actuated g/C Ratio		0.84			0.84	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		2067			2547	
v/s Ratio Prot		0.19			c0.39	
v/s Ratio Perm						
v/c Ratio		0.23			0.46	
Uniform Delay, d1		1.3			1.8	
Progression Factor		1.15			1.75	
Incremental Delay, d2		0.2			0.4	
Delay (s)		1.8			3.5	
Level of Service		A			A	
Approach Delay (s)	1.8			0.0	3.5	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	3.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	54.2%	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												
Volume (vph)	10	187	50	149	364	28	70	114	77	13	88	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.87		1.00	0.95			1.00	0.62		1.00	0.36
Flpb, ped/bikes		0.99		0.57	1.00			0.80	1.00		0.97	1.00
Frt		0.97		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.99	1.00
Satd. Flow (prot)		2592		892	1352			1087	844		1572	507
Flt Permitted		0.93		0.58	1.00			0.86	1.00		0.96	1.00
Satd. Flow (perm)		2428		547	1352			948	844		1522	507
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)	11	208	56	166	404	31	78	127	86	14	98	46
RTOR Reduction (vph)	0	24	0	0	4	0	0	0	41	0	0	24
Lane Group Flow (vph)	0	251	0	166	431	0	0	205	45	0	112	22
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		36.4		36.4	36.4			43.6	43.6		43.6	43.6
Effective Green, g (s)		36.4		36.4	36.4			43.6	43.6		43.6	43.6
Actuated g/C Ratio		0.40		0.40	0.40			0.48	0.48		0.48	0.48
Clearance Time (s)		5.5		5.5	5.5			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)		982		221	547			459	409		737	246
v/s Ratio Prot					c0.32							
v/s Ratio Perm		0.10		0.30				c0.22	0.05		0.07	0.04
v/c Ratio		0.26		0.75	0.79			0.45	0.11		0.15	0.09
Uniform Delay, d1		17.8		22.9	23.4			15.3	12.6		12.9	12.5
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		0.1		13.4	7.4			3.1	0.5		0.4	0.7
Delay (s)		17.9		36.3	30.9			18.4	13.2		13.3	13.2
Level of Service		B		D	C			B	B		B	B
Approach Delay (s)		17.9			32.4			16.9			13.3	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	23.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
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												
Volume (vph)	0	210	104	19	348	1209	173	0	34	530	151	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.96			1.00	0.96		1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		0.98		1.00	1.00	
Frt		0.95			1.00	0.85		0.98		1.00	0.99	
Flt Protected		1.00			1.00	1.00		0.96		0.95	0.97	
Satd. Flow (prot)		2650			1628	2362		1312		1477	1503	
Flt Permitted		1.00			0.97	1.00		0.53		0.84	0.91	
Satd. Flow (perm)		2650			1589	2362		729		1302	1398	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	219	108	20	362	1259	180	0	35	552	157	14
RTOR Reduction (vph)	0	68	0	0	0	0	0	8	0	0	2	0
Lane Group Flow (vph)	0	259	0	0	382	1259	0	207	0	359	362	0
Confl. Peds. (#/hr)			50	50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		28.0			28.0	65.5		17.5		34.0	34.0	
Effective Green, g (s)		28.0			28.0	65.5		17.5		34.0	34.0	
Actuated g/C Ratio		0.31			0.31	0.73		0.19		0.38	0.38	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		824			494	1719		142		492	528	
v/s Ratio Prot		0.10										
v/s Ratio Perm					c0.24	c0.53		c0.28		0.28	0.26	
v/c Ratio		0.31			0.77	0.73		1.46		0.73	0.69	
Uniform Delay, d1		23.7			28.1	7.1		36.2		24.1	23.5	
Progression Factor		1.00			1.00	1.00		1.00		0.94	0.95	
Incremental Delay, d2		1.0			11.2	2.8		240.4		9.2	7.1	
Delay (s)		24.7			39.3	9.9		276.6		31.9	29.3	
Level of Service		C			D	A		F		C	C	
Approach Delay (s)		24.7			16.8			276.6			30.6	
Approach LOS		C			B			F			C	

Intersection Summary			
HCM Average Control Delay	40.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	90.5%	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												
Volume (vph)	21	558	15	82	1585	17	174	29	105	25	35	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5			3.5			3.5	3.5
Lane Util. Factor		0.95			0.91			0.95			1.00	1.00
Frpb, ped/bikes		0.99			1.00			0.87			1.00	0.62
Flpb, ped/bikes		1.00			0.99			0.81			0.92	1.00
Frt		1.00			1.00			0.95			1.00	0.85
Flt Protected		1.00			1.00			0.97			0.98	1.00
Satd. Flow (prot)		3060			4404			1887			1468	858
Flt Permitted		0.84			0.86			0.77			0.80	1.00
Satd. Flow (perm)		2576			3780			1499			1203	858
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)	23	620	17	91	1761	19	193	32	117	28	39	47
RTOR Reduction (vph)	0	1	0	0	1	0	0	62	0	0	0	6
Lane Group Flow (vph)	0	659	0	0	1870	0	0	280	0	0	67	41
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		62.5			62.5			20.5			20.5	20.5
Effective Green, g (s)		62.5			62.5			20.5			20.5	20.5
Actuated g/C Ratio		0.69			0.69			0.23			0.23	0.23
Clearance Time (s)		3.5			3.5			3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		1789			2625			341			274	195
v/s Ratio Prot												
v/s Ratio Perm		0.26			c0.49			c0.19			0.06	0.05
v/c Ratio		0.37			0.71			0.82			0.24	0.21
Uniform Delay, d1		5.6			8.3			33.0			28.4	28.2
Progression Factor		1.00			0.52			1.00			1.00	1.00
Incremental Delay, d2		0.1			0.9			19.6			2.1	2.4
Delay (s)		5.8			5.2			52.6			30.5	30.6
Level of Service		A			A			D			C	C
Approach Delay (s)		5.8			5.2			52.6			30.6	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM Average Control Delay	11.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	91.8%	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												
Volume (vph)	9	582	114	1	1283	21	73	173	123	5	330	191
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.91		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.80		1.00		1.00	0.86			0.88	
Flpb, ped/bikes		1.00	1.00		1.00		0.85	1.00			1.00	
Frt		1.00	0.85		1.00		1.00	0.94			0.95	
Flt Protected		1.00	1.00		1.00		0.95	1.00			1.00	
Satd. Flow (prot)		3106	973		4443		1317	3594			3691	
Flt Permitted		0.93	1.00		0.94		0.42	1.00			0.94	
Satd. Flow (perm)		2887	973		4175		588	3594			3461	
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)	9	594	116	1	1309	21	74	177	126	5	337	195
RTOR Reduction (vph)	0	0	1	0	3	0	0	34	0	0	6	0
Lane Group Flow (vph)	0	603	115	0	1328	0	74	269	0	0	531	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		42.9	42.9		42.9		37.1	37.1			37.1	
Effective Green, g (s)		42.9	42.9		42.9		37.1	37.1			37.1	
Actuated g/C Ratio		0.48	0.48		0.48		0.41	0.41			0.41	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1376	464		1990		242	1482			1427	
v/s Ratio Prot								0.07				
v/s Ratio Perm		0.21	0.12		c0.32		0.13				c0.15	
v/c Ratio		0.44	0.25		0.67		0.31	0.18			0.37	
Uniform Delay, d1		15.6	14.0		18.1		17.8	16.8			18.4	
Progression Factor		0.79	0.80		1.52		1.00	1.00			1.00	
Incremental Delay, d2		0.2	0.3		0.8		3.2	0.3			0.7	
Delay (s)		12.5	11.4		28.3		21.0	17.1			19.1	
Level of Service		B	B		C		C	B			B	
Approach Delay (s)		12.3			28.3			17.9			19.1	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	21.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1328	172	0	1978	120	179	153	27	67	140	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.96			0.98		1.00	0.95		1.00	0.94	
Flpb, ped/bikes		1.00			1.00		0.76	1.00		0.76	1.00	
Frt		0.98			0.99		1.00	0.98		1.00	0.97	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4208			4157		1178	1520		1182	1300	
Flt Permitted		1.00			1.00		0.61	1.00		0.60	1.00	
Satd. Flow (perm)		4208			4157		760	1520		752	1300	
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)	0	1355	176	0	2018	122	183	156	28	68	143	35
RTOR Reduction (vph)	0	7	0	0	6	0	0	4	0	0	1	0
Lane Group Flow (vph)	0	1524	0	0	2134	0	183	180	0	68	177	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2431			2402		232	464		230	397	
v/s Ratio Prot		0.36			c0.51			0.12			0.14	
v/s Ratio Perm							c0.24			0.09		
v/c Ratio		0.63			0.89		0.79	0.39		0.30	0.45	
Uniform Delay, d1		12.6			16.5		28.6	24.6		23.9	25.1	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.2			5.4		23.3	2.4		3.3	3.6	
Delay (s)		13.8			21.9		51.9	27.1		27.1	28.7	
Level of Service		B			C		D	C		C	C	
Approach Delay (s)		13.8			21.9			39.4			28.3	
Approach LOS		B			C			D			C	

Intersection Summary			
HCM Average Control Delay	20.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	93.2%	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												
Volume (vph)	0	1072	65	0	1905	65	47	126	36	14	199	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			0.95	
Frpb, ped/bikes		0.99			0.99		1.00	0.93			0.93	
Flpb, ped/bikes		1.00			1.00		0.79	1.00			0.99	
Frt		0.99			1.00		1.00	0.97			0.97	
Flt Protected		1.00			1.00		0.95	1.00			1.00	
Satd. Flow (prot)		4376			4394		1221	1466			2769	
Flt Permitted		1.00			1.00		0.57	1.00			0.94	
Satd. Flow (perm)		4376			4394		729	1466			2602	
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	1128	68	0	2005	68	49	133	38	15	209	57
RTOR Reduction (vph)	0	4	0	0	4	0	0	9	0	0	1	0
Lane Group Flow (vph)	0	1192	0	0	2069	0	49	162	0	0	280	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2592			2602		218	438			778	
v/s Ratio Prot		0.27			c0.47			c0.11				
v/s Ratio Perm							0.07				0.11	
v/c Ratio		0.46			0.80		0.22	0.37			0.36	
Uniform Delay, d1		10.3			14.1		23.7	24.9			24.8	
Progression Factor		1.00			0.32		1.00	1.00			1.00	
Incremental Delay, d2		0.6			1.5		2.4	2.4			1.3	
Delay (s)		10.9			6.0		26.1	27.3			26.1	
Level of Service		B			A		C	C			C	
Approach Delay (s)		10.9			6.0			27.0			26.1	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	96.0%	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												
Volume (vph)	0	1236	58	0	1864	54	34	94	20	27	158	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.98			0.99			0.96			0.94	
Flpb, ped/bikes		1.00			1.00			0.96			0.97	
Frt		0.99			1.00			0.98			0.97	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		4186			4221			1269			1265	
Flt Permitted		1.00			1.00			0.90			0.95	
Satd. Flow (perm)		4186			4221			1153			1212	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1343	63	0	2026	59	37	102	22	29	172	47
RTOR Reduction (vph)	0	5	0	0	3	0	0	6	0	0	1	0
Lane Group Flow (vph)	0	1401	0	0	2082	0	0	155	0	0	247	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2512			2533			346			364	
v/s Ratio Prot		0.33			c0.49							
v/s Ratio Perm								0.13			c0.20	
v/c Ratio		0.56			0.82			0.45			0.68	
Uniform Delay, d1		10.8			14.2			25.5			27.7	
Progression Factor		1.38			1.00			1.00			1.00	
Incremental Delay, d2		0.8			3.2			4.2			9.8	
Delay (s)		15.8			17.4			29.7			37.5	
Level of Service		B			B			C			D	
Approach Delay (s)		15.8			17.4			29.7			37.5	
Approach LOS		B			B			C			D	

Intersection Summary			
HCM Average Control Delay	18.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	75.0%	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		↑↑↑			↑↑↑		↰	↕				↱
Volume (vph)	0	1038	0	0	1023	43	814	418	33	0	0	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.99		1.00	0.99				0.97
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.98				1.00
Satd. Flow (prot)		4282			4382		1415	2685				1367
Flt Permitted		1.00			1.00		0.95	0.98				1.00
Satd. Flow (perm)		4282			4382		1415	2685				1367
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1116	0	0	1100	46	875	449	35	0	0	52
RTOR Reduction (vph)	0	0	0	0	5	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	1116	0	0	1141	0	446	910	0	0	0	52
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		38.0			26.0		42.0	42.0				9.0
Effective Green, g (s)		38.0			26.0		42.0	42.0				9.0
Actuated g/C Ratio		0.42			0.29		0.47	0.47				0.10
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		1808			1266		660	1253				137
v/s Ratio Prot		c0.26			c0.26							
v/s Ratio Perm							0.32	0.34				0.04
v/c Ratio		0.62			0.90		0.68	0.73				0.38
Uniform Delay, d1		20.3			30.8		18.7	19.4				37.9
Progression Factor		1.00			0.68		1.00	1.00				1.00
Incremental Delay, d2		1.6			6.5		5.5	3.7				7.8
Delay (s)		21.9			27.4		24.2	23.1				45.7
Level of Service		C			C		C	C				D
Approach Delay (s)		21.9			27.4			23.4			45.7	
Approach LOS		C			C			C			D	

Intersection Summary			
HCM Average Control Delay	24.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	73.4%	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												
Volume (vph)	115	112	854	0	92	9	1021	228	34	0	443	99
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		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.97		1.00	0.96			1.00	0.67
Flpb, ped/bikes		0.86	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.99		1.00	0.98			1.00	0.85
Flt Protected		0.98	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1372	2448		1332		4385	1341			3110	815
Flt Permitted		0.78	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		1103	2448		1332		4385	1341			3110	815
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	124	120	918	0	99	10	1098	245	37	0	476	106
RTOR Reduction (vph)	0	0	2	0	4	0	0	6	0	0	0	6
Lane Group Flow (vph)	0	244	916	0	105	0	1098	276	0	0	476	100
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		26.5	55.5		26.5		25.5	55.5			26.5	26.5
Effective Green, g (s)		26.5	52.0		26.5		25.5	55.5			26.5	26.5
Actuated g/C Ratio		0.29	0.58		0.29		0.28	0.62			0.29	0.29
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		325	1414		392		1242	827			916	240
v/s Ratio Prot			0.37		0.08		c0.25	0.21			c0.15	
v/s Ratio Perm		c0.22										0.12
v/c Ratio		0.75	0.65		0.27		0.88	0.33			0.52	0.42
Uniform Delay, d1		28.8	12.8		24.3		30.8	8.3			26.4	25.5
Progression Factor		0.94	0.56		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		7.5	0.8		0.4		9.4	1.1			2.1	5.2
Delay (s)		34.7	8.0		24.7		40.2	9.4			28.6	30.7
Level of Service		C	A		C		D	A			C	C
Approach Delay (s)		13.6			24.7			33.9			29.0	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM Average Control Delay	25.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	76.2%	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												
Volume (vph)	0	0	0	63	207	40	29	36	0	0	46	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.29		1.00			0.90	
Flpb, ped/bikes					0.85	1.00		0.87			1.00	
Frt					1.00	0.85		1.00			0.96	
Flt Protected					0.99	1.00		0.98			1.00	
Satd. Flow (prot)					2450	398		1392			1419	
Flt Permitted					0.99	1.00		0.88			1.00	
Satd. Flow (perm)					2450	398		1258			1419	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	0	72	238	46	33	41	0	0	53	22
RTOR Reduction (vph)	0	0	0	0	0	26	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	310	20	0	74	0	0	75	0
Confl. Peds. (#/hr)				945		1084	569					569
Confl. Bikes (#/hr)						76			2			4
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					32.0	32.0		33.0			33.0	
Effective Green, g (s)					32.0	32.0		33.0			33.0	
Actuated g/C Ratio					0.43	0.43		0.44			0.44	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1045	170		554			624	
v/s Ratio Prot											0.05	
v/s Ratio Perm					0.13	0.05		c0.06				
v/c Ratio					0.30	0.12		0.13			0.12	
Uniform Delay, d1					14.1	13.0		12.5			12.4	
Progression Factor					1.00	1.00		0.85			1.00	
Incremental Delay, d2					0.7	1.4		0.5			0.4	
Delay (s)					14.8	14.3		11.1			12.8	
Level of Service					B	B		B			B	
Approach Delay (s)		0.0			14.8			11.1			12.8	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	57.5%	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												
Volume (vph)	0	0	0	99	242	25	32	25	0	0	40	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.94		1.00	1.00			0.92	
Flpb, ped/bikes				1.00	1.00		0.66	1.00			1.00	
Frt				1.00	0.99		1.00	1.00			0.97	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	2869		1020	1637			1473	
Flt Permitted				0.95	1.00		0.72	1.00			1.00	
Satd. Flow (perm)				1555	2869		773	1637			1473	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	0	111	272	28	36	28	0	0	45	11
RTOR Reduction (vph)	0	0	0	0	6	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	111	294	0	36	28	0	0	56	0
Confl. Peds. (#/hr)						1700	537					569
Confl. Bikes (#/hr)						76			2			4
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				47.4	47.4		18.3	18.3			18.3	
Effective Green, g (s)				47.4	47.4		18.3	18.3			18.3	
Actuated g/C Ratio				0.63	0.63		0.24	0.24			0.24	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				983	1813		189	399			359	
v/s Ratio Prot				0.07	c0.10			0.02			0.04	
v/s Ratio Perm							c0.05					
v/c Ratio				0.11	0.16		0.19	0.07			0.16	
Uniform Delay, d1				5.5	5.7		22.5	21.8			22.3	
Progression Factor				1.00	1.00		1.16	1.15			1.00	
Incremental Delay, d2				0.2	0.2		2.2	0.3			0.9	
Delay (s)				5.7	5.9		28.2	25.4			23.2	
Level of Service				A	A		C	C			C	
Approach Delay (s)		0.0			5.8			27.0			23.2	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	10.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.17		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	157	92	9	77	18	8
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	167	98	10	82	19	9
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	306					
pX, platoon unblocked						
vC, conflicting volume			665		1117	932
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			665		1117	932
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		80	93
cM capacity (veh/h)			644		96	130

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	111	154	91	28
Volume Left	0	0	10	19
Volume Right	0	98	0	9
cSH	1700	1700	644	105
Volume to Capacity	0.07	0.09	0.01	0.26
Queue Length 95th (ft)	0	0	1	24
Control Delay (s)	0.0	0.0	1.3	51.3
Lane LOS			A	F
Approach Delay (s)	0.0		1.3	51.3
Approach LOS				F

Intersection Summary			
Average Delay	4.0		
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												
Volume (vph)	20	151	14	23	85	7	12	46	10	26	56	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	
Lane Util. Factor		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.44		0.97			0.92			0.94	
Flpb, ped/bikes		0.95	1.00		0.92			0.92			0.87	
Frt		1.00	0.85		0.99			0.98			0.99	
Flt Protected		0.99	1.00		0.99			0.99			0.99	
Satd. Flow (prot)		1539	609		1247			1184			1138	
Flt Permitted		0.96	1.00		0.93			0.96			0.92	
Satd. Flow (perm)		1494	609		1172			1142			1061	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	24	178	16	27	100	8	14	54	12	31	66	12
RTOR Reduction (vph)	0	0	7	0	3	0	0	7	0	0	6	0
Lane Group Flow (vph)	0	202	9	0	132	0	0	73	0	0	103	0
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4			4		
Actuated Green, G (s)		40.0	40.0		40.0			26.0			26.0	
Effective Green, g (s)		40.0	40.0		40.0			26.0			26.0	
Actuated g/C Ratio		0.53	0.53		0.53			0.35			0.35	
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)		797	325		625			396			368	
v/s Ratio Prot												
v/s Ratio Perm		c0.14	0.01		0.11			0.06			c0.10	
v/c Ratio		0.25	0.03		0.21			0.18			0.28	
Uniform Delay, d1		9.4	8.3		9.2			17.1			17.7	
Progression Factor		1.00	1.00		1.00			1.00			0.91	
Incremental Delay, d2		0.8	0.1		0.8			1.0			1.9	
Delay (s)		10.2	8.4		10.0			18.1			18.0	
Level of Service		B	A		A			B			B	
Approach Delay (s)		10.1			10.0			18.1			18.0	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM Average Control Delay	12.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	99.6%	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												
Volume (vph)	0	228	11	11	69	0	15	0	43	15	11	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
Lane Util. Factor		1.00	1.00		0.95			1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.26		1.00			0.59			1.00	0.67
Flpb, ped/bikes		1.00	1.00		0.93			0.92			0.72	1.00
Frt		1.00	0.85		1.00			0.90			1.00	0.85
Flt Protected		1.00	1.00		0.99			0.99			0.97	1.00
Satd. Flow (prot)		1637	354		2881			793			1143	933
Flt Permitted		1.00	1.00		0.91			0.96			0.91	1.00
Satd. Flow (perm)		1637	354		2629			769			1067	933
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	243	12	12	73	0	16	0	46	16	12	12
RTOR Reduction (vph)	0	0	9	0	0	0	0	0	0	0	0	5
Lane Group Flow (vph)	0	243	3	0	85	0	0	62	0	0	28	7
Confl. Peds. (#/hr)			800	800			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	36.5
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	36.5
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	0.61
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)		396	86		635			468			649	568
v/s Ratio Prot		c0.15										
v/s Ratio Perm			0.01		0.03			c0.08			0.03	0.01
v/c Ratio		0.61	0.03		0.13			0.13			0.04	0.01
Uniform Delay, d1		20.3	17.4		17.8			5.0			4.7	4.6
Progression Factor		1.00	1.00		1.00			1.00			1.00	1.00
Incremental Delay, d2		6.9	0.7		0.4			0.6			0.0	0.0
Delay (s)		27.2	18.1		18.3			5.6			4.8	4.6
Level of Service		C	B		B			A			A	A
Approach Delay (s)		26.8			18.3			5.6			4.7	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM Average Control Delay	20.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	309	17	73	8	141	4	150	335
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		0.97		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		0.99		1.00			1.00
Flt Protected		1.00		0.96		1.00			0.98
Satd. Flow (prot)		942		1315		1628			3062
Flt Permitted		1.00		0.96		1.00			0.95
Satd. Flow (perm)		942		1315		1628			2970
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	336	18	79	9	153	4	163	364
RTOR Reduction (vph)	0	0	0	6	0	0	0	0	0
Lane Group Flow (vph)	0	336	0	100	0	157	0	0	527
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		373		312			891
v/s Ratio Prot						0.10			
v/s Ratio Perm		c0.36		0.08					0.18
v/c Ratio		0.64		0.27		0.50			0.59
Uniform Delay, d1		9.1		16.7		21.7			17.9
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		5.8		1.8		1.3			2.9
Delay (s)		14.9		18.4		23.0			20.8
Level of Service		B		B		C			C
Approach Delay (s)	14.9			18.4		23.0			20.8
Approach LOS	B			B		C			C

Intersection Summary			
HCM Average Control Delay	19.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	66.8%	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												
Volume (vph)	21	131	44	28	293	29	62	38	22	22	76	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.94			1.00	0.59	1.00	0.80			0.79	
Flpb, ped/bikes		0.98			1.00	1.00	0.60	1.00			0.94	
Frt		0.97			1.00	0.85	1.00	0.95			0.94	
Flt Protected		0.99			1.00	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1273			1426	721	938	1085			2167	
Flt Permitted		0.95			0.96	1.00	0.64	1.00			0.91	
Satd. Flow (perm)		1212			1379	721	631	1085			1985	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	24	151	51	32	337	33	71	44	25	25	87	67
RTOR Reduction (vph)	0	7	0	0	0	6	0	21	0	0	0	0
Lane Group Flow (vph)	0	219	0	0	369	27	71	48	0	0	179	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		63.8			63.8	63.8	16.1	16.1			16.1	
Effective Green, g (s)		63.8			63.8	63.8	16.1	16.1			16.1	
Actuated g/C Ratio		0.71			0.71	0.71	0.18	0.18			0.18	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		859			978	511	113	194			355	
v/s Ratio Prot								0.04				
v/s Ratio Perm		0.18			c0.27	0.04	c0.11				0.09	
v/c Ratio		0.25			0.38	0.05	0.63	0.25			0.50	
Uniform Delay, d1		4.7			5.2	4.0	34.2	31.8			33.3	
Progression Factor		1.00			1.00	1.00	1.28	1.44			1.00	
Incremental Delay, d2		0.7			1.1	0.2	10.4	0.7			1.1	
Delay (s)		5.4			6.3	4.2	54.3	46.5			34.5	
Level of Service		A			A	A	D	D			C	
Approach Delay (s)		5.4			6.1			50.4			34.5	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM Average Control Delay	17.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	118.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Volume (vph)	23	201	25	10	310	16	20	33	23	20	39	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.95			0.98			0.82			0.78	
Flpb, ped/bikes		0.98			0.99			0.88			0.89	
Frt		0.99			0.99			0.96			0.95	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		1310			1378			970			942	
Flt Permitted		0.96			0.99			0.92			0.93	
Satd. Flow (perm)		1258			1367			903			889	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	24	214	27	11	330	17	21	35	24	21	41	34
RTOR Reduction (vph)	0	1	0	0	1	0	0	17	0	0	22	0
Lane Group Flow (vph)	0	264	0	0	357	0	0	63	0	0	74	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.6			62.6			18.6			18.6	
Effective Green, g (s)		62.6			62.6			18.6			18.6	
Actuated g/C Ratio		0.70			0.70			0.21			0.21	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		875			951			187			184	
v/s Ratio Prot												
v/s Ratio Perm		0.21			c0.26			0.07			c0.08	
v/c Ratio		0.30			0.38			0.33			0.40	
Uniform Delay, d1		5.3			5.6			30.4			30.9	
Progression Factor		1.00			1.00			1.78			1.00	
Incremental Delay, d2		0.9			1.1			4.5			6.4	
Delay (s)		6.2			6.8			58.7			37.3	
Level of Service		A			A			E			D	
Approach Delay (s)		6.2			6.8			58.7			37.3	
Approach LOS		A			A			E			D	

Intersection Summary			
HCM Average Control Delay	15.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	14	253	81	21	208	12	26	22	29	19	55	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.89			1.00	0.51		0.79			0.80	
Flpb, ped/bikes		0.99			0.98	1.00		0.86			0.93	
Frt		0.97			1.00	0.85		0.95			0.95	
Flt Protected		1.00			1.00	1.00		0.98			0.99	
Satd. Flow (prot)		1209			1391	617		909			995	
Flt Permitted		0.99			0.95	1.00		0.89			0.96	
Satd. Flow (perm)		1194			1330	617		824			957	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	16	284	91	24	234	13	29	25	33	21	62	48
RTOR Reduction (vph)	0	6	0	0	0	5	0	24	0	0	23	0
Lane Group Flow (vph)	0	385	0	0	258	8	0	63	0	0	108	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		57.0			57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0			57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63			0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		756			842	391		229			266	
v/s Ratio Prot												
v/s Ratio Perm		c0.32			0.19	0.01		0.08			c0.11	
v/c Ratio		0.51			0.31	0.02		0.28			0.41	
Uniform Delay, d1		8.9			7.5	6.1		25.4			26.5	
Progression Factor		1.00			0.84	0.79		0.92			1.00	
Incremental Delay, d2		2.4			0.9	0.1		2.7			4.5	
Delay (s)		11.4			7.2	4.9		26.2			31.0	
Level of Service		B			A	A		C			C	
Approach Delay (s)		11.4			7.1			26.2			31.0	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM Average Control Delay	14.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	17	235	57	7	152	5	23	21	32	14	38	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.51		1.00	0.51		0.77			0.83	
Flpb, ped/bikes		0.98	1.00		0.99	1.00		0.86			0.91	
Frt		1.00	0.85		1.00	0.85		0.94			0.96	
Flt Protected		1.00	1.00		1.00	1.00		0.99			0.99	
Satd. Flow (prot)		1392	604		1409	604		877			1183	
Flt Permitted		0.98	1.00		0.99	1.00		0.92			0.95	
Satd. Flow (perm)		1368	604		1394	604		814			1137	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	19	264	64	8	171	6	26	24	36	16	43	25
RTOR Reduction (vph)	0	0	6	0	0	2	0	26	0	0	17	0
Lane Group Flow (vph)	0	283	58	0	179	4	0	60	0	0	67	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63	0.63		0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		866	383		883	383		226			316	
v/s Ratio Prot												
v/s Ratio Perm		c0.21	0.10		0.13	0.01		c0.07			0.06	
v/c Ratio		0.33	0.15		0.20	0.01		0.27			0.21	
Uniform Delay, d1		7.6	6.7		6.9	6.1		25.3			25.0	
Progression Factor		0.44	0.38		1.00	1.00		0.86			1.00	
Incremental Delay, d2		0.9	0.7		0.5	0.0		2.6			1.5	
Delay (s)		4.3	3.3		7.5	6.1		24.4			26.5	
Level of Service		A	A		A	A		C			C	
Approach Delay (s)		4.1			7.4			24.4			26.5	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	10.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	19	243	13	4	25	10	413	54	1	154	469
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				5.0		5.0			5.0	5.0
Lane Util. Factor	1.00				1.00		0.95			1.00	0.95
Frpb, ped/bikes	0.89				0.90		0.90			1.00	1.00
Flpb, ped/bikes	1.00				0.67		1.00			1.00	1.00
Frt	0.87				0.96		0.98			1.00	1.00
Flt Protected	1.00				0.96		1.00			0.95	1.00
Satd. Flow (prot)	1267				917		2750			1555	3110
Flt Permitted	1.00				0.96		1.00			0.95	1.00
Satd. Flow (perm)	1267				917		2750			1555	3110
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
Adj. Flow (vph)	20	256	14	4	26	11	435	57	1	162	494
RTOR Reduction (vph)	2	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	288	0	0	0	41	0	493	0	0	162	494
Confl. Peds. (#/hr)				400	400	400		400	400		
Confl. Bikes (#/hr)		30	30			10		30	30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0
Turn Type				Perm						Split	
Protected Phases	4				3		6			2	2
Permitted Phases				3							
Actuated Green, G (s)	20.0				20.0		17.0			13.0	13.0
Effective Green, g (s)	20.0				20.0		17.0			13.0	13.0
Actuated g/C Ratio	0.22				0.22		0.19			0.14	0.14
Clearance Time (s)	5.0				5.0		5.0			5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	282				204		519			225	449
v/s Ratio Prot	c0.23						c0.18			0.10	c0.16
v/s Ratio Perm					0.04						
v/c Ratio	1.02				0.20		0.95			0.72	1.10
Uniform Delay, d1	35.0				28.5		36.1			36.8	38.5
Progression Factor	1.00				1.04		1.00			0.85	0.82
Incremental Delay, d2	58.8				0.5		28.8			17.5	71.9
Delay (s)	93.8				30.2		64.9			48.8	103.3
Level of Service	F				C		E			D	F
Approach Delay (s)	93.8				30.2		64.9				89.9
Approach LOS	F				C		E				F

Intersection Summary			
HCM Average Control Delay	80.7	HCM Level of Service	F
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	77.3%	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												
Volume (vph)	0	685	32	1	1368	21	0	36	11	0	71	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.91			1.00			1.00	
Frpb, ped/bikes		0.99			1.00			0.91			0.92	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.97			0.97	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2857			4253			1265			1280	
Flt Permitted		1.00			0.94			1.00			1.00	
Satd. Flow (perm)		2857			3997			1265			1280	
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)	0	761	36	1	1520	23	0	40	12	0	79	21
RTOR Reduction (vph)	0	0	0	0	0	0	0	11	0	0	12	0
Lane Group Flow (vph)	0	797	0	0	1544	0	0	41	0	0	88	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type				Perm								
Protected Phases		2			6			8			4	
Permitted Phases				6								
Actuated Green, G (s)		71.0			71.0			10.2			10.2	
Effective Green, g (s)		71.0			71.0			10.2			10.2	
Actuated g/C Ratio		0.79			0.79			0.11			0.11	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2254			3153			143			145	
v/s Ratio Prot		0.28						0.03			c0.07	
v/s Ratio Perm					c0.39							
v/c Ratio		0.35			0.49			0.29			0.61	
Uniform Delay, d1		2.8			3.3			36.6			38.0	
Progression Factor		0.60			1.00			1.00			1.00	
Incremental Delay, d2		0.4			0.1			1.1			7.4	
Delay (s)		2.1			3.4			37.7			45.4	
Level of Service		A			A			D			D	
Approach Delay (s)		2.1			3.4			37.7			45.4	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	5.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	0	579	187	0	1044	34	341	86	66	0	145	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.70		1.00	0.70	1.00	1.00	0.74		0.99	
Flpb, ped/bikes		1.00	1.00		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	0.85		1.00	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3110	974		3110	974	3016	1637	1024		2876	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		3110	974		3110	974	3016	1637	1024		2876	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	616	199	0	1111	36	363	91	70	0	154	4
RTOR Reduction (vph)	0	0	77	0	0	16	0	0	7	0	3	0
Lane Group Flow (vph)	0	616	122	0	1111	20	363	91	63	0	155	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type			Perm			Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases			2			6			8			
Actuated Green, G (s)		50.3	50.3		50.3	50.3	16.0	30.7	30.7		10.2	
Effective Green, g (s)		50.3	50.3		50.3	50.3	16.0	30.7	30.7		10.2	
Actuated g/C Ratio		0.56	0.56		0.56	0.56	0.18	0.34	0.34		0.11	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		1738	544		1738	544	536	558	349		326	
v/s Ratio Prot		0.20			c0.36		c0.12	0.06			c0.05	
v/s Ratio Perm			0.13			0.02			0.06			
v/c Ratio		0.35	0.22		0.64	0.04	0.68	0.16	0.18		0.48	
Uniform Delay, d1		10.9	10.0		13.6	8.9	34.6	20.7	20.8		37.4	
Progression Factor		1.00	1.00		0.85	0.87	1.00	1.00	1.00		0.92	
Incremental Delay, d2		0.6	1.0		1.7	0.1	3.4	0.1	0.3		1.1	
Delay (s)		11.5	11.0		13.3	7.9	38.0	20.8	21.1		35.5	
Level of Service		B	B		B	A	D	C	C		D	
Approach Delay (s)		11.4			13.1			32.7			35.5	
Approach LOS		B			B			C			D	

Intersection Summary			
HCM Average Control Delay	17.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	76.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	52	519	1038	31	47	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.91		1.00	
Frpb, ped/bikes		1.00	0.99		0.83	
Flpb, ped/bikes		0.99	1.00		1.00	
Frt		1.00	1.00		0.94	
Flt Protected		1.00	1.00		0.97	
Satd. Flow (prot)		2887	4410		1085	
Flt Permitted		0.77	1.00		0.97	
Satd. Flow (perm)		2239	4410		1085	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	55	552	1104	33	50	44
RTOR Reduction (vph)	0	0	3	0	23	0
Lane Group Flow (vph)	0	607	1134	0	71	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		64.0	64.0		19.0	
Effective Green, g (s)		64.0	64.0		19.0	
Actuated g/C Ratio		0.71	0.71		0.21	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1592	3136		229	
v/s Ratio Prot			0.26		c0.07	
v/s Ratio Perm		c0.27				
v/c Ratio		0.38	0.36		0.31	
Uniform Delay, d1		5.2	5.1		30.0	
Progression Factor		0.50	1.00		1.45	
Incremental Delay, d2		0.1	0.1		3.4	
Delay (s)		2.7	5.1		46.7	
Level of Service		A	A		D	
Approach Delay (s)		2.7	5.1		46.7	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	6.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	83.2%	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												
Volume (vph)	17	415	48	41	1066	15	25	38	55	31	82	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			1.00			0.84			0.89	
Flpb, ped/bikes		1.00			0.99			0.95			0.95	
Frt		0.98			1.00			0.94			0.96	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		2770			2877			1057			1148	
Flt Permitted		0.90			0.92			0.93			0.93	
Satd. Flow (perm)		2493			2641			989			1075	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	18	446	52	44	1146	16	27	41	59	33	88	56
RTOR Reduction (vph)	0	2	0	0	1	0	0	35	0	0	16	0
Lane Group Flow (vph)	0	514	0	0	1205	0	0	92	0	0	161	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		60.6			60.6			20.6			20.6	
Effective Green, g (s)		60.6			60.6			20.6			20.6	
Actuated g/C Ratio		0.67			0.67			0.23			0.23	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1679			1778			226			246	
v/s Ratio Prot												
v/s Ratio Perm		0.21			c0.46			0.09			c0.15	
v/c Ratio		0.31			0.68			0.41			0.65	
Uniform Delay, d1		6.0			8.8			29.5			31.5	
Progression Factor		1.00			0.23			1.00			0.96	
Incremental Delay, d2		0.5			1.7			5.4			11.6	
Delay (s)		6.5			3.8			34.9			41.9	
Level of Service		A			A			C			D	
Approach Delay (s)		6.5			3.8			34.9			41.9	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM Average Control Delay	9.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	91.2%	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												
Volume (vph)	23	507	20	23	1091	30	21	25	58	40	33	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.80			0.89	
Flpb, ped/bikes		1.00			1.00			0.95			0.90	
Frt		0.99			1.00			0.92			0.96	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2854			2870			990			1078	
Flt Permitted		0.88			0.94			0.93			0.81	
Satd. Flow (perm)		2504			2689			928			886	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	25	551	22	25	1186	33	23	27	63	43	36	35
RTOR Reduction (vph)	0	1	0	0	1	0	0	54	0	0	18	0
Lane Group Flow (vph)	0	597	0	0	1243	0	0	59	0	0	96	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		68.7			68.7			12.4			12.4	
Effective Green, g (s)		68.7			68.7			12.4			12.4	
Actuated g/C Ratio		0.76			0.76			0.14			0.14	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1911			2053			128			122	
v/s Ratio Prot												
v/s Ratio Perm		0.24			c0.46			0.06			c0.11	
v/c Ratio		0.31			0.61			0.46			0.79	
Uniform Delay, d1		3.3			4.7			35.7			37.5	
Progression Factor		0.79			0.36			1.00			0.83	
Incremental Delay, d2		0.4			0.4			2.6			27.3	
Delay (s)		3.0			2.1			38.3			58.5	
Level of Service		A			A			D			E	
Approach Delay (s)		3.0			2.1			38.3			58.5	
Approach LOS		A			A			D			E	

Intersection Summary			
HCM Average Control Delay	7.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	76.7%	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												
Volume (vph)	10	545	57	19	1005	2	124	3	24	2	3	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			1.00			0.94			0.72	
Flpb, ped/bikes		1.00			1.00			0.72			0.98	
Frt		0.99			1.00			0.98			0.90	
Flt Protected		1.00			1.00			0.96			1.00	
Satd. Flow (prot)		2788			3098			1042			1036	
Flt Permitted		0.93			0.94			0.75			0.98	
Satd. Flow (perm)		2608			2906			813			1019	
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)	11	606	63	21	1117	2	138	3	27	2	3	16
RTOR Reduction (vph)	0	2	0	0	0	0	0	8	0	0	13	0
Lane Group Flow (vph)	0	678	0	0	1140	0	0	160	0	0	8	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1800			2005			174			219	
v/s Ratio Prot												
v/s Ratio Perm		0.26			c0.39			c0.20			0.01	
v/c Ratio		0.38			0.57			0.92			0.04	
Uniform Delay, d1		5.8			7.1			34.6			28.0	
Progression Factor		1.55			0.22			1.00			0.83	
Incremental Delay, d2		0.6			0.8			49.9			0.1	
Delay (s)		9.6			2.4			84.5			23.4	
Level of Service		A			A			F			C	
Approach Delay (s)		9.6			2.4			84.5			23.4	
Approach LOS		A			A			F			C	

Intersection Summary			
HCM Average Control Delay	11.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	16	554	948	607	640	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3059	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3059	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	602	1030	660	696	33
RTOR Reduction (vph)	0	10	0	0	3	0
Lane Group Flow (vph)	17	592	1030	660	726	0
Confl. Peds. (#/hr)						95
Confl. Bikes (#/hr)		10				81
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	11.0	52.1	37.1	69.0	27.9	
Effective Green, g (s)	11.0	52.1	37.1	69.0	27.9	
Actuated g/C Ratio	0.12	0.58	0.41	0.77	0.31	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	190	1417	1243	2235	948	
v/s Ratio Prot	0.01	c0.24	c0.34	0.23	c0.24	
v/s Ratio Perm						
v/c Ratio	0.09	0.42	0.83	0.30	0.77	
Uniform Delay, d1	35.1	10.5	23.6	3.2	28.1	
Progression Factor	1.40	0.90	0.86	1.27	0.71	
Incremental Delay, d2	0.2	0.2	3.5	0.3	1.4	
Delay (s)	49.2	9.7	23.9	4.3	21.2	
Level of Service	D	A	C	A	C	
Approach Delay (s)	10.8			16.2	21.2	
Approach LOS	B			B	C	

Intersection Summary			
HCM Average Control Delay	16.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	68.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	79	317	15	0	118	0	25	38	1217
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			0.98			1.00	1.00
Flpb, ped/bikes				0.78			1.00			1.00	1.00
Frt				0.99			0.97			1.00	1.00
Flt Protected				0.95			1.00			0.95	1.00
Satd. Flow (prot)				2187			4255			1555	3110
Flt Permitted				0.95			1.00			0.95	1.00
Satd. Flow (perm)				2187			4255			1555	3110
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
Adj. Flow (vph)	0	0	88	352	17	0	131	0	28	42	1352
RTOR Reduction (vph)	0	0	0	3	0	0	12	0	0	0	0
Lane Group Flow (vph)	0	0	0	454	0	0	147	0	0	42	1352
Confl. Peds. (#/hr)			125	64					125		
Confl. Bikes (#/hr)					34				86		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				21.9			50.1			5.0	59.1
Effective Green, g (s)				21.9			50.1			5.0	59.1
Actuated g/C Ratio				0.24			0.56			0.06	0.66
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				532			2369			86	2042
v/s Ratio Prot							0.03			0.03	c0.43
v/s Ratio Perm				0.21							
v/c Ratio				0.85			0.06			0.49	0.66
Uniform Delay, d1				32.5			9.2			41.3	9.4
Progression Factor				1.00			0.79			1.00	1.00
Incremental Delay, d2				12.6			0.0			1.6	1.7
Delay (s)				45.1			7.3			42.8	11.1
Level of Service				D			A			D	B
Approach Delay (s)	0.0			45.1			7.3				12.0
Approach LOS	A			D			A				B

Intersection Summary			
HCM Average Control Delay	19.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	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	EBL2	EBR	EBR2	SEL	SET	SER2	NWL2	NWL	NWT	NWR	SWR2
Lane Configurations											
Volume (vph)	31	8	250	12	830	347	104	0	1192	11	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		7.0	7.0	7.0		4.0	7.0		
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00		1.00	0.95		
Frpb, ped/bikes	1.00	0.91		1.00	1.00	0.95		1.00	0.99		
Flpb, ped/bikes	1.00	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	1.00		
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95	1.00		
Satd. Flow (prot)	1555	1105		1555	3110	1323		1555	3088		
Flt Permitted	0.95	1.00		0.21	1.00	1.00		0.40	1.00		
Satd. Flow (perm)	1555	1105		337	3110	1323		655	3088		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	34	9	272	13	902	377	113	0	1296	12	0
RTOR Reduction (vph)	0	195	0	0	0	234	0	0	1	0	0
Lane Group Flow (vph)	34	86	0	13	902	143	0	113	1307	0	0
Confl. Peds. (#/hr)			64							1000	100
Confl. Bikes (#/hr)		10	10			30				30	10
Parking (#/hr)		5	5								
Turn Type	custom	custom		Perm		Perm	custom	Prot			custom
Protected Phases					6			5	2		
Permitted Phases	4	4		6		6	5				8
Actuated Green, G (s)	22.5	22.5		30.0	30.0	30.0		10.0	44.0		
Effective Green, g (s)	22.5	22.5		30.0	30.0	30.0		10.0	44.0		
Actuated g/C Ratio	0.28	0.28		0.38	0.38	0.38		0.13	0.56		
Clearance Time (s)	5.5	5.5		7.0	7.0	7.0		4.0	7.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	443	315		128	1181	502		83	1720		
v/s Ratio Prot					0.29				c0.42		
v/s Ratio Perm	0.02	c0.08		0.04		0.11		c0.17			
v/c Ratio	0.08	0.27		0.10	0.76	0.29		1.36	0.76		
Uniform Delay, d1	20.7	21.9		15.8	21.4	17.0		34.5	13.4		
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2	0.1	0.5		1.6	4.7	1.4		222.4	3.2		
Delay (s)	20.7	22.4		17.4	26.1	18.5		256.9	16.7		
Level of Service	C	C		B	C	B		F	B		
Approach Delay (s)					23.8				35.8		
Approach LOS					C				D		

Intersection Summary			
HCM Average Control Delay	29.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	105.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	27	0	64	0	0	0	46	1257	0	0	4	921
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.77					1.00	1.00				0.99
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.91					1.00	1.00				1.00
Flt Protected		0.99					0.95	1.00				1.00
Satd. Flow (prot)		982					1555	3110				3085
Flt Permitted		0.99					0.95	1.00				0.95
Satd. Flow (perm)		982					1555	3110				2933
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	29	0	68	0	0	0	49	1337	0	0	4	980
RTOR Reduction (vph)	0	3	0	0	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	0	94	0	0	0	0	49	1337	0	0	0	995
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		12.6					5.4	68.4				58.0
Effective Green, g (s)		12.6					5.4	68.4				58.0
Actuated g/C Ratio		0.14					0.06	0.76				0.64
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		137					93	2364				1890
v/s Ratio Prot		c0.10					0.03	c0.43				
v/s Ratio Perm												0.34
v/c Ratio		0.69					0.53	0.57				0.53
Uniform Delay, d1		36.8					41.1	4.5				8.6
Progression Factor		1.00					1.23	1.82				1.00
Incremental Delay, d2		13.5					4.8	0.9				1.1
Delay (s)		50.3					55.1	9.2				9.7
Level of Service		D					E	A				A
Approach Delay (s)		50.3			0.0			10.8				9.7
Approach LOS		D			A			B				A

Intersection Summary			
HCM Average Control Delay	11.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	96.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	11
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	12
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	77	544	0	0	767	107	274	287	39	0	0	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			
Lane Util. Factor		0.95			0.95			0.95	1.00			
Frpb, ped/bikes		1.00			0.97			1.00	0.71			
Flpb, ped/bikes		0.99			1.00			0.86	1.00			
Frt		1.00			0.98			1.00	0.85			
Flt Protected		0.99			1.00			0.98	1.00			
Satd. Flow (prot)		2837			2728			2421	986			
Flt Permitted		0.69			1.00			0.98	1.00			
Satd. Flow (perm)		1980			2728			2421	986			
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	573	0	0	807	113	288	302	41	0	0	0
RTOR Reduction (vph)	0	0	0	0	13	0	0	0	24	0	0	0
Lane Group Flow (vph)	0	654	0	0	907	0	0	590	17	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm		Perm			
Protected Phases		2			6			8				
Permitted Phases	2						8		8			
Actuated Green, G (s)		37.0			37.0			34.0	34.0			
Effective Green, g (s)		37.0			37.0			34.0	34.0			
Actuated g/C Ratio		0.46			0.46			0.42	0.42			
Clearance Time (s)		4.5			4.5			4.5	4.5			
Vehicle Extension (s)		3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)		916			1262			1029	419			
v/s Ratio Prot					c0.33							
v/s Ratio Perm		0.33						0.24	0.02			
v/c Ratio		0.71			0.72			0.57	0.04			
Uniform Delay, d1		17.3			17.3			17.5	13.5			
Progression Factor		1.00			0.27			1.00	1.00			
Incremental Delay, d2		4.7			2.3			2.3	0.2			
Delay (s)		22.0			7.0			19.8	13.6			
Level of Service		C			A			B	B			
Approach Delay (s)		22.0			7.0			19.4			0.0	
Approach LOS		C			A			B			A	

Intersection Summary			
HCM Average Control Delay	15.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
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												
Volume (vph)	0	323	257	37	720	0	0	0	0	54	598	156
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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.86			1.00						0.96	
Flpb, ped/bikes		1.00			0.99						0.99	
Frt		0.93			1.00						0.97	
Flt Protected		1.00			1.00						1.00	
Satd. Flow (prot)		2484			3084						2658	
Flt Permitted		1.00			0.90						1.00	
Satd. Flow (perm)		2484			2779						2658	
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)	0	330	262	38	735	0	0	0	0	55	610	159
RTOR Reduction (vph)	0	23	0	0	0	0	0	0	0	0	26	0
Lane Group Flow (vph)	0	569	0	0	773	0	0	0	0	0	798	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		26.4			26.4						44.6	
Effective Green, g (s)		26.4			26.4						44.6	
Actuated g/C Ratio		0.33			0.33						0.56	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		820			917						1482	
v/s Ratio Prot		0.23										
v/s Ratio Perm					c0.28						0.30	
v/c Ratio		0.69			0.84						0.54	
Uniform Delay, d1		23.3			24.9						11.2	
Progression Factor		0.73			1.00						1.00	
Incremental Delay, d2		1.9			7.1						1.4	
Delay (s)		19.0			32.0						12.6	
Level of Service		B			C						B	
Approach Delay (s)		19.0			32.0			0.0			12.6	
Approach LOS		B			C			A			B	

Intersection Summary			
HCM Average Control Delay	21.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	94.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	70	319	435	1217	0	947	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.66	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		0.99	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	914	3016	3110		3045	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	914	3016	3110		3045	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	70	319	435	1217	0	947	43
RTOR Reduction (vph)	0	274	0	0	0	3	0
Lane Group Flow (vph)	70	45	435	1217	0	987	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	12.6	12.6	17.5	66.4		42.9	
Effective Green, g (s)	12.6	12.6	17.5	66.4		42.9	
Actuated g/C Ratio	0.14	0.14	0.19	0.74		0.48	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	218	128	586	2294		1451	
v/s Ratio Prot	0.05		c0.14	0.39		c0.32	
v/s Ratio Perm		c0.05					
v/c Ratio	0.32	0.35	0.74	0.53		0.68	
Uniform Delay, d1	34.8	35.0	34.1	5.1		18.2	
Progression Factor	1.00	1.00	1.00	1.00		1.50	
Incremental Delay, d2	0.9	1.6	5.1	0.9		2.3	
Delay (s)	35.7	36.6	39.2	6.0		29.7	
Level of Service	D	D	D	A		C	
Approach Delay (s)	36.5			14.7		29.7	
Approach LOS	D			B		C	

Intersection Summary			
HCM Average Control Delay	22.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	90.2%	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												
Volume (vph)	5	161	25	17	81	10	15	15	26	50	75	15
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		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.46		1.00	0.67		0.84			1.00	0.43
Flpb, ped/bikes		0.99	1.00		0.93	1.00		0.88			0.88	1.00
Frt		1.00	0.85		1.00	0.85		0.94			1.00	0.85
Flt Protected		1.00	1.00		0.99	1.00		0.99			0.98	1.00
Satd. Flow (prot)		1621	635		1506	937		1121			1414	603
Flt Permitted		1.00	1.00		0.95	1.00		0.90			0.86	1.00
Satd. Flow (perm)		1617	635		1448	937		1024			1237	603
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	171	27	18	86	11	16	16	28	53	80	16
RTOR Reduction (vph)	0	0	4	0	0	3	0	18	0	0	0	14
Lane Group Flow (vph)	0	176	23	0	104	8	0	42	0	0	133	2
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		54.3	54.3		54.3	54.3		11.7			11.7	11.7
Effective Green, g (s)		54.3	54.3		54.3	54.3		11.7			11.7	11.7
Actuated g/C Ratio		0.72	0.72		0.72	0.72		0.16			0.16	0.16
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)		1171	460		1048	678		160			193	94
v/s Ratio Prot												
v/s Ratio Perm		c0.11	0.04		0.07	0.01		0.04			c0.11	0.00
v/c Ratio		0.15	0.05		0.10	0.01		0.26			0.69	0.03
Uniform Delay, d1		3.2	3.0		3.1	2.9		27.9			29.9	26.8
Progression Factor		1.00	1.00		1.00	1.00		1.00			0.85	0.63
Incremental Delay, d2		0.1	0.0		0.2	0.0		0.9			9.8	0.1
Delay (s)		3.3	3.0		3.3	2.9		28.7			35.3	17.1
Level of Service		A	A		A	A		C			D	B
Approach Delay (s)		3.2			3.2			28.7			33.3	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	14.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	104.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	472	34	539	399	79	67	43	16	26	6	377	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.34		0.67	1.00	0.95			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.81	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	558	3110	478		947	1555	1328			1258	1175
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.99	1.00
Satd. Flow (perm)	3110	558	3110	478		947	1555	1328			1314	1175
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	492	35	561	416	82	70	45	17	27	6	393	86
RTOR Reduction (vph)	0	16	0	181	0	33	0	19	0	0	0	61
Lane Group Flow (vph)	492	19	561	317	0	37	45	25	0	0	399	25
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Effective Green, g (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Actuated g/C Ratio	0.55	0.55	0.55	0.55		0.29	0.29	0.29			0.29	0.29
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1700	305	1700	261		278	456	390			385	345
v/s Ratio Prot	0.16		0.18									
v/s Ratio Perm		0.03		c0.66		0.04	0.03	0.02			c0.30	0.02
v/c Ratio	0.29	0.06	0.33	1.21		0.13	0.10	0.06			1.04	0.07
Uniform Delay, d1	9.2	8.0	9.4	17.0		19.5	19.3	19.1			26.5	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	0.4	0.4	0.5	125.9		1.0	0.4	0.3			55.6	0.4
Delay (s)	9.6	8.4	9.9	142.9		20.5	19.7	19.4			82.1	19.5
Level of Service	A	A	A	F		C	B	B			F	B
Approach Delay (s)	9.5		72.5								71.0	
Approach LOS	A		E								E	

Intersection Summary			
HCM Average Control Delay	53.5	HCM Level of Service	D
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	732	101	34	785	136	85
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	755	104	35	809	140	88

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	503	356	305	540	228
Volume Left (vph)	0	0	35	0	140
Volume Right (vph)	0	104	0	0	88
Hadj (s)	0.02	-0.19	0.07	0.02	-0.09
Departure Headway (s)	6.6	6.4	6.7	6.6	6.9
Degree Utilization, x	0.93	0.64	0.57	1.00	0.44
Capacity (veh/h)	537	560	528	540	521
Control Delay (s)	47.4	18.8	16.9	62.0	15.1
Approach Delay (s)	35.6		45.7		15.1
Approach LOS	E		E		C

Intersection Summary			
Delay	37.6		
HCM Level of Service	E		
Intersection Capacity Utilization	76.3%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT
Lane Configurations												
Volume (vph)	67	626	89	18	4	17	640	40	28	22	20	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4					5.4		4.0			5.0
Lane Util. Factor		0.95					0.95		1.00			1.00
Frpb, ped/bikes		0.92					0.98		0.78			1.00
Flpb, ped/bikes		0.99					1.00		1.00			1.00
Frt		0.98					0.99		0.86			1.00
Flt Protected		1.00					1.00		1.00			0.98
Satd. Flow (prot)		2600					2996		1106			1599
Flt Permitted		0.82					0.92		1.00			0.98
Satd. Flow (perm)		2148					2753		1106			1599
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	71	666	95	19	4	18	681	43	30	23	21	50
RTOR Reduction (vph)	0	0	0	0	0	0	6	0	0	0	0	0
Lane Group Flow (vph)	0	851	0	0	0	0	740	0	30	0	0	94
Confl. Peds. (#/hr)	400		400	400	400	400		400	400	400	400	
Confl. Bikes (#/hr)			30	30				30	10			
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm	Perm			Free	Split	Split	
Protected Phases		2					6			4	4	4
Permitted Phases	2				6	6			Free			
Actuated Green, G (s)		41.6					41.6		75.0			9.0
Effective Green, g (s)		41.6					41.6		75.0			9.0
Actuated g/C Ratio		0.55					0.55		1.00			0.12
Clearance Time (s)		5.4					5.4					5.0
Lane Grp Cap (vph)		1191					1527		1106			192
v/s Ratio Prot												c0.06
v/s Ratio Perm		c0.40					0.27		0.03			
v/c Ratio		0.71					0.48		0.03			0.49
Uniform Delay, d1		12.3					10.2		0.0			30.9
Progression Factor		1.00					0.38		1.00			1.00
Incremental Delay, d2		3.7					1.0		0.0			8.7
Delay (s)		16.0					4.9		0.0			39.5
Level of Service		B					A		A			D
Approach Delay (s)		16.0					4.9					39.8
Approach LOS		B					A					D

Intersection Summary			
HCM Average Control Delay	15.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	113.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR	NWL	NWR	NWR2
Lane Configurations				
Volume (vph)	50	110	30	11
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0
Lane Util. Factor	1.00	0.97		1.00
Frpb, ped/bikes	0.55	0.84		0.55
Flpb, ped/bikes	1.00	1.00		1.00
Frt	0.85	0.97		0.85
Flt Protected	1.00	0.96		1.00
Satd. Flow (prot)	768	2482		768
Flt Permitted	1.00	0.96		1.00
Satd. Flow (perm)	768	2482		768
Peak-hour factor, PHF	0.94	0.94	0.94	0.94
Adj. Flow (vph)	53	117	32	12
RTOR Reduction (vph)	21	0	0	11
Lane Group Flow (vph)	32	149	0	1
Confl. Peds. (#/hr)	400	400	400	400
Confl. Bikes (#/hr)	10		10	10
Parking (#/hr)				
Turn Type	Perm			Perm
Protected Phases		8		
Permitted Phases	4			8
Actuated Green, G (s)	9.0	9.0		9.0
Effective Green, g (s)	9.0	9.0		9.0
Actuated g/C Ratio	0.12	0.12		0.12
Clearance Time (s)	5.0	5.0		5.0
Lane Grp Cap (vph)	92	298		92
v/s Ratio Prot		c0.06		
v/s Ratio Perm	0.04			0.00
v/c Ratio	0.35	0.50		0.02
Uniform Delay, d1	30.3	30.9		29.1
Progression Factor	1.00	1.00		1.00
Incremental Delay, d2	10.0	5.9		0.3
Delay (s)	40.3	36.8		29.4
Level of Service	D	D		C
Approach Delay (s)		36.2		
Approach LOS		D		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	654	47	34	658	76	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.98			1.00	0.85	
Flpb, ped/bikes	1.00			0.99	1.00	
Frt	0.99			1.00	0.94	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2816			3086	1274	
Flt Permitted	1.00			0.89	0.97	
Satd. Flow (perm)	2816			2756	1274	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	735	53	38	739	85	70
RTOR Reduction (vph)	7	0	0	0	24	0
Lane Group Flow (vph)	781	0	0	777	131	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1690			1654	382	
v/s Ratio Prot	0.28				c0.10	
v/s Ratio Perm				c0.28		
v/c Ratio	0.46			0.47	0.34	
Uniform Delay, d1	8.3			8.4	20.5	
Progression Factor	0.76			1.00	1.00	
Incremental Delay, d2	0.7			1.0	2.4	
Delay (s)	7.0			9.3	22.9	
Level of Service	A			A	C	
Approach Delay (s)	7.0			9.3	22.9	
Approach LOS	A			A	C	

Intersection Summary			
HCM Average Control Delay	9.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	655	42	17	690	9	16
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	704	45	18	742	10	17

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	470	280	266	495	27
Volume Left (vph)	0	0	18	0	10
Volume Right (vph)	0	45	0	0	17
Hadj (s)	0.02	-0.10	0.05	0.02	-0.29
Departure Headway (s)	5.4	5.3	5.4	5.4	6.3
Degree Utilization, x	0.70	0.41	0.40	0.74	0.05
Capacity (veh/h)	470	656	645	653	536
Control Delay (s)	18.8	10.7	10.7	20.7	9.6
Approach Delay (s)	15.8		17.2		9.6
Approach LOS	C		C		A

Intersection Summary			
Delay	16.4		
HCM Level of Service	C		
Intersection Capacity Utilization	54.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	65	551	34	12	594	169	66	50	25	90	66	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frpb, ped/bikes		0.96			1.00	0.54		0.94		1.00	0.96	
Flpb, ped/bikes		0.98			1.00	1.00		0.87		0.76	0.97	
Frt		0.99			1.00	0.85		0.98		1.00	0.99	
Flt Protected		1.00			1.00	1.00		0.98		0.95	0.99	
Satd. Flow (prot)		2702			3110	657		1127		1119	1407	
Flt Permitted		0.83			1.00	1.00		0.83		0.71	0.96	
Satd. Flow (perm)		2244			3110	657		952		837	1357	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	71	605	37	13	653	186	73	55	27	99	73	8
RTOR Reduction (vph)	0	2	0	0	0	24	0	11	0	0	0	0
Lane Group Flow (vph)	0	724	0	0	653	162	0	144	0	86	94	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10	10		10			10			10
Parking (#/hr)		5	5	5		5	5	5	5			
Turn Type	Perm					Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2				6	6	8			4		
Actuated Green, G (s)		27.5			27.5	27.5		21.5		21.5	21.5	
Effective Green, g (s)		27.5			27.5	27.5		21.5		21.5	21.5	
Actuated g/C Ratio		0.46			0.46	0.46		0.36		0.36	0.36	
Clearance Time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		1029			1425	301		341		300	486	
v/s Ratio Prot					0.21							
v/s Ratio Perm		c0.32				0.25		c0.15		0.10	0.07	
v/c Ratio		0.70			0.46	0.54		0.42		0.29	0.19	
Uniform Delay, d1		13.0			11.1	11.7		14.6		13.8	13.3	
Progression Factor		1.00			1.29	1.53		1.00		1.00	1.00	
Incremental Delay, d2		4.0			1.0	6.5		3.8		0.5	0.2	
Delay (s)		17.0			15.4	24.4		18.4		14.3	13.5	
Level of Service		B			B	C		B		B	B	
Approach Delay (s)		17.0			17.4			18.4			13.7	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	16.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	92.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR2	NER2
Lane Configurations		
Volume (vph)	48	42
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.5	4.0
Lane Util. Factor	1.00	1.00
Frpb, ped/bikes	0.68	0.78
Flpb, ped/bikes	1.00	1.00
Frt	0.85	0.86
Flt Protected	1.00	1.00
Satd. Flow (prot)	952	967
Flt Permitted	1.00	1.00
Satd. Flow (perm)	952	967
Peak-hour factor, PHF	0.91	0.91
Adj. Flow (vph)	53	46
RTOR Reduction (vph)	9	0
Lane Group Flow (vph)	44	46
Confl. Peds. (#/hr)	400	400
Confl. Bikes (#/hr)	10	10
Parking (#/hr)		5
Turn Type	Perm	Free
Protected Phases		
Permitted Phases	4	Free
Actuated Green, G (s)	21.5	60.0
Effective Green, g (s)	21.5	60.0
Actuated g/C Ratio	0.36	1.00
Clearance Time (s)	5.5	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	341	967
v/s Ratio Prot		
v/s Ratio Perm	0.05	0.05
v/c Ratio	0.13	0.05
Uniform Delay, d1	13.0	0.0
Progression Factor	1.00	1.00
Incremental Delay, d2	0.2	0.1
Delay (s)	13.1	0.1
Level of Service	B	A
Approach Delay (s)		
Approach LOS		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	639	0	0	766	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	702	0	0	842	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	702	0	0	842	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)		30				30
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		46.0			46.0	
Effective Green, g (s)		46.0			46.0	
Actuated g/C Ratio		0.77			0.77	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1877			2312	
v/s Ratio Prot		c0.29			0.28	
v/s Ratio Perm						
v/c Ratio		0.37			0.36	
Uniform Delay, d1		2.3			2.3	
Progression Factor		0.49			1.36	
Incremental Delay, d2		0.4			0.4	
Delay (s)		1.6			3.5	
Level of Service		A			A	
Approach Delay (s)	1.6			0.0	3.5	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	2.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	29.2%	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												
Volume (vph)	20	187	77	162	182	28	67	159	105	27	149	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.84		1.00	0.92			1.00	0.66		1.00	0.44
Flpb, ped/bikes		0.97		0.64	1.00			0.87	1.00		0.96	1.00
Frt		0.96		1.00	0.98			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.99	1.00		0.99	1.00
Satd. Flow (prot)		2438		996	1297			1199	903		1566	609
Flt Permitted		0.92		0.57	1.00			0.87	1.00		0.94	1.00
Satd. Flow (perm)		2263		593	1297			1059	903		1481	609
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	201	83	174	196	30	72	171	113	29	160	27
RTOR Reduction (vph)	0	24	0	0	11	0	0	0	29	0	0	14
Lane Group Flow (vph)	0	282	0	174	215	0	0	243	84	0	189	13
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		21.4		21.4	21.4			28.6	28.6		28.6	28.6
Effective Green, g (s)		21.4		21.4	21.4			28.6	28.6		28.6	28.6
Actuated g/C Ratio		0.36		0.36	0.36			0.48	0.48		0.48	0.48
Clearance Time (s)		5.5		5.5	5.5			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)		807		212	463			505	430		706	290
v/s Ratio Prot					0.17							
v/s Ratio Perm		0.12		c0.29				c0.23	0.09		0.13	0.02
v/c Ratio		0.35		0.82	0.46			0.48	0.20		0.27	0.04
Uniform Delay, d1		14.2		17.6	14.9			10.7	9.1		9.4	8.4
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		0.3		21.8	0.7			3.3	1.0		0.9	0.3
Delay (s)		14.4		39.3	15.6			13.9	10.1		10.3	8.7
Level of Service		B		D	B			B	B		B	A
Approach Delay (s)		14.4			25.9			12.7			10.1	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	16.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	70.5%	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												
Volume (vph)	0	215	106	13	239	753	157	0	30	622	137	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.93			1.00	0.96		1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		0.98		1.00	1.00	
Frt		0.95			1.00	0.85		0.98		1.00	0.99	
Flt Protected		1.00			1.00	1.00		0.96		0.95	0.97	
Satd. Flow (prot)		2583			1625	2357		1316		1477	1494	
Flt Permitted		1.00			0.97	1.00		0.51		0.84	0.90	
Satd. Flow (perm)		2583			1580	2357		698		1308	1382	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	224	110	14	249	784	164	0	31	648	143	20
RTOR Reduction (vph)	0	90	0	0	0	0	0	11	0	0	3	0
Lane Group Flow (vph)	0	244	0	0	263	784	0	184	0	402	406	0
Confl. Peds. (#/hr)	50		50	50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		11.0			11.0	38.5		14.5		24.0	24.0	
Effective Green, g (s)		11.0			11.0	38.5		14.5		24.0	24.0	
Actuated g/C Ratio		0.18			0.18	0.64		0.24		0.40	0.40	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		474			290	1512		169		523	553	
v/s Ratio Prot		0.09										
v/s Ratio Perm					c0.17	0.33		c0.26		c0.31	0.29	
v/c Ratio		0.52			0.91	0.52		1.09		0.77	0.73	
Uniform Delay, d1		22.1			24.0	5.8		22.8		15.6	15.3	
Progression Factor		1.00			1.00	1.00		1.00		0.49	0.48	
Incremental Delay, d2		4.0			33.6	1.3		94.2		10.2	8.2	
Delay (s)		26.1			57.6	7.0		117.0		17.8	15.5	
Level of Service		C			E	A		F		B	B	
Approach Delay (s)		26.1			19.7			117.0			16.6	
Approach LOS		C			B			F			B	

Intersection Summary			
HCM Average Control Delay	27.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	71.3%	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												
Volume (vph)	43	742	28	34	793	32	257	54	160	26	31	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Lane Util. Factor		0.95			0.95	1.00		0.95			1.00	1.00
Frpb, ped/bikes		0.98			1.00	0.66		0.89			1.00	0.66
Flpb, ped/bikes		1.00			0.99	1.00		0.83			0.93	1.00
Frt		0.99			1.00	0.85		0.95			1.00	0.85
Flt Protected		1.00			1.00	1.00		0.97			0.98	1.00
Satd. Flow (prot)		3014			3087	806		1988			1486	921
Flt Permitted		0.88			0.90	1.00		0.78			0.79	1.00
Satd. Flow (perm)		2656			2789	806		1587			1208	921
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	45	773	29	35	826	33	268	56	167	27	32	44
RTOR Reduction (vph)	0	5	0	0	0	13	0	16	0	0	0	14
Lane Group Flow (vph)	0	842	0	0	861	20	0	475	0	0	59	30
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Actuated Green, G (s)		27.1			27.1	27.1		25.9			25.9	25.9
Effective Green, g (s)		27.1			27.1	27.1		25.9			25.9	25.9
Actuated g/C Ratio		0.45			0.45	0.45		0.43			0.43	0.43
Clearance Time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)		1200			1260	364		685			521	398
v/s Ratio Prot												
v/s Ratio Perm		c0.32			0.31	0.03		c0.30			0.05	0.03
v/c Ratio		0.70			0.68	0.06		0.69			0.11	0.07
Uniform Delay, d1		13.2			13.0	9.3		13.8			10.2	10.0
Progression Factor		1.00			0.96	1.18		1.00			1.00	1.00
Incremental Delay, d2		1.9			1.3	0.1		5.7			0.4	0.4
Delay (s)		15.1			13.8	11.0		19.5			10.6	10.4
Level of Service		B			B	B		B			B	B
Approach Delay (s)		15.1			13.7			19.5			10.5	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	15.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	88.5%	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												
Volume (vph)	59	740	139	102	541	12	63	220	140	9	234	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.95		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.76		1.00		1.00	0.87			0.86	
Flpb, ped/bikes		0.99	1.00		0.99		0.83	1.00			1.00	
Frt		1.00	0.85		1.00		1.00	0.94			0.94	
Flt Protected		1.00	1.00		0.99		0.95	1.00			1.00	
Satd. Flow (prot)		3080	922		3034		1293	3677			3601	
Flt Permitted		0.85	1.00		0.66		0.48	1.00			0.93	
Satd. Flow (perm)		2625	922		2025		654	3677			3351	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	64	804	151	111	588	13	68	239	152	10	254	190
RTOR Reduction (vph)	0	0	6	0	2	0	0	10	0	0	18	0
Lane Group Flow (vph)	0	868	145	0	710	0	68	381	0	0	436	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		27.0	27.0		27.0		23.0	23.0			23.0	
Effective Green, g (s)		27.0	27.0		27.0		23.0	23.0			23.0	
Actuated g/C Ratio		0.45	0.45		0.45		0.38	0.38			0.38	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1181	415		911		251	1410			1285	
v/s Ratio Prot								0.10				
v/s Ratio Perm		0.33	0.16		c0.35		0.10				c0.13	
v/c Ratio		0.73	0.35		0.78		0.27	0.27			0.34	
Uniform Delay, d1		13.6	10.8		14.0		12.7	12.7			13.1	
Progression Factor		0.51	0.56		0.84		1.00	1.00			1.00	
Incremental Delay, d2		2.1	0.4		4.1		2.6	0.5			0.7	
Delay (s)		9.0	6.5		15.9		15.4	13.2			13.8	
Level of Service		A	A		B		B	B			B	
Approach Delay (s)		8.6			15.9			13.5			13.8	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	12.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	100.0%	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												
Volume (vph)	0	1335	197	0	1632	89	207	186	39	80	139	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.95			0.98		1.00	0.94		1.00	0.92	
Flpb, ped/bikes		1.00			1.00		0.76	1.00		0.78	1.00	
Frt		0.98			0.99		1.00	0.97		1.00	0.97	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4177			4169		1183	1503		1219	1277	
Flt Permitted		1.00			1.00		0.60	1.00		0.53	1.00	
Satd. Flow (perm)		4177			4169		750	1503		684	1277	
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)	0	1362	201	0	1665	91	211	190	40	82	142	43
RTOR Reduction (vph)	0	7	0	0	5	0	0	4	0	0	2	0
Lane Group Flow (vph)	0	1556	0	0	1751	0	211	226	0	82	183	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2413			2409		229	459		209	390	
v/s Ratio Prot		0.37			c0.42			0.15			0.14	
v/s Ratio Perm							c0.28			0.12		
v/c Ratio		0.64			0.73		0.92	0.49		0.39	0.47	
Uniform Delay, d1		12.8			13.8		30.2	25.5		24.7	25.3	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.3			2.0		42.1	3.7		5.5	4.0	
Delay (s)		14.1			15.8		72.3	29.3		30.1	29.3	
Level of Service		B			B		E	C		C	C	
Approach Delay (s)		14.1			15.8			49.9			29.6	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM Average Control Delay	19.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	92.3%	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												
Volume (vph)	0	1278	62	0	1473	65	68	155	25	32	173	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			1.00	
Frpb, ped/bikes		0.98			0.99		1.00	0.95			0.93	
Flpb, ped/bikes		1.00			1.00		0.82	1.00			0.97	
Frt		0.99			0.99		1.00	0.98			0.97	
Flt Protected		1.00			1.00		0.95	1.00			0.99	
Satd. Flow (prot)		4364			4374		1278	1530			1420	
Flt Permitted		1.00			1.00		0.47	1.00			0.94	
Satd. Flow (perm)		4364			4374		631	1530			1348	
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	1345	65	0	1551	68	72	163	26	34	182	62
RTOR Reduction (vph)	0	5	0	0	5	0	0	5	0	0	3	0
Lane Group Flow (vph)	0	1405	0	0	1614	0	72	184	0	0	275	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2584			2590		189	457			403	
v/s Ratio Prot		0.32			c0.37			0.12				
v/s Ratio Perm							0.11				c0.20	
v/c Ratio		0.54			0.62		0.38	0.40			0.68	
Uniform Delay, d1		11.0			11.9		25.0	25.1			27.8	
Progression Factor		1.00			0.23		1.00	1.00			1.00	
Incremental Delay, d2		0.8			0.8		5.7	2.6			9.0	
Delay (s)		11.9			3.6		30.7	27.8			36.8	
Level of Service		B			A		C	C			D	
Approach Delay (s)		11.9			3.6			28.6			36.8	
Approach LOS		B			A			C			D	

Intersection Summary			
HCM Average Control Delay	11.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	99.7%	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												
Volume (vph)	0	1380	49	0	1537	59	45	91	18	36	141	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.96			0.93	
Flpb, ped/bikes		1.00			1.00			0.94			0.96	
Frt		0.99			0.99			0.98			0.97	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		4209			4203			1260			1237	
Flt Permitted		1.00			1.00			0.86			0.93	
Satd. Flow (perm)		4209			4203			1101			1161	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	1468	52	0	1635	63	48	97	19	38	150	50
RTOR Reduction (vph)	0	4	0	0	4	0	0	4	0	0	3	0
Lane Group Flow (vph)	0	1516	0	0	1694	0	0	160	0	0	235	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2525			2522			330			348	
v/s Ratio Prot		0.36			c0.40							
v/s Ratio Perm								0.15			c0.20	
v/c Ratio		0.60			0.67			0.48			0.68	
Uniform Delay, d1		11.3			12.1			25.8			27.7	
Progression Factor		1.98			1.00			1.00			1.00	
Incremental Delay, d2		0.9			1.4			5.0			10.1	
Delay (s)		23.2			13.5			30.8			37.7	
Level of Service		C			B			C			D	
Approach Delay (s)		23.2			13.5			30.8			37.7	
Approach LOS		C			B			C			D	

Intersection Summary			
HCM Average Control Delay	20.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	75.0%	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		↑↑↑			↑↑↑		↰	↕				↱
Volume (vph)	0	1257	0	0	898	46	667	577	46	0	0	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.98		1.00	0.98				0.97
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.99				1.00
Satd. Flow (prot)		4282			4364		1415	2684				1367
Flt Permitted		1.00			1.00		0.95	0.99				1.00
Satd. Flow (perm)		4282			4364		1415	2684				1367
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	1445	0	0	1032	53	767	663	53	0	0	43
RTOR Reduction (vph)	0	0	0	0	6	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	1445	0	0	1079	0	483	996	0	0	0	43
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		53.0			41.0		27.0	27.0				9.0
Effective Green, g (s)		53.0			41.0		27.0	27.0				9.0
Actuated g/C Ratio		0.59			0.46		0.30	0.30				0.10
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		2522			1988		425	805				137
v/s Ratio Prot		c0.34			0.25							
v/s Ratio Perm							0.34	0.37				0.03
v/c Ratio		0.57			0.54		1.14	1.24				0.31
Uniform Delay, d1		11.5			17.7		31.5	31.5				37.6
Progression Factor		1.00			0.32		1.00	1.00				1.00
Incremental Delay, d2		1.0			0.8		86.5	117.3				5.9
Delay (s)		12.4			6.4		118.0	148.8				43.5
Level of Service		B			A		F	F				D
Approach Delay (s)		12.4			6.4			138.7			43.5	
Approach LOS		B			A			F			D	

Intersection Summary			
HCM Average Control Delay	57.3	HCM Level of Service	E
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	64.3%	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												
Volume (vph)	162	140	830	0	88	5	780	251	41	0	444	112
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		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.98		1.00	0.95			1.00	0.67
Flpb, ped/bikes		0.85	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.99		1.00	0.98			1.00	0.85
Flt Protected		0.97	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1353	2448		1358		4385	1328			3110	815
Flt Permitted		0.78	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		1085	2448		1358		4385	1328			3110	815
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	167	144	856	0	91	5	804	259	42	0	458	115
RTOR Reduction (vph)	0	0	2	0	2	0	0	6	0	0	0	17
Lane Group Flow (vph)	0	311	854	0	94	0	804	295	0	0	458	98
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		31.0	54.0		31.0		19.5	51.0			28.0	28.0
Effective Green, g (s)		31.0	50.5		31.0		19.5	51.0			28.0	28.0
Actuated g/C Ratio		0.34	0.56		0.34		0.22	0.57			0.31	0.31
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		374	1374		468		950	753			968	254
v/s Ratio Prot			0.35		0.07		c0.18	0.22			c0.15	
v/s Ratio Perm		c0.29										0.12
v/c Ratio		0.83	0.62		0.20		0.85	0.39			0.47	0.38
Uniform Delay, d1		27.1	13.3		20.8		33.8	10.9			25.0	24.3
Progression Factor		1.03	0.81		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		12.0	0.7		0.2		9.2	1.5			1.7	4.4
Delay (s)		39.9	11.5		21.0		43.0	12.4			26.7	28.6
Level of Service		D	B		C		D	B			C	C
Approach Delay (s)		19.1			21.0			34.7			27.1	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM Average Control Delay	26.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	73.8%	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												
Volume (vph)	0	0	0	62	264	56	40	57	0	0	43	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.11		1.00			0.93	
Flpb, ped/bikes					0.86	1.00		0.86			1.00	
Frt					1.00	0.85		1.00			0.97	
Flt Protected					0.99	1.00		0.98			1.00	
Satd. Flow (prot)					2481	156		1375			1481	
Flt Permitted					0.99	1.00		0.89			1.00	
Satd. Flow (perm)					2481	156		1244			1481	
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)	0	0	0	69	293	62	44	63	0	0	48	11
RTOR Reduction (vph)	0	0	0	0	0	36	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	362	26	0	107	0	0	59	0
Confl. Peds. (#/hr)				1245		1700	831					831
Confl. Bikes (#/hr)						158			9			17
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					25.0	25.0		25.0			25.0	
Effective Green, g (s)					25.0	25.0		25.0			25.0	
Actuated g/C Ratio					0.42	0.42		0.42			0.42	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1034	65		518			617	
v/s Ratio Prot											0.04	
v/s Ratio Perm					0.15	c0.17		c0.09				
v/c Ratio					0.35	0.40		0.21			0.10	
Uniform Delay, d1					12.0	12.2		11.2			10.6	
Progression Factor					1.00	1.00		0.88			1.00	
Incremental Delay, d2					0.9	17.2		0.7			0.3	
Delay (s)					12.9	29.4		10.5			10.9	
Level of Service					B	C		B			B	
Approach Delay (s)		0.0			15.3			10.5			10.9	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	45.0%	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												
Volume (vph)	0	0	0	136	306	29	103	28	0	0	41	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.94		1.00	1.00			0.88	
Flpb, ped/bikes				1.00	1.00		0.62	1.00			1.00	
Frt				1.00	0.99		1.00	1.00			0.96	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	2882		970	1637			1390	
Flt Permitted				0.95	1.00		0.72	1.00			1.00	
Satd. Flow (perm)				1555	2882		730	1637			1390	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	0	153	344	33	116	31	0	0	46	18
RTOR Reduction (vph)	0	0	0	0	6	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	153	371	0	116	31	0	0	64	0
Confl. Peds. (#/hr)						1700	585					585
Confl. Bikes (#/hr)						113			6			3
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				38.4	38.4		12.3	12.3			12.3	
Effective Green, g (s)				38.4	38.4		12.3	12.3			12.3	
Actuated g/C Ratio				0.64	0.64		0.21	0.21			0.21	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				995	1844		150	336			285	
v/s Ratio Prot				0.10	c0.13			0.02			0.05	
v/s Ratio Perm							c0.16					
v/c Ratio				0.15	0.20		0.77	0.09			0.22	
Uniform Delay, d1				4.3	4.5		22.5	19.3			19.9	
Progression Factor				1.00	1.00		1.51	1.58			1.00	
Incremental Delay, d2				0.3	0.2		31.2	0.5			1.8	
Delay (s)				4.6	4.7		65.3	31.1			21.7	
Level of Service				A	A		E	C			C	
Approach Delay (s)		0.0			4.7			58.1			21.7	
Approach LOS		A			A			E			C	

Intersection Summary			
HCM Average Control Delay	16.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	269	95	14	83	39	23
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	292	103	15	90	42	25
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	306					
pX, platoon unblocked						
vC, conflicting volume			796		1265	998
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			796		1265	998
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		44	79
cM capacity (veh/h)			575		76	118

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	195	201	105	67
Volume Left	0	0	15	42
Volume Right	0	103	0	25
cSH	1700	1700	575	88
Volume to Capacity	0.11	0.12	0.03	0.77
Queue Length 95th (ft)	0	0	2	98
Control Delay (s)	0.0	0.0	1.9	123.7
Lane LOS			A	F
Approach Delay (s)	0.0		1.9	123.7
Approach LOS				F

Intersection Summary			
Average Delay	15.0		
Intersection Capacity Utilization	36.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	196	25	1	115	6	37	92	49	17	64	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	
Lane Util. Factor		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.42		0.97			0.86			0.90	
Flpb, ped/bikes		1.00	1.00		1.00			0.91			0.94	
Frt		1.00	0.85		0.99			0.96			0.98	
Flt Protected		1.00	1.00		1.00			0.99			0.99	
Satd. Flow (prot)		1637	588		1378			1069			1181	
Flt Permitted		1.00	1.00		1.00			0.92			0.93	
Satd. Flow (perm)		1637	588		1377			995			1110	
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	0	261	33	1	153	8	49	123	65	23	85	24
RTOR Reduction (vph)	0	0	17	0	3	0	0	3	0	0	4	0
Lane Group Flow (vph)	0	261	16	0	159	0	0	234	0	0	128	0
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type			Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases			2	2			4			4		
Actuated Green, G (s)		29.0	29.0		29.0			22.0			22.0	
Effective Green, g (s)		29.0	29.0		29.0			22.0			22.0	
Actuated g/C Ratio		0.48	0.48		0.48			0.37			0.37	
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)		791	284		666			365			407	
v/s Ratio Prot		c0.16										
v/s Ratio Perm			0.03		0.12			c0.24			0.11	
v/c Ratio		0.33	0.06		0.24			0.64			0.31	
Uniform Delay, d1		9.5	8.2		9.1			15.7			13.6	
Progression Factor		1.00	1.00		1.00			0.67			0.85	
Incremental Delay, d2		1.1	0.4		0.8			8.0			2.0	
Delay (s)		10.6	8.6		9.9			18.4			13.5	
Level of Service		B	A		A			B			B	
Approach Delay (s)		10.4			9.9			18.4			13.5	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM Average Control Delay	13.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	77.9%	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												
Volume (vph)	0	236	31	17	79	0	50	0	64	12	15	21
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		1.00	1.00		0.95			1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.26		1.00			0.69			1.00	0.67
Flpb, ped/bikes		1.00	1.00		0.92			0.87			0.80	1.00
Frt		1.00	0.85		1.00			0.92			1.00	0.85
Flt Protected		1.00	1.00		0.99			0.98			0.98	1.00
Satd. Flow (prot)		1637	354		2837			883			1277	933
Flt Permitted		1.00	1.00		0.88			0.89			0.91	1.00
Satd. Flow (perm)		1637	354		2524			806			1193	933
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	271	36	20	91	0	57	0	74	14	17	24
RTOR Reduction (vph)	0	0	27	0	0	0	0	0	0	0	0	9
Lane Group Flow (vph)	0	271	9	0	111	0	0	131	0	0	31	15
Confl. Peds. (#/hr)			800	800			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	36.5
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	36.5
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	0.61
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)		396	86		610			490			726	568
v/s Ratio Prot		c0.17										
v/s Ratio Perm			0.02		0.04			c0.16			0.03	0.02
v/c Ratio		0.68	0.10		0.18			0.27			0.04	0.03
Uniform Delay, d1		20.7	17.7		18.0			5.5			4.7	4.7
Progression Factor		1.07	1.37		1.00			1.26			1.00	1.00
Incremental Delay, d2		9.1	2.3		0.7			1.3			0.0	0.0
Delay (s)		31.3	26.5		18.7			8.2			4.7	4.7
Level of Service		C	C		B			A			A	A
Approach Delay (s)		30.8			18.7			8.2			4.7	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM Average Control Delay	21.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	316	9	59	0	155	0	350	484
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		1.00		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		1.00		1.00			1.00
Flt Protected		1.00		0.95		1.00			0.98
Satd. Flow (prot)		942		1360		1637			3046
Flt Permitted		1.00		0.95		1.00			0.95
Satd. Flow (perm)		942		1360		1637			2970
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	333	9	62	0	163	0	368	509
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	333	0	71	0	163	0	0	877
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		385		314			891
v/s Ratio Prot						0.10			
v/s Ratio Perm		c0.35		0.05					c0.30
v/c Ratio		0.63		0.18		0.52			0.98
Uniform Delay, d1		9.1		16.3		21.8			20.9
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		5.7		1.1		1.5			26.6
Delay (s)		14.8		17.3		23.2			47.4
Level of Service		B		B		C			D
Approach Delay (s)	14.8			17.3		23.2			47.4
Approach LOS	B			B		C			D

Intersection Summary			
HCM Average Control Delay	35.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	77.8%	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												
Volume (vph)	28	171	50	41	189	44	42	98	33	31	75	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.95			1.00	0.56	1.00	0.86			0.82	
Flpb, ped/bikes		0.97			1.00	1.00	0.60	1.00			0.92	
Frt		0.97			1.00	0.85	1.00	0.96			0.95	
Flt Protected		0.99			0.99	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1269			1419	682	931	1184			2212	
Flt Permitted		0.95			0.91	1.00	0.64	1.00			0.87	
Satd. Flow (perm)		1214			1307	682	627	1184			1949	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	32	194	57	47	215	50	48	111	38	35	85	57
RTOR Reduction (vph)	0	11	0	0	0	12	0	26	0	0	0	0
Lane Group Flow (vph)	0	272	0	0	262	38	48	123	0	0	177	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		38.2			38.2	38.2	11.7	11.7			11.7	
Effective Green, g (s)		38.2			38.2	38.2	11.7	11.7			11.7	
Actuated g/C Ratio		0.64			0.64	0.64	0.19	0.19			0.19	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		773			832	434	122	231			380	
v/s Ratio Prot								c0.10				
v/s Ratio Perm		c0.22			0.20	0.06	0.08				0.09	
v/c Ratio		0.35			0.31	0.09	0.39	0.53			0.47	
Uniform Delay, d1		5.1			5.0	4.2	21.1	21.7			21.4	
Progression Factor		1.00			1.00	1.00	1.45	1.57			1.00	
Incremental Delay, d2		1.3			1.0	0.4	2.1	2.4			0.9	
Delay (s)		6.4			5.9	4.6	32.7	36.5			22.3	
Level of Service		A			A	A	C	D			C	
Approach Delay (s)		6.4			5.7			35.6			22.3	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM Average Control Delay	15.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	89.3%	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		✣			✣			✣			✣	
Volume (vph)	49	228	44	17	186	21	17	97	32	32	47	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.93			0.95			0.88			0.85	
Flpb, ped/bikes		0.95			0.98			0.95			0.89	
Frt		0.98			0.99			0.97			0.96	
Flt Protected		0.99			1.00			0.99			0.99	
Satd. Flow (prot)		1225			1308			1156			1023	
Flt Permitted		0.93			0.97			0.96			0.89	
Satd. Flow (perm)		1144			1269			1121			926	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	54	251	48	19	204	23	19	107	35	35	52	33
RTOR Reduction (vph)	0	10	0	0	6	0	0	17	0	0	23	0
Lane Group Flow (vph)	0	343	0	0	240	0	0	144	0	0	97	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		32.6			32.6			18.6			18.6	
Effective Green, g (s)		32.6			32.6			18.6			18.6	
Actuated g/C Ratio		0.54			0.54			0.31			0.31	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		622			689			348			287	
v/s Ratio Prot												
v/s Ratio Perm		c0.30			0.19			c0.13			0.10	
v/c Ratio		0.55			0.35			0.42			0.34	
Uniform Delay, d1		8.9			7.7			16.4			16.0	
Progression Factor		1.00			1.00			1.07			0.34	
Incremental Delay, d2		3.5			1.4			3.4			3.1	
Delay (s)		12.4			9.1			20.9			8.6	
Level of Service		B			A			C			A	
Approach Delay (s)		12.4			9.1			20.9			8.6	
Approach LOS		B			A			C			A	

Intersection Summary			
HCM Average Control Delay	12.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
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												
Volume (vph)	19	205	64	18	119	29	31	57	73	33	65	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.88			1.00	0.46		0.76			0.88	
Flpb, ped/bikes		0.97			0.96	1.00		0.92			0.90	
Frt		0.97			1.00	0.85		0.94			0.97	
Flt Protected		1.00			0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1185			1365	565		933			1088	
Flt Permitted		0.98			0.95	1.00		0.94			0.91	
Satd. Flow (perm)		1168			1307	565		881			1000	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	20	220	69	19	128	31	33	61	78	35	70	31
RTOR Reduction (vph)	0	17	0	0	0	15	0	17	0	0	18	0
Lane Group Flow (vph)	0	292	0	0	147	16	0	155	0	0	118	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		31.0			31.0	31.0		21.0			21.0	
Effective Green, g (s)		31.0			31.0	31.0		21.0			21.0	
Actuated g/C Ratio		0.52			0.52	0.52		0.35			0.35	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		603			675	292		308			350	
v/s Ratio Prot												
v/s Ratio Perm		c0.25			0.11	0.03		c0.18			0.12	
v/c Ratio		0.48			0.22	0.05		0.50			0.34	
Uniform Delay, d1		9.3			7.9	7.2		15.4			14.4	
Progression Factor		1.00			0.81	0.64		0.89			1.02	
Incremental Delay, d2		2.8			0.7	0.4		5.3			2.6	
Delay (s)		12.1			7.2	5.0		19.1			17.2	
Level of Service		B			A	A		B			B	
Approach Delay (s)		12.1			6.8			19.1			17.2	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM Average Control Delay	13.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	79.2%	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												
Volume (vph)	22	209	63	17	81	13	16	55	52	15	26	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.48		1.00	0.48		0.76			0.83	
Flpb, ped/bikes		0.96	1.00		0.94	1.00		0.94			0.90	
Frt		1.00	0.85		1.00	0.85		0.94			0.96	
Flt Protected		1.00	1.00		0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1368	573		1333	573		953			1154	
Flt Permitted		0.98	1.00		0.94	1.00		0.97			0.92	
Satd. Flow (perm)		1340	573		1266	573		927			1081	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	25	240	72	20	93	15	18	63	60	17	30	20
RTOR Reduction (vph)	0	0	6	0	0	5	0	32	0	0	15	0
Lane Group Flow (vph)	0	265	66	0	113	10	0	109	0	0	52	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		36.0	36.0		36.0	36.0		16.0			16.0	
Effective Green, g (s)		36.0	36.0		36.0	36.0		16.0			16.0	
Actuated g/C Ratio		0.60	0.60		0.60	0.60		0.27			0.27	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		804	344		760	344		247			288	
v/s Ratio Prot												
v/s Ratio Perm		c0.20	0.11		0.09	0.02		c0.12			0.05	
v/c Ratio		0.33	0.19		0.15	0.03		0.44			0.18	
Uniform Delay, d1		6.0	5.4		5.3	4.9		18.3			17.0	
Progression Factor		0.96	0.97		1.00	1.00		1.08			1.42	
Incremental Delay, d2		1.0	1.1		0.4	0.2		5.4			1.4	
Delay (s)		6.7	6.4		5.7	5.0		25.1			25.4	
Level of Service		A	A		A	A		C			C	
Approach Delay (s)		6.6			5.6			25.1			25.4	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	12.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations										
Volume (vph)	24	148	50	4	34	14	315	166	112	827
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				4.0		5.0		5.0	5.0
Lane Util. Factor	1.00				1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.89				0.90		0.78		1.00	1.00
Flpb, ped/bikes	1.00				0.63		1.00		1.00	1.00
Frt	0.88				0.96		0.95		1.00	1.00
Flt Protected	0.99				0.96		1.00		0.95	1.00
Satd. Flow (prot)	1269				856		2296		1555	3110
Flt Permitted	0.99				0.96		1.00		0.95	1.00
Satd. Flow (perm)	1269				856		2296		1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	161	54	4	37	15	342	180	122	899
RTOR Reduction (vph)	12	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	229	0	0	0	56	0	522	0	122	899
Confl. Peds. (#/hr)				400	400	400		400		
Confl. Bikes (#/hr)		30	30			10		30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0
Turn Type				custom					Split	
Protected Phases	4!				8!		6		2	2
Permitted Phases				3						
Actuated Green, G (s)	18.6				44.6		17.0		14.4	14.4
Effective Green, g (s)	18.6				44.6		17.0		14.4	14.4
Actuated g/C Ratio	0.21				0.50		0.19		0.16	0.16
Clearance Time (s)	5.0				4.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	262				424		434		249	498
v/s Ratio Prot	c0.18						c0.23		0.08	c0.29
v/s Ratio Perm					0.07					
v/c Ratio	0.87				0.13		1.20		0.49	1.81
Uniform Delay, d1	34.6				12.3		36.5		34.5	37.8
Progression Factor	1.00				1.03		1.00		0.75	0.85
Incremental Delay, d2	26.0				0.1		111.4		6.3	369.8
Delay (s)	60.5				12.8		147.9		32.3	401.9
Level of Service	E				B		F		C	F
Approach Delay (s)	60.5				12.8		147.9			357.8
Approach LOS	E				B		F			F

Intersection Summary			
HCM Average Control Delay	248.8	HCM Level of Service	F
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	767	26	1	615	14	0	51	20	0	95	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.90			0.91	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.96			0.96	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2867			2880			1245			1249	
Flt Permitted		1.00			0.95			1.00			1.00	
Satd. Flow (perm)		2867			2749			1245			1249	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	799	27	1	641	15	0	53	21	0	99	38
RTOR Reduction (vph)	0	3	0	0	2	0	0	18	0	0	27	0
Lane Group Flow (vph)	0	823	0	0	655	0	0	56	0	0	110	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type				Perm								
Protected Phases		2			6			8			4	
Permitted Phases				6								
Actuated Green, G (s)		41.8			41.8			9.4			9.4	
Effective Green, g (s)		41.8			41.8			9.4			9.4	
Actuated g/C Ratio		0.70			0.70			0.16			0.16	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1997			1915			195			196	
v/s Ratio Prot		c0.29						0.05			c0.09	
v/s Ratio Perm					0.24							
v/c Ratio		0.41			0.34			0.29			0.56	
Uniform Delay, d1		3.9			3.6			22.3			23.4	
Progression Factor		0.46			1.00			1.00			1.00	
Incremental Delay, d2		0.5			0.1			0.8			3.6	
Delay (s)		2.3			3.7			23.2			27.0	
Level of Service		A			A			C			C	
Approach Delay (s)		2.3			3.7			23.2			27.0	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	5.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	50.0%	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												
Volume (vph)	0	592	130	0	477	36	173	125	69	0	158	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.69		1.00	0.69	1.00	1.00	0.72		0.98	
Flpb, ped/bikes		1.00	1.00		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	0.85		0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3110	959		3110	959	3016	1637	1005		2847	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		3110	959		3110	959	3016	1637	1005		2847	
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)	0	604	133	0	487	37	177	128	70	0	161	8
RTOR Reduction (vph)	0	0	57	0	0	16	0	0	5	0	7	0
Lane Group Flow (vph)	0	604	76	0	487	21	177	128	65	0	162	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type	Perm		Perm	Perm		Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		34.1	34.1		34.1	34.1	4.9	16.9	16.9		7.5	
Effective Green, g (s)		34.1	34.1		34.1	34.1	4.9	16.9	16.9		7.5	
Actuated g/C Ratio		0.57	0.57		0.57	0.57	0.08	0.28	0.28		0.12	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		1768	545		1768	545	246	461	283		356	
v/s Ratio Prot		c0.19			0.16		c0.06	0.08			c0.06	
v/s Ratio Perm			0.08			0.02			0.06			
v/c Ratio		0.34	0.14		0.28	0.04	0.72	0.28	0.23		0.46	
Uniform Delay, d1		6.9	6.1		6.6	5.7	26.9	16.8	16.6		24.4	
Progression Factor		1.00	1.00		1.60	2.51	1.00	1.00	1.00		0.98	
Incremental Delay, d2		0.5	0.5		0.4	0.1	9.7	0.3	0.4		0.9	
Delay (s)		7.5	6.6		11.0	14.4	36.5	17.1	17.0		24.7	
Level of Service		A	A		B	B	D	B	B		C	
Approach Delay (s)		7.3			11.2			26.3			24.7	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	72.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	89	517	508	63	47	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	0.96		0.81	
Flpb, ped/bikes		0.98	1.00		1.00	
Frt		1.00	0.98		0.92	
Flt Protected		0.99	1.00		0.98	
Satd. Flow (prot)		2836	2943		1049	
Flt Permitted		0.80	1.00		0.98	
Satd. Flow (perm)		2281	2943		1049	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	95	550	540	67	50	64
RTOR Reduction (vph)	0	0	19	0	39	0
Lane Group Flow (vph)	0	645	588	0	75	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		32.4	32.4		20.6	
Effective Green, g (s)		32.4	32.4		20.6	
Actuated g/C Ratio		0.54	0.54		0.34	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1232	1589		360	
v/s Ratio Prot			0.20		c0.07	
v/s Ratio Perm		c0.28				
v/c Ratio		0.52	0.37		0.21	
Uniform Delay, d1		8.8	7.9		13.9	
Progression Factor		1.66	1.00		1.16	
Incremental Delay, d2		0.4	0.1		1.2	
Delay (s)		15.1	8.1		17.4	
Level of Service		B	A		B	
Approach Delay (s)		15.1	8.1		17.4	
Approach LOS		B	A		B	

Intersection Summary			
HCM Average Control Delay	12.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	80.0%	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												
Volume (vph)	35	350	41	23	512	71	33	61	46	24	74	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.96			0.95			0.90			0.88	
Flpb, ped/bikes		0.99			0.99			0.95			0.96	
Frt		0.99			0.98			0.96			0.95	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		2713			2700			1145			1142	
Flt Permitted		0.88			0.93			0.91			0.95	
Satd. Flow (perm)		2396			2520			1057			1090	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	37	372	44	24	545	76	35	65	49	26	79	64
RTOR Reduction (vph)	0	14	0	0	17	0	0	30	0	0	20	0
Lane Group Flow (vph)	0	439	0	0	628	0	0	119	0	0	149	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		30.6			30.6			20.6			20.6	
Effective Green, g (s)		30.6			30.6			20.6			20.6	
Actuated g/C Ratio		0.51			0.51			0.34			0.34	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1222			1285			363			374	
v/s Ratio Prot												
v/s Ratio Perm		0.18			c0.25			0.11			c0.14	
v/c Ratio		0.36			0.49			0.33			0.40	
Uniform Delay, d1		8.8			9.6			14.6			15.0	
Progression Factor		1.00			1.06			1.00			0.96	
Incremental Delay, d2		0.8			1.3			2.4			3.0	
Delay (s)		9.6			11.4			17.0			17.3	
Level of Service		A			B			B			B	
Approach Delay (s)		9.6			11.4			17.0			17.3	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	12.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	67.9%	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												
Volume (vph)	38	563	33	29	449	47	55	42	59	24	44	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.98			0.96			0.88			0.88	
Flpb, ped/bikes		0.99			0.99			0.91			0.95	
Frt		0.99			0.99			0.95			0.95	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		2794			2742			1063			1126	
Flt Permitted		0.91			0.91			0.88			0.92	
Satd. Flow (perm)		2537			2493			948			1050	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	39	580	34	30	463	48	57	43	61	25	45	40
RTOR Reduction (vph)	0	5	0	0	9	0	0	26	0	0	32	0
Lane Group Flow (vph)	0	648	0	0	532	0	0	135	0	0	78	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		39.0			39.0			12.1			12.1	
Effective Green, g (s)		39.0			39.0			12.1			12.1	
Actuated g/C Ratio		0.65			0.65			0.20			0.20	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1649			1620			191			212	
v/s Ratio Prot												
v/s Ratio Perm		c0.26			0.21			c0.14			0.07	
v/c Ratio		0.39			0.33			0.71			0.37	
Uniform Delay, d1		4.9			4.7			22.3			20.7	
Progression Factor		1.93			1.00			1.00			1.00	
Incremental Delay, d2		0.7			0.1			11.4			1.1	
Delay (s)		10.2			4.8			33.7			21.7	
Level of Service		B			A			C			C	
Approach Delay (s)		10.2			4.8			33.7			21.7	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM Average Control Delay	11.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	77.8%	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												
Volume (vph)	20	570	62	20	438	9	58	7	14	7	9	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			0.99			0.94			0.76	
Flpb, ped/bikes		1.00			1.00			0.76			0.96	
Frt		0.99			1.00			0.98			0.91	
Flt Protected		1.00			1.00			0.96			0.99	
Satd. Flow (prot)		2773			3063			1096			1080	
Flt Permitted		0.93			0.91			0.77			0.96	
Satd. Flow (perm)		2590			2805			872			1048	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	22	640	70	22	492	10	65	8	16	8	10	34
RTOR Reduction (vph)	0	2	0	0	2	0	0	9	0	0	27	0
Lane Group Flow (vph)	0	730	0	0	522	0	0	80	0	0	25	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1787			1935			187			225	
v/s Ratio Prot												
v/s Ratio Perm		c0.28			0.19			c0.09			0.02	
v/c Ratio		0.41			0.27			0.43			0.11	
Uniform Delay, d1		6.0			5.3			30.6			28.5	
Progression Factor		1.00			0.20			1.00			0.99	
Incremental Delay, d2		0.7			0.3			7.1			0.1	
Delay (s)		6.7			1.4			37.6			28.4	
Level of Service		A			A			D			C	
Approach Delay (s)		6.7			1.4			37.6			28.4	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM Average Control Delay	7.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	75.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	36	554	461	903	443	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3026	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3026	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	37	571	475	931	457	37
RTOR Reduction (vph)	0	44	0	0	5	0
Lane Group Flow (vph)	37	527	475	931	489	0
Confl. Peds. (#/hr)						109
Confl. Bikes (#/hr)		10				64
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	11.0	36.3	21.3	69.0	43.7	
Effective Green, g (s)	11.0	36.3	21.3	69.0	43.7	
Actuated g/C Ratio	0.12	0.40	0.24	0.77	0.49	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	190	987	714	2235	1469	
v/s Ratio Prot	0.02	c0.22	c0.16	c0.32	0.16	
v/s Ratio Perm						
v/c Ratio	0.19	0.53	0.67	0.42	0.33	
Uniform Delay, d1	35.5	20.4	31.1	3.6	14.2	
Progression Factor	1.26	0.67	0.89	1.72	1.21	
Incremental Delay, d2	0.5	0.5	1.9	0.5	0.0	
Delay (s)	45.3	14.3	29.7	6.7	17.2	
Level of Service	D	B	C	A	B	
Approach Delay (s)	16.2			14.5	17.2	
Approach LOS	B			B	B	

Intersection Summary			
HCM Average Control Delay	15.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	83	223	16	0	942	0	55	31	1144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			0.99			1.00	1.00
Flpb, ped/bikes				0.71			1.00			1.00	1.00
Frt				0.99			0.99			1.00	1.00
Flt Protected				0.95			1.00			0.95	1.00
Satd. Flow (prot)				1988			4402			1555	3110
Flt Permitted				0.95			1.00			0.95	1.00
Satd. Flow (perm)				1988			4402			1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	90	242	17	0	1024	0	60	34	1243
RTOR Reduction (vph)	0	0	0	5	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	0	0	344	0	0	1079	0	0	34	1243
Confl. Peds. (#/hr)			107	139					107		
Confl. Bikes (#/hr)					8				106		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				19.1			52.7			5.2	61.9
Effective Green, g (s)				19.1			52.7			5.2	61.9
Actuated g/C Ratio				0.21			0.59			0.06	0.69
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				422			2578			90	2139
v/s Ratio Prot							0.25			0.02	c0.40
v/s Ratio Perm				0.17							
v/c Ratio				0.82			0.42			0.38	0.58
Uniform Delay, d1				33.8			10.2			40.8	7.3
Progression Factor				1.00			1.30			1.00	1.00
Incremental Delay, d2				11.5			0.0			1.0	1.2
Delay (s)				45.3			13.3			41.8	8.5
Level of Service				D			B			D	A
Approach Delay (s)	0.0			45.3			13.3				9.4
Approach LOS	A			D			B				A

Intersection Summary			
HCM Average Control Delay	15.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBL	EBR	EBR2	SEL	SET	SER2	NWL2	NWL	NWT	NWR	SWR2
Lane Configurations												
Volume (vph)	30	0	1	134	17	758	190	28	0	1132	29	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5		7.0	7.0	7.0		7.0	7.0		
Lane Util. Factor		1.00	1.00		1.00	0.95	1.00		1.00	0.95		
Frpb, ped/bikes		1.00	0.86		1.00	1.00	0.96		1.00	0.98		
Flpb, ped/bikes		1.00	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	1.00		
Flt Protected		0.95	1.00		0.95	1.00	1.00		0.95	1.00		
Satd. Flow (prot)		1555	1052		1555	3110	1334		1555	3050		
Flt Permitted		0.95	1.00		0.15	1.00	1.00		0.31	1.00		
Satd. Flow (perm)		1555	1052		248	3110	1334		515	3050		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	0	1	146	18	824	207	30	0	1230	32	0
RTOR Reduction (vph)	0	0	106	0	0	0	97	0	0	2	0	0
Lane Group Flow (vph)	0	33	41	0	18	824	110	0	30	1260	0	0
Confl. Peds. (#/hr)				130							1000	100
Confl. Bikes (#/hr)			10	10			30				30	10
Parking (#/hr)			5	5								
Turn Type	Perm		Perm		Perm		Perm	Perm	Perm			custom
Protected Phases		4				6				2		
Permitted Phases	4		4		6		6	2	2			8
Actuated Green, G (s)		18.0	18.0		34.5	34.5	34.5		34.5	34.5		
Effective Green, g (s)		18.0	18.0		34.5	34.5	34.5		34.5	34.5		
Actuated g/C Ratio		0.28	0.28		0.53	0.53	0.53		0.53	0.53		
Clearance Time (s)		5.5	5.5		7.0	7.0	7.0		7.0	7.0		
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)		431	291		132	1651	708		273	1619		
v/s Ratio Prot						0.26				c0.41		
v/s Ratio Perm		0.02	c0.04		0.07		0.08		0.06			
v/c Ratio		0.08	0.14		0.14	0.50	0.16		0.11	0.78		
Uniform Delay, d1		17.4	17.7		7.7	9.7	7.8		7.6	12.2		
Progression Factor		1.00	1.00		1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2		0.1	0.2		2.1	1.1	0.5		0.8	3.8		
Delay (s)		17.4	17.9		9.9	10.8	8.3		8.4	15.9		
Level of Service		B	B		A	B	A		A	B		
Approach Delay (s)		17.8				10.3				15.8		
Approach LOS		B				B				B		

Intersection Summary			
HCM Average Control Delay	13.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	81.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	17	0	7	0	0	0	30	1193	0	0	9	752
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.90					1.00	1.00				0.99
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.96					1.00	1.00				1.00
Flt Protected		0.97					0.95	1.00				1.00
Satd. Flow (prot)		1200					1555	3110				3070
Flt Permitted		0.97					0.95	1.00				0.94
Satd. Flow (perm)		1200					1555	3110				2878
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	18	0	7	0	0	0	32	1269	0	0	10	800
RTOR Reduction (vph)	0	5	0	0	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	0	20	0	0	0	0	32	1269	0	0	0	825
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		3.6					5.4	77.4				67.0
Effective Green, g (s)		3.6					5.4	77.4				67.0
Actuated g/C Ratio		0.04					0.06	0.86				0.74
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		48					93	2675				2143
v/s Ratio Prot		c0.02					0.02	c0.41				
v/s Ratio Perm												0.29
v/c Ratio		0.42					0.34	0.47				0.39
Uniform Delay, d1		42.2					40.6	1.5				4.1
Progression Factor		1.00					1.24	2.90				1.00
Incremental Delay, d2		5.9					2.0	0.5				0.5
Delay (s)		48.0					52.2	4.9				4.6
Level of Service		D					D	A				A
Approach Delay (s)		48.0			0.0			6.0				4.6
Approach LOS		D			A			A				A

Intersection Summary			
HCM Average Control Delay	6.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	94.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	15
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	16
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	73	418	0	0	423	38	145	154	18	0	0	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				
Lane Util. Factor		0.95			0.95			0.95				
Frpb, ped/bikes		1.00			0.98			0.98				
Flpb, ped/bikes		0.98			1.00			0.86				
Frt		1.00			0.99			0.99				
Flt Protected		0.99			1.00			0.98				
Satd. Flow (prot)		2800			2778			2349				
Flt Permitted		0.81			1.00			0.98				
Satd. Flow (perm)		2293			2778			2349				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	78	445	0	0	450	40	154	164	19	0	0	0
RTOR Reduction (vph)	0	0	0	0	8	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	523	0	0	482	0	0	332	0	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm					
Protected Phases		2			6			8				
Permitted Phases	2						8					
Actuated Green, G (s)		44.0			44.0			27.0				
Effective Green, g (s)		44.0			44.0			27.0				
Actuated g/C Ratio		0.55			0.55			0.34				
Clearance Time (s)		4.5			4.5			4.5				
Vehicle Extension (s)		3.0			3.0			3.0				
Lane Grp Cap (vph)		1261			1528			793				
v/s Ratio Prot					0.17							
v/s Ratio Perm		c0.23						0.14				
v/c Ratio		0.41			0.32			0.42				
Uniform Delay, d1		10.5			9.8			20.4				
Progression Factor		1.00			0.16			1.00				
Incremental Delay, d2		1.0			0.5			1.6				
Delay (s)		11.5			2.1			22.1				
Level of Service		B			A			C				
Approach Delay (s)		11.5			2.1			22.1			0.0	
Approach LOS		B			A			C			A	

Intersection Summary			
HCM Average Control Delay	10.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	95.4%	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												
Volume (vph)	0	277	161	34	377	0	0	0	0	15	263	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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.88			1.00						0.95	
Flpb, ped/bikes		1.00			0.99						0.99	
Frt		0.94			1.00						0.97	
Flt Protected		1.00			1.00						1.00	
Satd. Flow (prot)		2583			3059						2636	
Flt Permitted		1.00			0.88						1.00	
Satd. Flow (perm)		2583			2705						2636	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	298	173	37	405	0	0	0	0	16	283	90
RTOR Reduction (vph)	0	58	0	0	0	0	0	0	0	0	29	0
Lane Group Flow (vph)	0	413	0	0	442	0	0	0	0	0	360	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		20.9			20.9						50.1	
Effective Green, g (s)		20.9			20.9						50.1	
Actuated g/C Ratio		0.26			0.26						0.63	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		675			707						1651	
v/s Ratio Prot		0.16										
v/s Ratio Perm					c0.16						0.14	
v/c Ratio		0.61			0.63						0.22	
Uniform Delay, d1		26.0			26.1						6.5	
Progression Factor		0.62			1.00						1.00	
Incremental Delay, d2		1.5			1.7						0.3	
Delay (s)		17.6			27.8						6.8	
Level of Service		B			C						A	
Approach Delay (s)		17.6			27.8			0.0			6.8	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM Average Control Delay	17.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	83.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	53	245	369	1196	0	728	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.65	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		0.99	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	910	3016	3110		3049	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	910	3016	3110		3049	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	53	245	369	1196	0	728	31
RTOR Reduction (vph)	0	215	0	0	0	2	0
Lane Group Flow (vph)	53	30	369	1196	0	757	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	11.0	11.0	16.1	68.0		45.9	
Effective Green, g (s)	11.0	11.0	16.1	68.0		45.9	
Actuated g/C Ratio	0.12	0.12	0.18	0.76		0.51	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	190	111	540	2350		1555	
v/s Ratio Prot	c0.03		c0.12	c0.38		0.25	
v/s Ratio Perm		0.03					
v/c Ratio	0.28	0.27	0.68	0.51		0.49	
Uniform Delay, d1	35.9	35.9	34.6	4.4		14.4	
Progression Factor	1.00	1.00	1.00	1.00		1.17	
Incremental Delay, d2	0.8	1.3	3.6	0.8		1.0	
Delay (s)	36.7	37.2	38.1	5.2		17.9	
Level of Service	D	D	D	A		B	
Approach Delay (s)	37.1			12.9		17.9	
Approach LOS	D			B		B	

Intersection Summary			
HCM Average Control Delay	17.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	78.4%	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												
Volume (vph)	15	221	10	12	121	15	5	75	22	30	105	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
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.43		1.00	0.66		0.93			1.00	0.46
Flpb, ped/bikes		0.98	1.00		0.96	1.00		0.98			0.94	1.00
Frt		1.00	0.85		1.00	0.85		0.97			1.00	0.85
Flt Protected		1.00	1.00		1.00	1.00		1.00			0.99	1.00
Satd. Flow (prot)		1603	600		1571	917		1448			1527	643
Flt Permitted		0.98	1.00		0.97	1.00		0.98			0.92	1.00
Satd. Flow (perm)		1583	600		1536	917		1427			1428	643
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	16	235	11	13	129	16	5	80	23	32	112	5
RTOR Reduction (vph)	0	0	3	0	0	5	0	6	0	0	0	4
Lane Group Flow (vph)	0	251	8	0	142	11	0	102	0	0	144	1
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		41.0	41.0		41.0	41.0		10.0			10.0	10.0
Effective Green, g (s)		41.0	41.0		41.0	41.0		10.0			10.0	10.0
Actuated g/C Ratio		0.68	0.68		0.68	0.68		0.17			0.17	0.17
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)		1082	410		1050	627		238			238	107
v/s Ratio Prot												
v/s Ratio Perm		c0.16	0.01		0.09	0.01		0.07			c0.10	0.00
v/c Ratio		0.23	0.02		0.14	0.02		0.43			0.61	0.01
Uniform Delay, d1		3.6	3.0		3.3	3.0		22.4			23.2	20.9
Progression Factor		1.00	1.00		1.33	1.52		1.06			1.31	1.64
Incremental Delay, d2		0.1	0.0		0.3	0.1		1.2			4.3	0.0
Delay (s)		3.7	3.1		4.7	4.7		24.9			34.5	34.2
Level of Service		A	A		A	A		C			C	C
Approach Delay (s)		3.7			4.7			24.9			34.5	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	14.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	1122	20	285	199	38	8	20	4	5	5	187	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.34		0.67	1.00	0.95			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.74	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	558	3110	478		947	1555	1328			1146	1175
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.99	1.00
Satd. Flow (perm)	3110	558	3110	478		947	1555	1328			1195	1175
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	1261	22	320	224	43	9	22	4	6	6	210	15
RTOR Reduction (vph)	0	5	0	121	0	4	0	4	0	0	0	11
Lane Group Flow (vph)	1261	17	320	146	0	5	22	6	0	0	216	4
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Effective Green, g (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Actuated g/C Ratio	0.55	0.55	0.55	0.55		0.29	0.29	0.29			0.29	0.29
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1700	305	1700	261		278	456	390			351	345
v/s Ratio Prot	c0.41		0.10									
v/s Ratio Perm		0.03		0.31		0.01	0.01	0.00			c0.18	0.00
v/c Ratio	0.74	0.06	0.19	0.56		0.02	0.05	0.01			0.62	0.01
Uniform Delay, d1	13.0	7.9	8.6	11.1		18.8	19.0	18.8			22.9	18.8
Progression Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	3.0	0.3	0.2	8.4		0.1	0.2	0.1			7.8	0.1
Delay (s)	15.9	8.3	8.8	19.5		18.9	19.2	18.9			30.7	18.9
Level of Service	B	A	A	B		B	B	B			C	B
Approach Delay (s)	15.8		13.7								29.9	
Approach LOS	B		B								C	

Intersection Summary			
HCM Average Control Delay	16.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.3%	ICU Level of Service	C
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	1144	54	14	431	88	35
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1217	57	15	459	94	37

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	811	463	168	306	131
Volume Left (vph)	0	0	15	0	94
Volume Right (vph)	0	57	0	0	37
Hadj (s)	0.02	-0.07	0.06	0.02	-0.01
Departure Headway (s)	5.6	5.5	6.3	6.3	6.5
Degree Utilization, x	1.26	0.71	0.30	0.53	0.24
Capacity (veh/h)	638	639	553	562	535
Control Delay (s)	148.1	19.6	10.8	15.1	11.5
Approach Delay (s)	101.4		13.6		11.5
Approach LOS	F		B		B

Intersection Summary			
Delay	73.0		
HCM Level of Service	F		
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	1012	140	11	1	355	20	6	7	3	11	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4				5.4		4.0			5.0	5.0
Lane Util. Factor		0.95				0.95		1.00			1.00	1.00
Frpb, ped/bikes		0.93				0.98		0.78			1.00	0.55
Flpb, ped/bikes		1.00				1.00		1.00			1.00	1.00
Frt		0.98				0.99		0.86			1.00	0.85
Flt Protected		1.00				1.00		1.00			0.98	1.00
Satd. Flow (prot)		2639				3020		1106			1598	768
Flt Permitted		0.94				0.95		1.00			0.98	1.00
Satd. Flow (perm)		2488				2878		1106			1598	768
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	25	1100	152	12	1	386	22	7	8	3	12	18
RTOR Reduction (vph)	0	1	0	0	0	5	0	0	0	0	0	16
Lane Group Flow (vph)	0	1288	0	0	0	404	0	7	0	0	23	2
Confl. Peds. (#/hr)	400		400	400	400		400	400	400	400		400
Confl. Bikes (#/hr)			30	30			30	10				10
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm			Free	Split	Split		Perm
Protected Phases		2				6			4	4	4	
Permitted Phases	2				6			Free				4
Actuated Green, G (s)		41.6				41.6		75.0			9.0	9.0
Effective Green, g (s)		41.6				41.6		75.0			9.0	9.0
Actuated g/C Ratio		0.55				0.55		1.00			0.12	0.12
Clearance Time (s)		5.4				5.4					5.0	5.0
Lane Grp Cap (vph)		1380				1596		1106			192	92
v/s Ratio Prot											c0.01	
v/s Ratio Perm		c0.52				0.14		0.01				0.00
v/c Ratio		0.93				0.25		0.01			0.12	0.02
Uniform Delay, d1		15.4				8.7		0.0			29.5	29.1
Progression Factor		1.00				1.47		1.00			1.00	1.00
Incremental Delay, d2		12.8				0.4		0.0			1.3	0.5
Delay (s)		28.2				13.1		0.0			30.7	29.6
Level of Service		C				B		A			C	C
Approach Delay (s)		28.2				13.1					30.2	
Approach LOS		C				B					C	

Intersection Summary			
HCM Average Control Delay	25.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	95.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	NWL	NWR	NWR2
Lane Configurations			
Volume (vph)	81	18	2
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	5.0		5.0
Lane Util. Factor	0.97		1.00
Frpb, ped/bikes	0.86		0.55
Flpb, ped/bikes	1.00		1.00
Frt	0.97		0.85
Flt Protected	0.96		1.00
Satd. Flow (prot)	2556		768
Flt Permitted	0.96		1.00
Satd. Flow (perm)	2556		768
Peak-hour factor, PHF	0.92	0.92	0.92
Adj. Flow (vph)	88	20	2
RTOR Reduction (vph)	0	0	2
Lane Group Flow (vph)	108	0	0
Confl. Peds. (#/hr)	400	400	400
Confl. Bikes (#/hr)		10	10
Parking (#/hr)			
Turn Type			Perm
Protected Phases	8		
Permitted Phases			8
Actuated Green, G (s)	9.0		9.0
Effective Green, g (s)	9.0		9.0
Actuated g/C Ratio	0.12		0.12
Clearance Time (s)	5.0		5.0
Lane Grp Cap (vph)	307		92
v/s Ratio Prot	c0.04		
v/s Ratio Perm			0.00
v/c Ratio	0.35		0.00
Uniform Delay, d1	30.3		29.0
Progression Factor	1.00		1.00
Incremental Delay, d2	3.1		0.1
Delay (s)	33.5		29.1
Level of Service	C		C
Approach Delay (s)	33.4		
Approach LOS	C		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1018	30	8	330	53	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.99			1.00	0.91	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	1.00			1.00	0.96	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2872			3102	1379	
Flt Permitted	1.00			0.93	0.97	
Satd. Flow (perm)	2872			2899	1379	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1072	32	8	347	56	22
RTOR Reduction (vph)	3	0	0	0	11	0
Lane Group Flow (vph)	1101	0	0	355	68	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1723			1739	414	
v/s Ratio Prot	c0.38				c0.05	
v/s Ratio Perm				0.12		
v/c Ratio	0.64			0.20	0.16	
Uniform Delay, d1	9.7			6.8	19.3	
Progression Factor	1.25			1.00	1.00	
Incremental Delay, d2	0.7			0.3	0.8	
Delay (s)	12.9			7.1	20.2	
Level of Service	B			A	C	
Approach Delay (s)	12.9			7.1	20.2	
Approach LOS	B			A	C	

Intersection Summary			
HCM Average Control Delay	11.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	1024	7	4	320	9	8
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1089	7	4	340	10	9

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	726	371	118	227	18
Volume Left (vph)	0	0	4	0	10
Volume Right (vph)	0	7	0	0	9
Hadj (s)	0.02	0.00	0.04	0.02	-0.16
Departure Headway (s)	4.9	4.9	5.7	5.7	6.2
Degree Utilization, x	0.99	0.50	0.19	0.36	0.03
Capacity (veh/h)	724	727	618	626	563
Control Delay (s)	50.8	11.5	8.8	10.6	9.4
Approach Delay (s)	37.5		10.0		9.4
Approach LOS	E		A		A

Intersection Summary			
Delay	30.7		
HCM Level of Service	D		
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR2
Lane Configurations												
Volume (vph)	9	965	22	4	321	50	42	30	41	14	12	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5	5.5		5.5		5.5	5.5	5.5
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	1.00
Frpb, ped/bikes		0.99			1.00	0.66		0.88		1.00	1.00	0.65
Flpb, ped/bikes		1.00			1.00	1.00		0.88		0.73	0.96	1.00
Frt		1.00			1.00	0.85		0.95		1.00	1.00	0.85
Flt Protected		1.00			1.00	1.00		0.98		0.95	0.99	1.00
Satd. Flow (prot)		2858			3110	808		1027		1080	1484	911
Flt Permitted		0.95			1.00	1.00		0.89		0.70	0.97	1.00
Satd. Flow (perm)		2721			3110	808		934		791	1455	911
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)	9	985	22	4	328	51	43	31	42	14	12	3
RTOR Reduction (vph)	0	0	0	0	0	4	0	17	0	0	0	2
Lane Group Flow (vph)	0	1020	0	0	328	47	0	99	0	12	14	1
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10	10		10			10			10
Parking (#/hr)		5	5	5		5	5	5	5			
Turn Type	Perm					Perm	Perm			Perm		Perm
Protected Phases		2			6			8			4	
Permitted Phases	2				6	6	8			4		4
Actuated Green, G (s)		56.5			56.5	56.5		22.5		22.5	22.5	22.5
Effective Green, g (s)		56.5			56.5	56.5		22.5		22.5	22.5	22.5
Actuated g/C Ratio		0.63			0.63	0.63		0.25		0.25	0.25	0.25
Clearance Time (s)		5.5			5.5	5.5		5.5		5.5	5.5	5.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		1708			1952	507		234		198	364	228
v/s Ratio Prot					0.11							
v/s Ratio Perm		c0.37				0.06		c0.11		0.02	0.01	0.00
v/c Ratio		0.60			0.17	0.09		0.42		0.06	0.04	0.00
Uniform Delay, d1		10.0			7.0	6.6		28.3		25.7	25.6	25.3
Progression Factor		1.00			2.02	2.15		1.00		1.00	1.00	1.00
Incremental Delay, d2		1.5			0.2	0.4		5.5		0.1	0.0	0.0
Delay (s)		11.5			14.3	14.6		33.8		25.8	25.6	25.3
Level of Service		B			B	B		C		C	C	C
Approach Delay (s)		11.5			14.3			33.8			25.7	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	NER2
Lane Configurations	
Volume (vph)	17
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.78
Flpb, ped/bikes	1.00
Frt	0.86
Flt Protected	1.00
Satd. Flow (prot)	967
Flt Permitted	1.00
Satd. Flow (perm)	967
Peak-hour factor, PHF	0.98
Adj. Flow (vph)	17
RTOR Reduction (vph)	0
Lane Group Flow (vph)	17
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	10
Parking (#/hr)	5
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Actuated Green, G (s)	90.0
Effective Green, g (s)	90.0
Actuated g/C Ratio	1.00
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	967
v/s Ratio Prot	
v/s Ratio Perm	0.02
v/c Ratio	0.02
Uniform Delay, d1	0.0
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	0.0
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	1003	0	0	382	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1078	0	0	411	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	1078	0	0	411	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)		30				30
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		76.0			76.0	
Effective Green, g (s)		76.0			76.0	
Actuated g/C Ratio		0.84			0.84	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		2067			2547	
v/s Ratio Prot		c0.44			0.14	
v/s Ratio Perm						
v/c Ratio		0.52			0.16	
Uniform Delay, d1		1.9			1.3	
Progression Factor		0.51			1.00	
Incremental Delay, d2		0.8			0.1	
Delay (s)		1.8			1.4	
Level of Service		A			A	
Approach Delay (s)	1.8			0.0	1.4	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	1.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	54.2%	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												
Volume (vph)	5	368	78	78	104	8	71	80	124	24	75	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.89		1.00	0.96			1.00	0.62		1.00	0.37
Flpb, ped/bikes		0.99		0.73	1.00			0.74	1.00		0.93	1.00
Frt		0.97		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.99	1.00
Satd. Flow (prot)		2673		1134	1354			1012	844		1500	508
Flt Permitted		0.95		0.37	1.00			0.84	1.00		0.93	1.00
Satd. Flow (perm)		2547		443	1354			869	844		1409	508
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)	5	387	82	82	109	8	75	84	131	25	79	18
RTOR Reduction (vph)	0	30	0	0	4	0	0	0	19	0	0	7
Lane Group Flow (vph)	0	444	0	82	113	0	0	159	112	0	104	11
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		23.1		23.1	23.1			56.9	56.9		56.9	56.9
Effective Green, g (s)		23.1		23.1	23.1			56.9	56.9		56.9	56.9
Actuated g/C Ratio		0.26		0.26	0.26			0.63	0.63		0.63	0.63
Clearance Time (s)		5.5		5.5	5.5			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)		654		114	348			549	534		891	321
v/s Ratio Prot					0.08							
v/s Ratio Perm		0.17		c0.19				c0.18	0.13		0.07	0.02
v/c Ratio		0.68		0.72	0.32			0.29	0.21		0.12	0.04
Uniform Delay, d1		30.1		30.5	27.1			7.5	7.0		6.6	6.2
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		2.8		19.4	0.5			1.3	0.9		0.3	0.2
Delay (s)		32.9		49.9	27.7			8.8	7.9		6.8	6.4
Level of Service		C		D	C			A	A		A	A
Approach Delay (s)		32.9			36.8			8.4			6.8	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM Average Control Delay	24.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
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												
Volume (vph)	0	447	106	12	175	429	88	0	33	1007	75	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.98			1.00	0.96		0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		0.99		1.00	1.00	
Frt		0.97			1.00	0.85		0.96		1.00	1.00	
Flt Protected		1.00			1.00	1.00		0.96		0.95	0.96	
Satd. Flow (prot)		2789			1627	2362		1305		1477	1489	
Flt Permitted		1.00			0.78	1.00		0.50		0.73	0.76	
Satd. Flow (perm)		2789			1272	2362		671		1132	1177	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	461	109	12	180	442	91	0	34	1038	77	3
RTOR Reduction (vph)	0	23	0	0	0	0	0	15	0	0	0	0
Lane Group Flow (vph)	0	547	0	0	192	442	0	110	0	561	557	0
Confl. Peds. (#/hr)	50			50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		17.0			17.0	65.5		17.5		45.0	45.0	
Effective Green, g (s)		17.0			17.0	65.5		17.5		45.0	45.0	
Actuated g/C Ratio		0.19			0.19	0.73		0.19		0.50	0.50	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		527			240	1719		130		566	589	
v/s Ratio Prot		c0.20										
v/s Ratio Perm					0.15	0.19		c0.16		c0.50	0.47	
v/c Ratio		1.04			0.80	0.26		0.84		0.99	0.95	
Uniform Delay, d1		36.5			34.9	4.1		34.9		22.3	21.3	
Progression Factor		1.00			1.00	1.00		1.00		1.17	1.17	
Incremental Delay, d2		49.5			23.7	0.4		45.4		33.9	24.2	
Delay (s)		86.0			58.6	4.5		80.4		60.0	49.2	
Level of Service		F			E	A		F		E	D	
Approach Delay (s)		86.0			20.9			80.4			54.6	
Approach LOS		F			C			F			D	

Intersection Summary			
HCM Average Control Delay	54.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	67.8%	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												
Volume (vph)	17	1462	19	34	516	17	102	51	180	23	18	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Lane Util. Factor		0.95			0.95	1.00		0.95			1.00	1.00
Frpb, ped/bikes		1.00			1.00	0.62		0.79			1.00	0.62
Flpb, ped/bikes		1.00			1.00	1.00		0.89			0.89	1.00
Frt		1.00			1.00	0.85		0.92			1.00	0.85
Flt Protected		1.00			1.00	1.00		0.98			0.97	1.00
Satd. Flow (prot)		3081			3100	754		1865			1415	858
Flt Permitted		0.95			0.80	1.00		0.84			0.77	1.00
Satd. Flow (perm)		2917			2496	754		1599			1119	858
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	18	1523	20	35	538	18	106	53	188	24	19	24
RTOR Reduction (vph)	0	1	0	0	0	1	0	10	0	0	0	19
Lane Group Flow (vph)	0	1560	0	0	573	17	0	337	0	0	43	5
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Actuated Green, G (s)		63.1			63.1	63.1		19.9			19.9	19.9
Effective Green, g (s)		63.1			63.1	63.1		19.9			19.9	19.9
Actuated g/C Ratio		0.70			0.70	0.70		0.22			0.22	0.22
Clearance Time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)		2045			1750	529		354			247	190
v/s Ratio Prot												
v/s Ratio Perm		c0.53			0.23	0.02		c0.21			0.04	0.01
v/c Ratio		0.76			0.33	0.03		0.95			0.17	0.03
Uniform Delay, d1		8.6			5.2	4.1		34.6			28.4	27.5
Progression Factor		1.00			0.80	0.72		1.00			1.00	1.00
Incremental Delay, d2		1.7			0.1	0.0		37.0			1.5	0.3
Delay (s)		10.4			4.3	3.0		71.6			29.9	27.7
Level of Service		B			A	A		E			C	C
Approach Delay (s)		10.4			4.2			71.6			29.1	
Approach LOS		B			A			E			C	

Intersection Summary			
HCM Average Control Delay	17.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	89.5%	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												
Volume (vph)	20	1522	109	0	457	27	63	281	196	7	129	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.95		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.80		0.99		1.00	0.85			0.88	
Flpb, ped/bikes		1.00	1.00		1.00		0.74	1.00			0.99	
Frt		1.00	0.85		0.99		1.00	0.94			0.95	
Flt Protected		1.00	1.00		1.00		0.95	1.00			1.00	
Satd. Flow (prot)		3104	974		3049		1144	3569			3715	
Flt Permitted		0.94	1.00		1.00		0.61	1.00			0.92	
Satd. Flow (perm)		2935	974		3049		740	3569			3423	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	21	1585	114	0	476	28	66	293	204	7	134	69
RTOR Reduction (vph)	0	0	1	0	0	0	0	7	0	0	54	0
Lane Group Flow (vph)	0	1606	113	0	504	0	66	490	0	0	156	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm				Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4				2			6		
Actuated Green, G (s)		60.0	60.0		60.0		20.0	20.0			20.0	
Effective Green, g (s)		60.0	60.0		60.0		20.0	20.0			20.0	
Actuated g/C Ratio		0.67	0.67		0.67		0.22	0.22			0.22	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1957	649		2033		164	793			761	
v/s Ratio Prot					0.17			c0.14				
v/s Ratio Perm		c0.55	0.12				0.09				0.05	
v/c Ratio		0.82	0.17		0.25		0.40	0.62			0.21	
Uniform Delay, d1		11.0	5.7		6.0		29.9	31.6			28.5	
Progression Factor		0.61	0.50		0.98		1.00	1.00			1.00	
Incremental Delay, d2		1.9	0.1		0.1		7.2	3.6			0.6	
Delay (s)		8.6	2.9		5.9		37.1	35.2			29.1	
Level of Service		A	A		A		D	D			C	
Approach Delay (s)		8.2			5.9			35.4			29.1	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM Average Control Delay	14.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	106.6%	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												
Volume (vph)	0	2061	196	0	1241	55	128	125	28	89	104	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.97			0.98		1.00	0.94		1.00	0.92	
Flpb, ped/bikes		1.00			1.00		0.74	1.00		0.75	1.00	
Frt		0.99			0.99		1.00	0.97		1.00	0.96	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4271			4188		1149	1496		1161	1261	
Flt Permitted		1.00			1.00		0.67	1.00		0.64	1.00	
Satd. Flow (perm)		4271			4188		805	1496		788	1261	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	2125	202	0	1279	57	132	129	29	92	107	37
RTOR Reduction (vph)	0	8	0	0	5	0	0	1	0	0	6	0
Lane Group Flow (vph)	0	2319	0	0	1331	0	132	157	0	92	138	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2468			2420		246	457		241	385	
v/s Ratio Prot		c0.54			0.32			0.11			0.11	
v/s Ratio Perm							c0.16			0.12		
v/c Ratio		0.94			0.55		0.54	0.34		0.38	0.36	
Uniform Delay, d1		17.5			11.8		26.0	24.3		24.6	24.4	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		8.6			0.9		8.2	2.1		4.5	2.6	
Delay (s)		26.2			12.7		34.1	26.3		29.1	27.0	
Level of Service		C			B		C	C		C	C	
Approach Delay (s)		26.2			12.7			29.9			27.8	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM Average Control Delay	22.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	94.0%	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												
Volume (vph)	0	2058	67	0	1120	67	54	128	33	42	121	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			1.00	
Frpb, ped/bikes		0.99			0.98		1.00	0.93			0.94	
Flpb, ped/bikes		1.00			1.00		0.80	1.00			0.95	
Frt		1.00			0.99		1.00	0.97			0.98	
Flt Protected		1.00			1.00		0.95	1.00			0.99	
Satd. Flow (prot)		4397			4341		1236	1479			1408	
Flt Permitted		1.00			1.00		0.55	1.00			0.90	
Satd. Flow (perm)		4397			4341		720	1479			1285	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	2237	73	0	1217	73	59	139	36	46	132	40
RTOR Reduction (vph)	0	4	0	0	6	0	0	1	0	0	7	0
Lane Group Flow (vph)	0	2306	0	0	1284	0	59	174	0	0	211	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2604			2571		215	442			384	
v/s Ratio Prot		c0.52			0.30			0.12				
v/s Ratio Perm							0.08				c0.16	
v/c Ratio		0.89			0.50		0.27	0.39			0.55	
Uniform Delay, d1		15.7			10.6		24.1	25.1			26.5	
Progression Factor		1.00			1.11		1.00	1.00			1.00	
Incremental Delay, d2		4.9			0.6		3.1	2.6			5.6	
Delay (s)		20.6			12.4		27.2	27.7			32.0	
Level of Service		C			B		C	C			C	
Approach Delay (s)		20.6			12.4			27.6			32.0	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM Average Control Delay	19.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	103.4%	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												
Volume (vph)	0	1896	95	0	1123	42	35	78	18	47	145	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.98			0.99			0.96			0.96	
Flpb, ped/bikes		1.00			1.00			0.95			0.95	
Frt		0.99			0.99			0.98			0.98	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		4180			4204			1255			1262	
Flt Permitted		1.00			1.00			0.89			0.91	
Satd. Flow (perm)		4180			4204			1128			1159	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	2017	101	0	1195	45	37	83	19	50	154	31
RTOR Reduction (vph)	0	6	0	0	4	0	0	1	0	0	6	0
Lane Group Flow (vph)	0	2112	0	0	1236	0	0	138	0	0	229	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2508			2522			338			348	
v/s Ratio Prot		c0.51			0.29							
v/s Ratio Perm								0.12			c0.20	
v/c Ratio		0.84			0.49			0.41			0.66	
Uniform Delay, d1		14.6			10.2			25.1			27.5	
Progression Factor		0.47			1.00			1.00			1.00	
Incremental Delay, d2		1.7			0.7			3.6			9.3	
Delay (s)		8.5			10.9			28.8			36.8	
Level of Service		A			B			C			D	
Approach Delay (s)		8.5			10.9			28.8			36.8	
Approach LOS		A			B			C			D	

Intersection Summary			
HCM Average Control Delay	11.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	75.0%	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		↑↑↑			↑↑↑		↰	↕				↱
Volume (vph)	0	1755	0	0	533	27	527	438	45	0	0	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.98		1.00	0.98				0.97
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.99				1.00
Satd. Flow (prot)		4282			4366		1415	2667				1367
Flt Permitted		1.00			1.00		0.95	0.99				1.00
Satd. Flow (perm)		4282			4366		1415	2667				1367
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	1847	0	0	561	28	555	461	47	0	0	25
RTOR Reduction (vph)	0	0	0	0	6	0	0	6	0	0	0	0
Lane Group Flow (vph)	0	1847	0	0	583	0	350	707	0	0	0	25
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		53.0			41.0		27.0	27.0				9.0
Effective Green, g (s)		53.0			41.0		27.0	27.0				9.0
Actuated g/C Ratio		0.59			0.46		0.30	0.30				0.10
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		2522			1989		425	800				137
v/s Ratio Prot		c0.43			0.13							
v/s Ratio Perm							0.25	0.27				0.02
v/c Ratio		0.73			0.29		0.82	0.88				0.18
Uniform Delay, d1		13.4			15.4		29.3	30.0				37.1
Progression Factor		1.00			1.78		1.00	1.00				1.00
Incremental Delay, d2		1.9			0.3		16.4	13.6				2.9
Delay (s)		15.3			27.7		45.7	43.6				40.0
Level of Service		B			C		D	D				D
Approach Delay (s)		15.3			27.7			44.3			40.0	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM Average Control Delay	26.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	68.5%	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												
Volume (vph)	260	150	1382	0	78	8	384	269	26	0	425	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		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.97		1.00	0.96			1.00	0.67
Flpb, ped/bikes		0.82	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.99		1.00	0.99			1.00	0.85
Flt Protected		0.97	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1300	2448		1334		4385	1352			3110	815
Flt Permitted		0.75	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		1012	2448		1334		4385	1352			3110	815
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	271	156	1440	0	81	8	400	280	27	0	443	40
RTOR Reduction (vph)	0	0	3	0	4	0	0	4	0	0	0	28
Lane Group Flow (vph)	0	427	1437	0	85	0	400	303	0	0	443	12
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		39.5	54.5		39.5		11.5	42.5			27.5	27.5
Effective Green, g (s)		39.5	51.0		39.5		11.5	42.5			27.5	27.5
Actuated g/C Ratio		0.44	0.57		0.44		0.13	0.47			0.31	0.31
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		444	1387		585		560	638			950	249
v/s Ratio Prot			c0.59		0.06		0.09	c0.22			0.14	
v/s Ratio Perm		0.42										0.01
v/c Ratio		0.96	1.04		0.15		0.71	0.48			0.47	0.05
Uniform Delay, d1		24.5	19.5		15.1		37.7	16.2			25.3	22.0
Progression Factor		1.23	1.73		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		25.4	29.6		0.1		7.6	2.5			1.6	0.4
Delay (s)		55.4	63.3		15.2		45.3	18.7			27.0	22.4
Level of Service		E	E		B		D	B			C	C
Approach Delay (s)		61.5			15.2			33.7			26.6	
Approach LOS		E			B			C			C	

Intersection Summary			
HCM Average Control Delay	48.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	82.9%	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												
Volume (vph)	0	0	0	27	94	45	13	32	0	0	45	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.70		1.00			0.99	
Flpb, ped/bikes					0.95	1.00		0.99			1.00	
Frt					1.00	0.85		1.00			0.97	
Flt Protected					0.99	1.00		0.99			1.00	
Satd. Flow (prot)					2747	954		1595			1567	
Flt Permitted					0.99	1.00		0.93			1.00	
Satd. Flow (perm)					2747	954		1512			1567	
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	0	0	0	35	121	58	17	41	0	0	58	17
RTOR Reduction (vph)	0	0	0	0	0	34	0	0	0	0	10	0
Lane Group Flow (vph)	0	0	0	0	156	24	0	58	0	0	65	0
Confl. Peds. (#/hr)				154		203	51					51
Confl. Bikes (#/hr)						14						3
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					25.0	25.0		25.0			25.0	
Effective Green, g (s)					25.0	25.0		25.0			25.0	
Actuated g/C Ratio					0.42	0.42		0.42			0.42	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1145	398		630			653	
v/s Ratio Prot											c0.04	
v/s Ratio Perm					0.06	0.03		0.04				
v/c Ratio					0.14	0.06		0.09			0.10	
Uniform Delay, d1					10.8	10.5		10.6			10.7	
Progression Factor					1.00	1.00		0.88			1.00	
Incremental Delay, d2					0.2	0.3		0.3			0.3	
Delay (s)					11.1	10.8		9.6			11.0	
Level of Service					B	B		A			B	
Approach Delay (s)		0.0			11.0			9.6			11.0	
Approach LOS		A			B			A			B	

Intersection Summary			
HCM Average Control Delay	10.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.12		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	45.0%	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												
Volume (vph)	0	0	0	24	113	5	20	5	0	0	3	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.99		1.00	1.00			0.95	
Flpb, ped/bikes				1.00	1.00		0.89	1.00			1.00	
Frt				1.00	0.99		1.00	1.00			0.94	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	3054		1388	1637			1464	
Flt Permitted				0.95	1.00		0.75	1.00			1.00	
Satd. Flow (perm)				1555	3054		1100	1637			1464	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	0	0	0	31	147	6	26	6	0	0	4	3
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	31	151	0	26	6	0	0	7	0
Confl. Peds. (#/hr)						369	74					74
Confl. Bikes (#/hr)						16			1			
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				38.4	38.4		12.3	12.3			12.3	
Effective Green, g (s)				38.4	38.4		12.3	12.3			12.3	
Actuated g/C Ratio				0.64	0.64		0.21	0.21			0.21	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				995	1955		226	336			300	
v/s Ratio Prot				0.02	c0.05			0.00			0.00	
v/s Ratio Perm							c0.02					
v/c Ratio				0.03	0.08		0.12	0.02			0.02	
Uniform Delay, d1				4.0	4.1		19.4	19.0			19.1	
Progression Factor				1.00	1.00		1.42	1.46			1.00	
Incremental Delay, d2				0.1	0.1		1.0	0.1			0.1	
Delay (s)				4.0	4.2		28.6	27.8			19.2	
Level of Service				A	A		C	C			B	
Approach Delay (s)		0.0			4.1			28.4			19.2	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM Average Control Delay	8.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.09		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	131	36	6	65	30	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	136	38	6	68	31	4
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	291					
pX, platoon unblocked						
vC, conflicting volume			574		1035	887
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			574		1035	887
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		71	97
cM capacity (veh/h)			696		109	139

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	91	83	74	35
Volume Left	0	0	6	31
Volume Right	0	38	0	4
cSH	1700	1700	696	112
Volume to Capacity	0.05	0.05	0.01	0.32
Queue Length 95th (ft)	0	0	1	31
Control Delay (s)	0.0	0.0	1.0	51.2
Lane LOS			A	F
Approach Delay (s)	0.0		1.0	51.2
Approach LOS				F

Intersection Summary			
Average Delay	6.6		
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												
Volume (vph)	16	136	16	8	96	8	25	23	11	19	42	9
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		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.57		0.97			0.90			0.93	
Flpb, ped/bikes		0.96	1.00		0.98			0.81			0.87	
Frt		1.00	0.85		0.99			0.97			0.98	
Flt Protected		0.99	1.00		1.00			0.98			0.99	
Satd. Flow (prot)		1570	793		1339			990			1133	
Flt Permitted		0.97	1.00		0.98			0.89			0.93	
Satd. Flow (perm)		1535	793		1321			901			1072	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	18	156	18	9	110	9	29	26	13	22	48	10
RTOR Reduction (vph)	0	0	9	0	5	0	0	8	0	0	6	0
Lane Group Flow (vph)	0	174	9	0	123	0	0	60	0	0	74	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4			4		
Actuated Green, G (s)		29.0	29.0		29.0			22.0			22.0	
Effective Green, g (s)		29.0	29.0		29.0			22.0			22.0	
Actuated g/C Ratio		0.48	0.48		0.48			0.37			0.37	
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)		742	383		638			330			393	
v/s Ratio Prot												
v/s Ratio Perm		c0.11	0.01		0.09			0.07			c0.07	
v/c Ratio		0.23	0.02		0.19			0.18			0.19	
Uniform Delay, d1		9.0	8.1		8.8			12.9			12.9	
Progression Factor		1.00	1.00		1.00			1.00			1.15	
Incremental Delay, d2		0.7	0.1		0.7			1.2			1.1	
Delay (s)		9.8	8.2		9.5			14.1			15.9	
Level of Service		A	A		A			B			B	
Approach Delay (s)		9.6			9.5			14.1			15.9	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	11.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	77.9%	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												
Volume (vph)	0	156	12	18	135	0	8	0	17	5	2	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		1.00	1.00		0.95			1.00			1.00	
Frpb, ped/bikes		1.00	0.42		1.00			0.62			1.00	
Flpb, ped/bikes		1.00	1.00		0.95			0.90			0.61	
Frt		1.00	0.85		1.00			0.91			1.00	
Flt Protected		1.00	1.00		0.99			0.98			0.96	
Satd. Flow (prot)		1637	571		2937			818			967	
Flt Permitted		1.00	1.00		0.91			0.96			0.93	
Satd. Flow (perm)		1637	571		2693			799			930	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	0	184	14	21	159	0	9	0	20	6	2	0
RTOR Reduction (vph)	0	0	11	0	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	184	3	0	180	0	0	27	0	0	8	0
Confl. Peds. (#/hr)			400	400			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	
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)		396	138		651			486			566	
v/s Ratio Prot		c0.11										
v/s Ratio Perm			0.01		0.07			c0.03			0.01	
v/c Ratio		0.46	0.02		0.28			0.06			0.01	
Uniform Delay, d1		19.4	17.4		18.5			4.8			4.6	
Progression Factor		1.01	1.17		1.00			1.00			1.00	
Incremental Delay, d2		3.9	0.3		1.1			0.2			0.0	
Delay (s)		23.5	20.6		19.5			5.0			4.7	
Level of Service		C	C		B			A			A	
Approach Delay (s)		23.3			19.5			5.0			4.7	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM Average Control Delay	20.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.17		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	156	6	8	16	16	0	159	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		0.82		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		0.93		1.00			1.00
Flt Protected		1.00		0.98		1.00			0.97
Satd. Flow (prot)		942		1070		1637			3012
Flt Permitted		1.00		0.98		1.00			0.95
Satd. Flow (perm)		942		1070		1637			2970
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	179	7	9	18	18	0	183	100
RTOR Reduction (vph)	0	0	0	13	0	0	0	0	0
Lane Group Flow (vph)	0	179	0	21	0	18	0	0	283
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		303		314			891
v/s Ratio Prot						0.01			
v/s Ratio Perm		c0.19		0.02					0.10
v/c Ratio		0.34		0.07		0.06			0.32
Uniform Delay, d1		7.2		15.7		19.8			16.2
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		1.8		0.4		0.1			0.9
Delay (s)		9.0		16.2		19.9			17.2
Level of Service		A		B		B			B
Approach Delay (s)	9.0			16.2		19.9			17.2
Approach LOS	A			B		B			B

Intersection Summary			
HCM Average Control Delay	14.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	54.0%	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												
Volume (vph)	20	219	36	32	115	35	24	66	10	13	50	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.97			1.00	0.59	1.00	0.92			0.88	
Flpb, ped/bikes		0.98			1.00	1.00	0.51	1.00			0.92	
Frt		0.98			1.00	0.85	1.00	0.98			0.97	
Flt Protected		1.00			0.99	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1328			1417	722	791	1293			2419	
Flt Permitted		0.98			0.90	1.00	0.70	1.00			0.90	
Satd. Flow (perm)		1302			1285	722	580	1293			2185	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	22	246	40	36	129	39	27	74	11	15	56	17
RTOR Reduction (vph)	0	2	0	0	0	2	0	7	0	0	0	0
Lane Group Flow (vph)	0	306	0	0	165	37	27	78	0	0	88	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		70.3			70.3	70.3	9.6	9.6			9.6	
Effective Green, g (s)		70.3			70.3	70.3	9.6	9.6			9.6	
Actuated g/C Ratio		0.78			0.78	0.78	0.11	0.11			0.11	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		1017			1004	564	62	138			233	
v/s Ratio Prot								c0.06				
v/s Ratio Perm		c0.23			0.13	0.05	0.05				0.04	
v/c Ratio		0.30			0.16	0.07	0.44	0.56			0.38	
Uniform Delay, d1		2.8			2.5	2.3	37.7	38.2			37.4	
Progression Factor		1.00			1.00	1.00	1.45	1.48			1.00	
Incremental Delay, d2		0.8			0.4	0.2	4.8	5.2			1.0	
Delay (s)		3.6			2.8	2.5	59.6	61.9			38.4	
Level of Service		A			A	A	E	E			D	
Approach Delay (s)		3.6			2.8			61.3			38.4	
Approach LOS		A			A			E			D	

Intersection Summary			
HCM Average Control Delay	16.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	110.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Volume (vph)	17	229	31	6	127	6	9	41	29	22	24	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.97			0.99			0.78			0.81	
Flpb, ped/bikes		0.99			0.99			0.94			0.84	
Frt		0.99			0.99			0.95			0.96	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		1338			1391			989			921	
Flt Permitted		0.98			0.99			0.97			0.89	
Satd. Flow (perm)		1317			1377			965			838	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	20	269	36	7	149	7	11	48	34	26	28	24
RTOR Reduction (vph)	0	1	0	0	1	0	0	23	0	0	17	0
Lane Group Flow (vph)	0	324	0	0	162	0	0	70	0	0	61	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.6			62.6			18.6			18.6	
Effective Green, g (s)		62.6			62.6			18.6			18.6	
Actuated g/C Ratio		0.70			0.70			0.21			0.21	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		916			958			199			173	
v/s Ratio Prot												
v/s Ratio Perm		c0.25			0.12			c0.07			0.07	
v/c Ratio		0.35			0.17			0.35			0.35	
Uniform Delay, d1		5.5			4.7			30.5			30.5	
Progression Factor		1.00			1.00			1.35			1.00	
Incremental Delay, d2		1.1			0.4			4.2			5.5	
Delay (s)		6.6			5.1			45.5			36.0	
Level of Service		A			A			D			D	
Approach Delay (s)		6.6			5.1			45.5			36.0	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	15.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	16	223	30	13	96	8	11	14	82	4	22	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.96			1.00	0.66		0.57			0.86	
Flpb, ped/bikes		0.98			0.98	1.00		0.95			0.95	
Frt		0.98			1.00	0.85		0.90			0.97	
Flt Protected		1.00			0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1331			1389	802		690			1135	
Flt Permitted		0.99			0.96	1.00		0.98			0.98	
Satd. Flow (perm)		1315			1342	802		679			1119	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	242	33	14	104	9	12	15	89	4	24	9
RTOR Reduction (vph)	0	5	0	0	0	3	0	64	0	0	7	0
Lane Group Flow (vph)	0	287	0	0	118	6	0	52	0	0	31	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		57.0			57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0			57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63			0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		833			850	508		189			311	
v/s Ratio Prot												
v/s Ratio Perm		c0.22			0.09	0.01		c0.08			0.03	
v/c Ratio		0.34			0.14	0.01		0.27			0.10	
Uniform Delay, d1		7.7			6.6	6.1		25.4			24.1	
Progression Factor		1.00			0.79	0.61		1.77			1.00	
Incremental Delay, d2		1.1			0.3	0.0		3.2			0.6	
Delay (s)		8.9			5.6	3.8		48.2			24.8	
Level of Service		A			A	A		D			C	
Approach Delay (s)		8.9			5.4			48.2			24.8	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM Average Control Delay	17.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	216	64	6	99	8	30	41	33	5	25	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.66		1.00	0.66		0.82			0.84	
Flpb, ped/bikes		0.97	1.00		0.99	1.00		0.86			0.95	
Frt		1.00	0.85		1.00	0.85		0.96			0.96	
Flt Protected		1.00	1.00		1.00	1.00		0.99			0.99	
Satd. Flow (prot)		1388	786		1409	786		950			1238	
Flt Permitted		0.97	1.00		0.99	1.00		0.92			0.97	
Satd. Flow (perm)		1355	786		1393	786		888			1214	
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)	26	240	71	7	110	9	33	46	37	6	28	14
RTOR Reduction (vph)	0	0	7	0	0	3	0	19	0	0	10	0
Lane Group Flow (vph)	0	266	64	0	117	6	0	97	0	0	38	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63	0.63		0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		858	498		882	498		247			337	
v/s Ratio Prot												
v/s Ratio Perm		c0.20	0.08		0.08	0.01		c0.11			0.03	
v/c Ratio		0.31	0.13		0.13	0.01		0.39			0.11	
Uniform Delay, d1		7.5	6.6		6.6	6.1		26.4			24.2	
Progression Factor		0.74	0.64		1.00	1.00		1.06			1.00	
Incremental Delay, d2		0.9	0.5		0.3	0.0		3.7			0.7	
Delay (s)		6.5	4.7		6.9	6.1		31.7			24.9	
Level of Service		A	A		A	A		C			C	
Approach Delay (s)		6.1			6.9			31.7			24.9	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	12.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations										
Volume (vph)	2	229	29	1	5	17	157	19	135	238
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				5.0		5.0		5.0	5.0
Lane Util. Factor	1.00				1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.88				0.74		0.93		1.00	1.00
Flpb, ped/bikes	1.00				0.88		1.00		1.00	1.00
Frt	0.87				0.90		0.98		1.00	1.00
Flt Protected	1.00				0.99		1.00		0.95	1.00
Satd. Flow (prot)	1246				943		2847		1555	3110
Flt Permitted	1.00				0.99		1.00		0.95	1.00
Satd. Flow (perm)	1246				943		2847		1555	3110
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	2	229	29	1	5	17	157	19	135	238
RTOR Reduction (vph)	5	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	255	0	0	0	23	0	176	0	135	238
Confl. Peds. (#/hr)				400	400	400		400		
Confl. Bikes (#/hr)		30	30			10		30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0
Turn Type				Perm					Split	
Protected Phases	4				3		6		2	2
Permitted Phases				3						
Actuated Green, G (s)	19.7				20.0		17.0		13.3	13.3
Effective Green, g (s)	19.7				20.0		17.0		13.3	13.3
Actuated g/C Ratio	0.22				0.22		0.19		0.15	0.15
Clearance Time (s)	5.0				5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	273				210		538		230	460
v/s Ratio Prot	c0.20						c0.06		c0.09	0.08
v/s Ratio Perm					0.02					
v/c Ratio	0.94				0.11		0.33		0.59	0.52
Uniform Delay, d1	34.5				27.9		31.6		35.8	35.4
Progression Factor	1.00				0.92		1.00		1.00	1.00
Incremental Delay, d2	37.2				0.2		1.6		10.5	4.1
Delay (s)	71.7				25.8		33.2		46.1	39.4
Level of Service	E				C		C		D	D
Approach Delay (s)	71.7				25.8		33.2			41.8
Approach LOS	E				C		C			D

Intersection Summary			
HCM Average Control Delay	48.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	73.7%	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												
Volume (vph)	0	1656	33	0	480	9	0	21	25	0	44	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.79			0.93	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.93			0.98	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2890			2891			1052			1306	
Flt Permitted		1.00			1.00			1.00			1.00	
Satd. Flow (perm)		2890			2891			1052			1306	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1800	36	0	522	10	0	23	27	0	48	10
RTOR Reduction (vph)	0	0	0	0	0	0	0	6	0	0	9	0
Lane Group Flow (vph)	0	1836	0	0	532	0	0	44	0	0	49	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type												
Protected Phases		2			6			8			4	
Permitted Phases												
Actuated Green, G (s)		73.0			73.0			8.2			8.2	
Effective Green, g (s)		73.0			73.0			8.2			8.2	
Actuated g/C Ratio		0.81			0.81			0.09			0.09	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2344			2345			96			119	
v/s Ratio Prot		c0.64			0.18			c0.04			0.04	
v/s Ratio Perm												
v/c Ratio		0.78			0.23			0.45			0.41	
Uniform Delay, d1		4.4			2.0			38.8			38.6	
Progression Factor		1.17			1.00			1.00			1.00	
Incremental Delay, d2		1.7			0.0			3.4			2.3	
Delay (s)		6.8			2.0			42.2			40.9	
Level of Service		A			A			D			D	
Approach Delay (s)		6.8			2.0			42.2			40.9	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	7.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	6	1391	375	25	313	21	112	73	69	0	110	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.77		1.00	0.77	1.00	1.00	0.67		0.98	
Flpb, ped/bikes		1.00	1.00		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	0.85		0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3109	1077		3098	1077	3016	1637	932		2837	
Flt Permitted		0.95	1.00		0.82	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		2966	1077		2550	1077	3016	1637	932		2837	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	6	1434	387	26	323	22	115	75	71	0	113	6
RTOR Reduction (vph)	0	0	61	0	0	7	0	0	3	0	5	0
Lane Group Flow (vph)	0	1440	326	0	349	15	115	75	68	0	115	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type	Perm		Perm	Perm		Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		61.5	61.5		61.5	61.5	6.0	19.5	19.5		9.0	
Effective Green, g (s)		61.5	61.5		61.5	61.5	6.0	19.5	19.5		9.0	
Actuated g/C Ratio		0.68	0.68		0.68	0.68	0.07	0.22	0.22		0.10	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		2027	736		1743	736	201	355	202		284	
v/s Ratio Prot							c0.04	0.05			0.04	
v/s Ratio Perm		c0.49	0.30		0.14	0.01			c0.07			
v/c Ratio		0.71	0.44		0.20	0.02	0.57	0.21	0.34		0.40	
Uniform Delay, d1		8.8	6.5		5.2	4.6	40.8	28.9	29.8		38.0	
Progression Factor		1.00	1.00		0.95	0.92	1.00	1.00	1.00		0.73	
Incremental Delay, d2		2.1	1.9		0.3	0.1	3.9	0.3	1.0		0.9	
Delay (s)		10.9	8.4		5.2	4.3	44.7	29.2	30.8		28.6	
Level of Service		B	A		A	A	D	C	C		C	
Approach Delay (s)		10.4			5.2			36.4			28.6	
Approach LOS		B			A			D			C	

Intersection Summary			
HCM Average Control Delay	13.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	121.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	56	1279	354	22	37	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	0.98		0.85	
Flpb, ped/bikes		0.99	1.00		1.00	
Frt		1.00	0.99		0.95	
Flt Protected		1.00	1.00		0.97	
Satd. Flow (prot)		2890	3028		1112	
Flt Permitted		0.91	1.00		0.97	
Satd. Flow (perm)		2648	3028		1112	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	61	1390	385	24	40	27
RTOR Reduction (vph)	0	0	6	0	22	0
Lane Group Flow (vph)	0	1451	403	0	45	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		65.2	65.2		17.8	
Effective Green, g (s)		65.2	65.2		17.8	
Actuated g/C Ratio		0.72	0.72		0.20	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1918	2194		220	
v/s Ratio Prot			0.13		c0.04	
v/s Ratio Perm		c0.55				
v/c Ratio		0.76	0.18		0.21	
Uniform Delay, d1		7.6	3.9		30.2	
Progression Factor		1.37	1.00		0.96	
Incremental Delay, d2		1.3	0.0		2.0	
Delay (s)		11.6	4.0		31.1	
Level of Service		B	A		C	
Approach Delay (s)		11.6	4.0		31.1	
Approach LOS		B	A		C	

Intersection Summary			
HCM Average Control Delay	10.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	105.0%	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												
Volume (vph)	35	1232	31	18	378	60	29	17	58	15	40	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.96			0.80			0.91	
Flpb, ped/bikes		1.00			1.00			0.92			0.94	
Frt		1.00			0.98			0.92			0.97	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		2867			2729			961			1184	
Flt Permitted		0.93			0.88			0.91			0.94	
Satd. Flow (perm)		2670			2406			888			1124	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	37	1311	33	19	402	64	31	18	62	16	43	19
RTOR Reduction (vph)	0	2	0	0	3	0	0	12	0	0	13	0
Lane Group Flow (vph)	0	1379	0	0	482	0	0	99	0	0	65	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		60.6			60.6			20.6			20.6	
Effective Green, g (s)		60.6			60.6			20.6			20.6	
Actuated g/C Ratio		0.67			0.67			0.23			0.23	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1798			1620			203			257	
v/s Ratio Prot												
v/s Ratio Perm		c0.52			0.20			c0.11			0.06	
v/c Ratio		0.77			0.30			0.49			0.25	
Uniform Delay, d1		9.9			6.0			30.1			28.4	
Progression Factor		1.00			1.12			1.00			1.13	
Incremental Delay, d2		3.2			0.4			8.2			2.3	
Delay (s)		13.1			7.1			38.4			34.4	
Level of Service		B			A			D			C	
Approach Delay (s)		13.1			7.1			38.4			34.4	
Approach LOS		B			A			D			C	

Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	91.8%	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												
Volume (vph)	39	1309	18	26	425	51	35	20	101	33	16	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			0.97			0.77			0.82	
Flpb, ped/bikes		1.00			1.00			0.94			0.92	
Frt		1.00			0.98			0.91			0.93	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2883			2768			929			998	
Flt Permitted		0.92			0.83			0.91			0.85	
Satd. Flow (perm)		2663			2301			860			868	
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)	43	1454	20	29	472	57	39	22	112	37	18	53
RTOR Reduction (vph)	0	1	0	0	2	0	0	10	0	0	39	0
Lane Group Flow (vph)	0	1516	0	0	556	0	0	163	0	0	69	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.4			62.4			18.7			18.7	
Effective Green, g (s)		62.4			62.4			18.7			18.7	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1846			1595			179			180	
v/s Ratio Prot												
v/s Ratio Perm		c0.57			0.24			c0.19			0.08	
v/c Ratio		0.82			0.35			0.91			0.38	
Uniform Delay, d1		9.8			5.6			34.9			30.7	
Progression Factor		0.31			1.51			1.00			1.27	
Incremental Delay, d2		3.1			0.1			43.1			1.4	
Delay (s)		6.2			8.6			78.0			40.3	
Level of Service		A			A			E			D	
Approach Delay (s)		6.2			8.6			78.0			40.3	
Approach LOS		A			A			E			D	

Intersection Summary			
HCM Average Control Delay	13.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	97.7%	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												
Volume (vph)	9	1258	176	10	441	2	37	2	12	1	12	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.96			1.00			0.92			0.81	
Flpb, ped/bikes		1.00			1.00			0.75			0.99	
Frt		0.98			1.00			0.97			0.93	
Flt Protected		1.00			1.00			0.96			1.00	
Satd. Flow (prot)		2751			3098			1055			1220	
Flt Permitted		0.95			0.92			0.81			0.99	
Satd. Flow (perm)		2621			2852			887			1215	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	9	1297	181	10	455	2	38	2	12	1	12	14
RTOR Reduction (vph)	0	2	0	0	0	0	0	9	0	0	11	0
Lane Group Flow (vph)	0	1485	0	0	467	0	0	43	0	0	16	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1808			1968			190			261	
v/s Ratio Prot												
v/s Ratio Perm		c0.57			0.16			c0.05			0.01	
v/c Ratio		0.82			0.24			0.22			0.06	
Uniform Delay, d1		10.0			5.2			29.2			28.1	
Progression Factor		0.40			0.19			1.00			1.91	
Incremental Delay, d2		2.4			0.3			2.7			0.3	
Delay (s)		6.4			1.2			31.9			54.1	
Level of Service		A			A			C			D	
Approach Delay (s)		6.4			1.2			31.9			54.1	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM Average Control Delay	6.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	76.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	21	1252	458	349	376	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3037	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3037	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	23	1361	498	379	409	28
RTOR Reduction (vph)	0	59	0	0	6	0
Lane Group Flow (vph)	23	1302	498	379	431	0
Confl. Peds. (#/hr)						63
Confl. Bikes (#/hr)		22				160
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	11.0	54.1	39.1	69.0	25.9	
Effective Green, g (s)	11.0	54.1	39.1	69.0	25.9	
Actuated g/C Ratio	0.12	0.60	0.43	0.77	0.29	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	190	1472	1310	2235	874	
v/s Ratio Prot	0.01	c0.53	0.17	0.13	c0.14	
v/s Ratio Perm						
v/c Ratio	0.12	0.88	0.38	0.17	0.49	
Uniform Delay, d1	35.2	15.3	17.2	2.8	26.6	
Progression Factor	1.25	0.67	1.25	0.98	1.25	
Incremental Delay, d2	0.2	4.3	0.2	0.2	0.4	
Delay (s)	44.2	14.5	21.7	2.9	33.6	
Level of Service	D	B	C	A	C	
Approach Delay (s)	15.0			13.6	33.6	
Approach LOS	B			B	C	

Intersection Summary			
HCM Average Control Delay	17.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	77.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	132	13	10	0	1616	0	13	97	695
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			1.00			1.00	1.00
Flpb, ped/bikes				0.68			1.00			1.00	1.00
Frt				0.99			1.00			1.00	1.00
Flt Protected				0.96			1.00			0.95	1.00
Satd. Flow (prot)				1921			4458			1555	3110
Flt Permitted				0.96			1.00			0.95	1.00
Satd. Flow (perm)				1921			4458			1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	143	14	11	0	1757	0	14	105	755
RTOR Reduction (vph)	0	0	0	7	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	0	0	161	0	0	1770	0	0	105	755
Confl. Peds. (#/hr)			96	119					96		
Confl. Bikes (#/hr)					4				178		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				11.7			55.9			9.4	69.3
Effective Green, g (s)				11.7			55.9			9.4	69.3
Actuated g/C Ratio				0.13			0.62			0.10	0.77
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				250			2769			162	2395
v/s Ratio Prot							c0.40			c0.07	0.24
v/s Ratio Perm				0.08							
v/c Ratio				0.97dl			0.64			0.65	0.32
Uniform Delay, d1				37.2			10.7			38.7	3.1
Progression Factor				1.00			0.73			1.00	1.00
Incremental Delay, d2				5.6			0.2			6.5	0.3
Delay (s)				42.8			8.1			45.2	3.5
Level of Service				D			A			D	A
Approach Delay (s)	0.0			42.8			8.1				8.6
Approach LOS	A			D			A				A

Intersection Summary			
HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

Movement	EBL2	EBR	EBR2	SEL	SET	SER2	NWL2	NWT	NWR	SWR2
Lane Configurations										
Volume (vph)	9	12	175	21	1042	566	59	776	77	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		7.0	7.0	7.0	7.0	7.0		
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00	1.00	0.95		
Frpb, ped/bikes	1.00	0.93		1.00	1.00	0.96	1.00	0.95		
Flpb, ped/bikes	1.00	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	0.99		
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1555	1137		1555	3110	1336	1555	2902		
Flt Permitted	0.95	1.00		0.27	1.00	1.00	0.19	1.00		
Satd. Flow (perm)	1555	1137		435	3110	1336	314	2902		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	13	190	23	1133	615	64	843	84	0
RTOR Reduction (vph)	0	136	0	0	0	272	0	9	0	0
Lane Group Flow (vph)	10	67	0	23	1133	343	64	918	0	0
Confl. Peds. (#/hr)			38						1000	100
Confl. Bikes (#/hr)		10	10			30			30	10
Parking (#/hr)		5	5							
Turn Type	custom	custom		Perm		Perm	Perm			custom
Protected Phases					6			2		
Permitted Phases	4	4		6		6	2			8
Actuated Green, G (s)	22.5	22.5		44.0	44.0	44.0	44.0	44.0		
Effective Green, g (s)	22.5	22.5		44.0	44.0	44.0	44.0	44.0		
Actuated g/C Ratio	0.28	0.28		0.56	0.56	0.56	0.56	0.56		
Clearance Time (s)	5.5	5.5		7.0	7.0	7.0	7.0	7.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	443	324		242	1732	744	175	1616		
v/s Ratio Prot					c0.36			0.32		
v/s Ratio Perm	0.01	c0.06		0.05		0.26	0.20			
v/c Ratio	0.02	0.21		0.10	0.65	0.46	0.37	0.57		
Uniform Delay, d1	20.3	21.5		8.2	12.2	10.4	9.7	11.3		
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.0	0.3		0.8	1.9	2.0	5.8	1.5		
Delay (s)	20.4	21.8		9.0	14.1	12.5	15.5	12.8		
Level of Service	C	C		A	B	B	B	B		
Approach Delay (s)					13.5			13.0		
Approach LOS					B			B		

Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	90.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	6	0	21	0	0	0	109	908	0	0	7	989
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.74					1.00	1.00				0.97
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.90					1.00	1.00				0.99
Flt Protected		0.99					0.95	1.00				1.00
Satd. Flow (prot)		936					1555	3110				2994
Flt Permitted		0.99					0.95	1.00				0.95
Satd. Flow (perm)		936					1555	3110				2840
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)	7	0	23	0	0	0	121	1009	0	0	8	1099
RTOR Reduction (vph)	0	22	0	0	0	0	0	0	0	0	0	3
Lane Group Flow (vph)	0	8	0	0	0	0	121	1009	0	0	0	1173
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		4.8					9.0	76.2				62.2
Effective Green, g (s)		4.8					9.0	76.2				62.2
Actuated g/C Ratio		0.05					0.10	0.85				0.69
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		50					156	2633				1963
v/s Ratio Prot		c0.01					c0.08	0.32				
v/s Ratio Perm												c0.41
v/c Ratio		0.16					0.78	0.38				0.60
Uniform Delay, d1		40.7					39.5	1.6				7.3
Progression Factor		1.00					1.14	2.28				1.00
Incremental Delay, d2		1.6					20.1	0.4				1.4
Delay (s)		42.2					65.2	4.0				8.7
Level of Service		D					E	A				A
Approach Delay (s)		42.2			0.0			10.5				8.7
Approach LOS		D			A			B				A

Intersection Summary			
HCM Average Control Delay	10.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	96.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	62
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.90
Adj. Flow (vph)	69
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	215	1019	0	0	391	131	115	215	57	0	0	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				
Lane Util. Factor		0.95			0.95			0.95				
Frpb, ped/bikes		1.00			0.93			0.95				
Flpb, ped/bikes		0.98			1.00			0.91				
Frt		1.00			0.96			0.98				
Flt Protected		0.99			1.00			0.99				
Satd. Flow (prot)		2792			2578			2397				
Flt Permitted		0.72			1.00			0.99				
Satd. Flow (perm)		2039			2578			2397				
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)	219	1040	0	0	399	134	117	219	58	0	0	0
RTOR Reduction (vph)	0	0	0	0	8	0	0	17	0	0	0	0
Lane Group Flow (vph)	0	1259	0	0	525	0	0	377	0	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm					
Protected Phases		2			6			8				
Permitted Phases	2						8					
Actuated Green, G (s)		44.0			44.0			27.0				
Effective Green, g (s)		44.0			44.0			27.0				
Actuated g/C Ratio		0.55			0.55			0.34				
Clearance Time (s)		4.5			4.5			4.5				
Vehicle Extension (s)		3.0			3.0			3.0				
Lane Grp Cap (vph)		1121			1418			809				
v/s Ratio Prot					0.20							
v/s Ratio Perm		c0.62						0.16				
v/c Ratio		1.12			0.37			0.47				
Uniform Delay, d1		18.0			10.2			20.8				
Progression Factor		1.00			0.32			1.00				
Incremental Delay, d2		67.4			0.7			1.9				
Delay (s)		85.4			3.9			22.8				
Level of Service		F			A			C				
Approach Delay (s)		85.4			3.9			22.8			0.0	
Approach LOS		F			A			C			A	

Intersection Summary			
HCM Average Control Delay	54.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	102.8%	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												
Volume (vph)	0	612	464	22	437	0	0	0	0	59	601	83
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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.86			1.00						0.97	
Flpb, ped/bikes		1.00			1.00						0.98	
Frt		0.94			1.00						0.98	
Flt Protected		1.00			1.00						1.00	
Satd. Flow (prot)		2502			3095						2712	
Flt Permitted		1.00			0.85						1.00	
Satd. Flow (perm)		2502			2640						2712	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	631	478	23	451	0	0	0	0	61	620	86
RTOR Reduction (vph)	0	10	0	0	0	0	0	0	0	0	12	0
Lane Group Flow (vph)	0	1099	0	0	474	0	0	0	0	0	755	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		34.0			34.0						37.0	
Effective Green, g (s)		34.0			34.0						37.0	
Actuated g/C Ratio		0.42			0.42						0.46	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		1063			1122						1254	
v/s Ratio Prot		c0.44										
v/s Ratio Perm					0.18						0.28	
v/c Ratio		1.03			0.42						0.60	
Uniform Delay, d1		23.0			16.1						16.0	
Progression Factor		0.87			1.00						1.00	
Incremental Delay, d2		19.1			0.3						2.1	
Delay (s)		39.0			16.4						18.2	
Level of Service		D			B						B	
Approach Delay (s)		39.0			16.4			0.0			18.2	
Approach LOS		D			B			A			B	

Intersection Summary			
HCM Average Control Delay	27.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	50	417	549	970	0	987	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.66	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		1.00	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	916	3016	3110		3073	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	916	3016	3110		3073	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	50	417	549	970	0	987	25
RTOR Reduction (vph)	0	355	0	0	0	2	0
Lane Group Flow (vph)	50	62	549	970	0	1010	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	13.4	13.4	22.1	65.6		37.5	
Effective Green, g (s)	13.4	13.4	22.1	65.6		37.5	
Actuated g/C Ratio	0.15	0.15	0.25	0.73		0.42	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	232	136	741	2267		1280	
v/s Ratio Prot	0.03		c0.18	0.31		c0.33	
v/s Ratio Perm		c0.07					
v/c Ratio	0.22	0.46	0.74	0.43		0.79	
Uniform Delay, d1	33.7	35.0	31.3	4.8		22.8	
Progression Factor	1.00	1.00	1.00	1.00		1.30	
Incremental Delay, d2	0.5	2.4	4.0	0.6		4.2	
Delay (s)	34.1	37.4	35.3	5.4		33.8	
Level of Service	C	D	D	A		C	
Approach Delay (s)	37.0			16.2		33.8	
Approach LOS	D			B		C	

Intersection Summary			
HCM Average Control Delay	25.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	101.0%	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												
Volume (vph)	5	148	10	20	104	5	10	10	17	10	5	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
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.59		1.00	0.75		0.85			1.00	0.44
Flpb, ped/bikes		0.99	1.00		0.95	1.00		0.86			0.80	1.00
Frt		1.00	0.85		1.00	0.85		0.94			1.00	0.85
Flt Protected		1.00	1.00		0.99	1.00		0.99			0.97	1.00
Satd. Flow (prot)		1624	823		1543	1050		1109			1263	617
Flt Permitted		1.00	1.00		0.96	1.00		0.90			0.94	1.00
Satd. Flow (perm)		1619	823		1490	1050		1013			1225	617
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	157	11	21	111	5	11	11	18	11	5	5
RTOR Reduction (vph)	0	0	2	0	0	1	0	17	0	0	0	5
Lane Group Flow (vph)	0	162	9	0	132	4	0	23	0	0	16	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		47.4	47.4		47.4	47.4		3.6			3.6	3.6
Effective Green, g (s)		47.4	47.4		47.4	47.4		3.6			3.6	3.6
Actuated g/C Ratio		0.79	0.79		0.79	0.79		0.06			0.06	0.06
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)		1279	650		1177	830		61			74	37
v/s Ratio Prot												
v/s Ratio Perm		c0.10	0.01		0.09	0.00		c0.02			0.01	0.00
v/c Ratio		0.13	0.01		0.11	0.00		0.38			0.22	0.01
Uniform Delay, d1		1.5	1.3		1.5	1.3		27.1			26.9	26.5
Progression Factor		1.00	1.00		1.44	0.78		1.00			1.20	1.46
Incremental Delay, d2		0.0	0.0		0.2	0.0		3.9			1.5	0.1
Delay (s)		1.5	1.3		2.3	1.0		31.0			33.7	38.9
Level of Service		A	A		A	A		C			C	D
Approach Delay (s)		1.5			2.2			31.0			35.0	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	6.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.14		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	466	9	885	407	56	54	53	14	17	8	291	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.34		0.67	1.00	0.95			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.81	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	558	3110	478		947	1555	1328			1254	1175
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.99	1.00
Satd. Flow (perm)	3110	558	3110	478		947	1555	1328			1300	1175
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)	491	9	932	428	59	57	56	15	18	8	306	34
RTOR Reduction (vph)	0	4	0	181	0	33	0	13	0	0	0	24
Lane Group Flow (vph)	491	5	932	306	0	24	56	20	0	0	314	10
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Effective Green, g (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Actuated g/C Ratio	0.55	0.55	0.55	0.55		0.29	0.29	0.29			0.29	0.29
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1700	305	1700	261		278	456	390			381	345
v/s Ratio Prot	0.16		0.30									
v/s Ratio Perm		0.01		c0.64		0.03	0.04	0.02			c0.24	0.01
v/c Ratio	0.29	0.02	0.55	1.17		0.09	0.12	0.05			0.82	0.03
Uniform Delay, d1	9.2	7.8	11.0	17.0		19.2	19.4	19.0			24.7	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	0.4	0.1	1.3	110.0		0.6	0.6	0.3			18.0	0.2
Delay (s)	9.6	7.9	12.3	127.0		19.8	20.0	19.3			42.7	19.0
Level of Service	A	A	B	F		B	B	B			D	B
Approach Delay (s)	9.6		51.7								40.4	
Approach LOS	A		D								D	

Intersection Summary			
HCM Average Control Delay	39.4	HCM Level of Service	D
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	63.1%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	515	69	32	1148	79	37
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	554	74	34	1234	85	40

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	369	259	446	823	125
Volume Left (vph)	0	0	34	0	85
Volume Right (vph)	0	74	0	0	40
Hadj (s)	0.02	-0.18	0.06	0.02	-0.04
Departure Headway (s)	6.3	6.1	5.8	5.8	6.7
Degree Utilization, x	0.65	0.44	0.72	1.32	0.23
Capacity (veh/h)	560	579	609	633	526
Control Delay (s)	18.8	12.6	21.3	174.1	11.6
Approach Delay (s)	16.2		120.4		11.6
Approach LOS	C		F		B

Intersection Summary			
Delay	81.3		
HCM Level of Service	F		
Intersection Capacity Utilization	79.0%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT
Lane Configurations												
Volume (vph)	7	415	102	23	1	6	1032	19	11	11	6	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4					5.4		4.0			5.0
Lane Util. Factor		0.95					0.95		1.00			1.00
Frpb, ped/bikes		0.87					0.99		0.78			1.00
Flpb, ped/bikes		1.00					1.00		1.00			1.00
Frt		0.97					1.00		0.86			1.00
Flt Protected		1.00					1.00		1.00			0.98
Satd. Flow (prot)		2444					3073		1106			1598
Flt Permitted		0.94					0.95		1.00			0.98
Satd. Flow (perm)		2295					2924		1106			1598
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	8	451	111	25	1	7	1122	21	12	12	7	20
RTOR Reduction (vph)	0	4	0	0	0	0	2	0	0	0	0	0
Lane Group Flow (vph)	0	591	0	0	0	0	1149	0	12	0	0	39
Confl. Peds. (#/hr)	400		400	400	400	400		400	400	400	400	
Confl. Bikes (#/hr)			30	30				30	10			
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm	Perm			Free	Split	Split	
Protected Phases		2					6			4	4	4
Permitted Phases	2				6	6			Free			
Actuated Green, G (s)		41.6					41.6		75.0			9.0
Effective Green, g (s)		41.6					41.6		75.0			9.0
Actuated g/C Ratio		0.55					0.55		1.00			0.12
Clearance Time (s)		5.4					5.4					5.0
Lane Grp Cap (vph)		1273					1622		1106			192
v/s Ratio Prot												0.02
v/s Ratio Perm		0.26					c0.39		0.01			
v/c Ratio		0.46					0.71		0.01			0.20
Uniform Delay, d1		10.0					12.3		0.0			29.8
Progression Factor		1.00					0.23		1.00			1.00
Incremental Delay, d2		1.2					2.0		0.0			2.4
Delay (s)		11.2					4.8		0.0			32.1
Level of Service		B					A		A			C
Approach Delay (s)		11.2					4.8					40.4
Approach LOS		B					A					D

Intersection Summary			
HCM Average Control Delay	10.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	77.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR	NWL	NWR	NWR2
Lane Configurations				
Volume (vph)	46	107	9	7
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0
Lane Util. Factor	1.00	0.97		1.00
Frpb, ped/bikes	0.55	0.94		0.55
Flpb, ped/bikes	1.00	1.00		1.00
Frt	0.85	0.99		0.85
Flt Protected	1.00	0.96		1.00
Satd. Flow (prot)	768	2821		768
Flt Permitted	1.00	0.96		1.00
Satd. Flow (perm)	768	2821		768
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	50	116	10	8
RTOR Reduction (vph)	7	0	0	7
Lane Group Flow (vph)	43	126	0	1
Confl. Peds. (#/hr)	400	400	400	400
Confl. Bikes (#/hr)	10		10	10
Parking (#/hr)				
Turn Type	Perm			Perm
Protected Phases		8		
Permitted Phases	4			8
Actuated Green, G (s)	9.0	9.0		9.0
Effective Green, g (s)	9.0	9.0		9.0
Actuated g/C Ratio	0.12	0.12		0.12
Clearance Time (s)	5.0	5.0		5.0
Lane Grp Cap (vph)	92	339		92
v/s Ratio Prot		c0.04		
v/s Ratio Perm	c0.06			0.00
v/c Ratio	0.47	0.37		0.01
Uniform Delay, d1	30.8	30.4		29.1
Progression Factor	1.00	1.00		1.00
Incremental Delay, d2	16.1	3.1		0.2
Delay (s)	46.8	33.5		29.3
Level of Service	D	C		C
Approach Delay (s)		33.3		
Approach LOS		C		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	400	36	22	1047	31	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.97			1.00	0.86	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.99			1.00	0.94	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2793			3096	1291	
Flt Permitted	1.00			0.94	0.97	
Satd. Flow (perm)	2793			2915	1291	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	440	40	24	1151	34	25
RTOR Reduction (vph)	9	0	0	0	18	0
Lane Group Flow (vph)	471	0	0	1175	42	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1676			1749	387	
v/s Ratio Prot	0.17				c0.03	
v/s Ratio Perm				c0.40		
v/c Ratio	0.28			0.67	0.11	
Uniform Delay, d1	7.2			10.1	19.0	
Progression Factor	0.88			1.00	1.00	
Incremental Delay, d2	0.4			2.1	0.6	
Delay (s)	6.7			12.1	19.5	
Level of Service	A			B	B	
Approach Delay (s)	6.7			12.1	19.5	
Approach LOS	A			B	B	

Intersection Summary			
HCM Average Control Delay	10.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	75.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	407	14	7	1043	5	4
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	447	15	8	1146	5	4

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	298	164	390	764	10
Volume Left (vph)	0	0	8	0	5
Volume Right (vph)	0	15	0	0	4
Hadj (s)	0.02	-0.05	0.03	0.02	-0.14
Departure Headway (s)	5.7	5.6	5.0	5.0	6.3
Degree Utilization, x	0.47	0.26	0.54	1.06	0.02
Capacity (veh/h)	619	627	705	726	546
Control Delay (s)	12.4	9.3	12.6	71.1	9.4
Approach Delay (s)	11.3		51.3		9.4
Approach LOS	B		F		A

Intersection Summary			
Delay	39.7		
HCM Level of Service	E		
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	433	39	1	1021	65	49	23	27	72	36	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frpb, ped/bikes		0.96			1.00	0.66		0.91		1.00	0.98	
Flpb, ped/bikes		1.00			1.00	1.00		0.85		0.72	0.91	
Frt		0.99			1.00	0.85		0.96		1.00	0.99	
Flt Protected		1.00			1.00	1.00		0.98		0.95	0.98	
Satd. Flow (prot)		2739			3110	808		1033		1066	1359	
Flt Permitted		0.89			1.00	1.00		0.83		0.72	0.90	
Satd. Flow (perm)		2446			3110	808		883		806	1247	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	21	451	41	1	1064	68	51	24	28	75	38	2
RTOR Reduction (vph)	0	0	0	0	0	4	0	15	0	0	0	0
Lane Group Flow (vph)	0	514	0	0	1064	64	0	88	0	56	59	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10	10		10			10			10
Parking (#/hr)		5	5	5		5	5	5	5			
Turn Type	Perm					Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2				6	6	8			4		
Actuated Green, G (s)		56.5			56.5	56.5		22.5		22.5	22.5	
Effective Green, g (s)		56.5			56.5	56.5		22.5		22.5	22.5	
Actuated g/C Ratio		0.63			0.63	0.63		0.25		0.25	0.25	
Clearance Time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		1536			1952	507		221		202	312	
v/s Ratio Prot					c0.34							
v/s Ratio Perm		0.21				0.08		c0.10		0.07	0.05	
v/c Ratio		0.33			0.55	0.13		0.40		0.28	0.19	
Uniform Delay, d1		7.9			9.5	6.8		28.1		27.2	26.6	
Progression Factor		1.00			1.09	1.28		1.00		1.00	1.00	
Incremental Delay, d2		0.6			1.0	0.5		5.3		0.8	0.3	
Delay (s)		8.5			11.3	9.2		33.4		27.9	26.9	
Level of Service		A			B	A		C		C	C	
Approach Delay (s)		8.5			11.2			33.4			27.1	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM Average Control Delay	12.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR2	NER2
Lane Configurations		
Volume (vph)	28	25
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.5	4.0
Lane Util. Factor	1.00	1.00
Frpb, ped/bikes	0.65	0.78
Flpb, ped/bikes	1.00	1.00
Frt	0.85	0.86
Flt Protected	1.00	1.00
Satd. Flow (prot)	911	967
Flt Permitted	1.00	1.00
Satd. Flow (perm)	911	967
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	29	26
RTOR Reduction (vph)	14	0
Lane Group Flow (vph)	15	26
Confl. Peds. (#/hr)	400	400
Confl. Bikes (#/hr)	10	10
Parking (#/hr)		5
Turn Type	Perm	Free
Protected Phases		
Permitted Phases	4	Free
Actuated Green, G (s)	22.5	90.0
Effective Green, g (s)	22.5	90.0
Actuated g/C Ratio	0.25	1.00
Clearance Time (s)	5.5	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	228	967
v/s Ratio Prot		
v/s Ratio Perm	0.02	0.03
v/c Ratio	0.06	0.03
Uniform Delay, d1	25.7	0.0
Progression Factor	1.00	1.00
Incremental Delay, d2	0.1	0.1
Delay (s)	25.8	0.1
Level of Service	C	A
Approach Delay (s)		
Approach LOS		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	429	0	0	1078	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	477	0	0	1198	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	477	0	0	1198	0
Confl. Peds. (#/hr)						
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		76.0			76.0	
Effective Green, g (s)		76.0			76.0	
Actuated g/C Ratio		0.84			0.84	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		2067			2547	
v/s Ratio Prot		0.19			c0.40	
v/s Ratio Perm						
v/c Ratio		0.23			0.47	
Uniform Delay, d1		1.4			1.8	
Progression Factor		1.17			1.75	
Incremental Delay, d2		0.3			0.4	
Delay (s)		1.8			3.6	
Level of Service		A			A	
Approach Delay (s)	1.8			0.0	3.6	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	3.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	54.2%	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												
Volume (vph)	10	187	50	149	364	28	70	114	77	13	88	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.87		1.00	0.95			1.00	0.62		1.00	0.36
Flpb, ped/bikes		0.99		0.57	1.00			0.80	1.00		0.97	1.00
Frt		0.97		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.99	1.00
Satd. Flow (prot)		2592		892	1352			1087	844		1572	507
Flt Permitted		0.93		0.58	1.00			0.86	1.00		0.96	1.00
Satd. Flow (perm)		2428		547	1352			948	844		1522	507
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)	11	208	56	166	404	31	78	127	86	14	98	46
RTOR Reduction (vph)	0	24	0	0	4	0	0	0	41	0	0	24
Lane Group Flow (vph)	0	251	0	166	431	0	0	205	45	0	112	22
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		36.4		36.4	36.4			43.6	43.6		43.6	43.6
Effective Green, g (s)		36.4		36.4	36.4			43.6	43.6		43.6	43.6
Actuated g/C Ratio		0.40		0.40	0.40			0.48	0.48		0.48	0.48
Clearance Time (s)		5.5		5.5	5.5			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)		982		221	547			459	409		737	246
v/s Ratio Prot					c0.32							
v/s Ratio Perm		0.10		0.30				c0.22	0.05		0.07	0.04
v/c Ratio		0.26		0.75	0.79			0.45	0.11		0.15	0.09
Uniform Delay, d1		17.8		22.9	23.4			15.3	12.6		12.9	12.5
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		0.1		13.4	7.4			3.1	0.5		0.4	0.7
Delay (s)		17.9		36.3	30.9			18.4	13.2		13.3	13.2
Level of Service		B		D	C			B	B		B	B
Approach Delay (s)		17.9			32.4			16.9			13.3	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	23.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
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												
Volume (vph)	0	210	104	19	348	1223	173	0	34	538	151	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.96			1.00	0.96		1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		0.98		1.00	1.00	
Frt		0.95			1.00	0.85		0.98		1.00	0.99	
Flt Protected		1.00			1.00	1.00		0.96		0.95	0.97	
Satd. Flow (prot)		2650			1628	2362		1312		1477	1502	
Flt Permitted		1.00			0.97	1.00		0.53		0.84	0.91	
Satd. Flow (perm)		2650			1589	2362		727		1302	1397	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	219	108	20	362	1274	180	0	35	560	157	14
RTOR Reduction (vph)	0	68	0	0	0	0	0	8	0	0	2	0
Lane Group Flow (vph)	0	259	0	0	382	1274	0	207	0	364	365	0
Confl. Peds. (#/hr)			50	50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		28.0			28.0	65.5		17.5		34.0	34.0	
Effective Green, g (s)		28.0			28.0	65.5		17.5		34.0	34.0	
Actuated g/C Ratio		0.31			0.31	0.73		0.19		0.38	0.38	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		824			494	1719		141		492	528	
v/s Ratio Prot		0.10										
v/s Ratio Perm					c0.24	c0.54		c0.28		0.28	0.26	
v/c Ratio		0.31			0.77	0.74		1.47		0.74	0.69	
Uniform Delay, d1		23.7			28.1	7.2		36.2		24.2	23.6	
Progression Factor		1.00			1.00	1.00		1.00		0.94	0.94	
Incremental Delay, d2		1.0			11.2	2.9		244.9		9.6	7.2	
Delay (s)		24.7			39.3	10.2		281.1		32.4	29.5	
Level of Service		C			D	B		F		C	C	
Approach Delay (s)		24.7			16.9			281.1			30.9	
Approach LOS		C			B			F			C	

Intersection Summary			
HCM Average Control Delay	40.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	90.5%	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												
Volume (vph)	21	566	15	82	1595	17	174	29	105	25	35	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5			3.5			3.5	3.5
Lane Util. Factor		0.95			0.91			0.95			1.00	1.00
Frpb, ped/bikes		0.99			1.00			0.87			1.00	0.62
Flpb, ped/bikes		1.00			0.99			0.81			0.92	1.00
Frt		1.00			1.00			0.95			1.00	0.85
Flt Protected		1.00			1.00			0.97			0.98	1.00
Satd. Flow (prot)		3061			4405			1887			1468	858
Flt Permitted		0.84			0.86			0.77			0.80	1.00
Satd. Flow (perm)		2576			3777			1499			1203	858
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)	23	629	17	91	1772	19	193	32	117	28	39	47
RTOR Reduction (vph)	0	1	0	0	1	0	0	60	0	0	0	6
Lane Group Flow (vph)	0	668	0	0	1881	0	0	282	0	0	67	41
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		62.7			62.7			20.3			20.3	20.3
Effective Green, g (s)		62.7			62.7			20.3			20.3	20.3
Actuated g/C Ratio		0.70			0.70			0.23			0.23	0.23
Clearance Time (s)		3.5			3.5			3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		1795			2631			338			271	194
v/s Ratio Prot												
v/s Ratio Perm		0.26			c0.50			c0.19			0.06	0.05
v/c Ratio		0.37			0.71			0.83			0.25	0.21
Uniform Delay, d1		5.6			8.2			33.2			28.6	28.3
Progression Factor		1.00			0.52			1.00			1.00	1.00
Incremental Delay, d2		0.1			0.9			20.8			2.2	2.5
Delay (s)		5.7			5.2			54.1			30.8	30.8
Level of Service		A			A			D			C	C
Approach Delay (s)		5.7			5.2			54.1			30.8	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM Average Control Delay	11.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	92.2%	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												
Volume (vph)	9	591	114	5	1293	21	73	181	124	5	349	191
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.91		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.80		1.00		1.00	0.86			0.88	
Flpb, ped/bikes		1.00	1.00		1.00		0.85	1.00			1.00	
Frt		1.00	0.85		1.00		1.00	0.94			0.95	
Flt Protected		1.00	1.00		1.00		0.95	1.00			1.00	
Satd. Flow (prot)		3106	973		4441		1324	3612			3717	
Flt Permitted		0.93	1.00		0.94		0.41	1.00			0.94	
Satd. Flow (perm)		2887	973		4167		574	3612			3485	
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)	9	603	116	5	1319	21	74	185	127	5	356	195
RTOR Reduction (vph)	0	0	1	0	3	0	0	33	0	0	7	0
Lane Group Flow (vph)	0	612	115	0	1342	0	74	279	0	0	549	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		43.3	43.3		43.3		36.7	36.7			36.7	
Effective Green, g (s)		43.3	43.3		43.3		36.7	36.7			36.7	
Actuated g/C Ratio		0.48	0.48		0.48		0.41	0.41			0.41	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1389	468		2005		234	1473			1421	
v/s Ratio Prot								0.08				
v/s Ratio Perm		0.21	0.12		c0.32		0.13				c0.16	
v/c Ratio		0.44	0.25		0.67		0.32	0.19			0.39	
Uniform Delay, d1		15.4	13.7		17.9		18.1	17.1			18.7	
Progression Factor		0.79	0.80		1.51		1.00	1.00			1.00	
Incremental Delay, d2		0.2	0.3		0.8		3.5	0.3			0.8	
Delay (s)		12.3	11.3		27.8		21.6	17.4			19.5	
Level of Service		B	B		C		C	B			B	
Approach Delay (s)		12.1			27.8			18.2			19.5	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	21.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1338	172	0	1991	120	179	153	27	67	140	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.96			0.98		1.00	0.95		1.00	0.94	
Flpb, ped/bikes		1.00			1.00		0.76	1.00		0.76	1.00	
Frt		0.98			0.99		1.00	0.98		1.00	0.97	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4209			4158		1178	1520		1182	1300	
Flt Permitted		1.00			1.00		0.61	1.00		0.60	1.00	
Satd. Flow (perm)		4209			4158		760	1520		752	1300	
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)	0	1365	176	0	2032	122	183	156	28	68	143	35
RTOR Reduction (vph)	0	7	0	0	6	0	0	4	0	0	1	0
Lane Group Flow (vph)	0	1534	0	0	2148	0	183	180	0	68	177	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2432			2402		232	464		230	397	
v/s Ratio Prot		0.36			c0.52			0.12			0.14	
v/s Ratio Perm							c0.24			0.09		
v/c Ratio		0.63			0.89		0.79	0.39		0.30	0.45	
Uniform Delay, d1		12.6			16.6		28.6	24.6		23.9	25.1	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.3			5.7		23.3	2.4		3.3	3.6	
Delay (s)		13.9			22.3		51.9	27.1		27.1	28.7	
Level of Service		B			C		D	C		C	C	
Approach Delay (s)		13.9			22.3			39.4			28.3	
Approach LOS		B			C			D			C	

Intersection Summary			
HCM Average Control Delay	21.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	93.5%	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												
Volume (vph)	0	1082	65	0	1918	65	47	126	36	14	199	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			0.95	
Frpb, ped/bikes		0.99			0.99		1.00	0.93			0.93	
Flpb, ped/bikes		1.00			1.00		0.79	1.00			0.99	
Frt		0.99			1.00		1.00	0.97			0.97	
Flt Protected		1.00			1.00		0.95	1.00			1.00	
Satd. Flow (prot)		4377			4395		1221	1466			2769	
Flt Permitted		1.00			1.00		0.57	1.00			0.94	
Satd. Flow (perm)		4377			4395		729	1466			2602	
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	1139	68	0	2019	68	49	133	38	15	209	57
RTOR Reduction (vph)	0	4	0	0	4	0	0	8	0	0	1	0
Lane Group Flow (vph)	0	1203	0	0	2083	0	49	163	0	0	280	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2592			2603		218	438			778	
v/s Ratio Prot		0.27			c0.47			c0.11				
v/s Ratio Perm							0.07				0.11	
v/c Ratio		0.46			0.80		0.22	0.37			0.36	
Uniform Delay, d1		10.3			14.2		23.7	24.9			24.8	
Progression Factor		1.00			0.32		1.00	1.00			1.00	
Incremental Delay, d2		0.6			1.5		2.4	2.4			1.3	
Delay (s)		10.9			6.0		26.1	27.3			26.1	
Level of Service		B			A		C	C			C	
Approach Delay (s)		10.9			6.0			27.0			26.1	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	96.0%	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												
Volume (vph)	0	1246	58	0	1877	54	34	94	20	27	158	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.98			0.99			0.96			0.94	
Flpb, ped/bikes		1.00			1.00			0.96			0.97	
Frt		0.99			1.00			0.98			0.97	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		4187			4222			1269			1265	
Flt Permitted		1.00			1.00			0.90			0.95	
Satd. Flow (perm)		4187			4222			1153			1212	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1354	63	0	2040	59	37	102	22	29	172	47
RTOR Reduction (vph)	0	5	0	0	3	0	0	6	0	0	1	0
Lane Group Flow (vph)	0	1412	0	0	2096	0	0	155	0	0	247	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2512			2533			346			364	
v/s Ratio Prot		0.34			c0.50							
v/s Ratio Perm								0.13			c0.20	
v/c Ratio		0.56			0.83			0.45			0.68	
Uniform Delay, d1		10.9			14.3			25.5			27.7	
Progression Factor		1.38			1.00			1.00			1.00	
Incremental Delay, d2		0.9			3.3			4.2			9.8	
Delay (s)		15.9			17.6			29.7			37.5	
Level of Service		B			B			C			D	
Approach Delay (s)		15.9			17.6			29.7			37.5	
Approach LOS		B			B			C			D	

Intersection Summary			
HCM Average Control Delay	18.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	75.0%	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		↑↑↑			↑↑↑		↰	↕				↱
Volume (vph)	0	1048	0	0	1036	43	814	418	33	0	0	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.99		1.00	0.99				0.97
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.98				1.00
Satd. Flow (prot)		4282			4383		1415	2685				1367
Flt Permitted		1.00			1.00		0.95	0.98				1.00
Satd. Flow (perm)		4282			4383		1415	2685				1367
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1127	0	0	1114	46	875	449	35	0	0	52
RTOR Reduction (vph)	0	0	0	0	5	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	1127	0	0	1155	0	446	910	0	0	0	52
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		38.0			26.0		42.0	42.0				9.0
Effective Green, g (s)		38.0			26.0		42.0	42.0				9.0
Actuated g/C Ratio		0.42			0.29		0.47	0.47				0.10
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		1808			1266		660	1253				137
v/s Ratio Prot		c0.26			c0.26							
v/s Ratio Perm							0.32	0.34				0.04
v/c Ratio		0.62			0.91		0.68	0.73				0.38
Uniform Delay, d1		20.4			30.9		18.7	19.4				37.9
Progression Factor		1.00			0.68		1.00	1.00				1.00
Incremental Delay, d2		1.6			7.2		5.5	3.7				7.8
Delay (s)		22.0			28.1		24.2	23.1				45.7
Level of Service		C			C		C	C				D
Approach Delay (s)		22.0			28.1			23.4			45.7	
Approach LOS		C			C			C			D	

Intersection Summary			
HCM Average Control Delay	24.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	73.7%	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												
Volume (vph)	126	112	851	0	92	9	1017	226	34	0	441	116
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		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.97		1.00	0.95			1.00	0.67
Flpb, ped/bikes		0.85	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.99		1.00	0.98			1.00	0.85
Flt Protected		0.97	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1361	2448		1332		4385	1340			3110	815
Flt Permitted		0.78	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		1085	2448		1332		4385	1340			3110	815
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	135	120	915	0	99	10	1094	243	37	0	474	125
RTOR Reduction (vph)	0	0	2	0	4	0	0	6	0	0	0	6
Lane Group Flow (vph)	0	255	913	0	105	0	1094	274	0	0	474	119
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		26.5	55.5		26.5		25.5	55.5			26.5	26.5
Effective Green, g (s)		26.5	52.0		26.5		25.5	55.5			26.5	26.5
Actuated g/C Ratio		0.29	0.58		0.29		0.28	0.62			0.29	0.29
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		319	1414		392		1242	826			916	240
v/s Ratio Prot			0.37		0.08		c0.25	0.20			c0.15	
v/s Ratio Perm		c0.24										0.15
v/c Ratio		0.80	0.65		0.27		0.88	0.33			0.52	0.49
Uniform Delay, d1		29.3	12.8		24.3		30.8	8.3			26.4	26.2
Progression Factor		0.94	0.55		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		10.5	0.8		0.4		9.2	1.1			2.1	7.1
Delay (s)		38.1	7.8		24.7		40.0	9.4			28.5	33.3
Level of Service		D	A		C		D	A			C	C
Approach Delay (s)		14.4			24.7			33.7			29.5	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM Average Control Delay	25.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	76.1%	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												
Volume (vph)	0	0	0	63	207	40	29	36	0	0	46	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.29		1.00			0.90	
Flpb, ped/bikes					0.85	1.00		0.87			1.00	
Frt					1.00	0.85		1.00			0.96	
Flt Protected					0.99	1.00		0.98			1.00	
Satd. Flow (prot)					2450	398		1392			1419	
Flt Permitted					0.99	1.00		0.88			1.00	
Satd. Flow (perm)					2450	398		1258			1419	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	0	72	238	46	33	41	0	0	53	22
RTOR Reduction (vph)	0	0	0	0	0	26	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	310	20	0	74	0	0	75	0
Confl. Peds. (#/hr)				945		1084	569					569
Confl. Bikes (#/hr)						76			2			4
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					32.0	32.0		33.0			33.0	
Effective Green, g (s)					32.0	32.0		33.0			33.0	
Actuated g/C Ratio					0.43	0.43		0.44			0.44	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1045	170		554			624	
v/s Ratio Prot											0.05	
v/s Ratio Perm					0.13	0.05		c0.06				
v/c Ratio					0.30	0.12		0.13			0.12	
Uniform Delay, d1					14.1	13.0		12.5			12.4	
Progression Factor					1.00	1.00		0.84			1.00	
Incremental Delay, d2					0.7	1.4		0.5			0.4	
Delay (s)					14.8	14.3		10.9			12.8	
Level of Service					B	B		B			B	
Approach Delay (s)		0.0			14.8			10.9			12.8	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	57.5%	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												
Volume (vph)	0	0	0	99	242	25	32	25	0	0	40	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.94		1.00	1.00			0.92	
Flpb, ped/bikes				1.00	1.00		0.66	1.00			1.00	
Frt				1.00	0.99		1.00	1.00			0.97	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	2869		1020	1637			1473	
Flt Permitted				0.95	1.00		0.72	1.00			1.00	
Satd. Flow (perm)				1555	2869		773	1637			1473	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	0	111	272	28	36	28	0	0	45	11
RTOR Reduction (vph)	0	0	0	0	6	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	111	294	0	36	28	0	0	56	0
Confl. Peds. (#/hr)						1700	537					569
Confl. Bikes (#/hr)						76			2			4
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				47.4	47.4		18.3	18.3			18.3	
Effective Green, g (s)				47.4	47.4		18.3	18.3			18.3	
Actuated g/C Ratio				0.63	0.63		0.24	0.24			0.24	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				983	1813		189	399			359	
v/s Ratio Prot				0.07	c0.10			0.02			0.04	
v/s Ratio Perm							c0.05					
v/c Ratio				0.11	0.16		0.19	0.07			0.16	
Uniform Delay, d1				5.5	5.7		22.5	21.8			22.3	
Progression Factor				1.00	1.00		1.15	1.15			1.00	
Incremental Delay, d2				0.2	0.2		2.2	0.3			0.9	
Delay (s)				5.7	5.9		28.1	25.3			23.2	
Level of Service				A	A		C	C			C	
Approach Delay (s)		0.0			5.8			26.9			23.2	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	10.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.17		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	160	92	9	83	18	8
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	170	98	10	88	19	9
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	306					
pX, platoon unblocked						
vC, conflicting volume			668		1127	934
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			668		1127	934
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		80	93
cM capacity (veh/h)			642		95	130

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	113	155	98	28
Volume Left	0	0	10	19
Volume Right	0	98	0	9
cSH	1700	1700	642	104
Volume to Capacity	0.07	0.09	0.01	0.27
Queue Length 95th (ft)	0	0	1	25
Control Delay (s)	0.0	0.0	1.2	52.0
Lane LOS			A	F
Approach Delay (s)	0.0		1.2	52.0
Approach LOS				F

Intersection Summary			
Average Delay	4.0		
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												
Volume (vph)	20	155	27	20	90	7	20	46	9	26	56	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	
Lane Util. Factor		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.44		0.97			0.93			0.94	
Flpb, ped/bikes		0.95	1.00		0.93			0.88			0.87	
Frt		1.00	0.85		0.99			0.98			0.99	
Flt Protected		0.99	1.00		0.99			0.99			0.99	
Satd. Flow (prot)		1542	609		1265			1147			1142	
Flt Permitted		0.97	1.00		0.94			0.92			0.92	
Satd. Flow (perm)		1497	609		1200			1074			1062	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	24	182	32	24	106	8	24	54	11	31	66	12
RTOR Reduction (vph)	0	0	15	0	3	0	0	7	0	0	6	0
Lane Group Flow (vph)	0	206	17	0	135	0	0	82	0	0	103	0
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4			4		
Actuated Green, G (s)		40.0	40.0		40.0			26.0			26.0	
Effective Green, g (s)		40.0	40.0		40.0			26.0			26.0	
Actuated g/C Ratio		0.53	0.53		0.53			0.35			0.35	
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)		798	325		640			372			368	
v/s Ratio Prot												
v/s Ratio Perm		c0.14	0.03		0.11			0.08			c0.10	
v/c Ratio		0.26	0.05		0.21			0.22			0.28	
Uniform Delay, d1		9.5	8.4		9.2			17.3			17.7	
Progression Factor		1.00	1.00		1.00			1.00			0.91	
Incremental Delay, d2		0.8	0.3		0.8			1.4			1.9	
Delay (s)		10.3	8.7		10.0			18.7			18.0	
Level of Service		B	A		A			B			B	
Approach Delay (s)		10.0			10.0			18.7			18.0	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM Average Control Delay	12.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	99.6%	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												
Volume (vph)	0	228	11	13	68	0	15	0	46	15	11	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
Lane Util. Factor		1.00	1.00		0.95			1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.26		1.00			0.59			1.00	0.67
Flpb, ped/bikes		1.00	1.00		0.92			0.92			0.72	1.00
Frt		1.00	0.85		1.00			0.90			1.00	0.85
Flt Protected		1.00	1.00		0.99			0.99			0.97	1.00
Satd. Flow (prot)		1637	354		2846			786			1145	933
Flt Permitted		1.00	1.00		0.90			0.96			0.91	1.00
Satd. Flow (perm)		1637	354		2576			763			1068	933
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	243	12	14	72	0	16	0	49	16	12	12
RTOR Reduction (vph)	0	0	9	0	0	0	0	0	0	0	0	5
Lane Group Flow (vph)	0	243	3	0	86	0	0	65	0	0	28	7
Confl. Peds. (#/hr)			800	800			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	36.5
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	36.5
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	0.61
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)		396	86		623			464			650	568
v/s Ratio Prot		c0.15										
v/s Ratio Perm			0.01		0.03			c0.09			0.03	0.01
v/c Ratio		0.61	0.03		0.14			0.14			0.04	0.01
Uniform Delay, d1		20.3	17.4		17.8			5.0			4.7	4.6
Progression Factor		1.00	1.00		1.00			1.00			1.00	1.00
Incremental Delay, d2		6.9	0.7		0.5			0.6			0.0	0.0
Delay (s)		27.2	18.1		18.3			5.7			4.8	4.6
Level of Service		C	B		B			A			A	A
Approach Delay (s)		26.8			18.3			5.7			4.7	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM Average Control Delay	20.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	313	17	73	8	141	4	153	335
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		0.97		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		0.99		1.00			1.00
Flt Protected		1.00		0.96		1.00			0.98
Satd. Flow (prot)		942		1315		1628			3062
Flt Permitted		1.00		0.96		1.00			0.95
Satd. Flow (perm)		942		1315		1628			2970
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	340	18	79	9	153	4	166	364
RTOR Reduction (vph)	0	0	0	6	0	0	0	0	0
Lane Group Flow (vph)	0	340	0	100	0	157	0	0	530
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		373		312			891
v/s Ratio Prot						0.10			
v/s Ratio Perm		c0.36		0.08					0.18
v/c Ratio		0.65		0.27		0.50			0.59
Uniform Delay, d1		9.2		16.7		21.7			17.9
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		6.0		1.8		1.3			2.9
Delay (s)		15.2		18.4		23.0			20.8
Level of Service		B		B		C			C
Approach Delay (s)	15.2			18.4		23.0			20.8
Approach LOS	B			B		C			C

Intersection Summary			
HCM Average Control Delay	19.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	66.9%	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												
Volume (vph)	21	139	44	28	309	29	62	38	22	22	76	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.95			1.00	0.59	1.00	0.80			0.79	
Flpb, ped/bikes		0.98			1.00	1.00	0.60	1.00			0.94	
Frt		0.97			1.00	0.85	1.00	0.95			0.94	
Flt Protected		0.99			1.00	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1280			1426	721	938	1085			2167	
Flt Permitted		0.95			0.96	1.00	0.64	1.00			0.91	
Satd. Flow (perm)		1218			1380	721	631	1085			1985	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	24	160	51	32	355	33	71	44	25	25	87	67
RTOR Reduction (vph)	0	7	0	0	0	6	0	21	0	0	0	0
Lane Group Flow (vph)	0	228	0	0	387	27	71	48	0	0	179	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		63.8			63.8	63.8	16.1	16.1			16.1	
Effective Green, g (s)		63.8			63.8	63.8	16.1	16.1			16.1	
Actuated g/C Ratio		0.71			0.71	0.71	0.18	0.18			0.18	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		863			978	511	113	194			355	
v/s Ratio Prot								0.04				
v/s Ratio Perm		0.19			c0.28	0.04	c0.11				0.09	
v/c Ratio		0.26			0.40	0.05	0.63	0.25			0.50	
Uniform Delay, d1		4.7			5.3	4.0	34.2	31.8			33.3	
Progression Factor		1.00			1.00	1.00	1.28	1.44			1.00	
Incremental Delay, d2		0.7			1.2	0.2	10.4	0.7			1.1	
Delay (s)		5.4			6.5	4.2	54.3	46.5			34.5	
Level of Service		A			A	A	D	D			C	
Approach Delay (s)		5.4			6.3			50.5			34.5	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM Average Control Delay	17.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	118.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Volume (vph)	23	205	25	10	315	16	20	39	23	20	48	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.95			0.98			0.83			0.80	
Flpb, ped/bikes		0.98			0.99			0.89			0.90	
Frt		0.99			0.99			0.96			0.96	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		1312			1378			1003			985	
Flt Permitted		0.96			0.99			0.92			0.94	
Satd. Flow (perm)		1260			1367			936			934	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	24	218	27	11	335	17	21	41	24	21	51	34
RTOR Reduction (vph)	0	1	0	0	1	0	0	16	0	0	19	0
Lane Group Flow (vph)	0	268	0	0	362	0	0	70	0	0	87	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.6			62.6			18.6			18.6	
Effective Green, g (s)		62.6			62.6			18.6			18.6	
Actuated g/C Ratio		0.70			0.70			0.21			0.21	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		876			951			193			193	
v/s Ratio Prot												
v/s Ratio Perm		0.21			c0.26			0.07			c0.09	
v/c Ratio		0.31			0.38			0.36			0.45	
Uniform Delay, d1		5.3			5.7			30.6			31.2	
Progression Factor		1.00			1.00			1.75			1.00	
Incremental Delay, d2		0.9			1.2			4.9			7.4	
Delay (s)		6.2			6.8			58.6			38.7	
Level of Service		A			A			E			D	
Approach Delay (s)		6.2			6.8			58.6			38.7	
Approach LOS		A			A			E			D	

Intersection Summary			
HCM Average Control Delay	16.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	14	257	81	21	211	12	26	20	29	19	48	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.89			1.00	0.51		0.78			0.77	
Flpb, ped/bikes		0.99			0.98	1.00		0.86			0.92	
Frt		0.97			1.00	0.85		0.95			0.94	
Flt Protected		1.00			1.00	1.00		0.98			0.99	
Satd. Flow (prot)		1212			1391	617		891			955	
Flt Permitted		0.99			0.95	1.00		0.89			0.95	
Satd. Flow (perm)		1197			1331	617		807			919	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	16	289	91	24	237	13	29	22	33	21	54	52
RTOR Reduction (vph)	0	6	0	0	0	5	0	24	0	0	27	0
Lane Group Flow (vph)	0	390	0	0	261	8	0	60	0	0	100	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		57.0			57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0			57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63			0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		758			843	391		224			255	
v/s Ratio Prot												
v/s Ratio Perm		c0.33			0.20	0.01		0.07			c0.11	
v/c Ratio		0.51			0.31	0.02		0.27			0.39	
Uniform Delay, d1		9.0			7.5	6.1		25.4			26.3	
Progression Factor		1.00			0.84	0.77		0.92			1.00	
Incremental Delay, d2		2.5			0.9	0.1		2.7			4.4	
Delay (s)		11.5			7.2	4.8		26.1			30.8	
Level of Service		B			A	A		C			C	
Approach Delay (s)		11.5			7.1			26.1			30.8	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM Average Control Delay	14.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	17	239	57	7	155	5	23	24	32	14	40	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.51		1.00	0.51		0.77			0.84	
Flpb, ped/bikes		0.98	1.00		0.99	1.00		0.87			0.91	
Frt		1.00	0.85		1.00	0.85		0.95			0.96	
Flt Protected		1.00	1.00		1.00	1.00		0.99			0.99	
Satd. Flow (prot)		1393	604		1409	604		894			1194	
Flt Permitted		0.98	1.00		0.99	1.00		0.92			0.95	
Satd. Flow (perm)		1369	604		1395	604		832			1148	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	19	269	64	8	174	6	26	27	36	16	45	25
RTOR Reduction (vph)	0	0	6	0	0	2	0	26	0	0	17	0
Lane Group Flow (vph)	0	288	58	0	182	4	0	63	0	0	69	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63	0.63		0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		867	383		884	383		231			319	
v/s Ratio Prot												
v/s Ratio Perm		c0.21	0.10		0.13	0.01		c0.08			0.06	
v/c Ratio		0.33	0.15		0.21	0.01		0.27			0.22	
Uniform Delay, d1		7.7	6.7		7.0	6.1		25.4			25.0	
Progression Factor		0.42	0.36		1.00	1.00		0.84			1.00	
Incremental Delay, d2		0.9	0.7		0.5	0.0		2.6			1.6	
Delay (s)		4.2	3.2		7.5	6.1		24.0			26.5	
Level of Service		A	A		A	A		C			C	
Approach Delay (s)		4.0			7.4			24.0			26.5	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	10.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	19	247	13	4	25	10	417	54	1	157	472
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				5.0		5.0			5.0	5.0
Lane Util. Factor	1.00				1.00		0.95			1.00	0.95
Frpb, ped/bikes	0.89				0.90		0.90			1.00	1.00
Flpb, ped/bikes	1.00				0.67		1.00			1.00	1.00
Frt	0.87				0.96		0.98			1.00	1.00
Flt Protected	1.00				0.96		1.00			0.95	1.00
Satd. Flow (prot)	1266				917		2753			1555	3110
Flt Permitted	1.00				0.96		1.00			0.95	1.00
Satd. Flow (perm)	1266				917		2753			1555	3110
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
Adj. Flow (vph)	20	260	14	4	26	11	439	57	1	165	497
RTOR Reduction (vph)	2	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	292	0	0	0	41	0	497	0	0	165	497
Confl. Peds. (#/hr)				400	400	400		400	400		
Confl. Bikes (#/hr)		30	30			10		30	30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0
Turn Type				Perm						Split	
Protected Phases	4				3		6			2	2
Permitted Phases				3							
Actuated Green, G (s)	20.0				20.0		17.0			13.0	13.0
Effective Green, g (s)	20.0				20.0		17.0			13.0	13.0
Actuated g/C Ratio	0.22				0.22		0.19			0.14	0.14
Clearance Time (s)	5.0				5.0		5.0			5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	281				204		520			225	449
v/s Ratio Prot	c0.23						c0.18			0.11	c0.16
v/s Ratio Perm					0.04						
v/c Ratio	1.04				0.20		0.96			0.73	1.11
Uniform Delay, d1	35.0				28.5		36.1			36.8	38.5
Progression Factor	1.00				1.04		1.00			0.85	0.82
Incremental Delay, d2	63.9				0.5		29.9			18.5	74.2
Delay (s)	98.9				30.2		66.0			50.0	105.8
Level of Service	F				C		E			D	F
Approach Delay (s)	98.9				30.2		66.0				91.9
Approach LOS	F				C		E				F

Intersection Summary			
HCM Average Control Delay	83.0	HCM Level of Service	F
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	77.9%	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												
Volume (vph)	0	694	32	0	1374	21	0	39	9	0	75	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.91			1.00			1.00	
Frpb, ped/bikes		0.99			1.00			0.93			0.92	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.97			0.97	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2857			4254			1295			1286	
Flt Permitted		1.00			1.00			1.00			1.00	
Satd. Flow (perm)		2857			4254			1295			1286	
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)	0	771	36	0	1527	23	0	43	10	0	83	21
RTOR Reduction (vph)	0	0	0	0	0	0	0	9	0	0	11	0
Lane Group Flow (vph)	0	807	0	0	1550	0	0	44	0	0	93	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type												
Protected Phases		2			6			8			4	
Permitted Phases												
Actuated Green, G (s)		70.8			70.8			10.4			10.4	
Effective Green, g (s)		70.8			70.8			10.4			10.4	
Actuated g/C Ratio		0.79			0.79			0.12			0.12	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2248			3346			150			149	
v/s Ratio Prot		0.28			c0.36			0.03			c0.07	
v/s Ratio Perm												
v/c Ratio		0.36			0.46			0.29			0.63	
Uniform Delay, d1		2.9			3.2			36.4			37.9	
Progression Factor		0.60			1.00			1.00			1.00	
Incremental Delay, d2		0.4			0.1			1.1			8.0	
Delay (s)		2.1			3.3			37.5			45.9	
Level of Service		A			A			D			D	
Approach Delay (s)		2.1			3.3			37.5			45.9	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	5.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	0	587	187	4	1049	34	341	86	69	0	145	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.70		1.00	0.70	1.00	1.00	0.74		0.99	
Flpb, ped/bikes		1.00	1.00		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	0.85		1.00	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3110	974		3109	974	3016	1637	1024		2876	
Flt Permitted		1.00	1.00		0.95	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		3110	974		2965	974	3016	1637	1024		2876	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	624	199	4	1116	36	363	91	73	0	154	4
RTOR Reduction (vph)	0	0	76	0	0	16	0	0	6	0	3	0
Lane Group Flow (vph)	0	624	123	0	1120	20	363	91	67	0	155	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type			Perm	Perm		Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases			2	6		6			8			
Actuated Green, G (s)		50.3	50.3		50.3	50.3	16.0	30.7	30.7		10.2	
Effective Green, g (s)		50.3	50.3		50.3	50.3	16.0	30.7	30.7		10.2	
Actuated g/C Ratio		0.56	0.56		0.56	0.56	0.18	0.34	0.34		0.11	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		1738	544		1657	544	536	558	349		326	
v/s Ratio Prot		0.20					c0.12	0.06			c0.05	
v/s Ratio Perm			0.13		c0.38	0.02			0.07			
v/c Ratio		0.36	0.23		0.68	0.04	0.68	0.16	0.19		0.48	
Uniform Delay, d1		11.0	10.0		14.1	8.9	34.6	20.7	20.9		37.4	
Progression Factor		1.00	1.00		0.85	0.87	1.00	1.00	1.00		0.92	
Incremental Delay, d2		0.6	1.0		2.1	0.1	3.4	0.1	0.3		1.1	
Delay (s)		11.5	11.0		14.0	7.9	38.0	20.8	21.2		35.4	
Level of Service		B	B		B	A	D	C	C		D	
Approach Delay (s)		11.4			13.9			32.7			35.4	
Approach LOS		B			B			C			D	

Intersection Summary			
HCM Average Control Delay	18.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	89.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	58	522	1034	31	47	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.91		1.00	
Frpb, ped/bikes		1.00	0.99		0.81	
Flpb, ped/bikes		0.99	1.00		1.00	
Frt		1.00	1.00		0.93	
Flt Protected		1.00	1.00		0.98	
Satd. Flow (prot)		2884	4410		1058	
Flt Permitted		0.75	1.00		0.98	
Satd. Flow (perm)		2179	4410		1058	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	62	555	1100	33	50	53
RTOR Reduction (vph)	0	0	3	0	23	0
Lane Group Flow (vph)	0	617	1130	0	80	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		64.0	64.0		19.0	
Effective Green, g (s)		64.0	64.0		19.0	
Actuated g/C Ratio		0.71	0.71		0.21	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1550	3136		223	
v/s Ratio Prot			0.26		c0.08	
v/s Ratio Perm		c0.28				
v/c Ratio		0.40	0.36		0.36	
Uniform Delay, d1		5.2	5.0		30.3	
Progression Factor		0.53	1.00		1.54	
Incremental Delay, d2		0.2	0.1		4.2	
Delay (s)		2.9	5.1		50.8	
Level of Service		A	A		D	
Approach Delay (s)		2.9	5.1		50.8	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	6.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	88.7%	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												
Volume (vph)	18	416	48	41	1063	15	25	36	55	31	77	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			1.00			0.83			0.89	
Flpb, ped/bikes		1.00			0.99			0.95			0.95	
Frt		0.98			1.00			0.94			0.96	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		2770			2877			1051			1147	
Flt Permitted		0.89			0.92			0.92			0.93	
Satd. Flow (perm)		2482			2641			981			1071	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	19	447	52	44	1143	16	27	39	59	33	83	53
RTOR Reduction (vph)	0	2	0	0	1	0	0	35	0	0	17	0
Lane Group Flow (vph)	0	516	0	0	1202	0	0	90	0	0	152	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		60.6			60.6			20.6			20.6	
Effective Green, g (s)		60.6			60.6			20.6			20.6	
Actuated g/C Ratio		0.67			0.67			0.23			0.23	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1671			1778			225			245	
v/s Ratio Prot												
v/s Ratio Perm		0.21			c0.46			0.09			c0.14	
v/c Ratio		0.31			0.68			0.40			0.62	
Uniform Delay, d1		6.1			8.8			29.4			31.2	
Progression Factor		1.00			0.22			1.00			0.92	
Incremental Delay, d2		0.5			1.7			5.2			10.2	
Delay (s)		6.5			3.6			34.6			38.9	
Level of Service		A			A			C			D	
Approach Delay (s)		6.5			3.6			34.6			38.9	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM Average Control Delay	9.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	91.1%	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												
Volume (vph)	26	505	20	23	1087	30	21	25	58	40	33	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.80			0.88	
Flpb, ped/bikes		1.00			1.00			0.95			0.90	
Frt		0.99			1.00			0.92			0.96	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2853			2869			990			1073	
Flt Permitted		0.86			0.94			0.93			0.84	
Satd. Flow (perm)		2469			2689			935			914	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	549	22	25	1182	33	23	27	63	43	36	37
RTOR Reduction (vph)	0	1	0	0	1	0	0	53	0	0	18	0
Lane Group Flow (vph)	0	598	0	0	1239	0	0	60	0	0	98	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		67.4			67.4			13.7			13.7	
Effective Green, g (s)		67.4			67.4			13.7			13.7	
Actuated g/C Ratio		0.75			0.75			0.15			0.15	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1849			2014			142			139	
v/s Ratio Prot												
v/s Ratio Perm		0.24			c0.46			0.06			c0.11	
v/c Ratio		0.32			0.62			0.42			0.71	
Uniform Delay, d1		3.7			5.3			34.5			36.2	
Progression Factor		0.80			0.37			1.00			0.84	
Incremental Delay, d2		0.4			0.5			2.0			15.0	
Delay (s)		3.4			2.4			36.6			45.3	
Level of Service		A			A			D			D	
Approach Delay (s)		3.4			2.4			36.6			45.3	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	7.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	76.6%	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												
Volume (vph)	10	536	57	19	997	2	124	3	24	2	3	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			1.00			0.94			0.72	
Flpb, ped/bikes		1.00			1.00			0.72			0.98	
Frt		0.99			1.00			0.98			0.90	
Flt Protected		1.00			1.00			0.96			1.00	
Satd. Flow (prot)		2786			3098			1042			1036	
Flt Permitted		0.93			0.94			0.75			0.98	
Satd. Flow (perm)		2606			2906			813			1019	
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)	11	596	63	21	1108	2	138	3	27	2	3	16
RTOR Reduction (vph)	0	2	0	0	0	0	0	8	0	0	13	0
Lane Group Flow (vph)	0	668	0	0	1131	0	0	160	0	0	8	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1798			2005			174			219	
v/s Ratio Prot												
v/s Ratio Perm		0.26			c0.39			c0.20			0.01	
v/c Ratio		0.37			0.56			0.92			0.04	
Uniform Delay, d1		5.8			7.1			34.6			28.0	
Progression Factor		1.55			0.22			1.00			0.83	
Incremental Delay, d2		0.6			0.8			49.9			0.1	
Delay (s)		9.6			2.4			84.5			23.2	
Level of Service		A			A			F			C	
Approach Delay (s)		9.6			2.4			84.5			23.2	
Approach LOS		A			A			F			C	

Intersection Summary			
HCM Average Control Delay	12.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	16	545	940	611	646	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3059	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3059	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	592	1022	664	702	33
RTOR Reduction (vph)	0	10	0	0	3	0
Lane Group Flow (vph)	17	582	1022	664	732	0
Confl. Peds. (#/hr)						95
Confl. Bikes (#/hr)		10				81
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	11.0	51.9	36.9	69.0	28.1	
Effective Green, g (s)	11.0	51.9	36.9	69.0	28.1	
Actuated g/C Ratio	0.12	0.58	0.41	0.77	0.31	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	190	1412	1237	2235	955	
v/s Ratio Prot	0.01	c0.24	c0.34	0.23	c0.24	
v/s Ratio Perm						
v/c Ratio	0.09	0.41	0.83	0.30	0.77	
Uniform Delay, d1	35.1	10.6	23.7	3.2	28.0	
Progression Factor	1.40	0.97	0.86	1.27	0.71	
Incremental Delay, d2	0.2	0.2	3.5	0.3	1.3	
Delay (s)	49.1	10.4	23.9	4.3	21.1	
Level of Service	D	B	C	A	C	
Approach Delay (s)	11.5			16.2	21.1	
Approach LOS	B			B	C	

Intersection Summary			
HCM Average Control Delay	16.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	68.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	79	317	15	0	116	0	25	33	1212
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			0.98			1.00	1.00
Flpb, ped/bikes				0.78			1.00			1.00	1.00
Frt				0.99			0.97			1.00	1.00
Flt Protected				0.95			1.00			0.95	1.00
Satd. Flow (prot)				2187			4252			1555	3110
Flt Permitted				0.95			1.00			0.95	1.00
Satd. Flow (perm)				2187			4252			1555	3110
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
Adj. Flow (vph)	0	0	88	352	17	0	129	0	28	37	1347
RTOR Reduction (vph)	0	0	0	3	0	0	12	0	0	0	0
Lane Group Flow (vph)	0	0	0	454	0	0	145	0	0	37	1347
Confl. Peds. (#/hr)			125	64					125		
Confl. Bikes (#/hr)					34				86		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				21.9			50.3			4.8	59.1
Effective Green, g (s)				21.9			50.3			4.8	59.1
Actuated g/C Ratio				0.24			0.56			0.05	0.66
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				532			2376			83	2042
v/s Ratio Prot							0.03			0.02	c0.43
v/s Ratio Perm				0.21							
v/c Ratio				0.85			0.06			0.45	0.66
Uniform Delay, d1				32.5			9.1			41.3	9.4
Progression Factor				1.00			0.77			1.00	1.00
Incremental Delay, d2				12.6			0.0			1.4	1.7
Delay (s)				45.1			7.0			42.7	11.0
Level of Service				D			A			D	B
Approach Delay (s)	0.0			45.1			7.0				11.9
Approach LOS	A			D			A				B

Intersection Summary			
HCM Average Control Delay	19.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBR	EBR2	SEL	SET	SER2	NWL2	NWL	NWT	NWR	SWR2
Lane Configurations											
Volume (vph)	24	1	250	12	831	344	100	0	1194	11	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		7.0	7.0	7.0		4.0	7.0		
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00		1.00	0.95		
Frpb, ped/bikes	1.00	0.91		1.00	1.00	0.95		1.00	0.99		
Flpb, ped/bikes	1.00	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	1.00		
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95	1.00		
Satd. Flow (prot)	1555	1105		1555	3110	1323		1555	3088		
Flt Permitted	0.95	1.00		0.21	1.00	1.00		0.40	1.00		
Satd. Flow (perm)	1555	1105		336	3110	1323		655	3088		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	1	272	13	903	374	109	0	1298	12	0
RTOR Reduction (vph)	0	195	0	0	0	232	0	0	1	0	0
Lane Group Flow (vph)	26	78	0	13	903	142	0	109	1309	0	0
Confl. Peds. (#/hr)			64							1000	100
Confl. Bikes (#/hr)		10	10			30				30	10
Parking (#/hr)		5	5								
Turn Type	custom	custom		Perm		Perm	custom	Prot			custom
Protected Phases					6			5	2		
Permitted Phases	4	4		6		6	5				8
Actuated Green, G (s)	22.5	22.5		30.0	30.0	30.0		10.0	44.0		
Effective Green, g (s)	22.5	22.5		30.0	30.0	30.0		10.0	44.0		
Actuated g/C Ratio	0.28	0.28		0.38	0.38	0.38		0.13	0.56		
Clearance Time (s)	5.5	5.5		7.0	7.0	7.0		4.0	7.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	443	315		128	1181	502		83	1720		
v/s Ratio Prot					0.29				c0.42		
v/s Ratio Perm	0.02	c0.07		0.04		0.11		c0.17			
v/c Ratio	0.06	0.25		0.10	0.76	0.28		1.31	0.76		
Uniform Delay, d1	20.5	21.7		15.8	21.4	17.0		34.5	13.5		
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2	0.1	0.4		1.6	4.7	1.4		203.8	3.2		
Delay (s)	20.6	22.2		17.4	26.2	18.4		238.3	16.7		
Level of Service	C	C		B	C	B		F	B		
Approach Delay (s)					23.8				33.7		
Approach LOS					C				C		

Intersection Summary			
HCM Average Control Delay	28.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	105.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	27	0	64	0	0	0	46	1256	0	0	4	917
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.77					1.00	1.00				0.99
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.91					1.00	1.00				1.00
Flt Protected		0.99					0.95	1.00				1.00
Satd. Flow (prot)		982					1555	3110				3085
Flt Permitted		0.99					0.95	1.00				0.95
Satd. Flow (perm)		982					1555	3110				2933
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	29	0	68	0	0	0	49	1336	0	0	4	976
RTOR Reduction (vph)	0	3	0	0	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	0	94	0	0	0	0	49	1336	0	0	0	991
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		12.6					5.4	68.4				58.0
Effective Green, g (s)		12.6					5.4	68.4				58.0
Actuated g/C Ratio		0.14					0.06	0.76				0.64
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		137					93	2364				1890
v/s Ratio Prot		c0.10					0.03	c0.43				
v/s Ratio Perm												0.34
v/c Ratio		0.69					0.53	0.57				0.52
Uniform Delay, d1		36.8					41.1	4.5				8.6
Progression Factor		1.00					1.23	1.83				1.00
Incremental Delay, d2		13.5					4.8	0.9				1.0
Delay (s)		50.3					55.3	9.2				9.6
Level of Service		D					E	A				A
Approach Delay (s)		50.3			0.0			10.8				9.6
Approach LOS		D			A			B				A

Intersection Summary			
HCM Average Control Delay	11.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	96.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	11
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	12
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	69	543	0	0	753	107	274	281	39	0	0	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			
Lane Util. Factor		0.95			0.95			0.95	1.00			
Frpb, ped/bikes		1.00			0.97			1.00	0.71			
Flpb, ped/bikes		0.99			1.00			0.86	1.00			
Frt		1.00			0.98			1.00	0.85			
Flt Protected		0.99			1.00			0.98	1.00			
Satd. Flow (prot)		2840			2726			2416	986			
Flt Permitted		0.72			1.00			0.98	1.00			
Satd. Flow (perm)		2064			2726			2416	986			
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	572	0	0	793	113	288	296	41	0	0	0
RTOR Reduction (vph)	0	0	0	0	14	0	0	0	24	0	0	0
Lane Group Flow (vph)	0	645	0	0	892	0	0	584	17	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm		Perm			
Protected Phases		2			6			8				
Permitted Phases	2						8		8			
Actuated Green, G (s)		37.0			37.0			34.0	34.0			
Effective Green, g (s)		37.0			37.0			34.0	34.0			
Actuated g/C Ratio		0.46			0.46			0.42	0.42			
Clearance Time (s)		4.5			4.5			4.5	4.5			
Vehicle Extension (s)		3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)		955			1261			1027	419			
v/s Ratio Prot					c0.33							
v/s Ratio Perm		0.31						0.24	0.02			
v/c Ratio		0.68			0.71			0.57	0.04			
Uniform Delay, d1		16.8			17.2			17.4	13.5			
Progression Factor		1.00			0.26			1.00	1.00			
Incremental Delay, d2		3.8			2.2			2.3	0.2			
Delay (s)		20.6			6.6			19.7	13.6			
Level of Service		C			A			B	B			
Approach Delay (s)		20.6			6.6			19.3			0.0	
Approach LOS		C			A			B			A	

Intersection Summary			
HCM Average Control Delay	14.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
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												
Volume (vph)	0	322	257	37	717	0	0	0	0	54	588	144
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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.86			1.00						0.96	
Flpb, ped/bikes		1.00			0.99						0.99	
Frt		0.93			1.00						0.97	
Flt Protected		1.00			1.00						1.00	
Satd. Flow (prot)		2483			3084						2667	
Flt Permitted		1.00			0.90						1.00	
Satd. Flow (perm)		2483			2778						2667	
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)	0	329	262	38	732	0	0	0	0	55	600	147
RTOR Reduction (vph)	0	23	0	0	0	0	0	0	0	0	23	0
Lane Group Flow (vph)	0	568	0	0	770	0	0	0	0	0	779	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		26.4			26.4						44.6	
Effective Green, g (s)		26.4			26.4						44.6	
Actuated g/C Ratio		0.33			0.33						0.56	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		819			917						1487	
v/s Ratio Prot		0.23										
v/s Ratio Perm					c0.28						0.29	
v/c Ratio		0.69			0.84						0.52	
Uniform Delay, d1		23.3			24.8						11.1	
Progression Factor		0.68			1.00						1.00	
Incremental Delay, d2		2.0			6.8						1.3	
Delay (s)		17.8			31.7						12.4	
Level of Service		B			C						B	
Approach Delay (s)		17.8			31.7			0.0			12.4	
Approach LOS		B			C			A			B	

Intersection Summary			
HCM Average Control Delay	20.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	94.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	69	319	435	1217	0	946	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.66	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		0.99	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	914	3016	3110		3049	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	914	3016	3110		3049	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	69	319	435	1217	0	946	40
RTOR Reduction (vph)	0	274	0	0	0	3	0
Lane Group Flow (vph)	69	45	435	1217	0	983	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	12.6	12.6	17.5	66.4		42.9	
Effective Green, g (s)	12.6	12.6	17.5	66.4		42.9	
Actuated g/C Ratio	0.14	0.14	0.19	0.74		0.48	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	218	128	586	2294		1453	
v/s Ratio Prot	0.04		c0.14	0.39		c0.32	
v/s Ratio Perm		c0.05					
v/c Ratio	0.32	0.35	0.74	0.53		0.68	
Uniform Delay, d1	34.8	35.0	34.1	5.1		18.2	
Progression Factor	1.00	1.00	1.00	1.00		1.50	
Incremental Delay, d2	0.8	1.6	5.1	0.9		2.3	
Delay (s)	35.7	36.6	39.2	6.0		29.6	
Level of Service	D	D	D	A		C	
Approach Delay (s)	36.5			14.7		29.6	
Approach LOS	D			B		C	

Intersection Summary			
HCM Average Control Delay	22.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	90.1%	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												
Volume (vph)	5	162	25	12	83	10	15	15	24	50	75	15
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		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.46		1.00	0.67		0.85			1.00	0.43
Flpb, ped/bikes		0.99	1.00		0.95	1.00		0.88			0.88	1.00
Frt		1.00	0.85		1.00	0.85		0.94			1.00	0.85
Flt Protected		1.00	1.00		0.99	1.00		0.99			0.98	1.00
Satd. Flow (prot)		1622	635		1539	937		1127			1413	603
Flt Permitted		1.00	1.00		0.97	1.00		0.90			0.85	1.00
Satd. Flow (perm)		1617	635		1501	937		1026			1228	603
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	172	27	13	88	11	16	16	26	53	80	16
RTOR Reduction (vph)	0	0	4	0	0	3	0	17	0	0	0	14
Lane Group Flow (vph)	0	177	23	0	101	8	0	41	0	0	133	2
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		54.3	54.3		54.3	54.3		11.7			11.7	11.7
Effective Green, g (s)		54.3	54.3		54.3	54.3		11.7			11.7	11.7
Actuated g/C Ratio		0.72	0.72		0.72	0.72		0.16			0.16	0.16
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)		1171	460		1087	678		160			192	94
v/s Ratio Prot												
v/s Ratio Perm		c0.11	0.04		0.07	0.01		0.04			c0.11	0.00
v/c Ratio		0.15	0.05		0.09	0.01		0.26			0.69	0.03
Uniform Delay, d1		3.2	3.0		3.1	2.9		27.8			29.9	26.8
Progression Factor		1.00	1.00		1.00	1.00		1.00			0.85	0.63
Incremental Delay, d2		0.1	0.0		0.2	0.0		0.9			10.3	0.1
Delay (s)		3.3	3.0		3.2	2.9		28.7			35.8	17.1
Level of Service		A	A		A	A		C			D	B
Approach Delay (s)		3.2			3.2			28.7			33.8	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	14.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	104.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	492	34	556	399	79	67	43	16	26	6	377	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.34		0.67	1.00	0.95			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.81	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	558	3110	478		947	1555	1328			1258	1175
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.99	1.00
Satd. Flow (perm)	3110	558	3110	478		947	1555	1328			1314	1175
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	512	35	579	416	82	70	45	17	27	6	393	86
RTOR Reduction (vph)	0	16	0	181	0	30	0	19	0	0	0	61
Lane Group Flow (vph)	512	19	579	317	0	40	45	25	0	0	399	25
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Effective Green, g (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Actuated g/C Ratio	0.55	0.55	0.55	0.55		0.29	0.29	0.29			0.29	0.29
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1700	305	1700	261		278	456	390			385	345
v/s Ratio Prot	0.16		0.19									
v/s Ratio Perm		0.03		c0.66		0.04	0.03	0.02			c0.30	0.02
v/c Ratio	0.30	0.06	0.34	1.21		0.14	0.10	0.06			1.04	0.07
Uniform Delay, d1	9.2	8.0	9.5	17.0		19.5	19.3	19.1			26.5	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	0.5	0.4	0.5	125.9		1.1	0.4	0.3			55.6	0.4
Delay (s)	9.7	8.4	10.0	142.9		20.6	19.7	19.4			82.1	19.5
Level of Service	A	A	B	F		C	B	B			F	B
Approach Delay (s)	9.6		71.5								71.0	
Approach LOS	A		E								E	

Intersection Summary			
HCM Average Control Delay	52.8	HCM Level of Service	D
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	752	101	34	802	136	85
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	775	104	35	827	140	88

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	517	363	311	551	228
Volume Left (vph)	0	0	35	0	140
Volume Right (vph)	0	104	0	0	88
Hadj (s)	0.02	-0.18	0.07	0.02	-0.09
Departure Headway (s)	6.6	6.4	6.7	6.7	6.8
Degree Utilization, x	0.95	0.64	0.58	1.02	0.43
Capacity (veh/h)	542	550	525	538	521
Control Delay (s)	50.4	19.0	17.5	69.4	14.9
Approach Delay (s)	37.4		50.7		14.9
Approach LOS	E		F		B

Intersection Summary			
Delay	40.6		
HCM Level of Service	E		
Intersection Capacity Utilization	76.7%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT
Lane Configurations												
Volume (vph)	67	646	89	18	4	17	657	40	28	22	20	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4					5.4		4.0			5.0
Lane Util. Factor		0.95					0.95		1.00			1.00
Frpb, ped/bikes		0.93					0.98		0.78			1.00
Flpb, ped/bikes		0.99					1.00		1.00			1.00
Frt		0.98					0.99		0.86			1.00
Flt Protected		1.00					1.00		1.00			0.98
Satd. Flow (prot)		2608					2999		1106			1599
Flt Permitted		0.82					0.92		1.00			0.98
Satd. Flow (perm)		2153					2755		1106			1599
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	71	687	95	19	4	18	699	43	30	23	21	50
RTOR Reduction (vph)	0	0	0	0	0	0	6	0	0	0	0	0
Lane Group Flow (vph)	0	872	0	0	0	0	758	0	30	0	0	94
Confl. Peds. (#/hr)	400		400	400	400	400		400	400	400	400	
Confl. Bikes (#/hr)			30	30				30	10			
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm	Perm			Free	Split	Split	
Protected Phases		2					6			4	4	4
Permitted Phases	2				6	6			Free			
Actuated Green, G (s)		41.6					41.6		75.0			9.0
Effective Green, g (s)		41.6					41.6		75.0			9.0
Actuated g/C Ratio		0.55					0.55		1.00			0.12
Clearance Time (s)		5.4					5.4					5.0
Lane Grp Cap (vph)		1194					1528		1106			192
v/s Ratio Prot												c0.06
v/s Ratio Perm		c0.41					0.28		0.03			
v/c Ratio		0.73					0.50		0.03			0.49
Uniform Delay, d1		12.5					10.3		0.0			30.9
Progression Factor		1.00					0.38		1.00			1.00
Incremental Delay, d2		4.0					1.0		0.0			8.7
Delay (s)		16.5					4.9		0.0			39.5
Level of Service		B					A		A			D
Approach Delay (s)		16.5					4.9					40.0
Approach LOS		B					A					D

Intersection Summary			
HCM Average Control Delay	15.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	113.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR	NWL	NWR	NWR2
Lane Configurations				
Volume (vph)	50	110	30	11
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0
Lane Util. Factor	1.00	0.97		1.00
Frpb, ped/bikes	0.55	0.84		0.55
Flpb, ped/bikes	1.00	1.00		1.00
Frt	0.85	0.97		0.85
Flt Protected	1.00	0.96		1.00
Satd. Flow (prot)	768	2482		768
Flt Permitted	1.00	0.96		1.00
Satd. Flow (perm)	768	2482		768
Peak-hour factor, PHF	0.94	0.94	0.94	0.94
Adj. Flow (vph)	53	117	32	12
RTOR Reduction (vph)	20	0	0	11
Lane Group Flow (vph)	33	149	0	1
Confl. Peds. (#/hr)	400	400	400	400
Confl. Bikes (#/hr)	10		10	10
Parking (#/hr)				
Turn Type	Perm			Perm
Protected Phases		8		
Permitted Phases	4			8
Actuated Green, G (s)	9.0	9.0		9.0
Effective Green, g (s)	9.0	9.0		9.0
Actuated g/C Ratio	0.12	0.12		0.12
Clearance Time (s)	5.0	5.0		5.0
Lane Grp Cap (vph)	92	298		92
v/s Ratio Prot		c0.06		
v/s Ratio Perm	0.04			0.00
v/c Ratio	0.36	0.50		0.02
Uniform Delay, d1	30.3	30.9		29.1
Progression Factor	1.00	1.00		1.00
Incremental Delay, d2	10.4	5.9		0.3
Delay (s)	40.8	36.8		29.4
Level of Service	D	D		C
Approach Delay (s)		36.2		
Approach LOS		D		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	674	47	34	675	76	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.98			1.00	0.85	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.99			1.00	0.94	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2819			3087	1274	
Flt Permitted	1.00			0.89	0.97	
Satd. Flow (perm)	2819			2755	1274	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	757	53	38	758	85	70
RTOR Reduction (vph)	7	0	0	0	23	0
Lane Group Flow (vph)	803	0	0	796	132	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1691			1653	382	
v/s Ratio Prot	0.28				c0.10	
v/s Ratio Perm				c0.29		
v/c Ratio	0.47			0.48	0.35	
Uniform Delay, d1	8.4			8.4	20.5	
Progression Factor	0.75			1.00	1.00	
Incremental Delay, d2	0.7			1.0	2.5	
Delay (s)	7.1			9.4	23.0	
Level of Service	A			A	C	
Approach Delay (s)	7.1			9.4	23.0	
Approach LOS	A			A	C	

Intersection Summary			
HCM Average Control Delay	9.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	74.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	675	42	17	707	9	16
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	726	45	18	760	10	17

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	484	287	272	507	27
Volume Left (vph)	0	0	18	0	10
Volume Right (vph)	0	45	0	0	17
Hadj (s)	0.02	-0.09	0.05	0.02	-0.29
Departure Headway (s)	5.4	5.3	5.4	5.4	6.3
Degree Utilization, x	0.73	0.42	0.41	0.76	0.05
Capacity (veh/h)	649	659	641	650	535
Control Delay (s)	20.4	11.0	11.0	22.4	9.6
Approach Delay (s)	16.9		18.4		9.6
Approach LOS	C		C		A

Intersection Summary			
Delay	17.5		
HCM Level of Service	C		
Intersection Capacity Utilization	55.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	65	571	34	12	611	169	66	50	25	90	66	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frpb, ped/bikes		0.96			1.00	0.54		0.94		1.00	0.96	
Flpb, ped/bikes		0.98			1.00	1.00		0.87		0.76	0.97	
Frt		0.99			1.00	0.85		0.98		1.00	0.99	
Flt Protected		1.00			1.00	1.00		0.98		0.95	0.99	
Satd. Flow (prot)		2709			3110	657		1127		1119	1407	
Flt Permitted		0.83			1.00	1.00		0.83		0.71	0.96	
Satd. Flow (perm)		2249			3110	657		952		837	1357	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	71	627	37	13	671	186	73	55	27	99	73	8
RTOR Reduction (vph)	0	2	0	0	0	24	0	10	0	0	0	0
Lane Group Flow (vph)	0	746	0	0	671	162	0	145	0	86	94	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10	10		10			10			10
Parking (#/hr)		5	5	5		5	5	5	5			
Turn Type	Perm					Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2				6	6	8			4		
Actuated Green, G (s)		27.5			27.5	27.5		21.5		21.5	21.5	
Effective Green, g (s)		27.5			27.5	27.5		21.5		21.5	21.5	
Actuated g/C Ratio		0.46			0.46	0.46		0.36		0.36	0.36	
Clearance Time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		1031			1425	301		341		300	486	
v/s Ratio Prot					0.22							
v/s Ratio Perm		c0.33				0.25		c0.15		0.10	0.07	
v/c Ratio		0.72			0.47	0.54		0.43		0.29	0.19	
Uniform Delay, d1		13.2			11.2	11.7		14.6		13.8	13.3	
Progression Factor		1.00			1.30	1.52		1.00		1.00	1.00	
Incremental Delay, d2		4.4			1.1	6.5		3.9		0.5	0.2	
Delay (s)		17.6			15.6	24.3		18.4		14.3	13.5	
Level of Service		B			B	C		B		B	B	
Approach Delay (s)		17.6			17.5			18.4			13.7	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	16.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	92.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR2	NER2
Lane Configurations		
Volume (vph)	48	42
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.5	4.0
Lane Util. Factor	1.00	1.00
Frpb, ped/bikes	0.68	0.78
Flpb, ped/bikes	1.00	1.00
Frt	0.85	0.86
Flt Protected	1.00	1.00
Satd. Flow (prot)	952	967
Flt Permitted	1.00	1.00
Satd. Flow (perm)	952	967
Peak-hour factor, PHF	0.91	0.91
Adj. Flow (vph)	53	46
RTOR Reduction (vph)	8	0
Lane Group Flow (vph)	45	46
Confl. Peds. (#/hr)	400	400
Confl. Bikes (#/hr)	10	10
Parking (#/hr)		5
Turn Type	Perm	Free
Protected Phases		
Permitted Phases	4	Free
Actuated Green, G (s)	21.5	60.0
Effective Green, g (s)	21.5	60.0
Actuated g/C Ratio	0.36	1.00
Clearance Time (s)	5.5	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	341	967
v/s Ratio Prot		
v/s Ratio Perm	0.05	0.05
v/c Ratio	0.13	0.05
Uniform Delay, d1	13.0	0.0
Progression Factor	1.00	1.00
Incremental Delay, d2	0.2	0.1
Delay (s)	13.1	0.1
Level of Service	B	A
Approach Delay (s)		
Approach LOS		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	659	0	0	783	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	724	0	0	860	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	724	0	0	860	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)		30				30
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		46.0			46.0	
Effective Green, g (s)		46.0			46.0	
Actuated g/C Ratio		0.77			0.77	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1877			2312	
v/s Ratio Prot		c0.30			0.29	
v/s Ratio Perm						
v/c Ratio		0.39			0.37	
Uniform Delay, d1		2.3			2.3	
Progression Factor		0.52			1.37	
Incremental Delay, d2		0.5			0.4	
Delay (s)		1.7			3.5	
Level of Service		A			A	
Approach Delay (s)	1.7			0.0	3.5	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	2.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	29.8%	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												
Volume (vph)	20	187	77	162	182	28	67	159	105	27	149	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.84		1.00	0.92			1.00	0.66		1.00	0.44
Flpb, ped/bikes		0.97		0.64	1.00			0.87	1.00		0.96	1.00
Frt		0.96		1.00	0.98			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.99	1.00		0.99	1.00
Satd. Flow (prot)		2438		996	1297			1199	903		1566	609
Flt Permitted		0.92		0.57	1.00			0.87	1.00		0.94	1.00
Satd. Flow (perm)		2263		593	1297			1059	903		1481	609
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	201	83	174	196	30	72	171	113	29	160	27
RTOR Reduction (vph)	0	24	0	0	11	0	0	0	29	0	0	14
Lane Group Flow (vph)	0	282	0	174	215	0	0	243	84	0	189	13
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		21.4		21.4	21.4			28.6	28.6		28.6	28.6
Effective Green, g (s)		21.4		21.4	21.4			28.6	28.6		28.6	28.6
Actuated g/C Ratio		0.36		0.36	0.36			0.48	0.48		0.48	0.48
Clearance Time (s)		5.5		5.5	5.5			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)		807		212	463			505	430		706	290
v/s Ratio Prot					0.17							
v/s Ratio Perm		0.12		c0.29				c0.23	0.09		0.13	0.02
v/c Ratio		0.35		0.82	0.46			0.48	0.20		0.27	0.04
Uniform Delay, d1		14.2		17.6	14.9			10.7	9.1		9.4	8.4
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		0.3		21.8	0.7			3.3	1.0		0.9	0.3
Delay (s)		14.4		39.3	15.6			13.9	10.1		10.3	8.7
Level of Service		B		D	B			B	B		B	A
Approach Delay (s)		14.4			25.9			12.7			10.1	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	16.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	70.5%	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												
Volume (vph)	0	215	106	13	239	770	157	0	30	642	137	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.93			1.00	0.96		1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		0.98		1.00	1.00	
Frt		0.95			1.00	0.85		0.98		1.00	0.99	
Flt Protected		1.00			1.00	1.00		0.96		0.95	0.97	
Satd. Flow (prot)		2583			1625	2357		1317		1477	1494	
Flt Permitted		1.00			0.97	1.00		0.51		0.84	0.90	
Satd. Flow (perm)		2583			1580	2357		693		1308	1381	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	224	110	14	249	802	164	0	31	669	143	20
RTOR Reduction (vph)	0	90	0	0	0	0	0	11	0	0	3	0
Lane Group Flow (vph)	0	244	0	0	263	802	0	184	0	415	414	0
Confl. Peds. (#/hr)	50		50	50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		11.0			11.0	38.5		14.5		24.0	24.0	
Effective Green, g (s)		11.0			11.0	38.5		14.5		24.0	24.0	
Actuated g/C Ratio		0.18			0.18	0.64		0.24		0.40	0.40	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		474			290	1512		167		523	552	
v/s Ratio Prot		0.09										
v/s Ratio Perm					c0.17	0.34		c0.26		c0.32	0.30	
v/c Ratio		0.52			0.91	0.53		1.10		0.79	0.75	
Uniform Delay, d1		22.1			24.0	5.8		22.8		15.8	15.4	
Progression Factor		1.00			1.00	1.00		1.00		0.48	0.47	
Incremental Delay, d2		4.0			33.6	1.3		98.8		11.5	8.8	
Delay (s)		26.1			57.6	7.2		121.5		19.1	16.1	
Level of Service		C			E	A		F		B	B	
Approach Delay (s)		26.1			19.6			121.5			17.6	
Approach LOS		C			B			F			B	

Intersection Summary			
HCM Average Control Delay	28.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	72.0%	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												
Volume (vph)	43	762	28	34	808	32	257	54	160	26	31	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Lane Util. Factor		0.95			0.95	1.00		0.95			1.00	1.00
Frpb, ped/bikes		0.98			1.00	0.66		0.89			1.00	0.66
Flpb, ped/bikes		1.00			0.99	1.00		0.83			0.93	1.00
Frt		0.99			1.00	0.85		0.95			1.00	0.85
Flt Protected		1.00			1.00	1.00		0.97			0.98	1.00
Satd. Flow (prot)		3016			3088	806		1988			1487	921
Flt Permitted		0.88			0.90	1.00		0.78			0.79	1.00
Satd. Flow (perm)		2659			2789	806		1587			1207	921
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	45	794	29	35	842	33	268	56	167	27	32	44
RTOR Reduction (vph)	0	5	0	0	0	12	0	16	0	0	0	14
Lane Group Flow (vph)	0	863	0	0	877	21	0	475	0	0	59	30
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Actuated Green, G (s)		27.5			27.5	27.5		25.5			25.5	25.5
Effective Green, g (s)		27.5			27.5	27.5		25.5			25.5	25.5
Actuated g/C Ratio		0.46			0.46	0.46		0.42			0.42	0.42
Clearance Time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)		1219			1278	369		674			513	391
v/s Ratio Prot												
v/s Ratio Perm		c0.32			0.31	0.03		c0.30			0.05	0.03
v/c Ratio		0.71			0.69	0.06		0.71			0.12	0.08
Uniform Delay, d1		13.0			12.8	9.0		14.2			10.4	10.3
Progression Factor		1.00			0.94	1.18		1.00			1.00	1.00
Incremental Delay, d2		1.9			1.3	0.1		6.1			0.5	0.4
Delay (s)		14.9			13.4	10.7		20.3			10.9	10.6
Level of Service		B			B	B		C			B	B
Approach Delay (s)		14.9			13.3			20.3			10.8	
Approach LOS		B			B			C			B	

Intersection Summary			
HCM Average Control Delay	15.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	89.6%	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												
Volume (vph)	59	760	139	98	556	12	63	237	143	9	257	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.95		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.76		1.00		1.00	0.88			0.87	
Flpb, ped/bikes		0.99	1.00		0.99		0.84	1.00			1.00	
Frt		1.00	0.85		1.00		1.00	0.94			0.94	
Flt Protected		1.00	1.00		0.99		0.95	1.00			1.00	
Satd. Flow (prot)		3081	922		3038		1302	3703			3644	
Flt Permitted		0.85	1.00		0.67		0.47	1.00			0.93	
Satd. Flow (perm)		2628	922		2046		642	3703			3391	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	64	826	151	107	604	13	68	258	155	10	279	190
RTOR Reduction (vph)	0	0	5	0	2	0	0	9	0	0	17	0
Lane Group Flow (vph)	0	890	146	0	722	0	68	404	0	0	462	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		27.3	27.3		27.3		22.7	22.7			22.7	
Effective Green, g (s)		27.3	27.3		27.3		22.7	22.7			22.7	
Actuated g/C Ratio		0.46	0.46		0.46		0.38	0.38			0.38	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1196	420		931		243	1401			1283	
v/s Ratio Prot								0.11				
v/s Ratio Perm		0.34	0.16		c0.35		0.11				c0.14	
v/c Ratio		0.74	0.35		0.78		0.28	0.29			0.36	
Uniform Delay, d1		13.5	10.6		13.8		13.0	13.0			13.4	
Progression Factor		0.51	0.56		0.86		1.00	1.00			1.00	
Incremental Delay, d2		2.2	0.4		4.0		2.9	0.5			0.8	
Delay (s)		9.1	6.4		15.8		15.8	13.5			14.2	
Level of Service		A	A		B		B	B			B	
Approach Delay (s)		8.7			15.8			13.9			14.2	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	12.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	100.0%	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												
Volume (vph)	0	1355	197	0	1650	89	207	186	39	80	139	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.95			0.98		1.00	0.94		1.00	0.92	
Flpb, ped/bikes		1.00			1.00		0.76	1.00		0.78	1.00	
Frt		0.98			0.99		1.00	0.97		1.00	0.97	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4181			4170		1183	1503		1219	1277	
Flt Permitted		1.00			1.00		0.60	1.00		0.53	1.00	
Satd. Flow (perm)		4181			4170		750	1503		684	1277	
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)	0	1383	201	0	1684	91	211	190	40	82	142	43
RTOR Reduction (vph)	0	7	0	0	5	0	0	4	0	0	2	0
Lane Group Flow (vph)	0	1577	0	0	1770	0	211	226	0	82	183	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2416			2409		229	459		209	390	
v/s Ratio Prot		0.38			c0.42			0.15			0.14	
v/s Ratio Perm							c0.28			0.12		
v/c Ratio		0.65			0.73		0.92	0.49		0.39	0.47	
Uniform Delay, d1		12.9			13.9		30.2	25.5		24.7	25.3	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.4			2.0		42.1	3.7		5.5	4.0	
Delay (s)		14.3			16.0		72.3	29.3		30.1	29.3	
Level of Service		B			B		E	C		C	C	
Approach Delay (s)		14.3			16.0			49.9			29.6	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM Average Control Delay	19.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	92.3%	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												
Volume (vph)	0	1298	62	0	1491	65	68	155	25	32	173	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			1.00	
Frpb, ped/bikes		0.98			0.99		1.00	0.95			0.93	
Flpb, ped/bikes		1.00			1.00		0.82	1.00			0.97	
Frt		0.99			0.99		1.00	0.98			0.97	
Flt Protected		1.00			1.00		0.95	1.00			0.99	
Satd. Flow (prot)		4366			4375		1278	1530			1420	
Flt Permitted		1.00			1.00		0.47	1.00			0.94	
Satd. Flow (perm)		4366			4375		631	1530			1348	
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	1366	65	0	1569	68	72	163	26	34	182	62
RTOR Reduction (vph)	0	5	0	0	5	0	0	5	0	0	3	0
Lane Group Flow (vph)	0	1426	0	0	1632	0	72	184	0	0	275	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2586			2591		189	457			403	
v/s Ratio Prot		0.33			c0.37			0.12				
v/s Ratio Perm							0.11				c0.20	
v/c Ratio		0.55			0.63		0.38	0.40			0.68	
Uniform Delay, d1		11.1			11.9		25.0	25.1			27.8	
Progression Factor		1.00			0.23		1.00	1.00			1.00	
Incremental Delay, d2		0.9			0.9		5.7	2.6			9.0	
Delay (s)		12.0			3.6		30.7	27.8			36.8	
Level of Service		B			A		C	C			D	
Approach Delay (s)		12.0			3.6			28.6			36.8	
Approach LOS		B			A			C			D	

Intersection Summary			
HCM Average Control Delay	11.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	99.7%	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												
Volume (vph)	0	1400	49	0	1555	59	45	91	18	36	141	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.96			0.93	
Flpb, ped/bikes		1.00			1.00			0.94			0.96	
Frt		0.99			0.99			0.98			0.97	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		4210			4203			1260			1237	
Flt Permitted		1.00			1.00			0.86			0.93	
Satd. Flow (perm)		4210			4203			1101			1161	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	1489	52	0	1654	63	48	97	19	38	150	50
RTOR Reduction (vph)	0	4	0	0	4	0	0	4	0	0	3	0
Lane Group Flow (vph)	0	1537	0	0	1713	0	0	160	0	0	235	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2526			2522			330			348	
v/s Ratio Prot		0.37			c0.41							
v/s Ratio Perm								0.15			c0.20	
v/c Ratio		0.61			0.68			0.48			0.68	
Uniform Delay, d1		11.3			12.2			25.8			27.7	
Progression Factor		1.98			1.00			1.00			1.00	
Incremental Delay, d2		1.0			1.5			5.0			10.1	
Delay (s)		23.4			13.6			30.8			37.7	
Level of Service		C			B			C			D	
Approach Delay (s)		23.4			13.6			30.8			37.7	
Approach LOS		C			B			C			D	

Intersection Summary			
HCM Average Control Delay	20.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	75.0%	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		↑↑↑			↑↑↑		↰	↕				↱
Volume (vph)	0	1277	0	0	916	46	667	577	46	0	0	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.98		1.00	0.98				0.97
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.99				1.00
Satd. Flow (prot)		4282			4366		1415	2684				1367
Flt Permitted		1.00			1.00		0.95	0.99				1.00
Satd. Flow (perm)		4282			4366		1415	2684				1367
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	1468	0	0	1053	53	767	663	53	0	0	43
RTOR Reduction (vph)	0	0	0	0	6	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	1468	0	0	1100	0	483	996	0	0	0	43
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		53.0			41.0		27.0	27.0				9.0
Effective Green, g (s)		53.0			41.0		27.0	27.0				9.0
Actuated g/C Ratio		0.59			0.46		0.30	0.30				0.10
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		2522			1989		425	805				137
v/s Ratio Prot		c0.34			0.25							
v/s Ratio Perm							0.34	0.37				0.03
v/c Ratio		0.58			0.55		1.14	1.24				0.31
Uniform Delay, d1		11.6			17.8		31.5	31.5				37.6
Progression Factor		1.00			0.31		1.00	1.00				1.00
Incremental Delay, d2		1.0			0.8		86.5	117.3				5.9
Delay (s)		12.6			6.4		118.0	148.8				43.5
Level of Service		B			A		F	F				D
Approach Delay (s)		12.6			6.4			138.7			43.5	
Approach LOS		B			A			F			D	

Intersection Summary			
HCM Average Control Delay	56.9	HCM Level of Service	E
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	64.3%	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												
Volume (vph)	186	140	825	0	88	5	775	246	41	0	442	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		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.98		1.00	0.95			1.00	0.67
Flpb, ped/bikes		0.84	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.99		1.00	0.98			1.00	0.85
Flt Protected		0.97	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1335	2448		1358		4385	1326			3110	815
Flt Permitted		0.77	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		1057	2448		1358		4385	1326			3110	815
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	192	144	851	0	91	5	799	254	42	0	456	138
RTOR Reduction (vph)	0	0	2	0	2	0	0	7	0	0	0	17
Lane Group Flow (vph)	0	336	849	0	94	0	799	289	0	0	456	121
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		31.3	54.3		31.3		19.5	50.7			27.7	27.7
Effective Green, g (s)		31.3	50.8		31.3		19.5	50.7			27.7	27.7
Actuated g/C Ratio		0.35	0.56		0.35		0.22	0.56			0.31	0.31
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		368	1382		472		950	747			957	251
v/s Ratio Prot			0.35		0.07		c0.18	0.22			0.15	
v/s Ratio Perm		c0.32										c0.15
v/c Ratio		0.91	0.61		0.20		0.84	0.39			0.48	0.48
Uniform Delay, d1		28.0	13.1		20.6		33.8	11.0			25.3	25.3
Progression Factor		1.04	0.81		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		22.3	0.7		0.2		8.9	1.5			1.7	6.5
Delay (s)		51.4	11.2		20.8		42.7	12.5			27.0	31.8
Level of Service		D	B		C		D	B			C	C
Approach Delay (s)		22.6			20.8			34.5			28.1	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	28.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	75.2%	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												
Volume (vph)	0	0	0	62	264	56	40	57	0	0	43	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.11		1.00			0.93	
Flpb, ped/bikes					0.86	1.00		0.86			1.00	
Frt					1.00	0.85		1.00			0.97	
Flt Protected					0.99	1.00		0.98			1.00	
Satd. Flow (prot)					2481	156		1375			1481	
Flt Permitted					0.99	1.00		0.89			1.00	
Satd. Flow (perm)					2481	156		1244			1481	
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)	0	0	0	69	293	62	44	63	0	0	48	11
RTOR Reduction (vph)	0	0	0	0	0	36	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	362	26	0	107	0	0	59	0
Confl. Peds. (#/hr)				1245		1700	831					831
Confl. Bikes (#/hr)						158			9			17
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					25.0	25.0		25.0			25.0	
Effective Green, g (s)					25.0	25.0		25.0			25.0	
Actuated g/C Ratio					0.42	0.42		0.42			0.42	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1034	65		518			617	
v/s Ratio Prot											0.04	
v/s Ratio Perm					0.15	c0.17		c0.09				
v/c Ratio					0.35	0.40		0.21			0.10	
Uniform Delay, d1					12.0	12.2		11.2			10.6	
Progression Factor					1.00	1.00		0.85			1.00	
Incremental Delay, d2					0.9	17.2		0.6			0.3	
Delay (s)					12.9	29.4		10.2			10.9	
Level of Service					B	C		B			B	
Approach Delay (s)		0.0			15.3			10.2			10.9	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	45.0%	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												
Volume (vph)	0	0	0	136	306	29	103	28	0	0	41	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.94		1.00	1.00			0.88	
Flpb, ped/bikes				1.00	1.00		0.62	1.00			1.00	
Frt				1.00	0.99		1.00	1.00			0.96	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	2882		970	1637			1390	
Flt Permitted				0.95	1.00		0.72	1.00			1.00	
Satd. Flow (perm)				1555	2882		730	1637			1390	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	0	153	344	33	116	31	0	0	46	18
RTOR Reduction (vph)	0	0	0	0	6	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	153	371	0	116	31	0	0	64	0
Confl. Peds. (#/hr)						1700	585					585
Confl. Bikes (#/hr)						113			6			3
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				38.4	38.4		12.3	12.3			12.3	
Effective Green, g (s)				38.4	38.4		12.3	12.3			12.3	
Actuated g/C Ratio				0.64	0.64		0.21	0.21			0.21	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				995	1844		150	336			285	
v/s Ratio Prot				0.10	c0.13			0.02			0.05	
v/s Ratio Perm							c0.16					
v/c Ratio				0.15	0.20		0.77	0.09			0.22	
Uniform Delay, d1				4.3	4.5		22.5	19.3			19.9	
Progression Factor				1.00	1.00		1.51	1.58			1.00	
Incremental Delay, d2				0.3	0.2		31.2	0.5			1.8	
Delay (s)				4.6	4.7		65.3	31.2			21.7	
Level of Service				A	A		E	C			C	
Approach Delay (s)		0.0			4.7			58.1			21.7	
Approach LOS		A			A			E			C	

Intersection Summary			
HCM Average Control Delay	16.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	274	95	14	90	39	23
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	298	103	15	98	42	25
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	306					
pX, platoon unblocked						
vC, conflicting volume			801		1278	1001
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			801		1278	1001
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		43	79
cM capacity (veh/h)			573		75	117

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	199	203	113	67
Volume Left	0	0	15	42
Volume Right	0	103	0	25
cSH	1700	1700	573	86
Volume to Capacity	0.12	0.12	0.03	0.78
Queue Length 95th (ft)	0	0	2	99
Control Delay (s)	0.0	0.0	1.8	127.7
Lane LOS			A	F
Approach Delay (s)	0.0		1.8	127.7
Approach LOS				F

Intersection Summary			
Average Delay	15.2		
Intersection Capacity Utilization	36.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	201	40	5	123	6	54	92	46	17	64	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	
Lane Util. Factor		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.42		0.97			0.88			0.90	
Flpb, ped/bikes		1.00	1.00		0.99			0.88			0.94	
Frt		1.00	0.85		0.99			0.97			0.98	
Flt Protected		1.00	1.00		1.00			0.99			0.99	
Satd. Flow (prot)		1637	588		1363			1057			1183	
Flt Permitted		1.00	1.00		0.99			0.88			0.93	
Satd. Flow (perm)		1637	588		1351			948			1109	
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	0	268	53	7	164	8	72	123	61	23	85	24
RTOR Reduction (vph)	0	0	22	0	3	0	0	3	0	0	4	0
Lane Group Flow (vph)	0	268	31	0	176	0	0	253	0	0	128	0
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type			Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases			2	2			4			4		
Actuated Green, G (s)		29.0	29.0		29.0			22.0			22.0	
Effective Green, g (s)		29.0	29.0		29.0			22.0			22.0	
Actuated g/C Ratio		0.48	0.48		0.48			0.37			0.37	
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)		791	284		653			348			407	
v/s Ratio Prot		c0.16										
v/s Ratio Perm			0.05		0.13			c0.27			0.12	
v/c Ratio		0.34	0.11		0.27			0.73			0.31	
Uniform Delay, d1		9.6	8.5		9.2			16.4			13.6	
Progression Factor		1.00	1.00		1.00			0.64			0.85	
Incremental Delay, d2		1.2	0.8		1.0			11.8			2.0	
Delay (s)		10.7	9.2		10.2			22.2			13.5	
Level of Service		B	A		B			C			B	
Approach Delay (s)		10.5			10.2			22.2			13.5	
Approach LOS		B			B			C			B	

Intersection Summary			
HCM Average Control Delay	14.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	77.9%	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												
Volume (vph)	0	234	31	18	81	0	50	0	71	12	15	21
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		1.00	1.00		0.95			1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.26		1.00			0.68			1.00	0.67
Flpb, ped/bikes		1.00	1.00		0.92			0.87			0.80	1.00
Frt		1.00	0.85		1.00			0.92			1.00	0.85
Flt Protected		1.00	1.00		0.99			0.98			0.98	1.00
Satd. Flow (prot)		1637	354		2830			871			1280	933
Flt Permitted		1.00	1.00		0.88			0.90			0.91	1.00
Satd. Flow (perm)		1637	354		2511			799			1195	933
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	269	36	21	93	0	57	0	82	14	17	24
RTOR Reduction (vph)	0	0	27	0	0	0	0	0	0	0	0	9
Lane Group Flow (vph)	0	269	9	0	114	0	0	139	0	0	31	15
Confl. Peds. (#/hr)			800	800			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	36.5
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	36.5
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	0.61
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)		396	86		607			486			727	568
v/s Ratio Prot		c0.16										
v/s Ratio Perm			0.02		0.05			c0.17			0.03	0.02
v/c Ratio		0.68	0.10		0.19			0.29			0.04	0.03
Uniform Delay, d1		20.6	17.7		18.1			5.6			4.7	4.7
Progression Factor		1.07	1.37		1.00			1.31			1.00	1.00
Incremental Delay, d2		9.0	2.3		0.7			1.4			0.0	0.0
Delay (s)		31.1	26.5		18.8			8.7			4.7	4.7
Level of Service		C	C		B			A			A	A
Approach Delay (s)		30.6			18.8			8.7			4.7	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM Average Control Delay	21.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	323	9	59	0	155	0	358	484
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		1.00		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		1.00		1.00			1.00
Flt Protected		1.00		0.95		1.00			0.98
Satd. Flow (prot)		942		1360		1637			3045
Flt Permitted		1.00		0.95		1.00			0.95
Satd. Flow (perm)		942		1360		1637			2970
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	340	9	62	0	163	0	377	509
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	340	0	71	0	163	0	0	886
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		385		314			891
v/s Ratio Prot						0.10			
v/s Ratio Perm		c0.36		0.05					c0.30
v/c Ratio		0.65		0.18		0.52			0.99
Uniform Delay, d1		9.2		16.3		21.8			20.9
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		6.0		1.1		1.5			28.8
Delay (s)		15.2		17.3		23.2			49.8
Level of Service		B		B		C			D
Approach Delay (s)	15.2			17.3		23.2			49.8
Approach LOS	B			B		C			D

Intersection Summary			
HCM Average Control Delay	37.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	78.1%	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												
Volume (vph)	28	188	50	41	208	44	42	98	33	31	75	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.95			1.00	0.56	1.00	0.86			0.82	
Flpb, ped/bikes		0.97			1.00	1.00	0.60	1.00			0.92	
Frt		0.97			1.00	0.85	1.00	0.96			0.95	
Flt Protected		0.99			0.99	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1280			1420	682	931	1184			2212	
Flt Permitted		0.95			0.92	1.00	0.64	1.00			0.87	
Satd. Flow (perm)		1226			1311	682	627	1184			1949	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	32	214	57	47	236	50	48	111	38	35	85	57
RTOR Reduction (vph)	0	10	0	0	0	12	0	26	0	0	0	0
Lane Group Flow (vph)	0	293	0	0	283	38	48	123	0	0	177	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		38.2			38.2	38.2	11.7	11.7			11.7	
Effective Green, g (s)		38.2			38.2	38.2	11.7	11.7			11.7	
Actuated g/C Ratio		0.64			0.64	0.64	0.19	0.19			0.19	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		781			835	434	122	231			380	
v/s Ratio Prot								c0.10				
v/s Ratio Perm		c0.24			0.22	0.06	0.08				0.09	
v/c Ratio		0.38			0.34	0.09	0.39	0.53			0.47	
Uniform Delay, d1		5.2			5.1	4.2	21.1	21.7			21.4	
Progression Factor		1.00			1.00	1.00	1.45	1.57			1.00	
Incremental Delay, d2		1.4			1.1	0.4	2.1	2.4			0.9	
Delay (s)		6.6			6.2	4.6	32.6	36.5			22.3	
Level of Service		A			A	A	C	D			C	
Approach Delay (s)		6.6			5.9			35.5			22.3	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM Average Control Delay	14.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	90.1%	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		✣			✣			✣			✣	
Volume (vph)	49	233	44	17	194	21	17	111	32	32	59	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.93			0.95			0.89			0.87	
Flpb, ped/bikes		0.95			0.98			0.95			0.90	
Frt		0.98			0.99			0.97			0.97	
Flt Protected		0.99			1.00			0.99			0.99	
Satd. Flow (prot)		1229			1313			1180			1064	
Flt Permitted		0.93			0.97			0.97			0.90	
Satd. Flow (perm)		1146			1274			1146			968	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	54	256	48	19	213	23	19	122	35	35	65	33
RTOR Reduction (vph)	0	9	0	0	6	0	0	15	0	0	20	0
Lane Group Flow (vph)	0	349	0	0	249	0	0	161	0	0	113	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		32.6			32.6			18.6			18.6	
Effective Green, g (s)		32.6			32.6			18.6			18.6	
Actuated g/C Ratio		0.54			0.54			0.31			0.31	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		623			692			355			300	
v/s Ratio Prot												
v/s Ratio Perm		c0.30			0.20			c0.14			0.12	
v/c Ratio		0.56			0.36			0.45			0.38	
Uniform Delay, d1		9.0			7.8			16.6			16.2	
Progression Factor		1.00			1.00			1.03			0.52	
Incremental Delay, d2		3.6			1.5			3.8			3.5	
Delay (s)		12.6			9.2			21.0			11.9	
Level of Service		B			A			C			B	
Approach Delay (s)		12.6			9.2			21.0			11.9	
Approach LOS		B			A			C			B	

Intersection Summary			
HCM Average Control Delay	13.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	58.6%	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												
Volume (vph)	19	210	64	18	124	29	31	53	73	33	58	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.88			1.00	0.46		0.75			0.86	
Flpb, ped/bikes		0.97			0.96	1.00		0.92			0.90	
Frt		0.97			1.00	0.85		0.94			0.96	
Flt Protected		1.00			0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1190			1368	565		922			1054	
Flt Permitted		0.98			0.95	1.00		0.93			0.91	
Satd. Flow (perm)		1172			1310	565		870			967	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	20	226	69	19	133	31	33	57	78	35	62	35
RTOR Reduction (vph)	0	17	0	0	0	15	0	17	0	0	21	0
Lane Group Flow (vph)	0	298	0	0	152	16	0	151	0	0	111	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		31.0			31.0	31.0		21.0			21.0	
Effective Green, g (s)		31.0			31.0	31.0		21.0			21.0	
Actuated g/C Ratio		0.52			0.52	0.52		0.35			0.35	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		606			677	292		305			338	
v/s Ratio Prot												
v/s Ratio Perm		c0.25			0.12	0.03		c0.17			0.11	
v/c Ratio		0.49			0.22	0.05		0.50			0.33	
Uniform Delay, d1		9.4			7.9	7.2		15.3			14.3	
Progression Factor		1.00			0.81	0.67		0.85			1.09	
Incremental Delay, d2		2.8			0.8	0.4		5.2			2.5	
Delay (s)		12.2			7.2	5.2		18.2			18.1	
Level of Service		B			A	A		B			B	
Approach Delay (s)		12.2			6.8			18.2			18.1	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM Average Control Delay	13.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	79.2%	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												
Volume (vph)	22	214	63	17	86	13	16	62	52	15	27	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.48		1.00	0.48		0.77			0.83	
Flpb, ped/bikes		0.96	1.00		0.94	1.00		0.94			0.90	
Frt		1.00	0.85		1.00	0.85		0.95			0.96	
Flt Protected		1.00	1.00		0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1370	573		1339	573		977			1164	
Flt Permitted		0.98	1.00		0.94	1.00		0.97			0.92	
Satd. Flow (perm)		1342	573		1274	573		951			1089	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	25	246	72	20	99	15	18	71	60	17	31	20
RTOR Reduction (vph)	0	0	6	0	0	5	0	32	0	0	15	0
Lane Group Flow (vph)	0	271	66	0	119	10	0	117	0	0	53	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		36.0	36.0		36.0	36.0		16.0			16.0	
Effective Green, g (s)		36.0	36.0		36.0	36.0		16.0			16.0	
Actuated g/C Ratio		0.60	0.60		0.60	0.60		0.27			0.27	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		805	344		764	344		254			290	
v/s Ratio Prot												
v/s Ratio Perm		c0.20	0.12		0.09	0.02		c0.12			0.05	
v/c Ratio		0.34	0.19		0.16	0.03		0.46			0.18	
Uniform Delay, d1		6.0	5.4		5.3	4.9		18.4			17.0	
Progression Factor		0.93	0.94		1.00	1.00		1.10			1.43	
Incremental Delay, d2		1.0	1.1		0.4	0.2		5.7			1.4	
Delay (s)		6.6	6.2		5.7	5.0		25.8			25.6	
Level of Service		A	A		A	A		C			C	
Approach Delay (s)		6.5			5.7			25.8			25.6	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	12.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations										
Volume (vph)	24	153	50	4	34	14	322	166	117	835
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				4.0		5.0		5.0	5.0
Lane Util. Factor	1.00				1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.89				0.90		0.78		1.00	1.00
Flpb, ped/bikes	1.00				0.63		1.00		1.00	1.00
Frt	0.88				0.96		0.95		1.00	1.00
Flt Protected	0.99				0.96		1.00		0.95	1.00
Satd. Flow (prot)	1270				856		2307		1555	3110
Flt Permitted	0.99				0.96		1.00		0.95	1.00
Satd. Flow (perm)	1270				856		2307		1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	166	54	4	37	15	350	180	127	908
RTOR Reduction (vph)	11	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	235	0	0	0	56	0	530	0	127	908
Confl. Peds. (#/hr)				400	400	400		400		
Confl. Bikes (#/hr)		30	30			10		30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0
Turn Type				custom					Split	
Protected Phases	4!				8!		6		2	2
Permitted Phases				3						
Actuated Green, G (s)	18.9				44.9		17.0		14.1	14.1
Effective Green, g (s)	18.9				44.9		17.0		14.1	14.1
Actuated g/C Ratio	0.21				0.50		0.19		0.16	0.16
Clearance Time (s)	5.0				4.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	267				427		436		244	487
v/s Ratio Prot	c0.18						c0.23		0.08	c0.29
v/s Ratio Perm					0.07					
v/c Ratio	0.88				0.13		1.22		0.52	1.86
Uniform Delay, d1	34.5				12.1		36.5		34.8	38.0
Progression Factor	1.00				1.02		1.00		0.76	0.85
Incremental Delay, d2	26.3				0.1		116.4		7.3	396.3
Delay (s)	60.8				12.5		152.9		33.8	428.5
Level of Service	E				B		F		C	F
Approach Delay (s)	60.8				12.5		152.9			380.1
Approach LOS	E				B		F			F

Intersection Summary			
HCM Average Control Delay	262.5	HCM Level of Service	F
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	789	26	0	626	14	0	56	19	0	100	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.91			0.91	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.97			0.96	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2868			2881			1263			1255	
Flt Permitted		1.00			1.00			1.00			1.00	
Satd. Flow (perm)		2868			2881			1263			1255	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	822	27	0	652	15	0	58	20	0	104	38
RTOR Reduction (vph)	0	3	0	0	2	0	0	17	0	0	25	0
Lane Group Flow (vph)	0	846	0	0	665	0	0	61	0	0	117	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type												
Protected Phases		2			6			8			4	
Permitted Phases												
Actuated Green, G (s)		41.5			41.5			9.7			9.7	
Effective Green, g (s)		41.5			41.5			9.7			9.7	
Actuated g/C Ratio		0.69			0.69			0.16			0.16	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1984			1993			204			203	
v/s Ratio Prot		c0.30			0.23			0.05			c0.09	
v/s Ratio Perm												
v/c Ratio		0.43			0.33			0.30			0.58	
Uniform Delay, d1		4.0			3.7			22.2			23.2	
Progression Factor		0.48			1.00			1.00			1.00	
Incremental Delay, d2		0.5			0.1			0.8			3.9	
Delay (s)		2.5			3.8			23.0			27.2	
Level of Service		A			A			C			C	
Approach Delay (s)		2.5			3.8			23.0			27.2	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	5.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	50.0%	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												
Volume (vph)	0	612	130	5	486	36	173	125	74	0	158	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.69		1.00	0.69	1.00	1.00	0.72		0.98	
Flpb, ped/bikes		1.00	1.00		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	0.85		0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3110	959		3108	959	3016	1637	1005		2847	
Flt Permitted		1.00	1.00		0.95	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		3110	959		2957	959	3016	1637	1005		2847	
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)	0	624	133	5	496	37	177	128	76	0	161	8
RTOR Reduction (vph)	0	0	57	0	0	16	0	0	4	0	7	0
Lane Group Flow (vph)	0	624	76	0	501	21	177	128	72	0	162	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type	Perm		Perm	Perm		Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		34.1	34.1		34.1	34.1	4.9	16.9	16.9		7.5	
Effective Green, g (s)		34.1	34.1		34.1	34.1	4.9	16.9	16.9		7.5	
Actuated g/C Ratio		0.57	0.57		0.57	0.57	0.08	0.28	0.28		0.12	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		1768	545		1681	545	246	461	283		356	
v/s Ratio Prot		c0.20					c0.06	0.08			c0.06	
v/s Ratio Perm			0.08		0.17	0.02			0.07			
v/c Ratio		0.35	0.14		0.30	0.04	0.72	0.28	0.25		0.46	
Uniform Delay, d1		7.0	6.1		6.7	5.7	26.9	16.8	16.7		24.4	
Progression Factor		1.00	1.00		1.55	2.38	1.00	1.00	1.00		0.98	
Incremental Delay, d2		0.6	0.5		0.4	0.1	9.7	0.3	0.5		0.9	
Delay (s)		7.5	6.6		10.9	13.7	36.5	17.1	17.1		24.8	
Level of Service		A	A		B	B	D	B	B		C	
Approach Delay (s)		7.4			11.1			26.1			24.8	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	72.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	103	524	505	63	47	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	0.96		0.79	
Flpb, ped/bikes		0.98	1.00		1.00	
Frt		1.00	0.98		0.92	
Flt Protected		0.99	1.00		0.98	
Satd. Flow (prot)		2827	2942		1025	
Flt Permitted		0.78	1.00		0.98	
Satd. Flow (perm)		2217	2942		1025	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	110	557	537	67	50	77
RTOR Reduction (vph)	0	0	19	0	40	0
Lane Group Flow (vph)	0	667	585	0	87	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		32.8	32.8		20.2	
Effective Green, g (s)		32.8	32.8		20.2	
Actuated g/C Ratio		0.55	0.55		0.34	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1212	1608		345	
v/s Ratio Prot			0.20		c0.09	
v/s Ratio Perm		c0.30				
v/c Ratio		0.55	0.36		0.25	
Uniform Delay, d1		8.8	7.7		14.4	
Progression Factor		1.72	1.00		0.98	
Incremental Delay, d2		0.5	0.1		1.6	
Delay (s)		15.7	7.8		15.7	
Level of Service		B	A		B	
Approach Delay (s)		15.7	7.8		15.7	
Approach LOS		B	A		B	

Intersection Summary			
HCM Average Control Delay	12.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	80.1%	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												
Volume (vph)	37	353	41	23	512	71	33	55	46	24	69	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.96			0.95			0.89			0.88	
Flpb, ped/bikes		0.99			0.99			0.94			0.96	
Frt		0.99			0.98			0.95			0.95	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		2713			2700			1133			1135	
Flt Permitted		0.88			0.93			0.91			0.95	
Satd. Flow (perm)		2385			2519			1044			1082	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	39	376	44	24	545	76	35	59	49	26	73	62
RTOR Reduction (vph)	0	13	0	0	17	0	0	32	0	0	20	0
Lane Group Flow (vph)	0	446	0	0	628	0	0	111	0	0	141	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		30.6			30.6			20.6			20.6	
Effective Green, g (s)		30.6			30.6			20.6			20.6	
Actuated g/C Ratio		0.51			0.51			0.34			0.34	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1216			1285			358			371	
v/s Ratio Prot												
v/s Ratio Perm		0.19			c0.25			0.11			c0.13	
v/c Ratio		0.37			0.49			0.31			0.38	
Uniform Delay, d1		8.9			9.6			14.5			14.9	
Progression Factor		1.00			1.06			1.00			0.98	
Incremental Delay, d2		0.9			1.3			2.3			2.8	
Delay (s)		9.7			11.4			16.7			17.3	
Level of Service		A			B			B			B	
Approach Delay (s)		9.7			11.4			16.7			17.3	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	12.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
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												
Volume (vph)	45	561	33	29	447	47	55	42	59	24	44	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.98			0.96			0.88			0.88	
Flpb, ped/bikes		0.99			0.99			0.91			0.95	
Frt		0.99			0.99			0.95			0.95	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		2787			2741			1064			1123	
Flt Permitted		0.89			0.91			0.88			0.92	
Satd. Flow (perm)		2501			2492			948			1048	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	46	578	34	30	461	48	57	43	61	25	45	41
RTOR Reduction (vph)	0	5	0	0	9	0	0	26	0	0	33	0
Lane Group Flow (vph)	0	653	0	0	530	0	0	135	0	0	78	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		39.0			39.0			12.1			12.1	
Effective Green, g (s)		39.0			39.0			12.1			12.1	
Actuated g/C Ratio		0.65			0.65			0.20			0.20	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1626			1620			191			211	
v/s Ratio Prot												
v/s Ratio Perm		c0.26			0.21			c0.14			0.07	
v/c Ratio		0.40			0.33			0.71			0.37	
Uniform Delay, d1		5.0			4.7			22.3			20.7	
Progression Factor		1.94			1.00			1.00			0.99	
Incremental Delay, d2		0.7			0.1			11.4			1.1	
Delay (s)		10.4			4.8			33.7			21.5	
Level of Service		B			A			C			C	
Approach Delay (s)		10.4			4.8			33.7			21.5	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM Average Control Delay	11.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	82.6%	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												
Volume (vph)	20	558	62	20	426	9	58	7	14	7	9	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			0.99			0.94			0.76	
Flpb, ped/bikes		1.00			1.00			0.76			0.96	
Frt		0.99			1.00			0.98			0.91	
Flt Protected		1.00			1.00			0.96			0.99	
Satd. Flow (prot)		2770			3061			1096			1080	
Flt Permitted		0.93			0.91			0.77			0.96	
Satd. Flow (perm)		2588			2803			872			1048	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	22	627	70	22	479	10	65	8	16	8	10	34
RTOR Reduction (vph)	0	2	0	0	2	0	0	9	0	0	27	0
Lane Group Flow (vph)	0	717	0	0	509	0	0	80	0	0	25	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1786			1934			187			225	
v/s Ratio Prot												
v/s Ratio Perm		c0.28			0.18			c0.09			0.02	
v/c Ratio		0.40			0.26			0.43			0.11	
Uniform Delay, d1		6.0			5.3			30.6			28.5	
Progression Factor		1.00			0.19			1.00			0.99	
Incremental Delay, d2		0.7			0.3			7.1			0.1	
Delay (s)		6.7			1.3			37.6			28.3	
Level of Service		A			A			D			C	
Approach Delay (s)		6.7			1.3			37.6			28.3	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM Average Control Delay	7.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	75.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	36	542	449	915	453	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3027	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3027	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	37	559	463	943	467	37
RTOR Reduction (vph)	0	42	0	0	5	0
Lane Group Flow (vph)	37	517	463	943	499	0
Confl. Peds. (#/hr)						109
Confl. Bikes (#/hr)		10				64
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	11.0	35.8	20.8	69.0	44.2	
Effective Green, g (s)	11.0	35.8	20.8	69.0	44.2	
Actuated g/C Ratio	0.12	0.40	0.23	0.77	0.49	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	190	974	697	2235	1487	
v/s Ratio Prot	0.02	c0.21	c0.15	c0.32	0.16	
v/s Ratio Perm						
v/c Ratio	0.19	0.53	0.66	0.42	0.34	
Uniform Delay, d1	35.5	20.7	31.4	3.6	14.0	
Progression Factor	1.26	0.68	0.89	1.72	1.21	
Incremental Delay, d2	0.5	0.5	2.0	0.5	0.0	
Delay (s)	45.1	14.6	30.0	6.7	17.0	
Level of Service	D	B	C	A	B	
Approach Delay (s)	16.5			14.4	17.0	
Approach LOS	B			B	B	

Intersection Summary			
HCM Average Control Delay	15.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	52.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	83	224	16	0	940	0	55	29	1142
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			0.99			1.00	1.00
Flpb, ped/bikes				0.71			1.00			1.00	1.00
Frt				0.99			0.99			1.00	1.00
Flt Protected				0.95			1.00			0.95	1.00
Satd. Flow (prot)				1988			4402			1555	3110
Flt Permitted				0.95			1.00			0.95	1.00
Satd. Flow (perm)				1988			4402			1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	90	243	17	0	1022	0	60	32	1241
RTOR Reduction (vph)	0	0	0	5	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	0	0	345	0	0	1077	0	0	32	1241
Confl. Peds. (#/hr)			107	139					107		
Confl. Bikes (#/hr)					8				106		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				19.1			52.8			5.1	61.9
Effective Green, g (s)				19.1			52.8			5.1	61.9
Actuated g/C Ratio				0.21			0.59			0.06	0.69
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				422			2583			88	2139
v/s Ratio Prot							0.24			0.02	c0.40
v/s Ratio Perm				0.17							
v/c Ratio				0.82			0.42			0.36	0.58
Uniform Delay, d1				33.8			10.2			40.9	7.3
Progression Factor				1.00			1.30			1.00	1.00
Incremental Delay, d2				11.7			0.0			0.9	1.2
Delay (s)				45.5			13.2			41.8	8.5
Level of Service				D			B			D	A
Approach Delay (s)	0.0			45.5			13.2				9.3
Approach LOS	A			D			B				A

Intersection Summary			
HCM Average Control Delay	15.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBL	EBR	EBR2	SEL	SET	SER2	NWL2	NWL	NWT	NWR	SWR2
Lane Configurations												
Volume (vph)	22	0	5	134	17	763	183	18	0	1139	29	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5		7.0	7.0	7.0		7.0	7.0		
Lane Util. Factor		1.00	1.00		1.00	0.95	1.00		1.00	0.95		
Frpb, ped/bikes		1.00	0.86		1.00	1.00	0.96		1.00	0.98		
Flpb, ped/bikes		1.00	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	1.00		
Flt Protected		0.95	1.00		0.95	1.00	1.00		0.95	1.00		
Satd. Flow (prot)		1555	1052		1555	3110	1334		1555	3051		
Flt Permitted		0.95	1.00		0.15	1.00	1.00		0.31	1.00		
Satd. Flow (perm)		1555	1052		244	3110	1334		511	3051		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	0	5	146	18	829	199	20	0	1238	32	0
RTOR Reduction (vph)	0	0	106	0	0	0	93	0	0	2	0	0
Lane Group Flow (vph)	0	24	45	0	18	829	106	0	20	1268	0	0
Confl. Peds. (#/hr)				130							1000	100
Confl. Bikes (#/hr)			10	10			30				30	10
Parking (#/hr)			5	5								
Turn Type	Perm		Perm		Perm		Perm	Perm	Perm			custom
Protected Phases		4				6				2		
Permitted Phases	4		4		6		6	2	2			8
Actuated Green, G (s)		18.0	18.0		34.5	34.5	34.5		34.5	34.5		
Effective Green, g (s)		18.0	18.0		34.5	34.5	34.5		34.5	34.5		
Actuated g/C Ratio		0.28	0.28		0.53	0.53	0.53		0.53	0.53		
Clearance Time (s)		5.5	5.5		7.0	7.0	7.0		7.0	7.0		
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)		431	291		130	1651	708		271	1619		
v/s Ratio Prot						0.27				c0.42		
v/s Ratio Perm		0.02	c0.04		0.07		0.08		0.04			
v/c Ratio		0.06	0.16		0.14	0.50	0.15		0.07	0.78		
Uniform Delay, d1		17.3	17.8		7.7	9.8	7.8		7.4	12.2		
Progression Factor		1.00	1.00		1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2		0.1	0.3		2.2	1.1	0.4		0.5	3.9		
Delay (s)		17.3	18.0		9.9	10.8	8.2		8.0	16.1		
Level of Service		B	B		A	B	A		A	B		
Approach Delay (s)		17.9				10.3				16.0		
Approach LOS		B				B				B		

Intersection Summary			
HCM Average Control Delay	13.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	81.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	17	0	7	0	0	0	30	1190	0	0	9	749
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.90					1.00	1.00				0.99
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.96					1.00	1.00				1.00
Flt Protected		0.97					0.95	1.00				1.00
Satd. Flow (prot)		1200					1555	3110				3070
Flt Permitted		0.97					0.95	1.00				0.94
Satd. Flow (perm)		1200					1555	3110				2878
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	18	0	7	0	0	0	32	1266	0	0	10	797
RTOR Reduction (vph)	0	5	0	0	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	0	20	0	0	0	0	32	1266	0	0	0	822
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		3.6					5.4	77.4				67.0
Effective Green, g (s)		3.6					5.4	77.4				67.0
Actuated g/C Ratio		0.04					0.06	0.86				0.74
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		48					93	2675				2143
v/s Ratio Prot		c0.02					0.02	c0.41				
v/s Ratio Perm												0.29
v/c Ratio		0.42					0.34	0.47				0.38
Uniform Delay, d1		42.2					40.6	1.5				4.1
Progression Factor		1.00					1.23	2.91				1.00
Incremental Delay, d2		5.9					2.0	0.5				0.5
Delay (s)		48.0					51.8	4.9				4.6
Level of Service		D					D	A				A
Approach Delay (s)		48.0			0.0			6.0				4.6
Approach LOS		D			A			A				A

Intersection Summary			
HCM Average Control Delay	6.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	94.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	15
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	16
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	58	415	0	0	407	38	145	140	18	0	0	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				
Lane Util. Factor		0.95			0.95			0.95				
Frpb, ped/bikes		1.00			0.98			0.98				
Flpb, ped/bikes		0.98			1.00			0.85				
Frt		1.00			0.99			0.99				
Flt Protected		0.99			1.00			0.98				
Satd. Flow (prot)		2812			2774			2325				
Flt Permitted		0.84			1.00			0.98				
Satd. Flow (perm)		2389			2774			2325				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	62	441	0	0	433	40	154	149	19	0	0	0
RTOR Reduction (vph)	0	0	0	0	9	0	0	6	0	0	0	0
Lane Group Flow (vph)	0	503	0	0	464	0	0	316	0	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm					
Protected Phases		2			6			8				
Permitted Phases	2						8					
Actuated Green, G (s)		44.0			44.0			27.0				
Effective Green, g (s)		44.0			44.0			27.0				
Actuated g/C Ratio		0.55			0.55			0.34				
Clearance Time (s)		4.5			4.5			4.5				
Vehicle Extension (s)		3.0			3.0			3.0				
Lane Grp Cap (vph)		1314			1526			785				
v/s Ratio Prot					0.17							
v/s Ratio Perm		c0.21						0.14				
v/c Ratio		0.38			0.30			0.40				
Uniform Delay, d1		10.3			9.7			20.3				
Progression Factor		1.00			0.13			1.00				
Incremental Delay, d2		0.8			0.5			1.5				
Delay (s)		11.1			1.8			21.9				
Level of Service		B			A			C				
Approach Delay (s)		11.1			1.8			21.9			0.0	
Approach LOS		B			A			C			A	

Intersection Summary			
HCM Average Control Delay	10.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	93.1%	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												
Volume (vph)	0	274	161	34	375	0	0	0	0	15	251	71
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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.88			1.00						0.95	
Flpb, ped/bikes		1.00			0.99						0.99	
Frt		0.94			1.00						0.97	
Flt Protected		1.00			1.00						1.00	
Satd. Flow (prot)		2580			3058						2656	
Flt Permitted		1.00			0.88						1.00	
Satd. Flow (perm)		2580			2705						2656	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	295	173	37	403	0	0	0	0	16	270	76
RTOR Reduction (vph)	0	61	0	0	0	0	0	0	0	0	25	0
Lane Group Flow (vph)	0	407	0	0	440	0	0	0	0	0	337	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		20.9			20.9						50.1	
Effective Green, g (s)		20.9			20.9						50.1	
Actuated g/C Ratio		0.26			0.26						0.63	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		674			707						1663	
v/s Ratio Prot		0.16										
v/s Ratio Perm					c0.16						0.13	
v/c Ratio		0.60			0.62						0.20	
Uniform Delay, d1		25.9			26.1						6.4	
Progression Factor		0.62			1.00						1.00	
Incremental Delay, d2		1.5			1.7						0.3	
Delay (s)		17.5			27.8						6.7	
Level of Service		B			C						A	
Approach Delay (s)		17.5			27.8			0.0			6.7	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM Average Control Delay	18.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	83.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	50	245	369	1196	0	728	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.65	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		0.99	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	910	3016	3110		3053	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	910	3016	3110		3053	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	50	245	369	1196	0	728	29
RTOR Reduction (vph)	0	215	0	0	0	2	0
Lane Group Flow (vph)	50	30	369	1196	0	755	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	11.0	11.0	16.1	68.0		45.9	
Effective Green, g (s)	11.0	11.0	16.1	68.0		45.9	
Actuated g/C Ratio	0.12	0.12	0.18	0.76		0.51	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	190	111	540	2350		1557	
v/s Ratio Prot	0.03		c0.12	c0.38		0.25	
v/s Ratio Perm		c0.03					
v/c Ratio	0.26	0.27	0.68	0.51		0.48	
Uniform Delay, d1	35.8	35.9	34.6	4.4		14.4	
Progression Factor	1.00	1.00	1.00	1.00		1.17	
Incremental Delay, d2	0.7	1.3	3.6	0.8		1.0	
Delay (s)	36.6	37.2	38.1	5.2		17.9	
Level of Service	D	D	D	A		B	
Approach Delay (s)	37.1			12.9		17.9	
Approach LOS	D			B		B	

Intersection Summary			
HCM Average Control Delay	17.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	78.4%	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												
Volume (vph)	15	221	10	8	126	15	5	75	18	30	105	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
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.43		1.00	0.66		0.94			1.00	0.46
Flpb, ped/bikes		0.98	1.00		0.98	1.00		0.98			0.94	1.00
Frt		1.00	0.85		1.00	0.85		0.98			1.00	0.85
Flt Protected		1.00	1.00		1.00	1.00		1.00			0.99	1.00
Satd. Flow (prot)		1603	600		1591	917		1468			1526	643
Flt Permitted		0.98	1.00		0.98	1.00		0.98			0.92	1.00
Satd. Flow (perm)		1583	600		1570	917		1446			1423	643
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	16	235	11	9	134	16	5	80	19	32	112	5
RTOR Reduction (vph)	0	0	3	0	0	5	0	6	0	0	0	4
Lane Group Flow (vph)	0	251	8	0	143	11	0	98	0	0	144	1
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		41.0	41.0		41.0	41.0		10.0			10.0	10.0
Effective Green, g (s)		41.0	41.0		41.0	41.0		10.0			10.0	10.0
Actuated g/C Ratio		0.68	0.68		0.68	0.68		0.17			0.17	0.17
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)		1082	410		1073	627		241			237	107
v/s Ratio Prot												
v/s Ratio Perm		c0.16	0.01		0.09	0.01		0.07			c0.10	0.00
v/c Ratio		0.23	0.02		0.13	0.02		0.41			0.61	0.01
Uniform Delay, d1		3.6	3.0		3.3	3.0		22.4			23.2	20.9
Progression Factor		1.00	1.00		1.34	1.51		1.05			1.31	1.64
Incremental Delay, d2		0.1	0.0		0.3	0.1		1.1			4.3	0.0
Delay (s)		3.7	3.1		4.7	4.7		24.6			34.6	34.2
Level of Service		A	A		A	A		C			C	C
Approach Delay (s)		3.7			4.7			24.6			34.6	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	1099	20	285	199	38	8	20	4	5	5	187	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.34		0.67	1.00	0.95			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.74	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	558	3110	478		947	1555	1328			1146	1175
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.99	1.00
Satd. Flow (perm)	3110	558	3110	478		947	1555	1328			1195	1175
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	1235	22	320	224	43	9	22	4	6	6	210	15
RTOR Reduction (vph)	0	5	0	121	0	4	0	4	0	0	0	11
Lane Group Flow (vph)	1235	17	320	146	0	5	22	6	0	0	216	4
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Effective Green, g (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Actuated g/C Ratio	0.55	0.55	0.55	0.55		0.29	0.29	0.29			0.29	0.29
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1700	305	1700	261		278	456	390			351	345
v/s Ratio Prot	c0.40		0.10									
v/s Ratio Perm		0.03		0.31		0.01	0.01	0.00			c0.18	0.00
v/c Ratio	0.73	0.06	0.19	0.56		0.02	0.05	0.01			0.62	0.01
Uniform Delay, d1	12.8	7.9	8.6	11.1		18.8	19.0	18.8			22.9	18.8
Progression Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	2.8	0.3	0.2	8.4		0.1	0.2	0.1			7.8	0.1
Delay (s)	15.5	8.3	8.8	19.5		18.9	19.2	18.9			30.7	18.9
Level of Service	B	A	A	B		B	B	B			C	B
Approach Delay (s)	15.4		13.7								29.9	
Approach LOS	B		B								C	

Intersection Summary			
HCM Average Control Delay	16.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	1121	54	14	431	88	51
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1193	57	15	459	94	54

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	795	455	168	306	148
Volume Left (vph)	0	0	15	0	94
Volume Right (vph)	0	57	0	0	54
Hadj (s)	0.02	-0.07	0.06	0.02	-0.08
Departure Headway (s)	5.7	5.6	6.4	6.3	6.5
Degree Utilization, x	1.25	0.71	0.30	0.54	0.27
Capacity (veh/h)	630	631	549	557	541
Control Delay (s)	144.7	19.6	10.9	15.3	11.8
Approach Delay (s)	99.2		13.7		11.8
Approach LOS	F		B		B

Intersection Summary			
Delay	70.7		
HCM Level of Service	F		
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	1005	140	11	1	355	20	6	7	3	11	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4				5.4		4.0			5.0	5.0
Lane Util. Factor		0.95				0.95		1.00			1.00	1.00
Frpb, ped/bikes		0.93				0.98		0.78			1.00	0.55
Flpb, ped/bikes		1.00				1.00		1.00			1.00	1.00
Frt		0.98				0.99		0.86			1.00	0.85
Flt Protected		1.00				1.00		1.00			0.98	1.00
Satd. Flow (prot)		2637				3020		1106			1598	768
Flt Permitted		0.94				0.95		1.00			0.98	1.00
Satd. Flow (perm)		2486				2878		1106			1598	768
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	25	1092	152	12	1	386	22	7	8	3	12	18
RTOR Reduction (vph)	0	1	0	0	0	5	0	0	0	0	0	16
Lane Group Flow (vph)	0	1280	0	0	0	404	0	7	0	0	23	2
Confl. Peds. (#/hr)	400		400	400	400		400	400	400	400		400
Confl. Bikes (#/hr)			30	30			30	10				10
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm			Free	Split	Split		Perm
Protected Phases		2				6			4	4	4	
Permitted Phases	2				6			Free				4
Actuated Green, G (s)		41.6				41.6		75.0			9.0	9.0
Effective Green, g (s)		41.6				41.6		75.0			9.0	9.0
Actuated g/C Ratio		0.55				0.55		1.00			0.12	0.12
Clearance Time (s)		5.4				5.4					5.0	5.0
Lane Grp Cap (vph)		1379				1596		1106			192	92
v/s Ratio Prot											c0.01	
v/s Ratio Perm		c0.51				0.14		0.01				0.00
v/c Ratio		0.93				0.25		0.01			0.12	0.02
Uniform Delay, d1		15.3				8.7		0.0			29.5	29.1
Progression Factor		1.00				1.47		1.00			1.00	1.00
Incremental Delay, d2		12.2				0.4		0.0			1.3	0.5
Delay (s)		27.6				13.1		0.0			30.7	29.6
Level of Service		C				B		A			C	C
Approach Delay (s)		27.6				13.1					30.2	
Approach LOS		C				B					C	

Intersection Summary			
HCM Average Control Delay	24.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	95.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	NWL	NWR	NWR2
Lane Configurations			
Volume (vph)	81	18	2
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	5.0		5.0
Lane Util. Factor	0.97		1.00
Frpb, ped/bikes	0.86		0.55
Flpb, ped/bikes	1.00		1.00
Frt	0.97		0.85
Flt Protected	0.96		1.00
Satd. Flow (prot)	2556		768
Flt Permitted	0.96		1.00
Satd. Flow (perm)	2556		768
Peak-hour factor, PHF	0.92	0.92	0.92
Adj. Flow (vph)	88	20	2
RTOR Reduction (vph)	0	0	2
Lane Group Flow (vph)	108	0	0
Confl. Peds. (#/hr)	400	400	400
Confl. Bikes (#/hr)		10	10
Parking (#/hr)			
Turn Type			Perm
Protected Phases	8		
Permitted Phases			8
Actuated Green, G (s)	9.0		9.0
Effective Green, g (s)	9.0		9.0
Actuated g/C Ratio	0.12		0.12
Clearance Time (s)	5.0		5.0
Lane Grp Cap (vph)	307		92
v/s Ratio Prot	c0.04		
v/s Ratio Perm			0.00
v/c Ratio	0.35		0.00
Uniform Delay, d1	30.3		29.0
Progression Factor	1.00		1.00
Incremental Delay, d2	3.1		0.1
Delay (s)	33.5		29.1
Level of Service	C		C
Approach Delay (s)	33.4		
Approach LOS	C		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1011	30	8	330	53	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.99			1.00	0.91	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	1.00			1.00	0.96	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2872			3102	1379	
Flt Permitted	1.00			0.93	0.97	
Satd. Flow (perm)	2872			2899	1379	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1064	32	8	347	56	22
RTOR Reduction (vph)	3	0	0	0	11	0
Lane Group Flow (vph)	1093	0	0	355	67	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1723			1739	414	
v/s Ratio Prot	c0.38				c0.05	
v/s Ratio Perm				0.12		
v/c Ratio	0.63			0.20	0.16	
Uniform Delay, d1	9.7			6.8	19.3	
Progression Factor	1.25			1.00	1.00	
Incremental Delay, d2	0.7			0.3	0.8	
Delay (s)	12.8			7.1	20.1	
Level of Service	B			A	C	
Approach Delay (s)	12.8			7.1	20.1	
Approach LOS	B			A	C	

Intersection Summary			
HCM Average Control Delay	11.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	1017	7	4	320	9	8
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1082	7	4	340	10	9

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	721	368	118	227	18
Volume Left (vph)	0	0	4	0	10
Volume Right (vph)	0	7	0	0	9
Hadj (s)	0.02	0.00	0.04	0.02	-0.16
Departure Headway (s)	4.9	4.9	5.7	5.7	6.2
Degree Utilization, x	0.98	0.50	0.19	0.36	0.03
Capacity (veh/h)	724	727	618	626	563
Control Delay (s)	49.2	11.5	8.8	10.5	9.3
Approach Delay (s)	36.4		9.9		9.3
Approach LOS	E		A		A

Intersection Summary			
Delay	29.8		
HCM Level of Service	D		
Intersection Capacity Utilization	51.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR2
Lane Configurations												
Volume (vph)	31	936	22	4	321	85	42	30	41	14	12	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5	5.5		5.5		5.5	5.5	5.5
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	1.00
Frpb, ped/bikes		0.99			1.00	0.66		0.88		1.00	1.00	0.65
Flpb, ped/bikes		0.99			1.00	1.00		0.88		0.73	0.96	1.00
Frt		1.00			1.00	0.85		0.95		1.00	1.00	0.85
Flt Protected		1.00			1.00	1.00		0.98		0.95	0.99	1.00
Satd. Flow (prot)		2841			3110	808		1027		1080	1484	911
Flt Permitted		0.93			1.00	1.00		0.89		0.70	0.97	1.00
Satd. Flow (perm)		2659			3110	808		934		791	1455	911
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)	32	955	22	4	328	87	43	31	42	14	12	3
RTOR Reduction (vph)	0	0	0	0	0	4	0	19	0	0	0	2
Lane Group Flow (vph)	0	1013	0	0	328	83	0	97	0	12	14	1
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10	10		10			10			10
Parking (#/hr)		5	5	5		5	5	5	5			
Turn Type	Perm					Perm	Perm			Perm		Perm
Protected Phases		2			6			8			4	
Permitted Phases	2				6	6	8			4		4
Actuated Green, G (s)		56.5			56.5	56.5		22.5		22.5	22.5	22.5
Effective Green, g (s)		56.5			56.5	56.5		22.5		22.5	22.5	22.5
Actuated g/C Ratio		0.63			0.63	0.63		0.25		0.25	0.25	0.25
Clearance Time (s)		5.5			5.5	5.5		5.5		5.5	5.5	5.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		1669			1952	507		234		198	364	228
v/s Ratio Prot					0.11							
v/s Ratio Perm		c0.38				0.10		c0.10		0.02	0.01	0.00
v/c Ratio		0.61			0.17	0.16		0.42		0.06	0.04	0.00
Uniform Delay, d1		10.1			7.0	6.9		28.2		25.7	25.6	25.3
Progression Factor		1.00			2.01	2.09		1.00		1.00	1.00	1.00
Incremental Delay, d2		1.6			0.2	0.7		5.4		0.1	0.0	0.0
Delay (s)		11.7			14.2	15.2		33.6		25.8	25.6	25.3
Level of Service		B			B	B		C		C	C	C
Approach Delay (s)		11.7			14.4			33.6			25.7	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM Average Control Delay	14.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	NER2
Lane Configurations	
Volume (vph)	17
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.78
Flpb, ped/bikes	1.00
Frt	0.86
Flt Protected	1.00
Satd. Flow (prot)	967
Flt Permitted	1.00
Satd. Flow (perm)	967
Peak-hour factor, PHF	0.98
Adj. Flow (vph)	17
RTOR Reduction (vph)	0
Lane Group Flow (vph)	17
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	10
Parking (#/hr)	5
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Actuated Green, G (s)	90.0
Effective Green, g (s)	90.0
Actuated g/C Ratio	1.00
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	967
v/s Ratio Prot	
v/s Ratio Perm	0.02
v/c Ratio	0.02
Uniform Delay, d1	0.0
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	0.0
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	974	0	0	417	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1047	0	0	448	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	1047	0	0	448	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)		30				30
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		76.0			76.0	
Effective Green, g (s)		76.0			76.0	
Actuated g/C Ratio		0.84			0.84	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		2067			2547	
v/s Ratio Prot		c0.43			0.15	
v/s Ratio Perm						
v/c Ratio		0.51			0.18	
Uniform Delay, d1		1.9			1.3	
Progression Factor		0.40			1.00	
Incremental Delay, d2		0.7			0.1	
Delay (s)		1.5			1.4	
Level of Service		A			A	
Approach Delay (s)	1.5			0.0	1.4	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	1.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	54.2%	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												
Volume (vph)	5	368	78	78	104	8	71	80	124	24	75	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.89		1.00	0.96			1.00	0.62		1.00	0.37
Flpb, ped/bikes		0.99		0.73	1.00			0.74	1.00		0.93	1.00
Frt		0.97		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.99	1.00
Satd. Flow (prot)		2673		1134	1354			1012	844		1500	508
Flt Permitted		0.95		0.37	1.00			0.84	1.00		0.93	1.00
Satd. Flow (perm)		2547		443	1354			869	844		1409	508
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)	5	387	82	82	109	8	75	84	131	25	79	18
RTOR Reduction (vph)	0	30	0	0	4	0	0	0	19	0	0	7
Lane Group Flow (vph)	0	444	0	82	113	0	0	159	112	0	104	11
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		23.1		23.1	23.1			56.9	56.9		56.9	56.9
Effective Green, g (s)		23.1		23.1	23.1			56.9	56.9		56.9	56.9
Actuated g/C Ratio		0.26		0.26	0.26			0.63	0.63		0.63	0.63
Clearance Time (s)		5.5		5.5	5.5			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)		654		114	348			549	534		891	321
v/s Ratio Prot					0.08							
v/s Ratio Perm		0.17		c0.19				c0.18	0.13		0.07	0.02
v/c Ratio		0.68		0.72	0.32			0.29	0.21		0.12	0.04
Uniform Delay, d1		30.1		30.5	27.1			7.5	7.0		6.6	6.2
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		2.8		19.4	0.5			1.3	0.9		0.3	0.2
Delay (s)		32.9		49.9	27.7			8.8	7.9		6.8	6.4
Level of Service		C		D	C			A	A		A	A
Approach Delay (s)		32.9			36.8			8.4			6.8	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM Average Control Delay	24.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	59.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

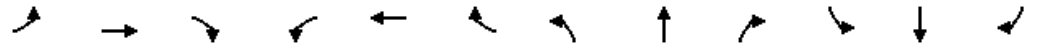
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	447	106	12	175	464	88	0	33	978	75	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.98			1.00	0.96		0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		0.99		1.00	1.00	
Frt		0.97			1.00	0.85		0.96		1.00	1.00	
Flt Protected		1.00			1.00	1.00		0.96		0.95	0.96	
Satd. Flow (prot)		2789			1627	2362		1305		1477	1490	
Flt Permitted		1.00			0.78	1.00		0.50		0.73	0.76	
Satd. Flow (perm)		2789			1272	2362		679		1132	1178	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	461	109	12	180	478	91	0	34	1008	77	3
RTOR Reduction (vph)	0	23	0	0	0	0	0	15	0	0	0	0
Lane Group Flow (vph)	0	547	0	0	192	478	0	110	0	544	544	0
Confl. Peds. (#/hr)	50			50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		17.0			17.0	65.5		17.5		45.0	45.0	
Effective Green, g (s)		17.0			17.0	65.5		17.5		45.0	45.0	
Actuated g/C Ratio		0.19			0.19	0.73		0.19		0.50	0.50	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		527			240	1719		132		566	589	
v/s Ratio Prot		c0.20										
v/s Ratio Perm					0.15	0.20		c0.16		c0.48	0.46	
v/c Ratio		1.04			0.80	0.28		0.83		0.96	0.92	
Uniform Delay, d1		36.5			34.9	4.2		34.8		21.7	20.9	
Progression Factor		1.00			1.00	1.00		1.00		1.18	1.18	
Incremental Delay, d2		49.5			23.7	0.4		42.9		27.8	21.0	
Delay (s)		86.0			58.6	4.6		77.7		53.3	45.7	
Level of Service		F			E	A		E		D	D	
Approach Delay (s)		86.0			20.1			77.7			49.5	
Approach LOS		F			C			E			D	

Intersection Summary			
HCM Average Control Delay	51.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	66.9%	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												
Volume (vph)	17	1433	19	34	535	17	118	51	174	23	18	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Lane Util. Factor		0.95			0.95	1.00		0.95			1.00	1.00
Frpb, ped/bikes		1.00			1.00	0.62		0.81			1.00	0.62
Flpb, ped/bikes		1.00			1.00	1.00		0.88			0.89	1.00
Frt		1.00			1.00	0.85		0.92			1.00	0.85
Flt Protected		1.00			1.00	1.00		0.98			0.97	1.00
Satd. Flow (prot)		3081			3100	754		1874			1419	858
Flt Permitted		0.95			0.81	1.00		0.83			0.77	1.00
Satd. Flow (perm)		2916			2512	754		1590			1119	858
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	18	1493	20	35	557	18	123	53	181	24	19	24
RTOR Reduction (vph)	0	1	0	0	0	1	0	11	0	0	0	19
Lane Group Flow (vph)	0	1530	0	0	592	17	0	346	0	0	43	5
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Actuated Green, G (s)		62.7			62.7	62.7		20.3			20.3	20.3
Effective Green, g (s)		62.7			62.7	62.7		20.3			20.3	20.3
Actuated g/C Ratio		0.70			0.70	0.70		0.23			0.23	0.23
Clearance Time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)		2031			1750	525		359			252	194
v/s Ratio Prot												
v/s Ratio Perm		c0.52			0.24	0.02		c0.22			0.04	0.01
v/c Ratio		0.75			0.34	0.03		0.96			0.17	0.03
Uniform Delay, d1		8.7			5.4	4.2		34.5			28.1	27.2
Progression Factor		1.00			0.79	0.71		1.00			1.00	1.00
Incremental Delay, d2		1.6			0.1	0.0		39.3			1.5	0.3
Delay (s)		10.3			4.4	3.0		73.8			29.5	27.4
Level of Service		B			A	A		E			C	C
Approach Delay (s)		10.3			4.4			73.8			28.8	
Approach LOS		B			A			E			C	

Intersection Summary			
HCM Average Control Delay	18.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	88.6%	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												
Volume (vph)	20	1488	109	0	468	27	72	266	165	7	129	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.95		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.80		0.99		1.00	0.86			0.88	
Flpb, ped/bikes		1.00	1.00		1.00		0.74	1.00			0.99	
Frt		1.00	0.85		0.99		1.00	0.94			0.95	
Flt Protected		1.00	1.00		1.00		0.95	1.00			1.00	
Satd. Flow (prot)		3104	974		3051		1144	3626			3713	
Flt Permitted		0.94	1.00		1.00		0.61	1.00			0.92	
Satd. Flow (perm)		2933	974		3051		740	3626			3428	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	21	1550	114	0	488	28	75	277	172	7	134	69
RTOR Reduction (vph)	0	0	1	0	0	0	0	7	0	0	53	0
Lane Group Flow (vph)	0	1571	113	0	516	0	75	442	0	0	157	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm				Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4				2			6		
Actuated Green, G (s)		59.7	59.7		59.7		20.3	20.3			20.3	
Effective Green, g (s)		59.7	59.7		59.7		20.3	20.3			20.3	
Actuated g/C Ratio		0.66	0.66		0.66		0.23	0.23			0.23	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1946	646		2024		167	818			773	
v/s Ratio Prot					0.17			c0.12				
v/s Ratio Perm		c0.54	0.12				0.10				0.05	
v/c Ratio		0.81	0.18		0.25		0.45	0.54			0.20	
Uniform Delay, d1		11.0	5.8		6.1		30.0	30.7			28.3	
Progression Factor		0.60	0.49		0.98		1.00	1.00			1.00	
Incremental Delay, d2		1.7	0.1		0.1		8.5	2.6			0.6	
Delay (s)		8.2	2.9		6.1		38.5	33.3			28.9	
Level of Service		A	A		A		D	C			C	
Approach Delay (s)		7.9			6.1			34.0			28.9	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	13.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	105.6%	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												
Volume (vph)	0	2022	196	0	1241	55	128	141	28	89	104	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.97			0.98		1.00	0.95		1.00	0.92	
Flpb, ped/bikes		1.00			1.00		0.74	1.00		0.76	1.00	
Frt		0.99			0.99		1.00	0.97		1.00	0.96	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4267			4188		1149	1509		1174	1261	
Flt Permitted		1.00			1.00		0.67	1.00		0.62	1.00	
Satd. Flow (perm)		4267			4188		805	1509		766	1261	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	2085	202	0	1279	57	132	145	29	92	107	37
RTOR Reduction (vph)	0	8	0	0	5	0	0	1	0	0	6	0
Lane Group Flow (vph)	0	2279	0	0	1331	0	132	173	0	92	138	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2465			2420		246	461		234	385	
v/s Ratio Prot		c0.53			0.32			0.11			0.11	
v/s Ratio Perm							c0.16			0.12		
v/c Ratio		0.92			0.55		0.54	0.38		0.39	0.36	
Uniform Delay, d1		17.2			11.8		26.0	24.5		24.7	24.4	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		7.4			0.9		8.2	2.3		4.9	2.6	
Delay (s)		24.6			12.7		34.1	26.9		29.6	27.0	
Level of Service		C			B		C	C		C	C	
Approach Delay (s)		24.6			12.7			30.0			28.0	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM Average Control Delay	21.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	93.2%	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												
Volume (vph)	0	2019	67	0	1120	67	54	128	33	42	121	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			1.00	
Frpb, ped/bikes		0.99			0.98		1.00	0.93			0.94	
Flpb, ped/bikes		1.00			1.00		0.80	1.00			0.95	
Frt		1.00			0.99		1.00	0.97			0.98	
Flt Protected		1.00			1.00		0.95	1.00			0.99	
Satd. Flow (prot)		4396			4341		1236	1479			1408	
Flt Permitted		1.00			1.00		0.55	1.00			0.90	
Satd. Flow (perm)		4396			4341		720	1479			1285	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	2195	73	0	1217	73	59	139	36	46	132	40
RTOR Reduction (vph)	0	4	0	0	6	0	0	1	0	0	7	0
Lane Group Flow (vph)	0	2264	0	0	1284	0	59	174	0	0	211	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2603			2571		215	442			384	
v/s Ratio Prot		c0.52			0.30			0.12				
v/s Ratio Perm							0.08				c0.16	
v/c Ratio		0.87			0.50		0.27	0.39			0.55	
Uniform Delay, d1		15.4			10.6		24.1	25.1			26.5	
Progression Factor		1.00			1.11		1.00	1.00			1.00	
Incremental Delay, d2		4.3			0.6		3.1	2.6			5.6	
Delay (s)		19.7			12.4		27.2	27.7			32.0	
Level of Service		B			B		C	C			C	
Approach Delay (s)		19.7			12.4			27.6			32.0	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM Average Control Delay	18.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
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												
Volume (vph)	0	1857	95	0	1123	42	35	78	18	47	145	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.98			0.99			0.96			0.96	
Flpb, ped/bikes		1.00			1.00			0.95			0.95	
Frt		0.99			0.99			0.98			0.98	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		4178			4204			1255			1262	
Flt Permitted		1.00			1.00			0.89			0.91	
Satd. Flow (perm)		4178			4204			1128			1159	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	1976	101	0	1195	45	37	83	19	50	154	31
RTOR Reduction (vph)	0	6	0	0	4	0	0	1	0	0	6	0
Lane Group Flow (vph)	0	2071	0	0	1236	0	0	138	0	0	229	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2507			2522			338			348	
v/s Ratio Prot		c0.50			0.29							
v/s Ratio Perm								0.12			c0.20	
v/c Ratio		0.83			0.49			0.41			0.66	
Uniform Delay, d1		14.3			10.2			25.1			27.5	
Progression Factor		0.47			1.00			1.00			1.00	
Incremental Delay, d2		1.6			0.7			3.6			9.3	
Delay (s)		8.3			10.9			28.7			36.8	
Level of Service		A			B			C			D	
Approach Delay (s)		8.3			10.9			28.7			36.8	
Approach LOS		A			B			C			D	

Intersection Summary			
HCM Average Control Delay	11.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	75.0%	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		↑↑↑			↑↑↑		↰	↕↕				↱
Volume (vph)	0	1716	0	0	533	27	527	448	45	0	0	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.98		1.00	0.98				0.97
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.99				1.00
Satd. Flow (prot)		4282			4366		1415	2669				1367
Flt Permitted		1.00			1.00		0.95	0.99				1.00
Satd. Flow (perm)		4282			4366		1415	2669				1367
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	1806	0	0	561	28	555	472	47	0	0	25
RTOR Reduction (vph)	0	0	0	0	6	0	0	6	0	0	0	0
Lane Group Flow (vph)	0	1806	0	0	583	0	355	713	0	0	0	25
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		53.0			41.0		27.0	27.0				9.0
Effective Green, g (s)		53.0			41.0		27.0	27.0				9.0
Actuated g/C Ratio		0.59			0.46		0.30	0.30				0.10
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		2522			1989		425	801				137
v/s Ratio Prot		c0.42			0.13							
v/s Ratio Perm							0.25	0.27				0.02
v/c Ratio		0.72			0.29		0.84	0.89				0.18
Uniform Delay, d1		13.2			15.4		29.4	30.1				37.1
Progression Factor		1.00			1.78		1.00	1.00				1.00
Incremental Delay, d2		1.8			0.3		17.4	14.2				2.9
Delay (s)		14.9			27.7		46.8	44.3				40.0
Level of Service		B			C		D	D				D
Approach Delay (s)		14.9			27.7			45.1			40.0	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM Average Control Delay	26.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
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												
Volume (vph)	221	150	1382	0	78	8	384	270	26	0	425	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		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.97		1.00	0.96			1.00	0.67
Flpb, ped/bikes		0.83	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.99		1.00	0.99			1.00	0.85
Flt Protected		0.97	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1320	2448		1334		4385	1353			3110	815
Flt Permitted		0.77	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		1042	2448		1334		4385	1353			3110	815
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	230	156	1440	0	81	8	400	281	27	0	443	40
RTOR Reduction (vph)	0	0	3	0	4	0	0	4	0	0	0	28
Lane Group Flow (vph)	0	386	1437	0	85	0	400	304	0	0	443	12
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		39.5	54.5		39.5		11.5	42.5			27.5	27.5
Effective Green, g (s)		39.5	51.0		39.5		11.5	42.5			27.5	27.5
Actuated g/C Ratio		0.44	0.57		0.44		0.13	0.47			0.31	0.31
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		457	1387		585		560	639			950	249
v/s Ratio Prot			c0.59		0.06		0.09	c0.22			0.14	
v/s Ratio Perm		0.37										0.01
v/c Ratio		0.84	1.04		0.15		0.71	0.48			0.47	0.05
Uniform Delay, d1		22.5	19.5		15.1		37.7	16.2			25.3	22.0
Progression Factor		1.23	1.74		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		9.5	29.9		0.1		7.6	2.5			1.6	0.4
Delay (s)		37.3	63.8		15.2		45.3	18.7			27.0	22.4
Level of Service		D	E		B		D	B			C	C
Approach Delay (s)		58.2			15.2			33.7			26.6	
Approach LOS		E			B			C			C	

Intersection Summary			
HCM Average Control Delay	46.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	82.9%	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												
Volume (vph)	0	0	0	27	94	45	13	32	0	0	45	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.70		1.00			0.99	
Flpb, ped/bikes					0.95	1.00		0.99			1.00	
Frt					1.00	0.85		1.00			0.97	
Flt Protected					0.99	1.00		0.99			1.00	
Satd. Flow (prot)					2747	954		1595			1567	
Flt Permitted					0.99	1.00		0.93			1.00	
Satd. Flow (perm)					2747	954		1512			1567	
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	0	0	0	35	121	58	17	41	0	0	58	17
RTOR Reduction (vph)	0	0	0	0	0	34	0	0	0	0	10	0
Lane Group Flow (vph)	0	0	0	0	156	24	0	58	0	0	65	0
Confl. Peds. (#/hr)				154		203	51					51
Confl. Bikes (#/hr)						14						3
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					25.0	25.0		25.0			25.0	
Effective Green, g (s)					25.0	25.0		25.0			25.0	
Actuated g/C Ratio					0.42	0.42		0.42			0.42	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1145	398		630			653	
v/s Ratio Prot											c0.04	
v/s Ratio Perm					0.06	0.03		0.04				
v/c Ratio					0.14	0.06		0.09			0.10	
Uniform Delay, d1					10.8	10.5		10.6			10.7	
Progression Factor					1.00	1.00		0.90			1.00	
Incremental Delay, d2					0.2	0.3		0.3			0.3	
Delay (s)					11.1	10.8		9.8			11.0	
Level of Service					B	B		A			B	
Approach Delay (s)		0.0			11.0			9.8			11.0	
Approach LOS		A			B			A			B	

Intersection Summary			
HCM Average Control Delay	10.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.12		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	45.0%	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												
Volume (vph)	0	0	0	24	113	5	20	5	0	0	3	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.99		1.00	1.00			0.95	
Flpb, ped/bikes				1.00	1.00		0.89	1.00			1.00	
Frt				1.00	0.99		1.00	1.00			0.94	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	3054		1388	1637			1464	
Flt Permitted				0.95	1.00		0.75	1.00			1.00	
Satd. Flow (perm)				1555	3054		1100	1637			1464	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	0	0	0	31	147	6	26	6	0	0	4	3
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	31	151	0	26	6	0	0	7	0
Confl. Peds. (#/hr)						369	74					74
Confl. Bikes (#/hr)						16			1			
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				38.4	38.4		12.3	12.3			12.3	
Effective Green, g (s)				38.4	38.4		12.3	12.3			12.3	
Actuated g/C Ratio				0.64	0.64		0.21	0.21			0.21	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				995	1955		226	336			300	
v/s Ratio Prot				0.02	c0.05			0.00			0.00	
v/s Ratio Perm							c0.02					
v/c Ratio				0.03	0.08		0.12	0.02			0.02	
Uniform Delay, d1				4.0	4.1		19.4	19.0			19.1	
Progression Factor				1.00	1.00		1.56	1.56			1.00	
Incremental Delay, d2				0.1	0.1		1.0	0.1			0.1	
Delay (s)				4.0	4.2		31.3	29.8			19.2	
Level of Service				A	A		C	C			B	
Approach Delay (s)		0.0			4.1			31.0			19.2	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM Average Control Delay	8.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.09		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	127	36	6	65	30	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	132	38	6	68	31	4
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	291					
pX, platoon unblocked						
vC, conflicting volume			570		1031	885
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			570		1031	885
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		72	97
cM capacity (veh/h)			698		110	140

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	88	82	74	35
Volume Left	0	0	6	31
Volume Right	0	38	0	4
cSH	1700	1700	698	113
Volume to Capacity	0.05	0.05	0.01	0.31
Queue Length 95th (ft)	0	0	1	30
Control Delay (s)	0.0	0.0	0.9	50.8
Lane LOS			A	F
Approach Delay (s)	0.0		0.9	50.8
Approach LOS				F

Intersection Summary			
Average Delay	6.7		
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												
Volume (vph)	16	136	16	8	92	8	10	23	9	19	42	9
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		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.57		0.97			0.89			0.93	
Flpb, ped/bikes		0.96	1.00		0.98			0.89			0.87	
Frt		1.00	0.85		0.99			0.97			0.98	
Flt Protected		0.99	1.00		1.00			0.99			0.99	
Satd. Flow (prot)		1570	793		1337			1091			1128	
Flt Permitted		0.97	1.00		0.98			0.95			0.94	
Satd. Flow (perm)		1535	793		1318			1051			1072	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	18	156	18	9	106	9	11	26	10	22	48	10
RTOR Reduction (vph)	0	0	9	0	5	0	0	6	0	0	6	0
Lane Group Flow (vph)	0	174	9	0	119	0	0	41	0	0	74	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4			4		
Actuated Green, G (s)		29.0	29.0		29.0			22.0			22.0	
Effective Green, g (s)		29.0	29.0		29.0			22.0			22.0	
Actuated g/C Ratio		0.48	0.48		0.48			0.37			0.37	
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)		742	383		637			385			393	
v/s Ratio Prot												
v/s Ratio Perm		c0.11	0.01		0.09			0.04			c0.07	
v/c Ratio		0.23	0.02		0.19			0.11			0.19	
Uniform Delay, d1		9.0	8.1		8.8			12.5			12.9	
Progression Factor		1.00	1.00		1.00			1.00			1.15	
Incremental Delay, d2		0.7	0.1		0.7			0.6			1.1	
Delay (s)		9.8	8.2		9.5			13.1			15.9	
Level of Service		A	A		A			B			B	
Approach Delay (s)		9.6			9.5			13.1			15.9	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	11.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	77.9%	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												
Volume (vph)	0	137	12	18	131	0	8	0	5	5	2	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		1.00	1.00		0.95			1.00			1.00	
Frpb, ped/bikes		1.00	0.42		1.00			0.78			1.00	
Flpb, ped/bikes		1.00	1.00		0.95			0.81			0.61	
Frt		1.00	0.85		1.00			0.95			1.00	
Flt Protected		1.00	1.00		0.99			0.97			0.96	
Satd. Flow (prot)		1637	571		2923			949			955	
Flt Permitted		1.00	1.00		0.91			0.93			0.93	
Satd. Flow (perm)		1637	571		2685			912			921	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	0	161	14	21	154	0	9	0	6	6	2	0
RTOR Reduction (vph)	0	0	11	0	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	161	3	0	175	0	0	13	0	0	8	0
Confl. Peds. (#/hr)			400	400			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	
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)		396	138		649			555			560	
v/s Ratio Prot		c0.10										
v/s Ratio Perm			0.01		0.07			c0.01			0.01	
v/c Ratio		0.41	0.02		0.27			0.02			0.01	
Uniform Delay, d1		19.1	17.4		18.5			4.7			4.6	
Progression Factor		1.05	1.31		1.00			1.00			1.00	
Incremental Delay, d2		3.1	0.3		1.0			0.1			0.0	
Delay (s)		23.2	23.1		19.5			4.8			4.7	
Level of Service		C	C		B			A			A	
Approach Delay (s)		23.2			19.5			4.8			4.7	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM Average Control Delay	20.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.13		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	156	6	8	16	16	0	143	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		0.82		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		0.93		1.00			1.00
Flt Protected		1.00		0.98		1.00			0.97
Satd. Flow (prot)		942		1070		1637			3016
Flt Permitted		1.00		0.98		1.00			0.95
Satd. Flow (perm)		942		1070		1637			2970
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	179	7	9	18	18	0	164	100
RTOR Reduction (vph)	0	0	0	13	0	0	0	0	0
Lane Group Flow (vph)	0	179	0	21	0	18	0	0	264
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		303		314			891
v/s Ratio Prot						0.01			
v/s Ratio Perm		c0.19		0.02					0.09
v/c Ratio		0.34		0.07		0.06			0.30
Uniform Delay, d1		7.2		15.7		19.8			16.1
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		1.8		0.4		0.1			0.8
Delay (s)		9.0		16.2		19.9			17.0
Level of Service		A		B		B			B
Approach Delay (s)	9.0			16.2		19.9			17.0
Approach LOS	A			B		B			B

Intersection Summary			
HCM Average Control Delay	14.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	53.0%	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												
Volume (vph)	20	204	36	32	115	35	24	66	10	13	50	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.97			1.00	0.59	1.00	0.92			0.88	
Flpb, ped/bikes		0.98			1.00	1.00	0.51	1.00			0.92	
Frt		0.98			1.00	0.85	1.00	0.98			0.97	
Flt Protected		1.00			0.99	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1322			1417	722	791	1293			2419	
Flt Permitted		0.98			0.90	1.00	0.70	1.00			0.90	
Satd. Flow (perm)		1295			1289	722	580	1293			2185	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	22	229	40	36	129	39	27	74	11	15	56	17
RTOR Reduction (vph)	0	2	0	0	0	2	0	7	0	0	0	0
Lane Group Flow (vph)	0	289	0	0	165	37	27	78	0	0	88	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		70.3			70.3	70.3	9.6	9.6			9.6	
Effective Green, g (s)		70.3			70.3	70.3	9.6	9.6			9.6	
Actuated g/C Ratio		0.78			0.78	0.78	0.11	0.11			0.11	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		1012			1007	564	62	138			233	
v/s Ratio Prot								c0.06				
v/s Ratio Perm		c0.22			0.13	0.05	0.05				0.04	
v/c Ratio		0.29			0.16	0.07	0.44	0.56			0.38	
Uniform Delay, d1		2.8			2.5	2.3	37.7	38.2			37.4	
Progression Factor		1.00			1.00	1.00	1.45	1.48			1.00	
Incremental Delay, d2		0.7			0.3	0.2	4.8	5.2			1.0	
Delay (s)		3.5			2.8	2.5	59.4	61.9			38.4	
Level of Service		A			A	A	E	E			D	
Approach Delay (s)		3.5			2.8			61.3			38.4	
Approach LOS		A			A			E			D	

Intersection Summary			
HCM Average Control Delay	17.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	110.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Volume (vph)	17	229	31	6	123	6	9	25	29	22	24	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.97			0.99			0.72			0.81	
Flpb, ped/bikes		0.99			0.99			0.93			0.83	
Frt		0.99			0.99			0.94			0.96	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		1338			1390			888			911	
Flt Permitted		0.98			0.99			0.96			0.90	
Satd. Flow (perm)		1318			1375			861			833	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	20	269	36	7	145	7	11	29	34	26	28	24
RTOR Reduction (vph)	0	1	0	0	1	0	0	27	0	0	17	0
Lane Group Flow (vph)	0	324	0	0	158	0	0	47	0	0	61	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.6			62.6			18.6			18.6	
Effective Green, g (s)		62.6			62.6			18.6			18.6	
Actuated g/C Ratio		0.70			0.70			0.21			0.21	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		917			956			178			172	
v/s Ratio Prot												
v/s Ratio Perm		c0.25			0.11			0.05			c0.07	
v/c Ratio		0.35			0.17			0.26			0.35	
Uniform Delay, d1		5.5			4.7			30.0			30.5	
Progression Factor		1.00			1.00			1.50			1.00	
Incremental Delay, d2		1.1			0.4			3.2			5.6	
Delay (s)		6.6			5.1			48.3			36.1	
Level of Service		A			A			D			D	
Approach Delay (s)		6.6			5.1			48.3			36.1	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	14.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	16	223	30	13	92	8	11	5	82	4	22	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.96			1.00	0.66		0.53			0.86	
Flpb, ped/bikes		0.98			0.97	1.00		0.94			0.95	
Frt		0.98			1.00	0.85		0.89			0.97	
Flt Protected		1.00			0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1331			1388	802		631			1134	
Flt Permitted		0.99			0.96	1.00		0.98			0.98	
Satd. Flow (perm)		1315			1339	802		620			1118	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	242	33	14	100	9	12	5	89	4	24	9
RTOR Reduction (vph)	0	5	0	0	0	3	0	64	0	0	7	0
Lane Group Flow (vph)	0	287	0	0	114	6	0	42	0	0	31	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		57.0			57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0			57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63			0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		833			848	508		172			311	
v/s Ratio Prot												
v/s Ratio Perm		c0.22			0.09	0.01		c0.07			0.03	
v/c Ratio		0.34			0.13	0.01		0.24			0.10	
Uniform Delay, d1		7.7			6.6	6.1		25.2			24.1	
Progression Factor		1.00			0.80	0.61		1.93			1.00	
Incremental Delay, d2		1.1			0.3	0.0		3.1			0.6	
Delay (s)		8.9			5.6	3.7		51.7			24.8	
Level of Service		A			A	A		D			C	
Approach Delay (s)		8.9			5.5			51.7			24.8	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM Average Control Delay	17.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	216	64	6	95	8	30	29	33	5	25	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.66		1.00	0.66		0.80			0.84	
Flpb, ped/bikes		0.97	1.00		0.99	1.00		0.84			0.94	
Frt		1.00	0.85		1.00	0.85		0.95			0.96	
Flt Protected		1.00	1.00		1.00	1.00		0.98			0.99	
Satd. Flow (prot)		1387	786		1409	786		893			1235	
Flt Permitted		0.97	1.00		0.98	1.00		0.91			0.98	
Satd. Flow (perm)		1355	786		1391	786		827			1213	
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)	26	240	71	7	106	9	33	32	37	6	28	14
RTOR Reduction (vph)	0	0	7	0	0	3	0	23	0	0	10	0
Lane Group Flow (vph)	0	266	64	0	113	6	0	79	0	0	38	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63	0.63		0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		858	498		881	498		230			337	
v/s Ratio Prot												
v/s Ratio Perm		c0.20	0.08		0.08	0.01		c0.10			0.03	
v/c Ratio		0.31	0.13		0.13	0.01		0.34			0.11	
Uniform Delay, d1		7.5	6.6		6.6	6.1		25.9			24.2	
Progression Factor		0.70	0.60		1.00	1.00		1.07			1.00	
Incremental Delay, d2		0.9	0.5		0.3	0.0		3.3			0.7	
Delay (s)		6.2	4.5		6.9	6.1		31.2			24.9	
Level of Service		A	A		A	A		C			C	
Approach Delay (s)		5.8			6.8			31.2			24.9	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	11.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations										
Volume (vph)	2	229	29	1	5	17	157	19	131	222
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				5.0		5.0		5.0	5.0
Lane Util. Factor	1.00				1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.88				0.74		0.93		1.00	1.00
Flpb, ped/bikes	1.00				0.88		1.00		1.00	1.00
Frt	0.87				0.90		0.98		1.00	1.00
Flt Protected	1.00				0.99		1.00		0.95	1.00
Satd. Flow (prot)	1246				943		2847		1555	3110
Flt Permitted	1.00				0.99		1.00		0.95	1.00
Satd. Flow (perm)	1246				943		2847		1555	3110
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	2	229	29	1	5	17	157	19	131	222
RTOR Reduction (vph)	5	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	255	0	0	0	23	0	176	0	131	222
Confl. Peds. (#/hr)				400	400	400		400		
Confl. Bikes (#/hr)		30	30			10		30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0
Turn Type				Perm					Split	
Protected Phases	4				3		6		2	2
Permitted Phases				3						
Actuated Green, G (s)	19.7				20.0		17.0		13.3	13.3
Effective Green, g (s)	19.7				20.0		17.0		13.3	13.3
Actuated g/C Ratio	0.22				0.22		0.19		0.15	0.15
Clearance Time (s)	5.0				5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	273				210		538		230	460
v/s Ratio Prot	c0.20						c0.06		c0.08	0.07
v/s Ratio Perm					0.02					
v/c Ratio	0.94				0.11		0.33		0.57	0.48
Uniform Delay, d1	34.5				27.9		31.6		35.7	35.2
Progression Factor	1.00				0.91		1.00		0.98	0.98
Incremental Delay, d2	37.2				0.2		1.6		9.8	3.6
Delay (s)	71.7				25.7		33.2		44.8	38.1
Level of Service	E				C		C		D	D
Approach Delay (s)	71.7				25.7		33.2			40.6
Approach LOS	E				C		C			D

Intersection Summary			
HCM Average Control Delay	48.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	73.7%	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												
Volume (vph)	0	1591	33	0	491	9	0	17	23	0	44	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.78			0.93	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.92			0.98	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2889			2891			1025			1306	
Flt Permitted		1.00			1.00			1.00			1.00	
Satd. Flow (perm)		2889			2891			1025			1306	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1729	36	0	534	10	0	18	25	0	48	10
RTOR Reduction (vph)	0	0	0	0	0	0	0	8	0	0	9	0
Lane Group Flow (vph)	0	1765	0	0	544	0	0	35	0	0	49	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type												
Protected Phases		2			6			8			4	
Permitted Phases												
Actuated Green, G (s)		73.4			73.4			7.8			7.8	
Effective Green, g (s)		73.4			73.4			7.8			7.8	
Actuated g/C Ratio		0.82			0.82			0.09			0.09	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2356			2358			89			113	
v/s Ratio Prot		c0.61			0.19			0.03			c0.04	
v/s Ratio Perm												
v/c Ratio		0.75			0.23			0.39			0.43	
Uniform Delay, d1		3.9			1.9			38.9			39.0	
Progression Factor		1.24			1.00			1.00			1.00	
Incremental Delay, d2		1.5			0.1			2.8			2.6	
Delay (s)		6.3			1.9			41.7			41.6	
Level of Service		A			A			D			D	
Approach Delay (s)		6.3			1.9			41.7			41.6	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	6.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	6	1325	375	25	319	21	118	73	65	0	110	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.77		1.00	0.77	1.00	1.00	0.67		0.98	
Flpb, ped/bikes		1.00	1.00		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	0.85		0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3109	1077		3098	1077	3016	1637	933		2837	
Flt Permitted		0.95	1.00		0.83	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		2966	1077		2571	1077	3016	1637	933		2837	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	6	1366	387	26	329	22	122	75	67	0	113	6
RTOR Reduction (vph)	0	0	67	0	0	7	0	0	4	0	5	0
Lane Group Flow (vph)	0	1372	320	0	355	15	122	75	63	0	115	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type	Perm		Perm	Perm		Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		60.2	60.2		60.2	60.2	7.3	20.8	20.8		9.0	
Effective Green, g (s)		60.2	60.2		60.2	60.2	7.3	20.8	20.8		9.0	
Actuated g/C Ratio		0.67	0.67		0.67	0.67	0.08	0.23	0.23		0.10	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		1984	720		1720	720	245	378	216		284	
v/s Ratio Prot							c0.04	0.05			c0.04	
v/s Ratio Perm		c0.46	0.30		0.14	0.01			0.07			
v/c Ratio		0.69	0.44		0.21	0.02	0.50	0.20	0.29		0.40	
Uniform Delay, d1		9.2	7.0		5.7	5.0	39.6	27.9	28.5		38.0	
Progression Factor		1.00	1.00		0.96	0.92	1.00	1.00	1.00		0.73	
Incremental Delay, d2		2.0	2.0		0.3	0.1	1.6	0.3	0.8		0.9	
Delay (s)		11.2	9.0		5.8	4.6	41.2	28.1	29.3		28.7	
Level of Service		B	A		A	A	D	C	C		C	
Approach Delay (s)		10.7			5.7			34.5			28.7	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM Average Control Delay	13.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	120.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	40	1229	360	22	37	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	0.98		0.85	
Flpb, ped/bikes		1.00	1.00		1.00	
Frt		1.00	0.99		0.95	
Flt Protected		1.00	1.00		0.97	
Satd. Flow (prot)		2896	3029		1112	
Flt Permitted		0.93	1.00		0.97	
Satd. Flow (perm)		2694	3029		1112	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	1336	391	24	40	27
RTOR Reduction (vph)	0	0	5	0	22	0
Lane Group Flow (vph)	0	1379	410	0	45	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		65.2	65.2		17.8	
Effective Green, g (s)		65.2	65.2		17.8	
Actuated g/C Ratio		0.72	0.72		0.20	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1952	2194		220	
v/s Ratio Prot			0.14		c0.04	
v/s Ratio Perm		c0.51				
v/c Ratio		0.71	0.19		0.21	
Uniform Delay, d1		7.0	4.0		30.2	
Progression Factor		1.29	1.00		0.96	
Incremental Delay, d2		0.9	0.0		2.0	
Delay (s)		9.9	4.0		31.1	
Level of Service		A	A		C	
Approach Delay (s)		9.9	4.0		31.1	
Approach LOS		A	A		C	

Intersection Summary			
HCM Average Control Delay	9.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	90.0%	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												
Volume (vph)	21	1195	31	18	384	60	29	13	58	15	40	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.96			0.79			0.91	
Flpb, ped/bikes		1.00			1.00			0.91			0.94	
Frt		1.00			0.98			0.92			0.97	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		2872			2732			946			1183	
Flt Permitted		0.94			0.88			0.91			0.94	
Satd. Flow (perm)		2710			2420			871			1124	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	22	1271	33	19	409	64	31	14	62	16	43	19
RTOR Reduction (vph)	0	2	0	0	3	0	0	12	0	0	13	0
Lane Group Flow (vph)	0	1324	0	0	489	0	0	95	0	0	65	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		60.6			60.6			20.6			20.6	
Effective Green, g (s)		60.6			60.6			20.6			20.6	
Actuated g/C Ratio		0.67			0.67			0.23			0.23	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1825			1629			199			257	
v/s Ratio Prot												
v/s Ratio Perm		c0.49			0.20			c0.11			0.06	
v/c Ratio		0.73			0.30			0.48			0.25	
Uniform Delay, d1		9.4			6.0			30.0			28.4	
Progression Factor		1.00			1.12			1.00			1.13	
Incremental Delay, d2		2.6			0.4			7.9			2.3	
Delay (s)		11.9			7.2			38.0			34.3	
Level of Service		B			A			D			C	
Approach Delay (s)		11.9			7.2			38.0			34.3	
Approach LOS		B			A			D			C	

Intersection Summary			
HCM Average Control Delay	13.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	79.2%	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												
Volume (vph)	27	1283	18	26	431	51	35	20	101	33	16	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			0.97			0.77			0.82	
Flpb, ped/bikes		1.00			1.00			0.94			0.92	
Frt		1.00			0.98			0.91			0.93	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2886			2770			929			999	
Flt Permitted		0.93			0.83			0.92			0.85	
Satd. Flow (perm)		2701			2315			861			867	
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)	30	1426	20	29	479	57	39	22	112	37	18	53
RTOR Reduction (vph)	0	1	0	0	2	0	0	10	0	0	39	0
Lane Group Flow (vph)	0	1475	0	0	563	0	0	163	0	0	69	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.5			62.5			18.6			18.6	
Effective Green, g (s)		62.5			62.5			18.6			18.6	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1876			1608			178			179	
v/s Ratio Prot												
v/s Ratio Perm		c0.55			0.24			c0.19			0.08	
v/c Ratio		0.79			0.35			0.91			0.39	
Uniform Delay, d1		9.3			5.6			34.9			30.8	
Progression Factor		0.33			1.43			1.00			1.26	
Incremental Delay, d2		2.6			0.1			43.4			1.4	
Delay (s)		5.6			8.1			78.3			40.3	
Level of Service		A			A			E			D	
Approach Delay (s)		5.6			8.1			78.3			40.3	
Approach LOS		A			A			E			D	

Intersection Summary			
HCM Average Control Delay	13.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	87.0%	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												
Volume (vph)	9	1258	176	10	432	2	37	2	12	1	12	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.96			1.00			0.92			0.81	
Flpb, ped/bikes		1.00			1.00			0.75			0.99	
Frt		0.98			1.00			0.97			0.93	
Flt Protected		1.00			1.00			0.96			1.00	
Satd. Flow (prot)		2751			3098			1055			1220	
Flt Permitted		0.95			0.92			0.81			0.99	
Satd. Flow (perm)		2621			2850			887			1215	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	9	1297	181	10	445	2	38	2	12	1	12	14
RTOR Reduction (vph)	0	2	0	0	0	0	0	9	0	0	11	0
Lane Group Flow (vph)	0	1485	0	0	457	0	0	43	0	0	16	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1808			1967			190			261	
v/s Ratio Prot												
v/s Ratio Perm		c0.57			0.16			c0.05			0.01	
v/c Ratio		0.82			0.23			0.22			0.06	
Uniform Delay, d1		10.0			5.1			29.2			28.1	
Progression Factor		0.37			0.19			1.00			1.91	
Incremental Delay, d2		2.6			0.3			2.7			0.3	
Delay (s)		6.3			1.2			31.9			54.1	
Level of Service		A			A			C			D	
Approach Delay (s)		6.3			1.2			31.9			54.1	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM Average Control Delay	6.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	76.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	21	1252	449	329	376	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3037	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3037	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	23	1361	488	358	409	28
RTOR Reduction (vph)	0	59	0	0	6	0
Lane Group Flow (vph)	23	1302	488	358	431	0
Confl. Peds. (#/hr)						63
Confl. Bikes (#/hr)		22				160
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	11.0	54.1	39.1	69.0	25.9	
Effective Green, g (s)	11.0	54.1	39.1	69.0	25.9	
Actuated g/C Ratio	0.12	0.60	0.43	0.77	0.29	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	190	1472	1310	2235	874	
v/s Ratio Prot	0.01	c0.53	0.16	0.12	c0.14	
v/s Ratio Perm						
v/c Ratio	0.12	0.88	0.37	0.16	0.49	
Uniform Delay, d1	35.2	15.3	17.2	2.8	26.6	
Progression Factor	1.25	0.63	1.23	0.99	1.25	
Incremental Delay, d2	0.2	4.3	0.2	0.2	0.4	
Delay (s)	44.3	13.9	21.3	2.9	33.6	
Level of Service	D	B	C	A	C	
Approach Delay (s)	14.4			13.5	33.6	
Approach LOS	B			B	C	

Intersection Summary			
HCM Average Control Delay	17.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	77.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	132	10	10	0	1616	0	13	71	669
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			1.00			1.00	1.00
Flpb, ped/bikes				0.68			1.00			1.00	1.00
Frt				0.99			1.00			1.00	1.00
Flt Protected				0.96			1.00			0.95	1.00
Satd. Flow (prot)				1919			4458			1555	3110
Flt Permitted				0.96			1.00			0.95	1.00
Satd. Flow (perm)				1919			4458			1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	143	11	11	0	1757	0	14	77	727
RTOR Reduction (vph)	0	0	0	7	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	0	0	158	0	0	1770	0	0	77	727
Confl. Peds. (#/hr)			96	119					96		
Confl. Bikes (#/hr)					4				178		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				11.6			57.5			7.9	69.4
Effective Green, g (s)				11.6			57.5			7.9	69.4
Actuated g/C Ratio				0.13			0.64			0.09	0.77
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				247			2848			136	2398
v/s Ratio Prot							c0.40			c0.05	0.23
v/s Ratio Perm				0.08							
v/c Ratio				0.97dl			0.62			0.57	0.30
Uniform Delay, d1				37.2			9.7			39.4	3.1
Progression Factor				1.00			0.69			1.00	1.00
Incremental Delay, d2				5.4			0.2			3.2	0.3
Delay (s)				42.6			6.9			42.6	3.4
Level of Service				D			A			D	A
Approach Delay (s)	0.0			42.6			6.9				7.2
Approach LOS	A			D			A				A

Intersection Summary			
HCM Average Control Delay	9.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	59.0%	ICU Level of Service	B
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

Movement	EBL2	EBR	EBR2	SEL	SET	SER2	NWL2	NWT	NWR	SWR2
Lane Configurations										
Volume (vph)	9	12	175	21	1042	566	59	750	77	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		7.0	7.0	7.0	7.0	7.0		
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00	1.00	0.95		
Frpb, ped/bikes	1.00	0.93		1.00	1.00	0.96	1.00	0.94		
Flpb, ped/bikes	1.00	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	0.99		
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1555	1137		1555	3110	1336	1555	2895		
Flt Permitted	0.95	1.00		0.28	1.00	1.00	0.19	1.00		
Satd. Flow (perm)	1555	1137		454	3110	1336	314	2895		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	13	190	23	1133	615	64	815	84	0
RTOR Reduction (vph)	0	136	0	0	0	272	0	10	0	0
Lane Group Flow (vph)	10	67	0	23	1133	343	64	889	0	0
Confl. Peds. (#/hr)			38						1000	100
Confl. Bikes (#/hr)		10	10			30			30	10
Parking (#/hr)		5	5							
Turn Type	custom	custom		Perm		Perm	Perm			custom
Protected Phases					6			2		
Permitted Phases	4	4		6		6	2			8
Actuated Green, G (s)	22.5	22.5		44.0	44.0	44.0	44.0	44.0		
Effective Green, g (s)	22.5	22.5		44.0	44.0	44.0	44.0	44.0		
Actuated g/C Ratio	0.28	0.28		0.56	0.56	0.56	0.56	0.56		
Clearance Time (s)	5.5	5.5		7.0	7.0	7.0	7.0	7.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	443	324		253	1732	744	175	1612		
v/s Ratio Prot					c0.36			0.31		
v/s Ratio Perm	0.01	c0.06		0.05		0.26	0.20			
v/c Ratio	0.02	0.21		0.09	0.65	0.46	0.37	0.55		
Uniform Delay, d1	20.3	21.5		8.2	12.2	10.4	9.7	11.2		
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.0	0.3		0.7	1.9	2.0	5.8	1.4		
Delay (s)	20.4	21.8		8.9	14.1	12.5	15.5	12.6		
Level of Service	C	C		A	B	B	B	B		
Approach Delay (s)					13.5			12.8		
Approach LOS					B			B		

Intersection Summary			
HCM Average Control Delay	13.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	90.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	6	0	21	0	0	0	109	882	0	0	7	989
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.74					1.00	1.00				0.97
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.90					1.00	1.00				0.99
Flt Protected		0.99					0.95	1.00				1.00
Satd. Flow (prot)		936					1555	3110				2994
Flt Permitted		0.99					0.95	1.00				0.95
Satd. Flow (perm)		936					1555	3110				2841
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)	7	0	23	0	0	0	121	980	0	0	8	1099
RTOR Reduction (vph)	0	22	0	0	0	0	0	0	0	0	0	3
Lane Group Flow (vph)	0	8	0	0	0	0	121	980	0	0	0	1173
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		4.8					9.0	76.2				62.2
Effective Green, g (s)		4.8					9.0	76.2				62.2
Actuated g/C Ratio		0.05					0.10	0.85				0.69
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		50					156	2633				1963
v/s Ratio Prot		c0.01					c0.08	0.32				
v/s Ratio Perm												c0.41
v/c Ratio		0.16					0.78	0.37				0.60
Uniform Delay, d1		40.7					39.5	1.5				7.3
Progression Factor		1.00					1.14	2.28				1.00
Incremental Delay, d2		1.6					20.1	0.4				1.4
Delay (s)		42.2					65.2	3.9				8.7
Level of Service		D					E	A				A
Approach Delay (s)		42.2			0.0			10.6				8.7
Approach LOS		D			A			B				A

Intersection Summary			
HCM Average Control Delay	10.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	95.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	62
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.90
Adj. Flow (vph)	69
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	215	1016	0	0	391	131	115	212	57	0	0	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				
Lane Util. Factor		0.95			0.95			0.95				
Frpb, ped/bikes		1.00			0.93			0.95				
Flpb, ped/bikes		0.98			1.00			0.91				
Frt		1.00			0.96			0.98				
Flt Protected		0.99			1.00			0.99				
Satd. Flow (prot)		2792			2578			2394				
Flt Permitted		0.72			1.00			0.99				
Satd. Flow (perm)		2038			2578			2394				
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)	219	1037	0	0	399	134	117	216	58	0	0	0
RTOR Reduction (vph)	0	0	0	0	8	0	0	18	0	0	0	0
Lane Group Flow (vph)	0	1256	0	0	525	0	0	373	0	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm					
Protected Phases		2			6			8				
Permitted Phases	2						8					
Actuated Green, G (s)		44.0			44.0			27.0				
Effective Green, g (s)		44.0			44.0			27.0				
Actuated g/C Ratio		0.55			0.55			0.34				
Clearance Time (s)		4.5			4.5			4.5				
Vehicle Extension (s)		3.0			3.0			3.0				
Lane Grp Cap (vph)		1121			1418			808				
v/s Ratio Prot					0.20							
v/s Ratio Perm		c0.62						0.16				
v/c Ratio		1.12			0.37			0.46				
Uniform Delay, d1		18.0			10.2			20.8				
Progression Factor		1.00			0.32			1.00				
Incremental Delay, d2		66.4			0.7			1.9				
Delay (s)		84.4			3.9			22.7				
Level of Service		F			A			C				
Approach Delay (s)		84.4			3.9			22.7			0.0	
Approach LOS		F			A			C			A	

Intersection Summary			
HCM Average Control Delay	53.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	102.7%	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												
Volume (vph)	0	609	464	22	437	0	0	0	0	59	601	83
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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.86			1.00						0.97	
Flpb, ped/bikes		1.00			1.00						0.98	
Frt		0.94			1.00						0.98	
Flt Protected		1.00			1.00						1.00	
Satd. Flow (prot)		2500			3095						2712	
Flt Permitted		1.00			0.85						1.00	
Satd. Flow (perm)		2500			2643						2712	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	628	478	23	451	0	0	0	0	61	620	86
RTOR Reduction (vph)	0	10	0	0	0	0	0	0	0	0	12	0
Lane Group Flow (vph)	0	1096	0	0	474	0	0	0	0	0	755	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		34.0			34.0						37.0	
Effective Green, g (s)		34.0			34.0						37.0	
Actuated g/C Ratio		0.42			0.42						0.46	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		1063			1123						1254	
v/s Ratio Prot		c0.44										
v/s Ratio Perm					0.18						0.28	
v/c Ratio		1.03			0.42						0.60	
Uniform Delay, d1		23.0			16.1						16.0	
Progression Factor		0.87			1.00						1.00	
Incremental Delay, d2		18.0			0.3						2.1	
Delay (s)		37.9			16.4						18.2	
Level of Service		D			B						B	
Approach Delay (s)		37.9			16.4			0.0			18.2	
Approach LOS		D			B			A			B	

Intersection Summary			
HCM Average Control Delay	27.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	77.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	47	417	549	945	0	987	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.66	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		1.00	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	916	3016	3110		3073	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	916	3016	3110		3073	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	47	417	549	945	0	987	25
RTOR Reduction (vph)	0	355	0	0	0	2	0
Lane Group Flow (vph)	47	62	549	945	0	1010	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	13.3	13.3	22.1	65.7		37.6	
Effective Green, g (s)	13.3	13.3	22.1	65.7		37.6	
Actuated g/C Ratio	0.15	0.15	0.25	0.73		0.42	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	230	135	741	2270		1284	
v/s Ratio Prot	0.03		c0.18	0.30		c0.33	
v/s Ratio Perm		c0.07					
v/c Ratio	0.20	0.46	0.74	0.42		0.79	
Uniform Delay, d1	33.7	35.0	31.3	4.7		22.7	
Progression Factor	1.00	1.00	1.00	1.00		1.30	
Incremental Delay, d2	0.4	2.4	4.0	0.6		4.1	
Delay (s)	34.1	37.5	35.3	5.3		33.7	
Level of Service	C	D	D	A		C	
Approach Delay (s)	37.1			16.3		33.7	
Approach LOS	D			B		C	

Intersection Summary			
HCM Average Control Delay	25.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	101.0%	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												
Volume (vph)	5	146	10	20	100	5	10	10	1	10	5	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
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.59		1.00	0.75		0.99			1.00	0.44
Flpb, ped/bikes		0.99	1.00		0.95	1.00		0.76			0.79	1.00
Frt		1.00	0.85		1.00	0.85		0.99			1.00	0.85
Flt Protected		1.00	1.00		0.99	1.00		0.98			0.97	1.00
Satd. Flow (prot)		1624	823		1539	1050		1187			1255	613
Flt Permitted		1.00	1.00		0.96	1.00		0.90			1.00	1.00
Satd. Flow (perm)		1619	823		1485	1050		1089			1299	613
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	155	11	21	106	5	11	11	1	11	5	5
RTOR Reduction (vph)	0	0	2	0	0	1	0	1	0	0	0	5
Lane Group Flow (vph)	0	160	9	0	127	4	0	22	0	0	16	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		47.7	47.7		47.7	47.7		3.3			3.3	3.3
Effective Green, g (s)		47.7	47.7		47.7	47.7		3.3			3.3	3.3
Actuated g/C Ratio		0.80	0.80		0.80	0.80		0.05			0.05	0.05
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)		1287	654		1181	835		60			71	34
v/s Ratio Prot												
v/s Ratio Perm		c0.10	0.01		0.09	0.00		c0.02			0.01	0.00
v/c Ratio		0.12	0.01		0.11	0.00		0.37			0.23	0.01
Uniform Delay, d1		1.4	1.3		1.4	1.3		27.3			27.1	26.8
Progression Factor		1.00	1.00		1.32	0.56		1.00			1.17	1.41
Incremental Delay, d2		0.0	0.0		0.2	0.0		3.8			1.6	0.1
Delay (s)		1.4	1.3		2.0	0.7		31.1			33.4	38.0
Level of Service		A	A		A	A		C			C	D
Approach Delay (s)		1.4			1.9			31.1			34.5	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	5.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.14		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	457	9	865	407	56	54	53	14	17	8	291	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.34		0.67	1.00	0.95			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.81	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	558	3110	478		947	1555	1328			1254	1175
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.99	1.00
Satd. Flow (perm)	3110	558	3110	478		947	1555	1328			1300	1175
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)	481	9	911	428	59	57	56	15	18	8	306	34
RTOR Reduction (vph)	0	4	0	181	0	33	0	13	0	0	0	24
Lane Group Flow (vph)	481	5	911	306	0	24	56	20	0	0	314	10
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Effective Green, g (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Actuated g/C Ratio	0.55	0.55	0.55	0.55		0.29	0.29	0.29			0.29	0.29
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1700	305	1700	261		278	456	390			381	345
v/s Ratio Prot	0.15		0.29									
v/s Ratio Perm		0.01		c0.64		0.03	0.04	0.02			c0.24	0.01
v/c Ratio	0.28	0.02	0.54	1.17		0.09	0.12	0.05			0.82	0.03
Uniform Delay, d1	9.1	7.8	10.9	17.0		19.2	19.4	19.0			24.7	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	0.4	0.1	1.2	110.0		0.6	0.6	0.3			18.0	0.2
Delay (s)	9.5	7.9	12.1	127.0		19.8	20.0	19.3			42.7	19.0
Level of Service	A	A	B	F		B	B	B			D	B
Approach Delay (s)	9.5		52.2								40.4	
Approach LOS	A		D								D	

Intersection Summary			
HCM Average Control Delay	39.7	HCM Level of Service	D
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	506	69	48	1128	79	53
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	544	74	52	1213	85	57

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	363	256	456	809	142
Volume Left (vph)	0	0	52	0	85
Volume Right (vph)	0	74	0	0	57
Hadj (s)	0.02	-0.19	0.07	0.02	-0.10
Departure Headway (s)	6.4	6.2	5.9	5.9	6.6
Degree Utilization, x	0.64	0.44	0.75	1.32	0.26
Capacity (veh/h)	553	572	601	626	532
Control Delay (s)	18.9	12.7	23.2	171.0	11.9
Approach Delay (s)	16.3		117.7		11.9
Approach LOS	C		F		B

Intersection Summary			
Delay	79.3		
HCM Level of Service	F		
Intersection Capacity Utilization	78.6%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT
Lane Configurations												
Volume (vph)	7	422	102	23	1	6	1028	19	11	11	6	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4					5.4		4.0			5.0
Lane Util. Factor		0.95					0.95		1.00			1.00
Frpb, ped/bikes		0.87					0.99		0.78			1.00
Flpb, ped/bikes		1.00					1.00		1.00			1.00
Frt		0.97					1.00		0.86			1.00
Flt Protected		1.00					1.00		1.00			0.98
Satd. Flow (prot)		2450					3073		1106			1598
Flt Permitted		0.94					0.95		1.00			0.98
Satd. Flow (perm)		2301					2923		1106			1598
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	8	459	111	25	1	7	1117	21	12	12	7	20
RTOR Reduction (vph)	0	4	0	0	0	0	2	0	0	0	0	0
Lane Group Flow (vph)	0	599	0	0	0	0	1144	0	12	0	0	39
Confl. Peds. (#/hr)	400		400	400	400	400		400	400	400	400	
Confl. Bikes (#/hr)			30	30				30	10			
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm	Perm			Free	Split	Split	
Protected Phases		2					6			4	4	4
Permitted Phases	2				6	6			Free			
Actuated Green, G (s)		41.6					41.6		75.0			9.0
Effective Green, g (s)		41.6					41.6		75.0			9.0
Actuated g/C Ratio		0.55					0.55		1.00			0.12
Clearance Time (s)		5.4					5.4					5.0
Lane Grp Cap (vph)		1276					1621		1106			192
v/s Ratio Prot												0.02
v/s Ratio Perm		0.26					c0.39		0.01			
v/c Ratio		0.47					0.71		0.01			0.20
Uniform Delay, d1		10.1					12.2		0.0			29.8
Progression Factor		1.00					0.23		1.00			1.00
Incremental Delay, d2		1.2					2.0		0.0			2.4
Delay (s)		11.3					4.8		0.0			32.1
Level of Service		B					A		A			C
Approach Delay (s)		11.3					4.8					40.4
Approach LOS		B					A					D

Intersection Summary			
HCM Average Control Delay	10.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	77.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR	NWL	NWR	NWR2
Lane Configurations				
Volume (vph)	46	107	9	7
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0
Lane Util. Factor	1.00	0.97		1.00
Frpb, ped/bikes	0.55	0.94		0.55
Flpb, ped/bikes	1.00	1.00		1.00
Frt	0.85	0.99		0.85
Flt Protected	1.00	0.96		1.00
Satd. Flow (prot)	768	2821		768
Flt Permitted	1.00	0.96		1.00
Satd. Flow (perm)	768	2821		768
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	50	116	10	8
RTOR Reduction (vph)	7	0	0	7
Lane Group Flow (vph)	43	126	0	1
Confl. Peds. (#/hr)	400	400	400	400
Confl. Bikes (#/hr)	10		10	10
Parking (#/hr)				
Turn Type	Perm			Perm
Protected Phases		8		
Permitted Phases	4			8
Actuated Green, G (s)	9.0	9.0		9.0
Effective Green, g (s)	9.0	9.0		9.0
Actuated g/C Ratio	0.12	0.12		0.12
Clearance Time (s)	5.0	5.0		5.0
Lane Grp Cap (vph)	92	339		92
v/s Ratio Prot		c0.04		
v/s Ratio Perm	c0.06			0.00
v/c Ratio	0.47	0.37		0.01
Uniform Delay, d1	30.8	30.4		29.1
Progression Factor	1.00	1.00		1.00
Incremental Delay, d2	16.1	3.1		0.2
Delay (s)	46.8	33.5		29.3
Level of Service	D	C		C
Approach Delay (s)		33.3		
Approach LOS		C		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	407	36	22	1043	31	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.97			1.00	0.86	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.99			1.00	0.94	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2794			3096	1291	
Flt Permitted	1.00			0.94	0.97	
Satd. Flow (perm)	2794			2915	1291	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	447	40	24	1146	34	25
RTOR Reduction (vph)	9	0	0	0	18	0
Lane Group Flow (vph)	478	0	0	1170	42	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1676			1749	387	
v/s Ratio Prot	0.17				c0.03	
v/s Ratio Perm				c0.40		
v/c Ratio	0.29			0.67	0.11	
Uniform Delay, d1	7.2			10.0	19.0	
Progression Factor	0.88			1.00	1.00	
Incremental Delay, d2	0.4			2.1	0.6	
Delay (s)	6.7			12.1	19.5	
Level of Service	A			B	B	
Approach Delay (s)	6.7			12.1	19.5	
Approach LOS	A			B	B	

Intersection Summary			
HCM Average Control Delay	10.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	74.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	414	14	7	1039	5	4
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	455	15	8	1142	5	4

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	303	167	388	761	10
Volume Left (vph)	0	0	8	0	5
Volume Right (vph)	0	15	0	0	4
Hadj (s)	0.02	-0.05	0.03	0.02	-0.14
Departure Headway (s)	5.7	5.6	5.0	5.0	6.3
Degree Utilization, x	0.48	0.26	0.54	1.06	0.02
Capacity (veh/h)	619	628	704	725	545
Control Delay (s)	12.5	9.3	12.6	70.4	9.4
Approach Delay (s)	11.4		50.9		9.4
Approach LOS	B		F		A

Intersection Summary			
Delay	39.2		
HCM Level of Service	E		
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	42	418	39	1	995	100	49	23	27	107	36	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frpb, ped/bikes		0.96			1.00	0.66		0.91		1.00	0.99	
Flpb, ped/bikes		0.99			1.00	1.00		0.85		0.72	0.87	
Frt		0.99			1.00	0.85		0.96		1.00	1.00	
Flt Protected		1.00			1.00	1.00		0.98		0.95	0.98	
Satd. Flow (prot)		2726			3110	808		1037		1066	1291	
Flt Permitted		0.80			1.00	1.00		0.83		0.72	0.84	
Satd. Flow (perm)		2203			3110	808		878		806	1105	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	44	435	41	1	1036	104	51	24	28	111	38	2
RTOR Reduction (vph)	0	0	0	0	0	4	0	15	0	0	0	0
Lane Group Flow (vph)	0	521	0	0	1036	100	0	88	0	74	77	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10	10		10			10			10
Parking (#/hr)		5	5	5		5	5	5	5			
Turn Type	Perm					Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2				6	6	8			4		
Actuated Green, G (s)		56.5			56.5	56.5		22.5		22.5	22.5	
Effective Green, g (s)		56.5			56.5	56.5		22.5		22.5	22.5	
Actuated g/C Ratio		0.63			0.63	0.63		0.25		0.25	0.25	
Clearance Time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		1383			1952	507		220		202	276	
v/s Ratio Prot					c0.33							
v/s Ratio Perm		0.24				0.12		c0.10		0.09	0.07	
v/c Ratio		0.38			0.53	0.20		0.40		0.37	0.28	
Uniform Delay, d1		8.2			9.4	7.1		28.1		27.9	27.2	
Progression Factor		1.00			1.09	1.25		1.00		1.00	1.00	
Incremental Delay, d2		0.8			1.0	0.8		5.3		1.1	0.6	
Delay (s)		9.0			11.1	9.7		33.5		29.0	27.8	
Level of Service		A			B	A		C		C	C	
Approach Delay (s)		9.0			11.0			33.5			27.9	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM Average Control Delay	13.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR2	NER2
Lane Configurations		
Volume (vph)	50	25
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.5	4.0
Lane Util. Factor	1.00	1.00
Frpb, ped/bikes	0.65	0.78
Flpb, ped/bikes	1.00	1.00
Frt	0.85	0.86
Flt Protected	1.00	1.00
Satd. Flow (prot)	911	967
Flt Permitted	1.00	1.00
Satd. Flow (perm)	911	967
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	52	26
RTOR Reduction (vph)	15	0
Lane Group Flow (vph)	37	26
Confl. Peds. (#/hr)	400	400
Confl. Bikes (#/hr)	10	10
Parking (#/hr)		5
Turn Type	Perm	Free
Protected Phases		
Permitted Phases	4	Free
Actuated Green, G (s)	22.5	90.0
Effective Green, g (s)	22.5	90.0
Actuated g/C Ratio	0.25	1.00
Clearance Time (s)	5.5	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	228	967
v/s Ratio Prot		
v/s Ratio Perm	0.04	0.03
v/c Ratio	0.16	0.03
Uniform Delay, d1	26.4	0.0
Progression Factor	1.00	1.00
Incremental Delay, d2	0.3	0.1
Delay (s)	26.7	0.1
Level of Service	C	A
Approach Delay (s)		
Approach LOS		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	449	0	0	1087	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	499	0	0	1208	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	499	0	0	1208	0
Confl. Peds. (#/hr)						
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		76.0			76.0	
Effective Green, g (s)		76.0			76.0	
Actuated g/C Ratio		0.84			0.84	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		2067			2547	
v/s Ratio Prot		0.20			c0.40	
v/s Ratio Perm						
v/c Ratio		0.24			0.47	
Uniform Delay, d1		1.4			1.8	
Progression Factor		1.24			1.74	
Incremental Delay, d2		0.3			0.4	
Delay (s)		2.0			3.6	
Level of Service		A			A	
Approach Delay (s)	2.0			0.0	3.6	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	3.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	54.2%	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												
Volume (vph)	10	187	50	149	364	28	70	114	77	13	88	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.87		1.00	0.95			1.00	0.62		1.00	0.36
Flpb, ped/bikes		0.99		0.57	1.00			0.80	1.00		0.97	1.00
Frt		0.97		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.99	1.00
Satd. Flow (prot)		2592		892	1352			1087	844		1572	507
Flt Permitted		0.93		0.58	1.00			0.86	1.00		0.96	1.00
Satd. Flow (perm)		2428		547	1352			948	844		1522	507
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)	11	208	56	166	404	31	78	127	86	14	98	46
RTOR Reduction (vph)	0	24	0	0	4	0	0	0	41	0	0	24
Lane Group Flow (vph)	0	251	0	166	431	0	0	205	45	0	112	22
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		36.4		36.4	36.4			43.6	43.6		43.6	43.6
Effective Green, g (s)		36.4		36.4	36.4			43.6	43.6		43.6	43.6
Actuated g/C Ratio		0.40		0.40	0.40			0.48	0.48		0.48	0.48
Clearance Time (s)		5.5		5.5	5.5			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)		982		221	547			459	409		737	246
v/s Ratio Prot					c0.32							
v/s Ratio Perm		0.10		0.30				c0.22	0.05		0.07	0.04
v/c Ratio		0.26		0.75	0.79			0.45	0.11		0.15	0.09
Uniform Delay, d1		17.8		22.9	23.4			15.3	12.6		12.9	12.5
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		0.1		13.4	7.4			3.1	0.5		0.4	0.7
Delay (s)		17.9		36.3	30.9			18.4	13.2		13.3	13.2
Level of Service		B		D	C			B	B		B	B
Approach Delay (s)		17.9			32.4			16.9			13.3	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	23.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
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												
Volume (vph)	0	210	104	19	348	1232	173	0	34	558	151	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.96			1.00	0.96		1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		0.98		1.00	1.00	
Frt		0.95			1.00	0.85		0.98		1.00	0.99	
Flt Protected		1.00			1.00	1.00		0.96		0.95	0.97	
Satd. Flow (prot)		2650			1628	2362		1313		1477	1502	
Flt Permitted		1.00			0.97	1.00		0.52		0.84	0.90	
Satd. Flow (perm)		2650			1589	2362		718		1302	1394	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	219	108	20	362	1283	180	0	35	581	157	14
RTOR Reduction (vph)	0	68	0	0	0	0	0	8	0	0	1	0
Lane Group Flow (vph)	0	259	0	0	382	1283	0	207	0	372	379	0
Confl. Peds. (#/hr)			50	50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		28.0			28.0	65.5		17.5		34.0	34.0	
Effective Green, g (s)		28.0			28.0	65.5		17.5		34.0	34.0	
Actuated g/C Ratio		0.31			0.31	0.73		0.19		0.38	0.38	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		824			494	1719		140		492	527	
v/s Ratio Prot		0.10										
v/s Ratio Perm					0.24	c0.54		c0.29		0.29	0.27	
v/c Ratio		0.31			0.77	0.75		1.48		0.76	0.72	
Uniform Delay, d1		23.7			28.1	7.3		36.2		24.4	23.9	
Progression Factor		1.00			1.00	1.00		1.00		0.96	0.96	
Incremental Delay, d2		1.0			11.2	3.0		249.5		10.3	8.2	
Delay (s)		24.7			39.3	10.3		285.7		33.7	31.2	
Level of Service		C			D	B		F		C	C	
Approach Delay (s)		24.7			17.0			285.7			32.4	
Approach LOS		C			B			F			C	

Intersection Summary			
HCM Average Control Delay	41.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	90.5%	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												
Volume (vph)	21	570	15	82	1583	17	190	29	102	25	35	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5			3.5			3.5	3.5
Lane Util. Factor		0.95			0.91			0.95			1.00	1.00
Frpb, ped/bikes		0.99			1.00			0.88			1.00	0.62
Flpb, ped/bikes		1.00			0.99			0.80			0.92	1.00
Frt		1.00			1.00			0.95			1.00	0.85
Flt Protected		1.00			1.00			0.97			0.98	1.00
Satd. Flow (prot)		3061			4405			1889			1472	858
Flt Permitted		0.84			0.85			0.77			0.80	1.00
Satd. Flow (perm)		2581			3773			1492			1201	858
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)	23	633	17	91	1759	19	211	32	113	28	39	47
RTOR Reduction (vph)	0	1	0	0	1	0	0	59	0	0	0	6
Lane Group Flow (vph)	0	672	0	0	1868	0	0	297	0	0	67	41
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		62.5			62.5			20.5			20.5	20.5
Effective Green, g (s)		62.5			62.5			20.5			20.5	20.5
Actuated g/C Ratio		0.69			0.69			0.23			0.23	0.23
Clearance Time (s)		3.5			3.5			3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		1792			2620			340			274	195
v/s Ratio Prot												
v/s Ratio Perm		0.26			c0.50			c0.20			0.06	0.05
v/c Ratio		0.38			0.71			0.95dl			0.24	0.21
Uniform Delay, d1		5.7			8.3			33.5			28.4	28.2
Progression Factor		1.00			0.52			1.00			1.00	1.00
Incremental Delay, d2		0.1			0.9			25.4			2.1	2.4
Delay (s)		5.8			5.2			58.9			30.5	30.6
Level of Service		A			A			E			C	C
Approach Delay (s)		5.8			5.2			58.9			30.6	
Approach LOS		A			A			E			C	

Intersection Summary			
HCM Average Control Delay	12.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	92.1%	ICU Level of Service	F
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	9	583	123	5	1273	21	82	173	107	5	322	191
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.91		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.80		1.00		1.00	0.87			0.87	
Flpb, ped/bikes		1.00	1.00		1.00		0.84	1.00			1.00	
Frt		1.00	0.85		1.00		1.00	0.94			0.94	
Flt Protected		1.00	1.00		1.00		0.95	1.00			1.00	
Satd. Flow (prot)		3106	973		4441		1313	3664			3680	
Flt Permitted		0.93	1.00		0.94		0.43	1.00			0.94	
Satd. Flow (perm)		2887	973		4167		593	3664			3451	
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)	9	595	126	5	1299	21	84	177	109	5	329	195
RTOR Reduction (vph)	0	0	1	0	3	0	0	33	0	0	7	0
Lane Group Flow (vph)	0	604	125	0	1322	0	84	253	0	0	522	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		42.8	42.8		42.8		37.2	37.2			37.2	
Effective Green, g (s)		42.8	42.8		42.8		37.2	37.2			37.2	
Actuated g/C Ratio		0.48	0.48		0.48		0.41	0.41			0.41	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1373	463		1982		245	1514			1426	
v/s Ratio Prot								0.07				
v/s Ratio Perm		0.21	0.13		c0.32		0.14				c0.15	
v/c Ratio		0.44	0.27		0.67		0.34	0.17			0.37	
Uniform Delay, d1		15.7	14.2		18.1		18.0	16.6			18.2	
Progression Factor		0.79	0.80		1.52		1.00	1.00			1.00	
Incremental Delay, d2		0.2	0.3		0.8		3.8	0.2			0.7	
Delay (s)		12.5	11.6		28.3		21.8	16.9			19.0	
Level of Service		B	B		C		C	B			B	
Approach Delay (s)		12.4			28.3			18.0			19.0	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	21.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1317	172	0	1958	120	179	169	27	67	156	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.96			0.98		1.00	0.95		1.00	0.94	
Flpb, ped/bikes		1.00			1.00		0.77	1.00		0.77	1.00	
Frt		0.98			0.99		1.00	0.98		1.00	0.97	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4206			4156		1191	1529		1195	1311	
Flt Permitted		1.00			1.00		0.59	1.00		0.58	1.00	
Satd. Flow (perm)		4206			4156		737	1529		729	1311	
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)	0	1344	176	0	1998	122	183	172	28	68	159	35
RTOR Reduction (vph)	0	6	0	0	6	0	0	4	0	0	1	0
Lane Group Flow (vph)	0	1514	0	0	2114	0	183	196	0	68	193	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2430			2401		225	467		223	401	
v/s Ratio Prot		0.36			c0.51			0.13			0.15	
v/s Ratio Perm							c0.25			0.09		
v/c Ratio		0.62			0.88		0.81	0.42		0.30	0.48	
Uniform Delay, d1		12.5			16.3		28.9	24.9		23.9	25.5	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.2			5.0		26.5	2.8		3.5	4.1	
Delay (s)		13.7			21.4		55.4	27.6		27.4	29.6	
Level of Service		B			C		E	C		C	C	
Approach Delay (s)		13.7			21.4			40.9			29.0	
Approach LOS		B			C			D			C	

Intersection Summary			
HCM Average Control Delay	20.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	92.8%	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												
Volume (vph)	0	1061	65	0	1885	65	47	126	36	14	199	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			0.95	
Frpb, ped/bikes		0.99			0.99		1.00	0.93			0.93	
Flpb, ped/bikes		1.00			1.00		0.79	1.00			0.99	
Frt		0.99			1.00		1.00	0.97			0.97	
Flt Protected		1.00			1.00		0.95	1.00			1.00	
Satd. Flow (prot)		4375			4393		1221	1466			2769	
Flt Permitted		1.00			1.00		0.57	1.00			0.94	
Satd. Flow (perm)		4375			4393		729	1466			2602	
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	1117	68	0	1984	68	49	133	38	15	209	57
RTOR Reduction (vph)	0	4	0	0	4	0	0	9	0	0	1	0
Lane Group Flow (vph)	0	1181	0	0	2048	0	49	162	0	0	280	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2591			2602		218	438			778	
v/s Ratio Prot		0.27			c0.47			c0.11				
v/s Ratio Perm							0.07				0.11	
v/c Ratio		0.46			0.79		0.22	0.37			0.36	
Uniform Delay, d1		10.2			14.0		23.7	24.9			24.8	
Progression Factor		1.00			0.32		1.00	1.00			1.00	
Incremental Delay, d2		0.6			1.4		2.4	2.4			1.3	
Delay (s)		10.8			6.0		26.1	27.3			26.1	
Level of Service		B			A		C	C			C	
Approach Delay (s)		10.8			6.0			27.0			26.1	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	96.0%	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												
Volume (vph)	0	1225	58	0	1844	54	34	94	20	27	158	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.98			0.99			0.96			0.94	
Flpb, ped/bikes		1.00			1.00			0.96			0.97	
Frt		0.99			1.00			0.98			0.97	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		4185			4221			1269			1265	
Flt Permitted		1.00			1.00			0.90			0.95	
Satd. Flow (perm)		4185			4221			1153			1212	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1332	63	0	2004	59	37	102	22	29	172	47
RTOR Reduction (vph)	0	5	0	0	3	0	0	6	0	0	1	0
Lane Group Flow (vph)	0	1390	0	0	2060	0	0	155	0	0	247	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2511			2533			346			364	
v/s Ratio Prot		0.33			c0.49							
v/s Ratio Perm								0.13			c0.20	
v/c Ratio		0.55			0.81			0.45			0.68	
Uniform Delay, d1		10.8			14.1			25.5			27.7	
Progression Factor		1.38			1.00			1.00			1.00	
Incremental Delay, d2		0.8			3.0			4.2			9.7	
Delay (s)		15.7			17.0			29.7			37.4	
Level of Service		B			B			C			D	
Approach Delay (s)		15.7			17.0			29.7			37.4	
Approach LOS		B			B			C			D	

Intersection Summary			
HCM Average Control Delay	18.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	75.0%	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		↑↑↑			↑↑↑		↰	↕				↱
Volume (vph)	0	1027	0	0	1003	43	814	431	33	0	0	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.99		1.00	0.99				0.97
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.98				1.00
Satd. Flow (prot)		4282			4380		1415	2687				1367
Flt Permitted		1.00			1.00		0.95	0.98				1.00
Satd. Flow (perm)		4282			4380		1415	2687				1367
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1104	0	0	1078	46	875	463	35	0	0	52
RTOR Reduction (vph)	0	0	0	0	5	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	1104	0	0	1119	0	455	915	0	0	0	52
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		38.0			26.0		42.0	42.0				9.0
Effective Green, g (s)		38.0			26.0		42.0	42.0				9.0
Actuated g/C Ratio		0.42			0.29		0.47	0.47				0.10
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		1808			1265		660	1254				137
v/s Ratio Prot		c0.26			c0.26							
v/s Ratio Perm							0.32	0.34				0.04
v/c Ratio		0.61			0.88		0.69	0.73				0.38
Uniform Delay, d1		20.2			30.6		18.9	19.4				37.9
Progression Factor		1.00			0.68		1.00	1.00				1.00
Incremental Delay, d2		1.5			5.7		5.8	3.8				7.8
Delay (s)		21.8			26.5		24.7	23.2				45.7
Level of Service		C			C		C	C				D
Approach Delay (s)		21.8			26.5			23.7			45.7	
Approach LOS		C			C			C			D	

Intersection Summary			
HCM Average Control Delay	24.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	73.0%	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												
Volume (vph)	105	112	851	0	92	9	1017	230	34	0	444	83
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		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.97		1.00	0.96			1.00	0.67
Flpb, ped/bikes		0.87	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.99		1.00	0.98			1.00	0.85
Flt Protected		0.98	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1384	2448		1332		4385	1342			3110	815
Flt Permitted		0.80	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		1128	2448		1332		4385	1342			3110	815
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	113	120	915	0	99	10	1094	247	37	0	477	89
RTOR Reduction (vph)	0	0	2	0	4	0	0	6	0	0	0	6
Lane Group Flow (vph)	0	233	913	0	105	0	1094	278	0	0	477	83
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		26.5	55.5		26.5		25.5	55.5			26.5	26.5
Effective Green, g (s)		26.5	52.0		26.5		25.5	55.5			26.5	26.5
Actuated g/C Ratio		0.29	0.58		0.29		0.28	0.62			0.29	0.29
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		332	1414		392		1242	828			916	240
v/s Ratio Prot			0.37		0.08		c0.25	0.21			c0.15	
v/s Ratio Perm		c0.21										0.10
v/c Ratio		0.70	0.65		0.27		0.88	0.34			0.52	0.34
Uniform Delay, d1		28.2	12.8		24.3		30.8	8.3			26.5	24.9
Progression Factor		0.94	0.56		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		5.3	0.8		0.4		9.2	1.1			2.1	3.9
Delay (s)		31.9	8.0		24.7		40.0	9.4			28.6	28.8
Level of Service		C	A		C		D	A			C	C
Approach Delay (s)		12.9			24.7			33.7			28.6	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM Average Control Delay	25.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	76.1%	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												
Volume (vph)	0	0	0	63	207	40	29	36	0	0	46	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.29		1.00			0.90	
Flpb, ped/bikes					0.85	1.00		0.87			1.00	
Frt					1.00	0.85		1.00			0.96	
Flt Protected					0.99	1.00		0.98			1.00	
Satd. Flow (prot)					2450	398		1392			1419	
Flt Permitted					0.99	1.00		0.88			1.00	
Satd. Flow (perm)					2450	398		1258			1419	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	0	72	238	46	33	41	0	0	53	22
RTOR Reduction (vph)	0	0	0	0	0	26	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	310	20	0	74	0	0	75	0
Confl. Peds. (#/hr)				945		1084	569					569
Confl. Bikes (#/hr)						76			2			4
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					32.0	32.0		33.0			33.0	
Effective Green, g (s)					32.0	32.0		33.0			33.0	
Actuated g/C Ratio					0.43	0.43		0.44			0.44	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1045	170		554			624	
v/s Ratio Prot											0.05	
v/s Ratio Perm					0.13	0.05		c0.06				
v/c Ratio					0.30	0.12		0.13			0.12	
Uniform Delay, d1					14.1	13.0		12.5			12.4	
Progression Factor					1.00	1.00		0.83			1.00	
Incremental Delay, d2					0.7	1.4		0.5			0.4	
Delay (s)					14.8	14.3		10.9			12.8	
Level of Service					B	B		B			B	
Approach Delay (s)		0.0			14.8			10.9			12.8	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	57.5%	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												
Volume (vph)	0	0	0	99	242	25	32	25	0	0	40	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.94		1.00	1.00			0.92	
Flpb, ped/bikes				1.00	1.00		0.66	1.00			1.00	
Frt				1.00	0.99		1.00	1.00			0.97	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	2869		1020	1637			1473	
Flt Permitted				0.95	1.00		0.72	1.00			1.00	
Satd. Flow (perm)				1555	2869		773	1637			1473	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	0	111	272	28	36	28	0	0	45	11
RTOR Reduction (vph)	0	0	0	0	6	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	111	294	0	36	28	0	0	56	0
Confl. Peds. (#/hr)						1700	537					569
Confl. Bikes (#/hr)						76			2			4
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				47.4	47.4		18.3	18.3			18.3	
Effective Green, g (s)				47.4	47.4		18.3	18.3			18.3	
Actuated g/C Ratio				0.63	0.63		0.24	0.24			0.24	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				983	1813		189	399			359	
v/s Ratio Prot				0.07	c0.10			0.02			0.04	
v/s Ratio Perm							c0.05					
v/c Ratio				0.11	0.16		0.19	0.07			0.16	
Uniform Delay, d1				5.5	5.7		22.5	21.8			22.3	
Progression Factor				1.00	1.00		1.16	1.16			1.00	
Incremental Delay, d2				0.2	0.2		2.2	0.3			0.9	
Delay (s)				5.7	5.9		28.3	25.6			23.2	
Level of Service				A	A		C	C			C	
Approach Delay (s)		0.0			5.8			27.1			23.2	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	10.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.17		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	157	92	9	73	18	8
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	167	98	10	78	19	9
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	306					
pX, platoon unblocked						
vC, conflicting volume			665		1113	932
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			665		1113	932
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		80	93
cM capacity (veh/h)			644		97	130

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	111	154	87	28
Volume Left	0	0	10	19
Volume Right	0	98	0	9
cSH	1700	1700	644	105
Volume to Capacity	0.07	0.09	0.01	0.26
Queue Length 95th (ft)	0	0	1	24
Control Delay (s)	0.0	0.0	1.3	51.0
Lane LOS			A	F
Approach Delay (s)	0.0		1.3	51.0
Approach LOS				F

Intersection Summary			
Average Delay	4.0		
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												
Volume (vph)	20	151	14	18	81	7	12	46	7	26	56	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	
Lane Util. Factor		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.44		0.96			0.94			0.94	
Flpb, ped/bikes		0.95	1.00		0.93			0.92			0.87	
Frt		1.00	0.85		0.99			0.99			0.99	
Flt Protected		0.99	1.00		0.99			0.99			0.99	
Satd. Flow (prot)		1538	609		1261			1216			1137	
Flt Permitted		0.97	1.00		0.95			0.95			0.92	
Satd. Flow (perm)		1494	609		1203			1171			1061	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	24	178	16	21	95	8	14	54	8	31	66	12
RTOR Reduction (vph)	0	0	7	0	3	0	0	5	0	0	6	0
Lane Group Flow (vph)	0	202	9	0	121	0	0	71	0	0	103	0
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4			4		
Actuated Green, G (s)		40.0	40.0		40.0			26.0			26.0	
Effective Green, g (s)		40.0	40.0		40.0			26.0			26.0	
Actuated g/C Ratio		0.53	0.53		0.53			0.35			0.35	
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)		797	325		642			406			368	
v/s Ratio Prot												
v/s Ratio Perm		c0.14	0.01		0.10			0.06			c0.10	
v/c Ratio		0.25	0.03		0.19			0.17			0.28	
Uniform Delay, d1		9.4	8.3		9.1			17.0			17.7	
Progression Factor		1.00	1.00		1.00			1.00			0.91	
Incremental Delay, d2		0.8	0.1		0.6			0.9			1.9	
Delay (s)		10.2	8.4		9.7			18.0			18.0	
Level of Service		B	A		A			B			B	
Approach Delay (s)		10.1			9.7			18.0			18.0	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM Average Control Delay	12.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	99.6%	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												
Volume (vph)	0	215	11	9	43	0	15	0	39	15	11	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
Lane Util. Factor		1.00	1.00		0.95			1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.26		1.00			0.60			1.00	0.67
Flpb, ped/bikes		1.00	1.00		0.91			0.91			0.72	1.00
Frt		1.00	0.85		1.00			0.90			1.00	0.85
Flt Protected		1.00	1.00		0.99			0.99			0.97	1.00
Satd. Flow (prot)		1637	354		2811			805			1140	933
Flt Permitted		1.00	1.00		0.90			0.95			0.91	1.00
Satd. Flow (perm)		1637	354		2554			779			1066	933
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	229	12	10	46	0	16	0	41	16	12	12
RTOR Reduction (vph)	0	0	9	0	0	0	0	0	0	0	0	5
Lane Group Flow (vph)	0	229	3	0	56	0	0	57	0	0	28	7
Confl. Peds. (#/hr)			800	800			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	36.5
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	36.5
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	0.61
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)		396	86		617			474			648	568
v/s Ratio Prot		c0.14										
v/s Ratio Perm			0.01		0.02			c0.07			0.03	0.01
v/c Ratio		0.58	0.03		0.09			0.12			0.04	0.01
Uniform Delay, d1		20.1	17.4		17.6			5.0			4.7	4.6
Progression Factor		1.00	1.00		1.00			1.00			1.00	1.00
Incremental Delay, d2		6.0	0.7		0.3			0.5			0.0	0.0
Delay (s)		26.1	18.1		17.9			5.5			4.8	4.6
Level of Service		C	B		B			A			A	A
Approach Delay (s)		25.7			17.9			5.5			4.7	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM Average Control Delay	19.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	299	17	73	8	141	4	144	335
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		0.97		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		0.99		1.00			1.00
Flt Protected		1.00		0.96		1.00			0.99
Satd. Flow (prot)		942		1315		1628			3063
Flt Permitted		1.00		0.96		1.00			0.95
Satd. Flow (perm)		942		1315		1628			2970
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	325	18	79	9	153	4	157	364
RTOR Reduction (vph)	0	0	0	6	0	0	0	0	0
Lane Group Flow (vph)	0	325	0	100	0	157	0	0	521
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		373		312			891
v/s Ratio Prot						0.10			
v/s Ratio Perm		c0.34		0.08					0.18
v/c Ratio		0.62		0.27		0.50			0.58
Uniform Delay, d1		8.9		16.7		21.7			17.8
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		5.4		1.8		1.3			2.8
Delay (s)		14.3		18.4		23.0			20.6
Level of Service		B		B		C			C
Approach Delay (s)	14.3			18.4		23.0			20.6
Approach LOS	B			B		C			C

Intersection Summary			
HCM Average Control Delay	18.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	66.7%	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												
Volume (vph)	21	131	44	28	289	29	62	38	22	22	76	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.94			1.00	0.59	1.00	0.80			0.79	
Flpb, ped/bikes		0.98			1.00	1.00	0.60	1.00			0.94	
Frt		0.97			1.00	0.85	1.00	0.95			0.94	
Flt Protected		0.99			1.00	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1273			1426	721	938	1085			2167	
Flt Permitted		0.95			0.96	1.00	0.64	1.00			0.91	
Satd. Flow (perm)		1212			1378	721	631	1085			1985	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	24	151	51	32	332	33	71	44	25	25	87	67
RTOR Reduction (vph)	0	7	0	0	0	7	0	21	0	0	0	0
Lane Group Flow (vph)	0	219	0	0	364	26	71	48	0	0	179	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		63.8			63.8	63.8	16.1	16.1			16.1	
Effective Green, g (s)		63.8			63.8	63.8	16.1	16.1			16.1	
Actuated g/C Ratio		0.71			0.71	0.71	0.18	0.18			0.18	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		859			977	511	113	194			355	
v/s Ratio Prot								0.04				
v/s Ratio Perm		0.18			c0.26	0.04	c0.11				0.09	
v/c Ratio		0.25			0.37	0.05	0.63	0.25			0.50	
Uniform Delay, d1		4.7			5.2	4.0	34.2	31.8			33.3	
Progression Factor		1.00			1.00	1.00	1.28	1.44			1.00	
Incremental Delay, d2		0.7			1.1	0.2	10.4	0.7			1.1	
Delay (s)		5.4			6.3	4.1	54.3	46.5			34.5	
Level of Service		A			A	A	D	D			C	
Approach Delay (s)		5.4			6.1			50.5			34.5	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM Average Control Delay	17.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	118.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Volume (vph)	23	201	25	10	306	16	20	30	23	20	34	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.95			0.98			0.81			0.77	
Flpb, ped/bikes		0.98			0.99			0.87			0.88	
Frt		0.99			0.99			0.96			0.95	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		1310			1377			952			917	
Flt Permitted		0.96			0.99			0.92			0.93	
Satd. Flow (perm)		1258			1366			885			864	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	24	214	27	11	326	17	21	32	24	21	36	34
RTOR Reduction (vph)	0	1	0	0	1	0	0	18	0	0	24	0
Lane Group Flow (vph)	0	264	0	0	353	0	0	59	0	0	67	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.6			62.6			18.6			18.6	
Effective Green, g (s)		62.6			62.6			18.6			18.6	
Actuated g/C Ratio		0.70			0.70			0.21			0.21	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		875			950			183			179	
v/s Ratio Prot												
v/s Ratio Perm		0.21			c0.26			0.07			c0.08	
v/c Ratio		0.30			0.37			0.32			0.38	
Uniform Delay, d1		5.3			5.6			30.3			30.7	
Progression Factor		1.00			1.00			1.80			1.00	
Incremental Delay, d2		0.9			1.1			4.4			5.9	
Delay (s)		6.2			6.7			59.0			36.6	
Level of Service		A			A			E			D	
Approach Delay (s)		6.2			6.7			59.0			36.6	
Approach LOS		A			A			E			D	

Intersection Summary			
HCM Average Control Delay	15.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	14	253	81	21	208	12	26	11	29	19	40	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.89			1.00	0.51		0.75			0.78	
Flpb, ped/bikes		0.99			0.98	1.00		0.83			0.91	
Frt		0.97			1.00	0.85		0.94			0.95	
Flt Protected		1.00			1.00	1.00		0.98			0.99	
Satd. Flow (prot)		1209			1391	617		822			947	
Flt Permitted		0.99			0.95	1.00		0.88			0.95	
Satd. Flow (perm)		1194			1330	617		740			908	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	16	284	91	24	234	13	29	12	33	21	45	44
RTOR Reduction (vph)	0	6	0	0	0	5	0	24	0	0	27	0
Lane Group Flow (vph)	0	385	0	0	258	8	0	50	0	0	83	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		57.0			57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0			57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63			0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		756			842	391		206			252	
v/s Ratio Prot												
v/s Ratio Perm		c0.32			0.19	0.01		0.07			c0.09	
v/c Ratio		0.51			0.31	0.02		0.24			0.33	
Uniform Delay, d1		8.9			7.5	6.1		25.2			25.8	
Progression Factor		1.00			0.84	0.81		0.96			1.00	
Incremental Delay, d2		2.4			0.9	0.1		2.6			3.5	
Delay (s)		11.4			7.2	5.1		26.8			29.3	
Level of Service		B			A	A		C			C	
Approach Delay (s)		11.4			7.1			26.8			29.3	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM Average Control Delay	13.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	17	235	57	7	152	5	23	17	32	14	36	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.51		1.00	0.51		0.75			0.83	
Flpb, ped/bikes		0.98	1.00		0.99	1.00		0.85			0.91	
Frt		1.00	0.85		1.00	0.85		0.94			0.96	
Flt Protected		1.00	1.00		1.00	1.00		0.98			0.99	
Satd. Flow (prot)		1392	604		1409	604		846			1167	
Flt Permitted		0.98	1.00		0.99	1.00		0.91			0.95	
Satd. Flow (perm)		1368	604		1394	604		784			1121	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	19	264	64	8	171	6	26	19	36	16	40	25
RTOR Reduction (vph)	0	0	7	0	0	2	0	26	0	0	18	0
Lane Group Flow (vph)	0	283	57	0	179	4	0	55	0	0	63	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63	0.63		0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		866	383		883	383		218			311	
v/s Ratio Prot												
v/s Ratio Perm		c0.21	0.09		0.13	0.01		c0.07			0.06	
v/c Ratio		0.33	0.15		0.20	0.01		0.25			0.20	
Uniform Delay, d1		7.6	6.7		6.9	6.1		25.2			24.9	
Progression Factor		0.42	0.36		1.00	1.00		0.87			1.00	
Incremental Delay, d2		0.9	0.7		0.5	0.0		2.5			1.5	
Delay (s)		4.1	3.1		7.5	6.1		24.5			26.3	
Level of Service		A	A		A	A		C			C	
Approach Delay (s)		3.9			7.4			24.5			26.3	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	9.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	19	243	13	4	25	10	403	54	1	154	463
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				5.0		5.0			5.0	5.0
Lane Util. Factor	1.00				1.00		0.95			1.00	0.95
Frpb, ped/bikes	0.89				0.90		0.90			1.00	1.00
Flpb, ped/bikes	1.00				0.67		1.00			1.00	1.00
Frt	0.87				0.96		0.98			1.00	1.00
Flt Protected	1.00				0.96		1.00			0.95	1.00
Satd. Flow (prot)	1267				917		2742			1555	3110
Flt Permitted	1.00				0.96		1.00			0.95	1.00
Satd. Flow (perm)	1267				917		2742			1555	3110
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
Adj. Flow (vph)	20	256	14	4	26	11	424	57	1	162	487
RTOR Reduction (vph)	2	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	288	0	0	0	41	0	482	0	0	162	487
Confl. Peds. (#/hr)				400	400	400		400	400		
Confl. Bikes (#/hr)		30	30			10		30	30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0
Turn Type				Perm						Split	
Protected Phases	4				3		6			2	2
Permitted Phases				3							
Actuated Green, G (s)	20.0				20.0		17.0			13.0	13.0
Effective Green, g (s)	20.0				20.0		17.0			13.0	13.0
Actuated g/C Ratio	0.22				0.22		0.19			0.14	0.14
Clearance Time (s)	5.0				5.0		5.0			5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	282				204		518			225	449
v/s Ratio Prot	c0.23						c0.18			0.10	c0.16
v/s Ratio Perm					0.04						
v/c Ratio	1.02				0.20		0.93			0.72	1.08
Uniform Delay, d1	35.0				28.5		35.9			36.8	38.5
Progression Factor	1.00				1.04		1.00			0.84	0.81
Incremental Delay, d2	58.8				0.5		25.6			17.6	66.6
Delay (s)	93.8				30.2		61.5			48.5	97.8
Level of Service	F				C		E			D	F
Approach Delay (s)	93.8				30.2		61.5				85.5
Approach LOS	F				C		E				F

Intersection Summary			
HCM Average Control Delay	77.7	HCM Level of Service	E
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	77.0%	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												
Volume (vph)	0	670	32	5	1342	21	0	36	9	0	71	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.91			1.00			1.00	
Frpb, ped/bikes		0.99			1.00			0.92			0.92	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.97			0.97	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2855			4252			1287			1280	
Flt Permitted		1.00			0.94			1.00			1.00	
Satd. Flow (perm)		2855			3988			1287			1280	
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)	0	744	36	6	1491	23	0	40	10	0	79	21
RTOR Reduction (vph)	0	0	0	0	0	0	0	9	0	0	12	0
Lane Group Flow (vph)	0	780	0	0	1520	0	0	41	0	0	88	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type				Perm								
Protected Phases		2			6			8			4	
Permitted Phases				6								
Actuated Green, G (s)		71.0			71.0			10.2			10.2	
Effective Green, g (s)		71.0			71.0			10.2			10.2	
Actuated g/C Ratio		0.79			0.79			0.11			0.11	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2252			3146			146			145	
v/s Ratio Prot		0.27						0.03			c0.07	
v/s Ratio Perm					c0.38							
v/c Ratio		0.35			0.48			0.28			0.61	
Uniform Delay, d1		2.8			3.2			36.5			38.0	
Progression Factor		0.56			1.00			1.00			1.00	
Incremental Delay, d2		0.4			0.1			1.1			7.4	
Delay (s)		2.0			3.4			37.6			45.4	
Level of Service		A			A			D			D	
Approach Delay (s)		2.0			3.4			37.6			45.4	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	5.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	0	558	193	0	1011	34	347	86	66	0	145	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.70		1.00	0.70	1.00	1.00	0.74		0.99	
Flpb, ped/bikes		1.00	1.00		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	0.85		1.00	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3110	974		3110	974	3016	1637	1024		2876	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		3110	974		3110	974	3016	1637	1024		2876	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	594	205	0	1076	36	369	91	70	0	154	4
RTOR Reduction (vph)	0	0	83	0	0	16	0	0	7	0	3	0
Lane Group Flow (vph)	0	594	122	0	1076	20	369	91	63	0	155	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type			Perm			Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases			2			6			8			
Actuated Green, G (s)		50.2	50.2		50.2	50.2	16.1	30.8	30.8		10.2	
Effective Green, g (s)		50.2	50.2		50.2	50.2	16.1	30.8	30.8		10.2	
Actuated g/C Ratio		0.56	0.56		0.56	0.56	0.18	0.34	0.34		0.11	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		1735	543		1735	543	540	560	350		326	
v/s Ratio Prot		0.19			c0.35		c0.12	0.06			c0.05	
v/s Ratio Perm			0.13			0.02			0.06			
v/c Ratio		0.34	0.23		0.62	0.04	0.68	0.16	0.18		0.48	
Uniform Delay, d1		10.9	10.1		13.5	9.0	34.6	20.6	20.8		37.4	
Progression Factor		1.00	1.00		0.85	0.87	1.00	1.00	1.00		0.92	
Incremental Delay, d2		0.5	1.0		1.6	0.1	3.6	0.1	0.3		1.1	
Delay (s)		11.4	11.0		13.0	8.0	38.1	20.8	21.0		35.6	
Level of Service		B	B		B	A	D	C	C		D	
Approach Delay (s)		11.3			12.9			32.9			35.6	
Approach LOS		B			B			C			D	

Intersection Summary			
HCM Average Control Delay	17.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	49	501	1010	31	47	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.91		1.00	
Frpb, ped/bikes		1.00	0.99		0.84	
Flpb, ped/bikes		0.99	1.00		1.00	
Frt		1.00	1.00		0.94	
Flt Protected		1.00	1.00		0.97	
Satd. Flow (prot)		2887	4408		1106	
Flt Permitted		0.78	1.00		0.97	
Satd. Flow (perm)		2270	4408		1106	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	52	533	1074	33	50	38
RTOR Reduction (vph)	0	0	3	0	24	0
Lane Group Flow (vph)	0	585	1104	0	64	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		64.0	64.0		19.0	
Effective Green, g (s)		64.0	64.0		19.0	
Actuated g/C Ratio		0.71	0.71		0.21	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1614	3135		233	
v/s Ratio Prot			0.25		c0.06	
v/s Ratio Perm		c0.26				
v/c Ratio		0.36	0.35		0.27	
Uniform Delay, d1		5.1	5.0		29.7	
Progression Factor		0.48	1.00		1.41	
Incremental Delay, d2		0.1	0.1		2.8	
Delay (s)		2.5	5.1		44.8	
Level of Service		A	A		D	
Approach Delay (s)		2.5	5.1		44.8	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	6.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	80.0%	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												
Volume (vph)	10	402	48	41	1044	15	25	33	55	31	74	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			1.00			0.83			0.90	
Flpb, ped/bikes		1.00			0.99			0.95			0.95	
Frt		0.98			1.00			0.93			0.96	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		2768			2876			1038			1154	
Flt Permitted		0.93			0.92			0.92			0.92	
Satd. Flow (perm)		2566			2643			963			1075	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	11	432	52	44	1123	16	27	35	59	33	80	47
RTOR Reduction (vph)	0	2	0	0	1	0	0	38	0	0	17	0
Lane Group Flow (vph)	0	493	0	0	1182	0	0	83	0	0	143	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		60.6			60.6			20.6			20.6	
Effective Green, g (s)		60.6			60.6			20.6			20.6	
Actuated g/C Ratio		0.67			0.67			0.23			0.23	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1728			1780			220			246	
v/s Ratio Prot												
v/s Ratio Perm		0.19			c0.45			0.09			c0.13	
v/c Ratio		0.29			0.66			0.38			0.58	
Uniform Delay, d1		5.9			8.7			29.3			30.9	
Progression Factor		1.00			0.23			1.00			0.89	
Incremental Delay, d2		0.4			1.6			4.9			8.8	
Delay (s)		6.4			3.7			34.2			36.3	
Level of Service		A			A			C			D	
Approach Delay (s)		6.4			3.7			34.2			36.3	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM Average Control Delay	8.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
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												
Volume (vph)	19	498	20	23	1071	30	21	25	58	40	33	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.80			0.89	
Flpb, ped/bikes		1.00			1.00			0.95			0.90	
Frt		0.99			1.00			0.92			0.96	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2855			2869			989			1083	
Flt Permitted		0.89			0.94			0.93			0.80	
Satd. Flow (perm)		2551			2689			929			884	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	541	22	25	1164	33	23	27	63	43	36	33
RTOR Reduction (vph)	0	1	0	0	1	0	0	54	0	0	18	0
Lane Group Flow (vph)	0	583	0	0	1221	0	0	59	0	0	94	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		68.8			68.8			12.3			12.3	
Effective Green, g (s)		68.8			68.8			12.3			12.3	
Actuated g/C Ratio		0.76			0.76			0.14			0.14	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1950			2056			127			121	
v/s Ratio Prot												
v/s Ratio Perm		0.23			c0.45			0.06			c0.11	
v/c Ratio		0.30			0.59			0.46			0.78	
Uniform Delay, d1		3.2			4.6			35.8			37.5	
Progression Factor		0.80			0.33			1.00			0.84	
Incremental Delay, d2		0.4			0.4			2.6			25.9	
Delay (s)		3.0			1.9			38.4			57.5	
Level of Service		A			A			D			E	
Approach Delay (s)		3.0			1.9			38.4			57.5	
Approach LOS		A			A			D			E	

Intersection Summary			
HCM Average Control Delay	7.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	76.1%	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												
Volume (vph)	10	528	57	19	994	2	124	3	24	2	3	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			1.00			0.94			0.72	
Flpb, ped/bikes		1.00			1.00			0.72			0.98	
Frt		0.99			1.00			0.98			0.90	
Flt Protected		1.00			1.00			0.96			1.00	
Satd. Flow (prot)		2784			3098			1042			1036	
Flt Permitted		0.93			0.94			0.75			0.98	
Satd. Flow (perm)		2604			2907			813			1019	
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)	11	587	63	21	1104	2	138	3	27	2	3	16
RTOR Reduction (vph)	0	2	0	0	0	0	0	8	0	0	13	0
Lane Group Flow (vph)	0	659	0	0	1127	0	0	160	0	0	8	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1797			2006			174			219	
v/s Ratio Prot												
v/s Ratio Perm		0.25			c0.39			c0.20			0.01	
v/c Ratio		0.37			0.56			0.92			0.04	
Uniform Delay, d1		5.8			7.1			34.6			28.0	
Progression Factor		1.56			0.22			1.00			0.83	
Incremental Delay, d2		0.6			0.8			49.9			0.1	
Delay (s)		9.6			2.3			84.5			23.3	
Level of Service		A			A			F			C	
Approach Delay (s)		9.6			2.3			84.5			23.3	
Approach LOS		A			A			F			C	

Intersection Summary			
HCM Average Control Delay	12.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	16	537	937	601	630	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3058	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3058	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	584	1018	653	685	33
RTOR Reduction (vph)	0	11	0	0	3	0
Lane Group Flow (vph)	17	573	1018	653	715	0
Confl. Peds. (#/hr)						95
Confl. Bikes (#/hr)		10				81
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	11.0	51.9	36.9	69.0	28.1	
Effective Green, g (s)	11.0	51.9	36.9	69.0	28.1	
Actuated g/C Ratio	0.12	0.58	0.41	0.77	0.31	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	190	1412	1237	2235	955	
v/s Ratio Prot	0.01	c0.23	c0.34	0.22	c0.23	
v/s Ratio Perm						
v/c Ratio	0.09	0.41	0.82	0.29	0.75	
Uniform Delay, d1	35.1	10.5	23.6	3.2	27.8	
Progression Factor	1.40	0.91	0.87	1.28	0.71	
Incremental Delay, d2	0.2	0.2	3.5	0.2	1.3	
Delay (s)	49.2	9.7	23.9	4.3	21.1	
Level of Service	D	A	C	A	C	
Approach Delay (s)	10.9			16.3	21.1	
Approach LOS	B			B	C	

Intersection Summary			
HCM Average Control Delay	16.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	79	317	15	0	92	0	25	20	1199
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			0.97			1.00	1.00
Flpb, ped/bikes				0.78			1.00			1.00	1.00
Frt				0.99			0.97			1.00	1.00
Flt Protected				0.95			1.00			0.95	1.00
Satd. Flow (prot)				2187			4208			1555	3110
Flt Permitted				0.95			1.00			0.95	1.00
Satd. Flow (perm)				2187			4208			1555	3110
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
Adj. Flow (vph)	0	0	88	352	17	0	102	0	28	22	1332
RTOR Reduction (vph)	0	0	0	3	0	0	12	0	0	0	0
Lane Group Flow (vph)	0	0	0	454	0	0	118	0	0	22	1332
Confl. Peds. (#/hr)			125	64					125		
Confl. Bikes (#/hr)					34				86		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				21.9			50.6			4.5	59.1
Effective Green, g (s)				21.9			50.6			4.5	59.1
Actuated g/C Ratio				0.24			0.56			0.05	0.66
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				532			2366			78	2042
v/s Ratio Prot							0.03			0.01	c0.43
v/s Ratio Perm				0.21							
v/c Ratio				0.85			0.05			0.28	0.65
Uniform Delay, d1				32.5			8.9			41.2	9.3
Progression Factor				1.00			0.78			1.00	1.00
Incremental Delay, d2				12.6			0.0			0.7	1.6
Delay (s)				45.1			6.9			41.9	10.9
Level of Service				D			A			D	B
Approach Delay (s)	0.0			45.1			6.9				11.4
Approach LOS	A			D			A				B

Intersection Summary			
HCM Average Control Delay	19.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBR	EBR2	SEL	SET	SER2	NWL2	NWL	NWT	NWR	SWR2
Lane Configurations											
Volume (vph)	24	1	250	12	808	342	100	0	1181	11	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		7.0	7.0	7.0		4.0	7.0		
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00		1.00	0.95		
Frpb, ped/bikes	1.00	0.91		1.00	1.00	0.95		1.00	0.99		
Flpb, ped/bikes	1.00	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	1.00		
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95	1.00		
Satd. Flow (prot)	1555	1105		1555	3110	1323		1555	3088		
Flt Permitted	0.95	1.00		0.21	1.00	1.00		0.40	1.00		
Satd. Flow (perm)	1555	1105		345	3110	1323		655	3088		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	1	272	13	878	372	109	0	1284	12	0
RTOR Reduction (vph)	0	195	0	0	0	231	0	0	1	0	0
Lane Group Flow (vph)	26	78	0	13	878	141	0	109	1295	0	0
Confl. Peds. (#/hr)			64							1000	100
Confl. Bikes (#/hr)		10	10			30				30	10
Parking (#/hr)		5	5								
Turn Type	custom	custom		Perm		Perm	custom	Prot			custom
Protected Phases					6			5	2		
Permitted Phases	4	4		6		6	5				8
Actuated Green, G (s)	22.5	22.5		30.0	30.0	30.0		10.0	44.0		
Effective Green, g (s)	22.5	22.5		30.0	30.0	30.0		10.0	44.0		
Actuated g/C Ratio	0.28	0.28		0.38	0.38	0.38		0.13	0.56		
Clearance Time (s)	5.5	5.5		7.0	7.0	7.0		4.0	7.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	443	315		131	1181	502		83	1720		
v/s Ratio Prot					0.28				c0.42		
v/s Ratio Perm	0.02	c0.07		0.04		0.11		c0.17			
v/c Ratio	0.06	0.25		0.10	0.74	0.28		1.31	0.75		
Uniform Delay, d1	20.5	21.7		15.8	21.2	17.0		34.5	13.4		
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2	0.1	0.4		1.5	4.3	1.4		203.8	3.1		
Delay (s)	20.6	22.2		17.3	25.4	18.4		238.3	16.5		
Level of Service	C	C		B	C	B		F	B		
Approach Delay (s)					23.3				33.7		
Approach LOS					C				C		

Intersection Summary			
HCM Average Control Delay	28.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	105.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	27	0	64	0	0	0	46	1243	0	0	4	894
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.77					1.00	1.00				0.99
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.91					1.00	1.00				1.00
Flt Protected		0.99					0.95	1.00				1.00
Satd. Flow (prot)		982					1555	3110				3085
Flt Permitted		0.99					0.95	1.00				0.95
Satd. Flow (perm)		982					1555	3110				2932
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	29	0	68	0	0	0	49	1322	0	0	4	951
RTOR Reduction (vph)	0	3	0	0	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	0	94	0	0	0	0	49	1322	0	0	0	966
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		12.6					5.4	68.4				58.0
Effective Green, g (s)		12.6					5.4	68.4				58.0
Actuated g/C Ratio		0.14					0.06	0.76				0.64
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		137					93	2364				1890
v/s Ratio Prot		c0.10					0.03	c0.43				
v/s Ratio Perm												0.33
v/c Ratio		0.69					0.53	0.56				0.51
Uniform Delay, d1		36.8					41.1	4.5				8.5
Progression Factor		1.00					1.23	1.81				1.00
Incremental Delay, d2		13.5					4.8	0.9				1.0
Delay (s)		50.3					55.2	9.0				9.5
Level of Service		D					E	A				A
Approach Delay (s)		50.3			0.0			10.7				9.5
Approach LOS		D			A			B				A

Intersection Summary			
HCM Average Control Delay	11.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	95.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	11
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	12
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	69	541	0	0	751	107	274	281	39	0	0	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			
Lane Util. Factor		0.95			0.95			0.95	1.00			
Frpb, ped/bikes		1.00			0.97			1.00	0.71			
Flpb, ped/bikes		0.99			1.00			0.86	1.00			
Frt		1.00			0.98			1.00	0.85			
Flt Protected		0.99			1.00			0.98	1.00			
Satd. Flow (prot)		2840			2726			2416	986			
Flt Permitted		0.72			1.00			0.98	1.00			
Satd. Flow (perm)		2064			2726			2416	986			
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	569	0	0	791	113	288	296	41	0	0	0
RTOR Reduction (vph)	0	0	0	0	14	0	0	0	24	0	0	0
Lane Group Flow (vph)	0	642	0	0	890	0	0	584	17	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm		Perm			
Protected Phases		2			6			8				
Permitted Phases	2						8		8			
Actuated Green, G (s)		37.0			37.0			34.0	34.0			
Effective Green, g (s)		37.0			37.0			34.0	34.0			
Actuated g/C Ratio		0.46			0.46			0.42	0.42			
Clearance Time (s)		4.5			4.5			4.5	4.5			
Vehicle Extension (s)		3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)		955			1261			1027	419			
v/s Ratio Prot					c0.33							
v/s Ratio Perm		0.31						0.24	0.02			
v/c Ratio		0.67			0.71			0.57	0.04			
Uniform Delay, d1		16.8			17.2			17.4	13.5			
Progression Factor		1.00			0.26			1.00	1.00			
Incremental Delay, d2		3.8			2.2			2.3	0.2			
Delay (s)		20.5			6.6			19.7	13.6			
Level of Service		C			A			B	B			
Approach Delay (s)		20.5			6.6			19.3			0.0	
Approach LOS		C			A			B			A	

Intersection Summary			
HCM Average Control Delay	14.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
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												
Volume (vph)	0	320	257	37	715	0	0	0	0	54	586	144
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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.85			1.00						0.96	
Flpb, ped/bikes		1.00			0.99						0.98	
Frt		0.93			1.00						0.97	
Flt Protected		1.00			1.00						1.00	
Satd. Flow (prot)		2480			3083						2666	
Flt Permitted		1.00			0.90						1.00	
Satd. Flow (perm)		2480			2778						2666	
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)	0	327	262	38	730	0	0	0	0	55	598	147
RTOR Reduction (vph)	0	23	0	0	0	0	0	0	0	0	24	0
Lane Group Flow (vph)	0	566	0	0	768	0	0	0	0	0	776	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		26.4			26.4						44.6	
Effective Green, g (s)		26.4			26.4						44.6	
Actuated g/C Ratio		0.33			0.33						0.56	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		818			917						1486	
v/s Ratio Prot		0.23										
v/s Ratio Perm					c0.28						0.29	
v/c Ratio		0.69			0.84						0.52	
Uniform Delay, d1		23.3			24.8						11.0	
Progression Factor		0.67			1.00						1.00	
Incremental Delay, d2		2.0			6.7						1.3	
Delay (s)		17.6			31.6						12.4	
Level of Service		B			C						B	
Approach Delay (s)		17.6			31.6			0.0			12.4	
Approach LOS		B			C			A			B	

Intersection Summary			
HCM Average Control Delay	20.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	94.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	67	319	435	1205	0	924	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.66	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		0.99	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	914	3016	3110		3051	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	914	3016	3110		3051	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	67	319	435	1205	0	924	38
RTOR Reduction (vph)	0	275	0	0	0	3	0
Lane Group Flow (vph)	67	44	435	1205	0	959	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	12.5	12.5	17.5	66.5		43.0	
Effective Green, g (s)	12.5	12.5	17.5	66.5		43.0	
Actuated g/C Ratio	0.14	0.14	0.19	0.74		0.48	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	216	127	586	2298		1458	
v/s Ratio Prot	0.04		c0.14	0.39		c0.31	
v/s Ratio Perm		c0.05					
v/c Ratio	0.31	0.35	0.74	0.52		0.66	
Uniform Delay, d1	34.9	35.1	34.1	5.0		17.9	
Progression Factor	1.00	1.00	1.00	1.00		1.50	
Incremental Delay, d2	0.8	1.7	5.1	0.9		2.1	
Delay (s)	35.7	36.7	39.2	5.9		29.0	
Level of Service	D	D	D	A		C	
Approach Delay (s)	36.5			14.7		29.0	
Approach LOS	D			B		C	

Intersection Summary			
HCM Average Control Delay	22.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	89.3%	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												
Volume (vph)	5	158	25	5	73	10	15	15	15	50	75	15
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		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.46		1.00	0.67		0.89			1.00	0.43
Flpb, ped/bikes		0.99	1.00		0.97	1.00		0.85			0.88	1.00
Frt		1.00	0.85		1.00	0.85		0.95			1.00	0.85
Flt Protected		1.00	1.00		1.00	1.00		0.98			0.98	1.00
Satd. Flow (prot)		1621	635		1591	937		1160			1409	603
Flt Permitted		1.00	1.00		0.99	1.00		0.88			0.85	1.00
Satd. Flow (perm)		1617	635		1579	937		1038			1223	603
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	168	27	5	78	11	16	16	16	53	80	16
RTOR Reduction (vph)	0	0	4	0	0	3	0	14	0	0	0	14
Lane Group Flow (vph)	0	173	23	0	83	8	0	34	0	0	133	2
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		54.3	54.3		54.3	54.3		11.7			11.7	11.7
Effective Green, g (s)		54.3	54.3		54.3	54.3		11.7			11.7	11.7
Actuated g/C Ratio		0.72	0.72		0.72	0.72		0.16			0.16	0.16
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)		1171	460		1143	678		162			191	94
v/s Ratio Prot												
v/s Ratio Perm		c0.11	0.04		0.05	0.01		0.03			c0.11	0.00
v/c Ratio		0.15	0.05		0.07	0.01		0.21			0.70	0.03
Uniform Delay, d1		3.2	3.0		3.0	2.9		27.6			30.0	26.8
Progression Factor		1.00	1.00		1.00	1.00		1.00			0.85	0.63
Incremental Delay, d2		0.1	0.0		0.1	0.0		0.7			10.5	0.1
Delay (s)		3.3	3.0		3.1	2.9		28.3			36.0	17.1
Level of Service		A	A		A	A		C			D	B
Approach Delay (s)		3.2			3.1			28.3			34.0	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	15.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	104.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	463	34	531	399	79	67	43	16	26	6	377	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.34		0.67	1.00	0.95			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.81	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	558	3110	478		947	1555	1328			1258	1175
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.99	1.00
Satd. Flow (perm)	3110	558	3110	478		947	1555	1328			1314	1175
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	482	35	553	416	82	70	45	17	27	6	393	86
RTOR Reduction (vph)	0	16	0	181	0	33	0	19	0	0	0	61
Lane Group Flow (vph)	482	19	553	317	0	37	45	25	0	0	399	25
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Effective Green, g (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Actuated g/C Ratio	0.55	0.55	0.55	0.55		0.29	0.29	0.29			0.29	0.29
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1700	305	1700	261		278	456	390			385	345
v/s Ratio Prot	0.16		0.18									
v/s Ratio Perm		0.03		c0.66		0.04	0.03	0.02			c0.30	0.02
v/c Ratio	0.28	0.06	0.33	1.21		0.13	0.10	0.06			1.04	0.07
Uniform Delay, d1	9.1	8.0	9.4	17.0		19.5	19.3	19.1			26.5	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	0.4	0.4	0.5	125.9		1.0	0.4	0.3			55.6	0.4
Delay (s)	9.5	8.4	9.9	142.9		20.5	19.7	19.4			82.1	19.5
Level of Service	A	A	A	F		C	B	B			F	B
Approach Delay (s)	9.5		72.9								71.0	
Approach LOS	A		E								E	

Intersection Summary			
HCM Average Control Delay	53.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	723	101	50	777	136	101
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	745	104	52	801	140	104

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	497	353	319	534	244
Volume Left (vph)	0	0	52	0	140
Volume Right (vph)	0	104	0	0	104
Hadj (s)	0.02	-0.19	0.10	0.02	-0.12
Departure Headway (s)	6.7	6.5	6.8	6.7	6.9
Degree Utilization, x	0.93	0.64	0.60	1.00	0.47
Capacity (veh/h)	530	543	522	534	524
Control Delay (s)	48.0	19.1	18.3	62.3	15.7
Approach Delay (s)	36.0		45.8		15.7
Approach LOS	E		E		C

Intersection Summary			
Delay	37.8		
HCM Level of Service	E		
Intersection Capacity Utilization	81.6%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT
Lane Configurations												
Volume (vph)	67	634	89	18	4	17	649	40	28	22	20	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4					5.4		4.0			5.0
Lane Util. Factor		0.95					0.95		1.00			1.00
Frpb, ped/bikes		0.92					0.98		0.78			1.00
Flpb, ped/bikes		0.99					1.00		1.00			1.00
Frt		0.98					0.99		0.86			1.00
Flt Protected		1.00					1.00		1.00			0.98
Satd. Flow (prot)		2603					2997		1106			1599
Flt Permitted		0.82					0.92		1.00			0.98
Satd. Flow (perm)		2149					2754		1106			1599
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	71	674	95	19	4	18	690	43	30	23	21	50
RTOR Reduction (vph)	0	0	0	0	0	0	6	0	0	0	0	0
Lane Group Flow (vph)	0	859	0	0	0	0	749	0	30	0	0	94
Confl. Peds. (#/hr)	400		400	400	400	400		400	400	400	400	
Confl. Bikes (#/hr)			30	30				30	10			
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm	Perm			Free	Split	Split	
Protected Phases		2					6			4	4	4
Permitted Phases	2				6	6			Free			
Actuated Green, G (s)		41.6					41.6		75.0			9.0
Effective Green, g (s)		41.6					41.6		75.0			9.0
Actuated g/C Ratio		0.55					0.55		1.00			0.12
Clearance Time (s)		5.4					5.4					5.0
Lane Grp Cap (vph)		1192					1528		1106			192
v/s Ratio Prot												c0.06
v/s Ratio Perm		c0.40					0.27		0.03			
v/c Ratio		0.72					0.49		0.03			0.49
Uniform Delay, d1		12.4					10.2		0.0			30.9
Progression Factor		1.00					0.38		1.00			1.00
Incremental Delay, d2		3.8					1.0		0.0			8.7
Delay (s)		16.2					4.9		0.0			39.5
Level of Service		B					A		A			D
Approach Delay (s)		16.2					4.9					39.8
Approach LOS		B					A					D

Intersection Summary			
HCM Average Control Delay	15.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	113.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR	NWL	NWR	NWR2
Lane Configurations				
Volume (vph)	50	110	30	11
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0
Lane Util. Factor	1.00	0.97		1.00
Frpb, ped/bikes	0.55	0.84		0.55
Flpb, ped/bikes	1.00	1.00		1.00
Frt	0.85	0.97		0.85
Flt Protected	1.00	0.96		1.00
Satd. Flow (prot)	768	2482		768
Flt Permitted	1.00	0.96		1.00
Satd. Flow (perm)	768	2482		768
Peak-hour factor, PHF	0.94	0.94	0.94	0.94
Adj. Flow (vph)	53	117	32	12
RTOR Reduction (vph)	21	0	0	11
Lane Group Flow (vph)	32	149	0	1
Confl. Peds. (#/hr)	400	400	400	400
Confl. Bikes (#/hr)	10		10	10
Parking (#/hr)				
Turn Type	Perm			Perm
Protected Phases		8		
Permitted Phases	4			8
Actuated Green, G (s)	9.0	9.0		9.0
Effective Green, g (s)	9.0	9.0		9.0
Actuated g/C Ratio	0.12	0.12		0.12
Clearance Time (s)	5.0	5.0		5.0
Lane Grp Cap (vph)	92	298		92
v/s Ratio Prot		c0.06		
v/s Ratio Perm	0.04			0.00
v/c Ratio	0.35	0.50		0.02
Uniform Delay, d1	30.3	30.9		29.1
Progression Factor	1.00	1.00		1.00
Incremental Delay, d2	10.0	5.9		0.3
Delay (s)	40.3	36.8		29.4
Level of Service	D	D		C
Approach Delay (s)		36.2		
Approach LOS		D		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	662	47	34	667	76	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.98			1.00	0.85	
Flpb, ped/bikes	1.00			0.99	1.00	
Frt	0.99			1.00	0.94	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2817			3087	1274	
Flt Permitted	1.00			0.89	0.97	
Satd. Flow (perm)	2817			2756	1274	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	744	53	38	749	85	70
RTOR Reduction (vph)	7	0	0	0	24	0
Lane Group Flow (vph)	790	0	0	787	131	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1690			1654	382	
v/s Ratio Prot	0.28				c0.10	
v/s Ratio Perm				c0.29		
v/c Ratio	0.47			0.48	0.34	
Uniform Delay, d1	8.3			8.4	20.5	
Progression Factor	0.76			1.00	1.00	
Incremental Delay, d2	0.7			1.0	2.4	
Delay (s)	7.1			9.4	22.9	
Level of Service	A			A	C	
Approach Delay (s)	7.1			9.4	22.9	
Approach LOS	A			A	C	

Intersection Summary			
HCM Average Control Delay	9.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	663	42	17	699	9	16
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	713	45	18	752	10	17

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	475	283	269	501	27
Volume Left (vph)	0	0	18	0	10
Volume Right (vph)	0	45	0	0	17
Hadj (s)	0.02	-0.09	0.05	0.02	-0.29
Departure Headway (s)	5.4	5.3	5.4	5.4	6.3
Degree Utilization, x	0.71	0.41	0.40	0.75	0.05
Capacity (veh/h)	475	654	643	652	536
Control Delay (s)	19.4	10.8	10.8	21.4	9.6
Approach Delay (s)	16.2		17.7		9.6
Approach LOS	C		C		A

Intersection Summary			
Delay	16.8		
HCM Level of Service	C		
Intersection Capacity Utilization	55.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	88	536	34	12	580	203	66	50	25	124	66	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frpb, ped/bikes		0.96			1.00	0.54		0.94		1.00	0.96	
Flpb, ped/bikes		0.98			1.00	1.00		0.88		0.76	0.93	
Frt		0.99			1.00	0.85		0.98		1.00	0.99	
Flt Protected		0.99			1.00	1.00		0.98		0.95	0.99	
Satd. Flow (prot)		2681			3110	657		1131		1119	1362	
Flt Permitted		0.78			1.00	1.00		0.82		0.71	0.90	
Satd. Flow (perm)		2107			3110	657		946		837	1241	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	97	589	37	13	637	223	73	55	27	136	73	8
RTOR Reduction (vph)	0	2	0	0	0	24	0	11	0	0	0	0
Lane Group Flow (vph)	0	734	0	0	637	199	0	144	0	105	112	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10	10		10			10			10
Parking (#/hr)		5	5	5		5	5	5	5			
Turn Type	Perm					Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2				6	6	8			4		
Actuated Green, G (s)		27.5			27.5	27.5		21.5		21.5	21.5	
Effective Green, g (s)		27.5			27.5	27.5		21.5		21.5	21.5	
Actuated g/C Ratio		0.46			0.46	0.46		0.36		0.36	0.36	
Clearance Time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		966			1425	301		339		300	445	
v/s Ratio Prot					0.20							
v/s Ratio Perm		c0.35				0.30		c0.15		0.13	0.09	
v/c Ratio		0.76			0.45	0.66		0.43		0.35	0.25	
Uniform Delay, d1		13.5			11.1	12.6		14.6		14.1	13.6	
Progression Factor		1.00			1.30	1.52		1.00		1.00	1.00	
Incremental Delay, d2		5.6			1.0	10.5		3.9		0.7	0.3	
Delay (s)		19.1			15.3	29.8		18.4		14.8	13.9	
Level of Service		B			B	C		B		B	B	
Approach Delay (s)		19.1			19.1			18.4			14.1	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	17.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	92.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR2	NER2
Lane Configurations		
Volume (vph)	71	42
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.5	4.0
Lane Util. Factor	1.00	1.00
Frpb, ped/bikes	0.68	0.78
Flpb, ped/bikes	1.00	1.00
Frt	0.85	0.86
Flt Protected	1.00	1.00
Satd. Flow (prot)	952	967
Flt Permitted	1.00	1.00
Satd. Flow (perm)	952	967
Peak-hour factor, PHF	0.91	0.91
Adj. Flow (vph)	78	46
RTOR Reduction (vph)	10	0
Lane Group Flow (vph)	68	46
Confl. Peds. (#/hr)	400	400
Confl. Bikes (#/hr)	10	10
Parking (#/hr)		5
Turn Type	Perm	Free
Protected Phases		
Permitted Phases	4	Free
Actuated Green, G (s)	21.5	60.0
Effective Green, g (s)	21.5	60.0
Actuated g/C Ratio	0.36	1.00
Clearance Time (s)	5.5	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	341	967
v/s Ratio Prot		
v/s Ratio Perm	0.07	0.05
v/c Ratio	0.20	0.05
Uniform Delay, d1	13.3	0.0
Progression Factor	1.00	1.00
Incremental Delay, d2	0.3	0.1
Delay (s)	13.6	0.1
Level of Service	B	A
Approach Delay (s)		
Approach LOS		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	658	0	0	786	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	723	0	0	864	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	723	0	0	864	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)		30				30
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		46.0			46.0	
Effective Green, g (s)		46.0			46.0	
Actuated g/C Ratio		0.77			0.77	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1877			2312	
v/s Ratio Prot		c0.30			0.29	
v/s Ratio Perm						
v/c Ratio		0.39			0.37	
Uniform Delay, d1		2.3			2.3	
Progression Factor		0.61			1.38	
Incremental Delay, d2		0.4			0.4	
Delay (s)		1.8			3.6	
Level of Service		A			A	
Approach Delay (s)	1.8			0.0	3.6	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	2.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	29.7%	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												
Volume (vph)	20	187	77	162	182	28	67	159	105	27	149	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.84		1.00	0.92			1.00	0.66		1.00	0.44
Flpb, ped/bikes		0.97		0.64	1.00			0.87	1.00		0.96	1.00
Frt		0.96		1.00	0.98			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.99	1.00		0.99	1.00
Satd. Flow (prot)		2438		996	1297			1199	903		1566	609
Flt Permitted		0.92		0.57	1.00			0.87	1.00		0.94	1.00
Satd. Flow (perm)		2263		593	1297			1059	903		1481	609
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	201	83	174	196	30	72	171	113	29	160	27
RTOR Reduction (vph)	0	24	0	0	11	0	0	0	29	0	0	14
Lane Group Flow (vph)	0	282	0	174	215	0	0	243	84	0	189	13
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		21.4		21.4	21.4			28.6	28.6		28.6	28.6
Effective Green, g (s)		21.4		21.4	21.4			28.6	28.6		28.6	28.6
Actuated g/C Ratio		0.36		0.36	0.36			0.48	0.48		0.48	0.48
Clearance Time (s)		5.5		5.5	5.5			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)		807		212	463			505	430		706	290
v/s Ratio Prot					0.17							
v/s Ratio Perm		0.12		c0.29				c0.23	0.09		0.13	0.02
v/c Ratio		0.35		0.82	0.46			0.48	0.20		0.27	0.04
Uniform Delay, d1		14.2		17.6	14.9			10.7	9.1		9.4	8.4
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		0.3		21.8	0.7			3.3	1.0		0.9	0.3
Delay (s)		14.4		39.3	15.6			13.9	10.1		10.3	8.7
Level of Service		B		D	B			B	B		B	A
Approach Delay (s)		14.4			25.9			12.7			10.1	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	16.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	70.5%	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												
Volume (vph)	0	215	106	13	239	773	157	0	30	641	137	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.93			1.00	0.96		1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		0.98		1.00	1.00	
Frt		0.95			1.00	0.85		0.98		1.00	0.99	
Flt Protected		1.00			1.00	1.00		0.96		0.95	0.97	
Satd. Flow (prot)		2583			1625	2357		1317		1477	1494	
Flt Permitted		1.00			0.97	1.00		0.51		0.84	0.90	
Satd. Flow (perm)		2583			1580	2357		693		1308	1381	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	224	110	14	249	805	164	0	31	668	143	20
RTOR Reduction (vph)	0	90	0	0	0	0	0	11	0	0	3	0
Lane Group Flow (vph)	0	244	0	0	263	805	0	184	0	414	414	0
Confl. Peds. (#/hr)	50		50	50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		11.0			11.0	38.5		14.5		24.0	24.0	
Effective Green, g (s)		11.0			11.0	38.5		14.5		24.0	24.0	
Actuated g/C Ratio		0.18			0.18	0.64		0.24		0.40	0.40	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		474			290	1512		167		523	552	
v/s Ratio Prot		0.09										
v/s Ratio Perm					c0.17	0.34		c0.26		c0.32	0.30	
v/c Ratio		0.52			0.91	0.53		1.10		0.79	0.75	
Uniform Delay, d1		22.1			24.0	5.9		22.8		15.8	15.4	
Progression Factor		1.00			1.00	1.00		1.00		0.54	0.53	
Incremental Delay, d2		4.0			33.6	1.3		98.8		11.3	8.8	
Delay (s)		26.1			57.6	7.2		121.5		19.9	17.0	
Level of Service		C			E	A		F		B	B	
Approach Delay (s)		26.1			19.6			121.5			18.5	
Approach LOS		C			B			F			B	

Intersection Summary			
HCM Average Control Delay	28.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	71.9%	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												
Volume (vph)	43	746	28	34	788	32	273	54	154	26	31	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Lane Util. Factor		0.95			0.95	1.00		0.95			1.00	1.00
Frpb, ped/bikes		0.98			1.00	0.66		0.89			1.00	0.66
Flpb, ped/bikes		1.00			0.99	1.00		0.83			0.93	1.00
Frt		0.99			1.00	0.85		0.95			1.00	0.85
Flt Protected		1.00			1.00	1.00		0.97			0.98	1.00
Satd. Flow (prot)		3014			3087	806		1991			1488	921
Flt Permitted		0.88			0.90	1.00		0.77			0.79	1.00
Satd. Flow (perm)		2659			2788	806		1582			1206	921
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	45	777	29	35	821	33	284	56	160	27	32	44
RTOR Reduction (vph)	0	5	0	0	0	13	0	16	0	0	0	14
Lane Group Flow (vph)	0	846	0	0	856	20	0	484	0	0	59	30
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Actuated Green, G (s)		27.1			27.1	27.1		25.9			25.9	25.9
Effective Green, g (s)		27.1			27.1	27.1		25.9			25.9	25.9
Actuated g/C Ratio		0.45			0.45	0.45		0.43			0.43	0.43
Clearance Time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)		1201			1259	364		683			521	398
v/s Ratio Prot												
v/s Ratio Perm		c0.32			0.31	0.03		c0.31			0.05	0.03
v/c Ratio		0.70			0.68	0.06		0.71			0.11	0.07
Uniform Delay, d1		13.2			13.0	9.3		14.0			10.2	10.0
Progression Factor		1.00			0.90	1.18		1.00			1.00	1.00
Incremental Delay, d2		1.9			1.3	0.1		6.1			0.4	0.4
Delay (s)		15.1			13.0	11.0		20.1			10.6	10.4
Level of Service		B			B	B		C			B	B
Approach Delay (s)		15.1			12.9			20.1			10.5	
Approach LOS		B			B			C			B	

Intersection Summary			
HCM Average Control Delay	15.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	88.5%	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												
Volume (vph)	59	730	148	83	528	12	72	220	105	9	225	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.95		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.76		1.00		1.00	0.90			0.86	
Flpb, ped/bikes		0.99	1.00		0.99		0.83	1.00			1.00	
Frt		1.00	0.85		1.00		1.00	0.95			0.94	
Flt Protected		1.00	1.00		0.99		0.95	1.00			1.00	
Satd. Flow (prot)		3078	922		3040		1290	3806			3583	
Flt Permitted		0.85	1.00		0.71		0.49	1.00			0.93	
Satd. Flow (perm)		2636	922		2184		659	3806			3337	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	64	793	161	90	574	13	78	239	114	10	245	190
RTOR Reduction (vph)	0	0	7	0	3	0	0	10	0	0	18	0
Lane Group Flow (vph)	0	857	154	0	674	0	78	343	0	0	427	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		26.8	26.8		26.8		23.2	23.2			23.2	
Effective Green, g (s)		26.8	26.8		26.8		23.2	23.2			23.2	
Actuated g/C Ratio		0.45	0.45		0.45		0.39	0.39			0.39	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1177	412		976		255	1472			1290	
v/s Ratio Prot								0.09				
v/s Ratio Perm		c0.33	0.17		0.31		0.12				c0.13	
v/c Ratio		0.73	0.37		0.69		0.31	0.23			0.33	
Uniform Delay, d1		13.6	11.0		13.3		12.8	12.4			12.9	
Progression Factor		0.52	0.55		0.80		1.00	1.00			1.00	
Incremental Delay, d2		2.0	0.5		2.1		3.1	0.4			0.7	
Delay (s)		9.0	6.6		12.7		15.9	12.8			13.6	
Level of Service		A	A		B		B	B			B	
Approach Delay (s)		8.6			12.7			13.3			13.6	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	11.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	100.0%	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												
Volume (vph)	0	1309	197	0	1609	89	207	202	39	80	155	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.95			0.98		1.00	0.95		1.00	0.93	
Flpb, ped/bikes		1.00			1.00		0.77	1.00		0.79	1.00	
Frt		0.98			0.99		1.00	0.98		1.00	0.97	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4172			4167		1196	1512		1231	1289	
Flt Permitted		1.00			1.00		0.58	1.00		0.51	1.00	
Satd. Flow (perm)		4172			4167		727	1512		660	1289	
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)	0	1336	201	0	1642	91	211	206	40	82	158	43
RTOR Reduction (vph)	0	6	0	0	5	0	0	5	0	0	2	0
Lane Group Flow (vph)	0	1531	0	0	1728	0	211	241	0	82	199	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2410			2408		222	462		202	394	
v/s Ratio Prot		0.37			c0.41			0.16			0.15	
v/s Ratio Perm							c0.29			0.12		
v/c Ratio		0.64			0.72		0.95	0.52		0.41	0.50	
Uniform Delay, d1		12.7			13.7		30.6	25.8		24.8	25.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.3			1.9		48.8	4.2		6.0	4.6	
Delay (s)		14.0			15.6		79.4	30.0		30.7	30.2	
Level of Service		B			B		E	C		C	C	
Approach Delay (s)		14.0			15.6			52.8			30.4	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM Average Control Delay	20.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	92.3%	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												
Volume (vph)	0	1252	62	0	1450	65	68	155	25	32	173	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			1.00	
Frpb, ped/bikes		0.98			0.98		1.00	0.95			0.93	
Flpb, ped/bikes		1.00			1.00		0.82	1.00			0.97	
Frt		0.99			0.99		1.00	0.98			0.97	
Flt Protected		1.00			1.00		0.95	1.00			0.99	
Satd. Flow (prot)		4362			4372		1278	1530			1420	
Flt Permitted		1.00			1.00		0.47	1.00			0.94	
Satd. Flow (perm)		4362			4372		631	1530			1348	
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	1318	65	0	1526	68	72	163	26	34	182	62
RTOR Reduction (vph)	0	5	0	0	5	0	0	6	0	0	4	0
Lane Group Flow (vph)	0	1378	0	0	1589	0	72	183	0	0	274	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2583			2589		189	457			403	
v/s Ratio Prot		0.32			c0.36			0.12				
v/s Ratio Perm							0.11				c0.20	
v/c Ratio		0.53			0.61		0.38	0.40			0.68	
Uniform Delay, d1		10.9			11.8		25.0	25.1			27.8	
Progression Factor		1.00			0.24		1.00	1.00			1.00	
Incremental Delay, d2		0.8			0.8		5.7	2.6			9.0	
Delay (s)		11.7			3.6		30.7	27.7			36.8	
Level of Service		B			A		C	C			D	
Approach Delay (s)		11.7			3.6			28.6			36.8	
Approach LOS		B			A			C			D	

Intersection Summary			
HCM Average Control Delay	11.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	99.7%	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												
Volume (vph)	0	1354	49	0	1514	59	45	91	18	36	141	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.96			0.93	
Flpb, ped/bikes		1.00			1.00			0.94			0.96	
Frt		0.99			0.99			0.98			0.97	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		4207			4201			1260			1237	
Flt Permitted		1.00			1.00			0.86			0.93	
Satd. Flow (perm)		4207			4201			1101			1161	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	1440	52	0	1611	63	48	97	19	38	150	50
RTOR Reduction (vph)	0	4	0	0	4	0	0	4	0	0	3	0
Lane Group Flow (vph)	0	1488	0	0	1670	0	0	160	0	0	235	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2524			2521			330			348	
v/s Ratio Prot		0.35			c0.40							
v/s Ratio Perm								0.15			c0.20	
v/c Ratio		0.59			0.66			0.48			0.68	
Uniform Delay, d1		11.1			11.9			25.8			27.7	
Progression Factor		1.99			1.00			1.00			1.00	
Incremental Delay, d2		0.9			1.4			5.0			10.1	
Delay (s)		23.0			13.3			30.8			37.7	
Level of Service		C			B			C			D	
Approach Delay (s)		23.0			13.3			30.8			37.7	
Approach LOS		C			B			C			D	

Intersection Summary			
HCM Average Control Delay	19.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	75.0%	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		↑↑↑			↑↑↑		↰	↕↕				↱
Volume (vph)	0	1231	0	0	875	46	667	587	46	0	0	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.98		1.00	0.98				0.97
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.99				1.00
Satd. Flow (prot)		4282			4361		1415	2685				1367
Flt Permitted		1.00			1.00		0.95	0.99				1.00
Satd. Flow (perm)		4282			4361		1415	2685				1367
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	1415	0	0	1006	53	767	675	53	0	0	43
RTOR Reduction (vph)	0	0	0	0	7	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	1415	0	0	1052	0	491	1000	0	0	0	43
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		53.0			41.0		27.0	27.0				9.0
Effective Green, g (s)		53.0			41.0		27.0	27.0				9.0
Actuated g/C Ratio		0.59			0.46		0.30	0.30				0.10
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		2522			1987		425	806				137
v/s Ratio Prot		c0.33			0.24							
v/s Ratio Perm							0.35	0.37				0.03
v/c Ratio		0.56			0.53		1.16	1.24				0.31
Uniform Delay, d1		11.4			17.6		31.5	31.5				37.6
Progression Factor		1.00			0.32		1.00	1.00				1.00
Incremental Delay, d2		0.9			0.7		93.4	118.7				5.9
Delay (s)		12.3			6.3		124.9	150.2				43.5
Level of Service		B			A		F	F				D
Approach Delay (s)		12.3			6.3			141.9			43.5	
Approach LOS		B			A			F			D	

Intersection Summary			
HCM Average Control Delay	59.3	HCM Level of Service	E
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	64.5%	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												
Volume (vph)	140	140	825	0	88	5	775	245	41	0	444	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		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.98		1.00	0.95			1.00	0.67
Flpb, ped/bikes		0.86	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.99		1.00	0.98			1.00	0.85
Flt Protected		0.98	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1372	2448		1358		4385	1326			3110	815
Flt Permitted		0.79	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		1115	2448		1358		4385	1326			3110	815
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	144	144	851	0	91	5	799	253	42	0	458	96
RTOR Reduction (vph)	0	0	2	0	2	0	0	6	0	0	0	17
Lane Group Flow (vph)	0	288	849	0	94	0	799	289	0	0	458	79
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		30.3	53.3		30.3		19.5	51.7			28.7	28.7
Effective Green, g (s)		30.3	49.8		30.3		19.5	51.7			28.7	28.7
Actuated g/C Ratio		0.34	0.55		0.34		0.22	0.57			0.32	0.32
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		375	1355		457		950	762			992	260
v/s Ratio Prot			0.35		0.07		c0.18	0.22			c0.15	
v/s Ratio Perm		c0.26										0.10
v/c Ratio		0.77	0.63		0.21		0.84	0.38			0.46	0.30
Uniform Delay, d1		26.7	13.7		21.3		33.8	10.4			24.5	23.1
Progression Factor		1.01	0.80		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		7.5	0.7		0.2		8.9	1.4			1.5	3.0
Delay (s)		34.6	11.7		21.5		42.7	11.8			26.0	26.1
Level of Service		C	B		C		D	B			C	C
Approach Delay (s)		17.5			21.5			34.4			26.0	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM Average Control Delay	25.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	72.3%	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												
Volume (vph)	0	0	0	62	264	56	40	57	0	0	43	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.11		1.00			0.93	
Flpb, ped/bikes					0.86	1.00		0.86			1.00	
Frt					1.00	0.85		1.00			0.97	
Flt Protected					0.99	1.00		0.98			1.00	
Satd. Flow (prot)					2481	156		1375			1481	
Flt Permitted					0.99	1.00		0.89			1.00	
Satd. Flow (perm)					2481	156		1244			1481	
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)	0	0	0	69	293	62	44	63	0	0	48	11
RTOR Reduction (vph)	0	0	0	0	0	36	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	362	26	0	107	0	0	59	0
Confl. Peds. (#/hr)				1245		1700	831					831
Confl. Bikes (#/hr)						158			9			17
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					25.0	25.0		25.0			25.0	
Effective Green, g (s)					25.0	25.0		25.0			25.0	
Actuated g/C Ratio					0.42	0.42		0.42			0.42	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1034	65		518			617	
v/s Ratio Prot											0.04	
v/s Ratio Perm					0.15	c0.17		c0.09				
v/c Ratio					0.35	0.40		0.21			0.10	
Uniform Delay, d1					12.0	12.2		11.2			10.6	
Progression Factor					1.00	1.00		0.90			1.00	
Incremental Delay, d2					0.9	17.2		0.7			0.3	
Delay (s)					12.9	29.4		10.7			10.9	
Level of Service					B	C		B			B	
Approach Delay (s)		0.0			15.3			10.7			10.9	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	45.0%	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												
Volume (vph)	0	0	0	136	306	29	103	28	0	0	41	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.94		1.00	1.00			0.88	
Flpb, ped/bikes				1.00	1.00		0.62	1.00			1.00	
Frt				1.00	0.99		1.00	1.00			0.96	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	2882		970	1637			1390	
Flt Permitted				0.95	1.00		0.72	1.00			1.00	
Satd. Flow (perm)				1555	2882		730	1637			1390	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	0	153	344	33	116	31	0	0	46	18
RTOR Reduction (vph)	0	0	0	0	6	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	153	371	0	116	31	0	0	64	0
Confl. Peds. (#/hr)						1700	585					585
Confl. Bikes (#/hr)						113			6			3
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				38.4	38.4		12.3	12.3			12.3	
Effective Green, g (s)				38.4	38.4		12.3	12.3			12.3	
Actuated g/C Ratio				0.64	0.64		0.21	0.21			0.21	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				995	1844		150	336			285	
v/s Ratio Prot				0.10	c0.13			0.02			0.05	
v/s Ratio Perm							c0.16					
v/c Ratio				0.15	0.20		0.77	0.09			0.22	
Uniform Delay, d1				4.3	4.5		22.5	19.3			19.9	
Progression Factor				1.00	1.00		1.52	1.59			1.00	
Incremental Delay, d2				0.3	0.2		31.3	0.5			1.8	
Delay (s)				4.6	4.7		65.5	31.3			21.7	
Level of Service				A	A		E	C			C	
Approach Delay (s)		0.0			4.7			58.3			21.7	
Approach LOS		A			A			E			C	

Intersection Summary			
HCM Average Control Delay	16.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	269	95	14	78	39	23
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	292	103	15	85	42	25
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	306					
pX, platoon unblocked						
vC, conflicting volume			796		1259	998
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			796		1259	998
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		45	79
cM capacity (veh/h)			575		77	118

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	195	201	100	67
Volume Left	0	0	15	42
Volume Right	0	103	0	25
cSH	1700	1700	575	88
Volume to Capacity	0.11	0.12	0.03	0.76
Queue Length 95th (ft)	0	0	2	97
Control Delay (s)	0.0	0.0	2.0	122.3
Lane LOS			A	F
Approach Delay (s)	0.0		2.0	122.3
Approach LOS				F

Intersection Summary			
Average Delay	15.0		
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												
Volume (vph)	0	196	25	5	110	6	37	92	43	17	64	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	
Lane Util. Factor		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.42		0.97			0.87			0.90	
Flpb, ped/bikes		1.00	1.00		0.98			0.91			0.94	
Frt		1.00	0.85		0.99			0.97			0.98	
Flt Protected		1.00	1.00		1.00			0.99			0.99	
Satd. Flow (prot)		1637	588		1356			1085			1179	
Flt Permitted		1.00	1.00		0.99			0.92			0.93	
Satd. Flow (perm)		1637	588		1342			1008			1110	
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	0	261	33	7	147	8	49	123	57	23	85	24
RTOR Reduction (vph)	0	0	17	0	3	0	0	3	0	0	4	0
Lane Group Flow (vph)	0	261	16	0	159	0	0	226	0	0	128	0
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type			Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases			2	2			4			4		
Actuated Green, G (s)		29.0	29.0		29.0			22.0			22.0	
Effective Green, g (s)		29.0	29.0		29.0			22.0			22.0	
Actuated g/C Ratio		0.48	0.48		0.48			0.37			0.37	
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)		791	284		649			370			407	
v/s Ratio Prot		c0.16										
v/s Ratio Perm			0.03		0.12			c0.22			0.11	
v/c Ratio		0.33	0.06		0.24			0.61			0.31	
Uniform Delay, d1		9.5	8.2		9.1			15.5			13.6	
Progression Factor		1.00	1.00		1.00			0.68			0.85	
Incremental Delay, d2		1.1	0.4		0.9			7.0			2.0	
Delay (s)		10.6	8.6		10.0			17.6			13.5	
Level of Service		B	A		A			B			B	
Approach Delay (s)		10.4			10.0			17.6			13.5	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM Average Control Delay	12.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	77.9%	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												
Volume (vph)	0	208	31	14	50	0	50	0	57	12	15	21
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		1.00	1.00		0.95			1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.26		1.00			0.71			1.00	0.67
Flpb, ped/bikes		1.00	1.00		0.89			0.86			0.80	1.00
Frt		1.00	0.85		1.00			0.93			1.00	0.85
Flt Protected		1.00	1.00		0.99			0.98			0.98	1.00
Satd. Flow (prot)		1637	354		2752			897			1273	933
Flt Permitted		1.00	1.00		0.88			0.89			0.92	1.00
Satd. Flow (perm)		1637	354		2450			814			1192	933
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	239	36	16	57	0	57	0	66	14	17	24
RTOR Reduction (vph)	0	0	27	0	0	0	0	0	0	0	0	9
Lane Group Flow (vph)	0	239	9	0	73	0	0	123	0	0	31	15
Confl. Peds. (#/hr)			800	800			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	36.5
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	36.5
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	0.61
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)		396	86		592			495			725	568
v/s Ratio Prot		c0.15										
v/s Ratio Perm			0.02		0.03			c0.15			0.03	0.02
v/c Ratio		0.60	0.10		0.12			0.25			0.04	0.03
Uniform Delay, d1		20.2	17.7		17.8			5.4			4.7	4.7
Progression Factor		1.09	1.42		1.00			1.23			1.00	1.00
Incremental Delay, d2		6.6	2.3		0.4			1.2			0.0	0.0
Delay (s)		28.6	27.5		18.2			7.8			4.7	4.7
Level of Service		C	C		B			A			A	A
Approach Delay (s)		28.5			18.2			7.8			4.7	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM Average Control Delay	19.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	303	9	59	0	155	0	336	484
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		1.00		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		1.00		1.00			1.00
Flt Protected		1.00		0.95		1.00			0.98
Satd. Flow (prot)		942		1360		1637			3047
Flt Permitted		1.00		0.95		1.00			0.95
Satd. Flow (perm)		942		1360		1637			2970
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	319	9	62	0	163	0	354	509
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	319	0	71	0	163	0	0	863
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		385		314			891
v/s Ratio Prot						0.10			
v/s Ratio Perm		c0.34		0.05					c0.29
v/c Ratio		0.61		0.18		0.52			0.97
Uniform Delay, d1		8.8		16.3		21.8			20.7
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		5.1		1.1		1.5			23.4
Delay (s)		14.0		17.3		23.2			44.2
Level of Service		B		B		C			D
Approach Delay (s)	14.0			17.3		23.2			44.2
Approach LOS	B			B		C			D

Intersection Summary			
HCM Average Control Delay	33.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	77.4%	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												
Volume (vph)	28	171	50	41	184	44	42	98	33	31	75	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.95			1.00	0.56	1.00	0.86			0.82	
Flpb, ped/bikes		0.97			1.00	1.00	0.60	1.00			0.92	
Frt		0.97			1.00	0.85	1.00	0.96			0.95	
Flt Protected		0.99			0.99	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1268			1419	682	931	1184			2212	
Flt Permitted		0.95			0.91	1.00	0.64	1.00			0.87	
Satd. Flow (perm)		1214			1304	682	627	1184			1949	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	32	194	57	47	209	50	48	111	38	35	85	57
RTOR Reduction (vph)	0	11	0	0	0	12	0	26	0	0	0	0
Lane Group Flow (vph)	0	272	0	0	256	38	48	123	0	0	177	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		38.2			38.2	38.2	11.7	11.7			11.7	
Effective Green, g (s)		38.2			38.2	38.2	11.7	11.7			11.7	
Actuated g/C Ratio		0.64			0.64	0.64	0.19	0.19			0.19	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		773			830	434	122	231			380	
v/s Ratio Prot								c0.10				
v/s Ratio Perm		c0.22			0.20	0.06	0.08				0.09	
v/c Ratio		0.35			0.31	0.09	0.39	0.53			0.47	
Uniform Delay, d1		5.1			4.9	4.2	21.1	21.7			21.4	
Progression Factor		1.00			1.00	1.00	1.45	1.58			1.00	
Incremental Delay, d2		1.3			1.0	0.4	2.1	2.4			0.9	
Delay (s)		6.4			5.9	4.6	32.7	36.5			22.3	
Level of Service		A			A	A	C	D			C	
Approach Delay (s)		6.4			5.7			35.6			22.3	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM Average Control Delay	15.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	89.3%	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		✣			✣			✣			✣	
Volume (vph)	49	228	44	17	181	21	17	91	32	32	42	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.93			0.95			0.88			0.84	
Flpb, ped/bikes		0.95			0.98			0.95			0.88	
Frt		0.98			0.99			0.97			0.96	
Flt Protected		0.99			1.00			0.99			0.98	
Satd. Flow (prot)		1224			1306			1144			1002	
Flt Permitted		0.93			0.97			0.96			0.89	
Satd. Flow (perm)		1144			1266			1108			904	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	54	251	48	19	199	23	19	100	35	35	46	33
RTOR Reduction (vph)	0	10	0	0	6	0	0	18	0	0	23	0
Lane Group Flow (vph)	0	343	0	0	235	0	0	136	0	0	91	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		32.6			32.6			18.6			18.6	
Effective Green, g (s)		32.6			32.6			18.6			18.6	
Actuated g/C Ratio		0.54			0.54			0.31			0.31	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		622			688			343			280	
v/s Ratio Prot												
v/s Ratio Perm		c0.30			0.19			c0.12			0.10	
v/c Ratio		0.55			0.34			0.40			0.33	
Uniform Delay, d1		8.9			7.7			16.3			15.9	
Progression Factor		1.00			1.00			1.11			0.38	
Incremental Delay, d2		3.5			1.3			3.2			3.0	
Delay (s)		12.4			9.0			21.4			9.0	
Level of Service		B			A			C			A	
Approach Delay (s)		12.4			9.0			21.4			9.0	
Approach LOS		B			A			C			A	

Intersection Summary			
HCM Average Control Delay	12.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
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												
Volume (vph)	19	205	64	18	119	29	31	33	73	33	49	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.88			1.00	0.46		0.72			0.88	
Flpb, ped/bikes		0.97			0.96	1.00		0.90			0.88	
Frt		0.97			1.00	0.85		0.93			0.97	
Flt Protected		1.00			0.99	1.00		0.99			0.98	
Satd. Flow (prot)		1185			1365	565		851			1055	
Flt Permitted		0.98			0.95	1.00		0.93			0.90	
Satd. Flow (perm)		1168			1307	565		800			962	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	20	220	69	19	128	31	33	35	78	35	53	26
RTOR Reduction (vph)	0	17	0	0	0	15	0	17	0	0	17	0
Lane Group Flow (vph)	0	292	0	0	147	16	0	129	0	0	97	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		31.0			31.0	31.0		21.0			21.0	
Effective Green, g (s)		31.0			31.0	31.0		21.0			21.0	
Actuated g/C Ratio		0.52			0.52	0.52		0.35			0.35	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		603			675	292		280			337	
v/s Ratio Prot												
v/s Ratio Perm		c0.25			0.11	0.03		c0.16			0.10	
v/c Ratio		0.48			0.22	0.05		0.46			0.29	
Uniform Delay, d1		9.3			7.9	7.2		15.1			14.1	
Progression Factor		1.00			0.82	0.66		0.88			1.07	
Incremental Delay, d2		2.8			0.7	0.4		5.0			2.1	
Delay (s)		12.1			7.2	5.1		18.3			17.2	
Level of Service		B			A	A		B			B	
Approach Delay (s)		12.1			6.8			18.3			17.2	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM Average Control Delay	12.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	79.2%	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												
Volume (vph)	22	209	63	17	81	13	16	48	52	15	23	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.48		1.00	0.48		0.74			0.82	
Flpb, ped/bikes		0.96	1.00		0.94	1.00		0.93			0.89	
Frt		1.00	0.85		1.00	0.85		0.94			0.96	
Flt Protected		1.00	1.00		0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1368	573		1333	573		927			1124	
Flt Permitted		0.98	1.00		0.94	1.00		0.97			0.92	
Satd. Flow (perm)		1340	573		1266	573		901			1051	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	25	240	72	20	93	15	18	55	60	17	26	20
RTOR Reduction (vph)	0	0	6	0	0	6	0	32	0	0	15	0
Lane Group Flow (vph)	0	265	66	0	113	9	0	101	0	0	48	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		36.0	36.0		36.0	36.0		16.0			16.0	
Effective Green, g (s)		36.0	36.0		36.0	36.0		16.0			16.0	
Actuated g/C Ratio		0.60	0.60		0.60	0.60		0.27			0.27	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		804	344		760	344		240			280	
v/s Ratio Prot												
v/s Ratio Perm		c0.20	0.11		0.09	0.02		c0.11			0.05	
v/c Ratio		0.33	0.19		0.15	0.03		0.42			0.17	
Uniform Delay, d1		6.0	5.4		5.3	4.9		18.2			16.9	
Progression Factor		0.93	0.95		1.00	1.00		1.05			1.40	
Incremental Delay, d2		1.0	1.1		0.4	0.1		5.1			1.3	
Delay (s)		6.6	6.3		5.7	5.0		24.2			25.0	
Level of Service		A	A		A	A		C			C	
Approach Delay (s)		6.5			5.6			24.2			25.0	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	11.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations										
Volume (vph)	24	148	50	4	34	14	302	166	112	813
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				4.0		5.0		5.0	5.0
Lane Util. Factor	1.00				1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.89				0.90		0.77		1.00	1.00
Flpb, ped/bikes	1.00				0.63		1.00		1.00	1.00
Frt	0.88				0.96		0.95		1.00	1.00
Flt Protected	0.99				0.96		1.00		0.95	1.00
Satd. Flow (prot)	1269				856		2274		1555	3110
Flt Permitted	0.99				0.96		1.00		0.95	1.00
Satd. Flow (perm)	1269				856		2274		1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	161	54	4	37	15	328	180	122	884
RTOR Reduction (vph)	12	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	229	0	0	0	56	0	508	0	122	884
Confl. Peds. (#/hr)				400	400	400		400		
Confl. Bikes (#/hr)		30	30			10		30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0
Turn Type				custom					Split	
Protected Phases	4!				8!		6		2	2
Permitted Phases				3						
Actuated Green, G (s)	18.6				44.6		17.0		14.4	14.4
Effective Green, g (s)	18.6				44.6		17.0		14.4	14.4
Actuated g/C Ratio	0.21				0.50		0.19		0.16	0.16
Clearance Time (s)	5.0				4.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	262				424		430		249	498
v/s Ratio Prot	c0.18						c0.22		0.08	c0.28
v/s Ratio Perm					0.07					
v/c Ratio	0.87				0.13		1.18		0.49	1.78
Uniform Delay, d1	34.6				12.3		36.5		34.5	37.8
Progression Factor	1.00				1.02		1.00		0.77	0.86
Incremental Delay, d2	26.0				0.1		103.2		6.4	356.4
Delay (s)	60.5				12.6		139.7		32.9	389.0
Level of Service	E				B		F		C	F
Approach Delay (s)	60.5				12.6		139.7			345.8
Approach LOS	E				B		F			F

Intersection Summary			
HCM Average Control Delay	239.7	HCM Level of Service	F
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	71.1%	ICU Level of Service	C
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	721	26	5	584	14	0	51	17	0	95	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.91			0.91	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.97			0.96	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2864			2878			1264			1249	
Flt Permitted		1.00			0.95			1.00			1.00	
Satd. Flow (perm)		2864			2737			1264			1249	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	751	27	5	608	15	0	53	18	0	99	38
RTOR Reduction (vph)	0	3	0	0	2	0	0	15	0	0	27	0
Lane Group Flow (vph)	0	775	0	0	626	0	0	56	0	0	110	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type				Perm								
Protected Phases		2			6			8			4	
Permitted Phases				6								
Actuated Green, G (s)		41.8			41.8			9.4			9.4	
Effective Green, g (s)		41.8			41.8			9.4			9.4	
Actuated g/C Ratio		0.70			0.70			0.16			0.16	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1995			1907			198			196	
v/s Ratio Prot		c0.27						0.04			c0.09	
v/s Ratio Perm					0.23							
v/c Ratio		0.39			0.33			0.28			0.56	
Uniform Delay, d1		3.8			3.6			22.3			23.4	
Progression Factor		0.45			1.00			1.00			1.00	
Incremental Delay, d2		0.5			0.1			0.8			3.6	
Delay (s)		2.2			3.7			23.1			27.0	
Level of Service		A			A			C			C	
Approach Delay (s)		2.2			3.7			23.1			27.0	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	5.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	50.0%	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												
Volume (vph)	0	539	136	0	439	36	179	125	69	0	158	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.69		1.00	0.69	1.00	1.00	0.72		0.98	
Flpb, ped/bikes		1.00	1.00		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	0.85		0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3110	959		3110	959	3016	1637	1005		2847	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		3110	959		3110	959	3016	1637	1005		2847	
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)	0	550	139	0	448	37	183	128	70	0	161	8
RTOR Reduction (vph)	0	0	60	0	0	16	0	0	6	0	7	0
Lane Group Flow (vph)	0	550	79	0	448	21	183	128	64	0	162	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type	Perm		Perm	Perm		Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		34.1	34.1		34.1	34.1	4.9	16.9	16.9		7.5	
Effective Green, g (s)		34.1	34.1		34.1	34.1	4.9	16.9	16.9		7.5	
Actuated g/C Ratio		0.57	0.57		0.57	0.57	0.08	0.28	0.28		0.12	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		1768	545		1768	545	246	461	283		356	
v/s Ratio Prot		c0.18			0.14		c0.06	0.08			c0.06	
v/s Ratio Perm			0.08			0.02			0.06			
v/c Ratio		0.31	0.14		0.25	0.04	0.74	0.28	0.22		0.46	
Uniform Delay, d1		6.8	6.1		6.5	5.7	26.9	16.8	16.5		24.4	
Progression Factor		1.00	1.00		1.61	2.52	1.00	1.00	1.00		0.98	
Incremental Delay, d2		0.5	0.6		0.3	0.1	11.5	0.3	0.4		0.9	
Delay (s)		7.2	6.7		10.9	14.6	38.5	17.1	16.9		24.7	
Level of Service		A	A		B	B	D	B	B		C	
Approach Delay (s)		7.1			11.1			27.3			24.7	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM Average Control Delay	14.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	72.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	83	470	474	63	47	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	0.96		0.82	
Flpb, ped/bikes		0.98	1.00		1.00	
Frt		1.00	0.98		0.93	
Flt Protected		0.99	1.00		0.98	
Satd. Flow (prot)		2832	2932		1060	
Flt Permitted		0.81	1.00		0.98	
Satd. Flow (perm)		2306	2932		1060	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	88	500	504	67	50	59
RTOR Reduction (vph)	0	0	21	0	39	0
Lane Group Flow (vph)	0	588	550	0	70	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		32.2	32.2		20.8	
Effective Green, g (s)		32.2	32.2		20.8	
Actuated g/C Ratio		0.54	0.54		0.35	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1238	1574		367	
v/s Ratio Prot			0.19		c0.07	
v/s Ratio Perm		c0.26				
v/c Ratio		0.47	0.35		0.19	
Uniform Delay, d1		8.6	7.9		13.7	
Progression Factor		1.61	1.00		1.25	
Incremental Delay, d2		0.3	0.1		1.1	
Delay (s)		14.2	8.1		18.2	
Level of Service		B	A		B	
Approach Delay (s)		14.2	8.1		18.2	
Approach LOS		B	A		B	

Intersection Summary			
HCM Average Control Delay	11.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	80.0%	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												
Volume (vph)	21	315	41	23	487	71	33	51	46	24	65	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.96			0.95			0.89			0.88	
Flpb, ped/bikes		0.99			0.99			0.94			0.96	
Frt		0.98			0.98			0.95			0.95	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		2707			2689			1121			1141	
Flt Permitted		0.91			0.93			0.91			0.94	
Satd. Flow (perm)		2480			2513			1033			1085	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	22	335	44	24	518	76	35	54	49	26	69	55
RTOR Reduction (vph)	0	16	0	0	18	0	0	32	0	0	22	0
Lane Group Flow (vph)	0	385	0	0	600	0	0	106	0	0	128	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		30.6			30.6			20.6			20.6	
Effective Green, g (s)		30.6			30.6			20.6			20.6	
Actuated g/C Ratio		0.51			0.51			0.34			0.34	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1265			1282			355			373	
v/s Ratio Prot												
v/s Ratio Perm		0.16			c0.24			0.10			c0.12	
v/c Ratio		0.30			0.47			0.30			0.34	
Uniform Delay, d1		8.5			9.5			14.4			14.7	
Progression Factor		1.00			1.06			1.00			1.00	
Incremental Delay, d2		0.6			1.2			2.1			2.4	
Delay (s)		9.1			11.2			16.6			17.0	
Level of Service		A			B			B			B	
Approach Delay (s)		9.1			11.2			16.6			17.0	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	11.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	62.2%	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												
Volume (vph)	31	536	33	29	425	47	55	42	59	24	44	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.98			0.96			0.88			0.89	
Flpb, ped/bikes		0.99			0.99			0.91			0.95	
Frt		0.99			0.99			0.95			0.95	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		2793			2732			1063			1134	
Flt Permitted		0.92			0.91			0.88			0.92	
Satd. Flow (perm)		2568			2487			947			1056	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	32	553	34	30	438	48	57	43	61	25	45	37
RTOR Reduction (vph)	0	5	0	0	9	0	0	27	0	0	30	0
Lane Group Flow (vph)	0	614	0	0	507	0	0	134	0	0	77	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		39.1			39.1			12.0			12.0	
Effective Green, g (s)		39.1			39.1			12.0			12.0	
Actuated g/C Ratio		0.65			0.65			0.20			0.20	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1673			1621			189			211	
v/s Ratio Prot												
v/s Ratio Perm		c0.24			0.20			c0.14			0.07	
v/c Ratio		0.37			0.31			0.71			0.37	
Uniform Delay, d1		4.8			4.6			22.4			20.7	
Progression Factor		1.89			1.00			1.00			0.96	
Incremental Delay, d2		0.6			0.1			11.5			1.1	
Delay (s)		9.7			4.7			33.8			21.0	
Level of Service		A			A			C			C	
Approach Delay (s)		9.7			4.7			33.8			21.0	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	11.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	70.7%	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												
Volume (vph)	20	545	62	20	411	9	58	7	14	7	9	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			0.99			0.94			0.76	
Flpb, ped/bikes		1.00			1.00			0.76			0.96	
Frt		0.99			1.00			0.98			0.91	
Flt Protected		1.00			1.00			0.96			0.99	
Satd. Flow (prot)		2767			3059			1096			1080	
Flt Permitted		0.93			0.91			0.77			0.96	
Satd. Flow (perm)		2586			2801			872			1048	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	22	612	70	22	462	10	65	8	16	8	10	34
RTOR Reduction (vph)	0	2	0	0	2	0	0	9	0	0	27	0
Lane Group Flow (vph)	0	702	0	0	492	0	0	80	0	0	25	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1784			1933			187			225	
v/s Ratio Prot												
v/s Ratio Perm		c0.27			0.18			c0.09			0.02	
v/c Ratio		0.39			0.25			0.43			0.11	
Uniform Delay, d1		5.9			5.2			30.6			28.5	
Progression Factor		1.00			0.19			1.00			0.99	
Incremental Delay, d2		0.7			0.3			7.1			0.1	
Delay (s)		6.6			1.3			37.6			28.4	
Level of Service		A			A			D			C	
Approach Delay (s)		6.6			1.3			37.6			28.4	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM Average Control Delay	7.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	75.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	36	529	434	889	430	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3023	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3023	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	37	545	447	916	443	37
RTOR Reduction (vph)	0	47	0	0	5	0
Lane Group Flow (vph)	37	498	447	916	475	0
Confl. Peds. (#/hr)						109
Confl. Bikes (#/hr)		10				64
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	11.0	35.3	20.3	69.0	44.7	
Effective Green, g (s)	11.0	35.3	20.3	69.0	44.7	
Actuated g/C Ratio	0.12	0.39	0.23	0.77	0.50	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	190	960	680	2235	1501	
v/s Ratio Prot	0.02	c0.20	c0.15	c0.31	0.16	
v/s Ratio Perm						
v/c Ratio	0.19	0.52	0.66	0.41	0.32	
Uniform Delay, d1	35.5	20.9	31.7	3.6	13.5	
Progression Factor	1.24	0.68	0.90	1.67	1.21	
Incremental Delay, d2	0.5	0.4	1.9	0.5	0.0	
Delay (s)	44.6	14.7	30.4	6.4	16.4	
Level of Service	D	B	C	A	B	
Approach Delay (s)	16.6			14.3	16.4	
Approach LOS	B			B	B	

Intersection Summary			
HCM Average Control Delay	15.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	52.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	83	220	16	0	904	0	55	5	1105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			0.99			1.00	1.00
Flpb, ped/bikes				0.71			1.00			1.00	1.00
Frt				0.99			0.99			1.00	1.00
Flt Protected				0.95			1.00			0.95	1.00
Satd. Flow (prot)				1987			4400			1555	3110
Flt Permitted				0.95			1.00			0.95	1.00
Satd. Flow (perm)				1987			4400			1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	90	239	17	0	983	0	60	5	1201
RTOR Reduction (vph)	0	0	0	5	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	0	0	341	0	0	1038	0	0	5	1201
Confl. Peds. (#/hr)			107	139					107		
Confl. Bikes (#/hr)					8				106		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				19.0			54.4			3.6	62.0
Effective Green, g (s)				19.0			54.4			3.6	62.0
Actuated g/C Ratio				0.21			0.60			0.04	0.69
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				419			2660			62	2142
v/s Ratio Prot							0.24			0.00	c0.39
v/s Ratio Perm				0.17							
v/c Ratio				0.81			0.39			0.08	0.56
Uniform Delay, d1				33.8			9.2			41.6	7.1
Progression Factor				1.00			1.30			1.00	1.00
Incremental Delay, d2				11.5			0.0			0.2	1.1
Delay (s)				45.4			12.0			41.8	8.2
Level of Service				D			B			D	A
Approach Delay (s)	0.0			45.4			12.0				8.3
Approach LOS	A			D			B				A

Intersection Summary			
HCM Average Control Delay	14.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	51.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBL	EBR	EBR2	SEL	SET	SER2	NWL2	NWL	NWT	NWR	SWR2
Lane Configurations												
Volume (vph)	22	0	5	134	17	731	179	18	0	1102	29	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5		7.0	7.0	7.0		7.0	7.0		
Lane Util. Factor		1.00	1.00		1.00	0.95	1.00		1.00	0.95		
Frpb, ped/bikes		1.00	0.86		1.00	1.00	0.96		1.00	0.98		
Flpb, ped/bikes		1.00	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	1.00		
Flt Protected		0.95	1.00		0.95	1.00	1.00		0.95	1.00		
Satd. Flow (prot)		1555	1052		1555	3110	1334		1555	3049		
Flt Permitted		0.95	1.00		0.16	1.00	1.00		0.33	1.00		
Satd. Flow (perm)		1555	1052		263	3110	1334		537	3049		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	0	5	146	18	795	195	20	0	1198	32	0
RTOR Reduction (vph)	0	0	106	0	0	0	92	0	0	2	0	0
Lane Group Flow (vph)	0	24	45	0	18	795	104	0	20	1228	0	0
Confl. Peds. (#/hr)				130							1000	100
Confl. Bikes (#/hr)			10	10			30				30	10
Parking (#/hr)			5	5								
Turn Type	Perm		Perm		Perm		Perm	Perm	Perm			custom
Protected Phases		4				6				2		
Permitted Phases	4		4		6		6	2	2			8
Actuated Green, G (s)		18.0	18.0		34.5	34.5	34.5		34.5	34.5		
Effective Green, g (s)		18.0	18.0		34.5	34.5	34.5		34.5	34.5		
Actuated g/C Ratio		0.28	0.28		0.53	0.53	0.53		0.53	0.53		
Clearance Time (s)		5.5	5.5		7.0	7.0	7.0		7.0	7.0		
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)		431	291		140	1651	708		285	1618		
v/s Ratio Prot						0.26				c0.40		
v/s Ratio Perm		0.02	c0.04		0.07		0.08		0.04			
v/c Ratio		0.06	0.16		0.13	0.48	0.15		0.07	0.76		
Uniform Delay, d1		17.3	17.8		7.7	9.6	7.8		7.4	12.0		
Progression Factor		1.00	1.00		1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2		0.1	0.3		1.9	1.0	0.4		0.5	3.4		
Delay (s)		17.3	18.0		9.6	10.6	8.2		7.9	15.4		
Level of Service		B	B		A	B	A		A	B		
Approach Delay (s)		17.9				10.1				15.3		
Approach LOS		B				B				B		

Intersection Summary			
HCM Average Control Delay	13.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	80.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	17	0	7	0	0	0	30	1153	0	0	9	717
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.90					1.00	1.00				0.99
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.96					1.00	1.00				1.00
Flt Protected		0.97					0.95	1.00				1.00
Satd. Flow (prot)		1200					1555	3110				3068
Flt Permitted		0.97					0.95	1.00				0.94
Satd. Flow (perm)		1200					1555	3110				2877
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	18	0	7	0	0	0	32	1227	0	0	10	763
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	0	19	0	0	0	0	32	1227	0	0	0	788
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		3.6					5.4	77.4				67.0
Effective Green, g (s)		3.6					5.4	77.4				67.0
Actuated g/C Ratio		0.04					0.06	0.86				0.74
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		48					93	2675				2142
v/s Ratio Prot		c0.02					0.02	c0.39				
v/s Ratio Perm												0.27
v/c Ratio		0.40					0.34	0.46				0.37
Uniform Delay, d1		42.1					40.6	1.5				4.0
Progression Factor		1.00					1.23	2.91				1.00
Incremental Delay, d2		5.4					2.0	0.5				0.5
Delay (s)		47.6					51.9	4.8				4.5
Level of Service		D					D	A				A
Approach Delay (s)		47.6			0.0			6.0				4.5
Approach LOS		D			A			A				A

Intersection Summary			
HCM Average Control Delay	5.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	92.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	15
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	16
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	58	412	0	0	404	38	145	136	18	0	0	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				
Lane Util. Factor		0.95			0.95			0.95				
Frpb, ped/bikes		1.00			0.98			0.98				
Flpb, ped/bikes		0.98			1.00			0.85				
Frt		1.00			0.99			0.99				
Flt Protected		0.99			1.00			0.98				
Satd. Flow (prot)		2812			2774			2319				
Flt Permitted		0.84			1.00			0.98				
Satd. Flow (perm)		2389			2774			2319				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	62	438	0	0	430	40	154	145	19	0	0	0
RTOR Reduction (vph)	0	0	0	0	9	0	0	6	0	0	0	0
Lane Group Flow (vph)	0	500	0	0	461	0	0	312	0	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm					
Protected Phases		2			6			8				
Permitted Phases	2						8					
Actuated Green, G (s)		44.0			44.0			27.0				
Effective Green, g (s)		44.0			44.0			27.0				
Actuated g/C Ratio		0.55			0.55			0.34				
Clearance Time (s)		4.5			4.5			4.5				
Vehicle Extension (s)		3.0			3.0			3.0				
Lane Grp Cap (vph)		1314			1526			783				
v/s Ratio Prot					0.17							
v/s Ratio Perm		c0.21						0.13				
v/c Ratio		0.38			0.30			0.40				
Uniform Delay, d1		10.2			9.7			20.3				
Progression Factor		1.00			0.13			1.00				
Incremental Delay, d2		0.8			0.5			1.5				
Delay (s)		11.1			1.8			21.8				
Level of Service		B			A			C				
Approach Delay (s)		11.1			1.8			21.8			0.0	
Approach LOS		B			A			C			A	

Intersection Summary			
HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	93.0%	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												
Volume (vph)	0	271	161	34	372	0	0	0	0	15	247	71
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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.88			1.00						0.95	
Flpb, ped/bikes		1.00			0.99						0.99	
Frt		0.94			1.00						0.97	
Flt Protected		1.00			1.00						1.00	
Satd. Flow (prot)		2575			3057						2654	
Flt Permitted		1.00			0.88						1.00	
Satd. Flow (perm)		2575			2705						2654	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	291	173	37	400	0	0	0	0	16	266	76
RTOR Reduction (vph)	0	61	0	0	0	0	0	0	0	0	25	0
Lane Group Flow (vph)	0	403	0	0	437	0	0	0	0	0	333	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		20.8			20.8						50.2	
Effective Green, g (s)		20.8			20.8						50.2	
Actuated g/C Ratio		0.26			0.26						0.63	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		670			703						1665	
v/s Ratio Prot		0.16										
v/s Ratio Perm					c0.16						0.13	
v/c Ratio		0.60			0.62						0.20	
Uniform Delay, d1		26.0			26.1						6.3	
Progression Factor		0.62			1.00						1.00	
Incremental Delay, d2		1.4			1.7						0.3	
Delay (s)		17.5			27.8						6.6	
Level of Service		B			C						A	
Approach Delay (s)		17.5			27.8			0.0			6.6	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM Average Control Delay	18.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	82.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	47	245	369	1161	0	698	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.65	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		0.99	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	909	3016	3110		3056	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	909	3016	3110		3056	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	47	245	369	1161	0	698	26
RTOR Reduction (vph)	0	215	0	0	0	2	0
Lane Group Flow (vph)	47	30	369	1161	0	722	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	10.9	10.9	16.1	68.1		46.0	
Effective Green, g (s)	10.9	10.9	16.1	68.1		46.0	
Actuated g/C Ratio	0.12	0.12	0.18	0.76		0.51	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	188	110	540	2353		1562	
v/s Ratio Prot	0.03		c0.12	c0.37		0.24	
v/s Ratio Perm		c0.03					
v/c Ratio	0.25	0.27	0.68	0.49		0.46	
Uniform Delay, d1	35.8	35.9	34.6	4.3		14.1	
Progression Factor	1.00	1.00	1.00	1.00		1.16	
Incremental Delay, d2	0.7	1.3	3.6	0.7		0.9	
Delay (s)	36.5	37.3	38.1	5.0		17.2	
Level of Service	D	D	D	A		B	
Approach Delay (s)	37.1			13.0		17.2	
Approach LOS	D			B		B	

Intersection Summary			
HCM Average Control Delay	17.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	77.3%	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												
Volume (vph)	15	215	10	5	112	15	5	75	5	30	105	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
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.43		1.00	0.66		0.98			1.00	0.46
Flpb, ped/bikes		0.98	1.00		0.98	1.00		0.98			0.94	1.00
Frt		1.00	0.85		1.00	0.85		0.99			1.00	0.85
Flt Protected		1.00	1.00		1.00	1.00		1.00			0.99	1.00
Satd. Flow (prot)		1601	600		1607	917		1553			1523	643
Flt Permitted		0.98	1.00		0.99	1.00		0.98			0.91	1.00
Satd. Flow (perm)		1582	600		1597	917		1527			1399	643
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	16	229	11	5	119	16	5	80	5	32	112	5
RTOR Reduction (vph)	0	0	3	0	0	5	0	4	0	0	0	4
Lane Group Flow (vph)	0	245	8	0	124	11	0	86	0	0	144	1
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		41.0	41.0		41.0	41.0		10.0			10.0	10.0
Effective Green, g (s)		41.0	41.0		41.0	41.0		10.0			10.0	10.0
Actuated g/C Ratio		0.68	0.68		0.68	0.68		0.17			0.17	0.17
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)		1081	410		1091	627		255			233	107
v/s Ratio Prot												
v/s Ratio Perm		c0.15	0.01		0.08	0.01		0.06			c0.10	0.00
v/c Ratio		0.23	0.02		0.11	0.02		0.34			0.62	0.01
Uniform Delay, d1		3.6	3.0		3.3	3.0		22.1			23.2	20.9
Progression Factor		1.00	1.00		1.21	1.38		1.01			1.30	1.63
Incremental Delay, d2		0.1	0.0		0.2	0.1		0.8			4.8	0.0
Delay (s)		3.7	3.1		4.2	4.2		23.2			35.1	34.1
Level of Service		A	A		A	A		C			D	C
Approach Delay (s)		3.6			4.2			23.2			35.0	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	1100	20	285	199	38	8	20	4	5	5	187	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.34		0.67	1.00	0.95			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.74	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	558	3110	478		947	1555	1328			1146	1175
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.99	1.00
Satd. Flow (perm)	3110	558	3110	478		947	1555	1328			1195	1175
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	1236	22	320	224	43	9	22	4	6	6	210	15
RTOR Reduction (vph)	0	5	0	121	0	4	0	4	0	0	0	11
Lane Group Flow (vph)	1236	17	320	146	0	5	22	6	0	0	216	4
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Effective Green, g (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Actuated g/C Ratio	0.55	0.55	0.55	0.55		0.29	0.29	0.29			0.29	0.29
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1700	305	1700	261		278	456	390			351	345
v/s Ratio Prot	c0.40		0.10									
v/s Ratio Perm		0.03		0.31		0.01	0.01	0.00			c0.18	0.00
v/c Ratio	0.73	0.06	0.19	0.56		0.02	0.05	0.01			0.62	0.01
Uniform Delay, d1	12.8	7.9	8.6	11.1		18.8	19.0	18.8			22.9	18.8
Progression Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	2.8	0.3	0.2	8.4		0.1	0.2	0.1			7.8	0.1
Delay (s)	15.5	8.3	8.8	19.5		18.9	19.2	18.9			30.7	18.9
Level of Service	B	A	A	B		B	B	B			C	B
Approach Delay (s)	15.4		13.7								29.9	
Approach LOS	B		B								C	

Intersection Summary			
HCM Average Control Delay	16.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	1122	54	14	431	88	51
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1194	57	15	459	94	54

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	796	455	168	306	148
Volume Left (vph)	0	0	15	0	94
Volume Right (vph)	0	57	0	0	54
Hadj (s)	0.02	-0.07	0.06	0.02	-0.08
Departure Headway (s)	5.7	5.6	6.4	6.3	6.5
Degree Utilization, x	1.25	0.71	0.30	0.54	0.27
Capacity (veh/h)	630	631	549	557	541
Control Delay (s)	145.1	19.7	10.9	15.3	11.8
Approach Delay (s)	99.5		13.7		11.8
Approach LOS	F		B		B

Intersection Summary			
Delay	70.9		
HCM Level of Service	F		
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	1006	140	11	1	355	20	6	7	3	11	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4				5.4		4.0			5.0	5.0
Lane Util. Factor		0.95				0.95		1.00			1.00	1.00
Frpb, ped/bikes		0.93				0.98		0.78			1.00	0.55
Flpb, ped/bikes		1.00				1.00		1.00			1.00	1.00
Frt		0.98				0.99		0.86			1.00	0.85
Flt Protected		1.00				1.00		1.00			0.98	1.00
Satd. Flow (prot)		2637				3020		1106			1598	768
Flt Permitted		0.94				0.95		1.00			0.98	1.00
Satd. Flow (perm)		2486				2878		1106			1598	768
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	25	1093	152	12	1	386	22	7	8	3	12	18
RTOR Reduction (vph)	0	1	0	0	0	5	0	0	0	0	0	16
Lane Group Flow (vph)	0	1281	0	0	0	404	0	7	0	0	23	2
Confl. Peds. (#/hr)	400		400	400	400		400	400	400	400		400
Confl. Bikes (#/hr)			30	30			30	10				10
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm			Free	Split	Split		Perm
Protected Phases		2				6			4	4	4	
Permitted Phases	2				6			Free				4
Actuated Green, G (s)		41.6				41.6		75.0			9.0	9.0
Effective Green, g (s)		41.6				41.6		75.0			9.0	9.0
Actuated g/C Ratio		0.55				0.55		1.00			0.12	0.12
Clearance Time (s)		5.4				5.4					5.0	5.0
Lane Grp Cap (vph)		1379				1596		1106			192	92
v/s Ratio Prot											c0.01	
v/s Ratio Perm		c0.52				0.14		0.01				0.00
v/c Ratio		0.93				0.25		0.01			0.12	0.02
Uniform Delay, d1		15.3				8.7		0.0			29.5	29.1
Progression Factor		1.00				1.47		1.00			1.00	1.00
Incremental Delay, d2		12.3				0.4		0.0			1.3	0.5
Delay (s)		27.7				13.1		0.0			30.7	29.6
Level of Service		C				B		A			C	C
Approach Delay (s)		27.7				13.1					30.2	
Approach LOS		C				B					C	

Intersection Summary			
HCM Average Control Delay	24.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	95.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	NWL	NWR	NWR2
Lane Configurations			
Volume (vph)	81	18	2
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	5.0		5.0
Lane Util. Factor	0.97		1.00
Frpb, ped/bikes	0.86		0.55
Flpb, ped/bikes	1.00		1.00
Frt	0.97		0.85
Flt Protected	0.96		1.00
Satd. Flow (prot)	2556		768
Flt Permitted	0.96		1.00
Satd. Flow (perm)	2556		768
Peak-hour factor, PHF	0.92	0.92	0.92
Adj. Flow (vph)	88	20	2
RTOR Reduction (vph)	0	0	2
Lane Group Flow (vph)	108	0	0
Confl. Peds. (#/hr)	400	400	400
Confl. Bikes (#/hr)		10	10
Parking (#/hr)			
Turn Type			Perm
Protected Phases	8		
Permitted Phases			8
Actuated Green, G (s)	9.0		9.0
Effective Green, g (s)	9.0		9.0
Actuated g/C Ratio	0.12		0.12
Clearance Time (s)	5.0		5.0
Lane Grp Cap (vph)	307		92
v/s Ratio Prot	c0.04		
v/s Ratio Perm			0.00
v/c Ratio	0.35		0.00
Uniform Delay, d1	30.3		29.0
Progression Factor	1.00		1.00
Incremental Delay, d2	3.1		0.1
Delay (s)	33.5		29.1
Level of Service	C		C
Approach Delay (s)	33.4		
Approach LOS	C		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1012	30	8	330	53	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.99			1.00	0.91	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	1.00			1.00	0.96	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2872			3102	1379	
Flt Permitted	1.00			0.93	0.97	
Satd. Flow (perm)	2872			2899	1379	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1065	32	8	347	56	22
RTOR Reduction (vph)	3	0	0	0	11	0
Lane Group Flow (vph)	1094	0	0	355	67	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1723			1739	414	
v/s Ratio Prot	c0.38				c0.05	
v/s Ratio Perm				0.12		
v/c Ratio	0.64			0.20	0.16	
Uniform Delay, d1	9.7			6.8	19.3	
Progression Factor	1.25			1.00	1.00	
Incremental Delay, d2	0.7			0.3	0.8	
Delay (s)	12.8			7.1	20.1	
Level of Service	B			A	C	
Approach Delay (s)	12.8			7.1	20.1	
Approach LOS	B			A	C	

Intersection Summary			
HCM Average Control Delay	11.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	1018	7	4	320	9	8
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1083	7	4	340	10	9

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	722	368	118	227	18
Volume Left (vph)	0	0	4	0	10
Volume Right (vph)	0	7	0	0	9
Hadj (s)	0.02	0.00	0.04	0.02	-0.16
Departure Headway (s)	4.9	4.9	5.7	5.7	6.2
Degree Utilization, x	0.98	0.50	0.19	0.36	0.03
Capacity (veh/h)	724	727	619	626	563
Control Delay (s)	49.4	11.5	8.8	10.6	9.3
Approach Delay (s)	36.6		9.9		9.3
Approach LOS	E		A		A

Intersection Summary			
Delay	29.9		
HCM Level of Service	D		
Intersection Capacity Utilization	51.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR2
Lane Configurations												
Volume (vph)	31	938	22	4	321	85	42	30	41	14	12	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5	5.5		5.5		5.5	5.5	5.5
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	1.00
Frpb, ped/bikes		0.99			1.00	0.66		0.88		1.00	1.00	0.65
Flpb, ped/bikes		0.99			1.00	1.00		0.88		0.73	0.96	1.00
Frt		1.00			1.00	0.85		0.95		1.00	1.00	0.85
Flt Protected		1.00			1.00	1.00		0.98		0.95	0.99	1.00
Satd. Flow (prot)		2841			3110	808		1027		1080	1484	911
Flt Permitted		0.93			1.00	1.00		0.89		0.70	0.97	1.00
Satd. Flow (perm)		2659			3110	808		934		791	1455	911
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)	32	957	22	4	328	87	43	31	42	14	12	3
RTOR Reduction (vph)	0	0	0	0	0	4	0	18	0	0	0	2
Lane Group Flow (vph)	0	1015	0	0	328	83	0	98	0	12	14	1
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10	10		10			10			10
Parking (#/hr)		5	5	5		5	5	5	5			
Turn Type	Perm					Perm	Perm			Perm		Perm
Protected Phases		2			6			8			4	
Permitted Phases	2				6	6	8			4		4
Actuated Green, G (s)		56.5			56.5	56.5		22.5		22.5	22.5	22.5
Effective Green, g (s)		56.5			56.5	56.5		22.5		22.5	22.5	22.5
Actuated g/C Ratio		0.63			0.63	0.63		0.25		0.25	0.25	0.25
Clearance Time (s)		5.5			5.5	5.5		5.5		5.5	5.5	5.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		1669			1952	507		234		198	364	228
v/s Ratio Prot					0.11							
v/s Ratio Perm		c0.38				0.10		c0.10		0.02	0.01	0.00
v/c Ratio		0.61			0.17	0.16		0.42		0.06	0.04	0.00
Uniform Delay, d1		10.1			7.0	6.9		28.3		25.7	25.6	25.3
Progression Factor		1.00			2.01	2.09		1.00		1.00	1.00	1.00
Incremental Delay, d2		1.7			0.2	0.7		5.4		0.1	0.0	0.0
Delay (s)		11.7			14.2	15.2		33.7		25.8	25.6	25.3
Level of Service		B			B	B		C		C	C	C
Approach Delay (s)		11.7			14.4			33.7			25.7	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM Average Control Delay	14.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	NER2
Lane Configurations	
Volume (vph)	17
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.78
Flpb, ped/bikes	1.00
Frt	0.86
Flt Protected	1.00
Satd. Flow (prot)	967
Flt Permitted	1.00
Satd. Flow (perm)	967
Peak-hour factor, PHF	0.98
Adj. Flow (vph)	17
RTOR Reduction (vph)	0
Lane Group Flow (vph)	17
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	10
Parking (#/hr)	5
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Actuated Green, G (s)	90.0
Effective Green, g (s)	90.0
Actuated g/C Ratio	1.00
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	967
v/s Ratio Prot	
v/s Ratio Perm	0.02
v/c Ratio	0.02
Uniform Delay, d1	0.0
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	0.0
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	976	0	0	417	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1049	0	0	448	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	1049	0	0	448	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)		30				30
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		76.0			76.0	
Effective Green, g (s)		76.0			76.0	
Actuated g/C Ratio		0.84			0.84	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		2067			2547	
v/s Ratio Prot		c0.43			0.15	
v/s Ratio Perm						
v/c Ratio		0.51			0.18	
Uniform Delay, d1		1.9			1.3	
Progression Factor		0.40			1.00	
Incremental Delay, d2		0.7			0.1	
Delay (s)		1.5			1.4	
Level of Service		A			A	
Approach Delay (s)	1.5			0.0	1.4	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	1.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	54.2%	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												
Volume (vph)	5	368	78	78	104	8	71	80	124	24	75	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.89		1.00	0.96			1.00	0.62		1.00	0.37
Flpb, ped/bikes		0.99		0.73	1.00			0.74	1.00		0.93	1.00
Frt		0.97		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.99	1.00
Satd. Flow (prot)		2673		1134	1354			1012	844		1500	508
Flt Permitted		0.95		0.37	1.00			0.84	1.00		0.93	1.00
Satd. Flow (perm)		2547		443	1354			869	844		1409	508
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)	5	387	82	82	109	8	75	84	131	25	79	18
RTOR Reduction (vph)	0	30	0	0	4	0	0	0	19	0	0	7
Lane Group Flow (vph)	0	444	0	82	113	0	0	159	112	0	104	11
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		23.1		23.1	23.1			56.9	56.9		56.9	56.9
Effective Green, g (s)		23.1		23.1	23.1			56.9	56.9		56.9	56.9
Actuated g/C Ratio		0.26		0.26	0.26			0.63	0.63		0.63	0.63
Clearance Time (s)		5.5		5.5	5.5			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)		654		114	348			549	534		891	321
v/s Ratio Prot					0.08							
v/s Ratio Perm		0.17		c0.19				c0.18	0.13		0.07	0.02
v/c Ratio		0.68		0.72	0.32			0.29	0.21		0.12	0.04
Uniform Delay, d1		30.1		30.5	27.1			7.5	7.0		6.6	6.2
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		2.8		19.4	0.5			1.3	0.9		0.3	0.2
Delay (s)		32.9		49.9	27.7			8.8	7.9		6.8	6.4
Level of Service		C		D	C			A	A		A	A
Approach Delay (s)		32.9			36.8			8.4			6.8	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM Average Control Delay	24.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
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												
Volume (vph)	0	447	106	12	175	464	88	0	33	980	75	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.98			1.00	0.96		0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		0.99		1.00	1.00	
Frt		0.97			1.00	0.85		0.96		1.00	1.00	
Flt Protected		1.00			1.00	1.00		0.96		0.95	0.96	
Satd. Flow (prot)		2789			1627	2362		1305		1477	1490	
Flt Permitted		1.00			0.78	1.00		0.50		0.73	0.76	
Satd. Flow (perm)		2789			1272	2362		678		1132	1178	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	461	109	12	180	478	91	0	34	1010	77	3
RTOR Reduction (vph)	0	23	0	0	0	0	0	15	0	0	0	0
Lane Group Flow (vph)	0	547	0	0	192	478	0	110	0	545	545	0
Confl. Peds. (#/hr)	50			50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		17.0			17.0	65.5		17.5		45.0	45.0	
Effective Green, g (s)		17.0			17.0	65.5		17.5		45.0	45.0	
Actuated g/C Ratio		0.19			0.19	0.73		0.19		0.50	0.50	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		527			240	1719		132		566	589	
v/s Ratio Prot		c0.20										
v/s Ratio Perm					0.15	0.20		c0.16		c0.48	0.46	
v/c Ratio		1.04			0.80	0.28		0.83		0.96	0.93	
Uniform Delay, d1		36.5			34.9	4.2		34.8		21.7	20.9	
Progression Factor		1.00			1.00	1.00		1.00		1.18	1.18	
Incremental Delay, d2		49.5			23.7	0.4		42.9		28.1	21.2	
Delay (s)		86.0			58.6	4.6		77.7		53.7	45.9	
Level of Service		F			E	A		E		D	D	
Approach Delay (s)		86.0			20.1			77.7			49.8	
Approach LOS		F			C			E			D	

Intersection Summary			
HCM Average Control Delay	51.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	67.0%	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												
Volume (vph)	17	1435	19	34	535	17	118	51	179	23	18	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Lane Util. Factor		0.95			0.95	1.00		0.95			1.00	1.00
Frpb, ped/bikes		1.00			1.00	0.62		0.80			1.00	0.62
Flpb, ped/bikes		1.00			1.00	1.00		0.88			0.89	1.00
Frt		1.00			1.00	0.85		0.92			1.00	0.85
Flt Protected		1.00			1.00	1.00		0.98			0.97	1.00
Satd. Flow (prot)		3081			3100	754		1870			1421	858
Flt Permitted		0.95			0.81	1.00		0.84			0.77	1.00
Satd. Flow (perm)		2916			2511	754		1588			1118	858
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	18	1495	20	35	557	18	123	53	186	24	19	24
RTOR Reduction (vph)	0	1	0	0	0	1	0	11	0	0	0	19
Lane Group Flow (vph)	0	1532	0	0	592	17	0	351	0	0	43	5
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Actuated Green, G (s)		62.7			62.7	62.7		20.3			20.3	20.3
Effective Green, g (s)		62.7			62.7	62.7		20.3			20.3	20.3
Actuated g/C Ratio		0.70			0.70	0.70		0.23			0.23	0.23
Clearance Time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)		2031			1749	525		358			252	194
v/s Ratio Prot												
v/s Ratio Perm		c0.53			0.24	0.02		c0.22			0.04	0.01
v/c Ratio		0.75			0.34	0.03		0.98			0.17	0.03
Uniform Delay, d1		8.7			5.4	4.2		34.7			28.1	27.2
Progression Factor		1.00			0.79	0.71		1.00			1.00	1.00
Incremental Delay, d2		1.6			0.1	0.0		43.0			1.5	0.3
Delay (s)		10.4			4.4	3.0		77.7			29.5	27.4
Level of Service		B			A	A		E			C	C
Approach Delay (s)		10.4			4.4			77.7			28.8	
Approach LOS		B			A			E			C	

Intersection Summary			
HCM Average Control Delay	18.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	88.7%	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												
Volume (vph)	20	1493	109	0	468	27	72	270	170	7	129	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.95		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.80		0.99		1.00	0.86			0.88	
Flpb, ped/bikes		1.00	1.00		1.00		0.74	1.00			0.99	
Frt		1.00	0.85		0.99		1.00	0.94			0.95	
Flt Protected		1.00	1.00		1.00		0.95	1.00			1.00	
Satd. Flow (prot)		3104	974		3051		1144	3619			3713	
Flt Permitted		0.94	1.00		1.00		0.61	1.00			0.92	
Satd. Flow (perm)		2934	974		3051		740	3619			3427	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	21	1555	114	0	488	28	75	281	177	7	134	69
RTOR Reduction (vph)	0	0	1	0	0	0	0	7	0	0	53	0
Lane Group Flow (vph)	0	1576	113	0	516	0	75	451	0	0	157	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm				Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4				2			6		
Actuated Green, G (s)		59.7	59.7		59.7		20.3	20.3			20.3	
Effective Green, g (s)		59.7	59.7		59.7		20.3	20.3			20.3	
Actuated g/C Ratio		0.66	0.66		0.66		0.23	0.23			0.23	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1946	646		2024		167	816			773	
v/s Ratio Prot					0.17			c0.12				
v/s Ratio Perm		c0.54	0.12				0.10				0.05	
v/c Ratio		0.81	0.18		0.25		0.45	0.55			0.20	
Uniform Delay, d1		11.0	5.8		6.1		30.0	30.8			28.3	
Progression Factor		0.61	0.50		0.98		1.00	1.00			1.00	
Incremental Delay, d2		1.7	0.1		0.1		8.5	2.7			0.6	
Delay (s)		8.4	2.9		6.1		38.5	33.5			28.9	
Level of Service		A	A		A		D	C			C	
Approach Delay (s)		8.0			6.1			34.2			28.9	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	105.7%	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												
Volume (vph)	0	2024	196	0	1241	55	128	141	28	89	104	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.97			0.98		1.00	0.95		1.00	0.92	
Flpb, ped/bikes		1.00			1.00		0.74	1.00		0.76	1.00	
Frt		0.99			0.99		1.00	0.97		1.00	0.96	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4267			4188		1149	1509		1174	1261	
Flt Permitted		1.00			1.00		0.67	1.00		0.62	1.00	
Satd. Flow (perm)		4267			4188		805	1509		766	1261	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	2087	202	0	1279	57	132	145	29	92	107	37
RTOR Reduction (vph)	0	8	0	0	5	0	0	1	0	0	6	0
Lane Group Flow (vph)	0	2281	0	0	1331	0	132	173	0	92	138	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2465			2420		246	461		234	385	
v/s Ratio Prot		c0.53			0.32			0.11			0.11	
v/s Ratio Perm							c0.16			0.12		
v/c Ratio		0.93			0.55		0.54	0.38		0.39	0.36	
Uniform Delay, d1		17.2			11.8		26.0	24.5		24.7	24.4	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		7.4			0.9		8.2	2.3		4.9	2.6	
Delay (s)		24.7			12.7		34.1	26.9		29.6	27.0	
Level of Service		C			B		C	C		C	C	
Approach Delay (s)		24.7			12.7			30.0			28.0	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM Average Control Delay	21.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
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												
Volume (vph)	0	2021	67	0	1120	67	54	128	33	42	121	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			1.00	
Frpb, ped/bikes		0.99			0.98		1.00	0.93			0.94	
Flpb, ped/bikes		1.00			1.00		0.80	1.00			0.95	
Frt		1.00			0.99		1.00	0.97			0.98	
Flt Protected		1.00			1.00		0.95	1.00			0.99	
Satd. Flow (prot)		4396			4341		1236	1479			1408	
Flt Permitted		1.00			1.00		0.55	1.00			0.90	
Satd. Flow (perm)		4396			4341		720	1479			1285	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	2197	73	0	1217	73	59	139	36	46	132	40
RTOR Reduction (vph)	0	4	0	0	6	0	0	1	0	0	7	0
Lane Group Flow (vph)	0	2266	0	0	1284	0	59	174	0	0	211	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2603			2571		215	442			384	
v/s Ratio Prot		c0.52			0.30			0.12				
v/s Ratio Perm							0.08				c0.16	
v/c Ratio		0.87			0.50		0.27	0.39			0.55	
Uniform Delay, d1		15.4			10.6		24.1	25.1			26.5	
Progression Factor		1.00			1.11		1.00	1.00			1.00	
Incremental Delay, d2		4.3			0.6		3.1	2.6			5.6	
Delay (s)		19.8			12.4		27.2	27.7			32.0	
Level of Service		B			B		C	C			C	
Approach Delay (s)		19.8			12.4			27.6			32.0	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM Average Control Delay	18.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	102.6%	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												
Volume (vph)	0	1859	95	0	1123	42	35	78	18	47	145	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.98			0.99			0.96			0.96	
Flpb, ped/bikes		1.00			1.00			0.95			0.95	
Frt		0.99			0.99			0.98			0.98	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		4178			4204			1255			1262	
Flt Permitted		1.00			1.00			0.89			0.91	
Satd. Flow (perm)		4178			4204			1128			1159	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	1978	101	0	1195	45	37	83	19	50	154	31
RTOR Reduction (vph)	0	6	0	0	4	0	0	1	0	0	6	0
Lane Group Flow (vph)	0	2073	0	0	1236	0	0	138	0	0	229	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2507			2522			338			348	
v/s Ratio Prot		c0.50			0.29							
v/s Ratio Perm								0.12			c0.20	
v/c Ratio		0.83			0.49			0.41			0.66	
Uniform Delay, d1		14.3			10.2			25.1			27.5	
Progression Factor		0.47			1.00			1.00			1.00	
Incremental Delay, d2		1.6			0.7			3.6			9.3	
Delay (s)		8.3			10.9			28.7			36.8	
Level of Service		A			B			C			D	
Approach Delay (s)		8.3			10.9			28.7			36.8	
Approach LOS		A			B			C			D	

Intersection Summary			
HCM Average Control Delay	11.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	75.0%	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		↑↑↑			↑↑↑		↰	↕				↱
Volume (vph)	0	1718	0	0	533	27	527	453	45	0	0	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.98		1.00	0.98				0.97
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.99				1.00
Satd. Flow (prot)		4282			4366		1415	2669				1367
Flt Permitted		1.00			1.00		0.95	0.99				1.00
Satd. Flow (perm)		4282			4366		1415	2669				1367
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	1808	0	0	561	28	555	477	47	0	0	25
RTOR Reduction (vph)	0	0	0	0	6	0	0	6	0	0	0	0
Lane Group Flow (vph)	0	1808	0	0	583	0	355	718	0	0	0	25
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		53.0			41.0		27.0	27.0				9.0
Effective Green, g (s)		53.0			41.0		27.0	27.0				9.0
Actuated g/C Ratio		0.59			0.46		0.30	0.30				0.10
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		2522			1989		425	801				137
v/s Ratio Prot		c0.42			0.13							
v/s Ratio Perm							0.25	0.27				0.02
v/c Ratio		0.72			0.29		0.84	0.90				0.18
Uniform Delay, d1		13.2			15.4		29.4	30.2				37.1
Progression Factor		1.00			1.78		1.00	1.00				1.00
Incremental Delay, d2		1.8			0.3		17.4	14.8				2.9
Delay (s)		14.9			27.7		46.8	45.0				40.0
Level of Service		B			C		D	D				D
Approach Delay (s)		14.9			27.7			45.6			40.0	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM Average Control Delay	26.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
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												
Volume (vph)	223	150	1382	0	78	8	384	276	26	0	425	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		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.97		1.00	0.96			1.00	0.67
Flpb, ped/bikes		0.83	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.99		1.00	0.99			1.00	0.85
Flt Protected		0.97	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1319	2448		1334		4385	1354			3110	815
Flt Permitted		0.77	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		1040	2448		1334		4385	1354			3110	815
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	232	156	1440	0	81	8	400	288	27	0	443	40
RTOR Reduction (vph)	0	0	3	0	4	0	0	4	0	0	0	28
Lane Group Flow (vph)	0	388	1437	0	85	0	400	311	0	0	443	12
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		39.5	54.5		39.5		11.5	42.5			27.5	27.5
Effective Green, g (s)		39.5	51.0		39.5		11.5	42.5			27.5	27.5
Actuated g/C Ratio		0.44	0.57		0.44		0.13	0.47			0.31	0.31
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		456	1387		585		560	639			950	249
v/s Ratio Prot			c0.59		0.06		0.09	c0.23			0.14	
v/s Ratio Perm		0.37										0.01
v/c Ratio		0.85	1.04		0.15		0.71	0.49			0.47	0.05
Uniform Delay, d1		22.6	19.5		15.1		37.7	16.3			25.3	22.0
Progression Factor		1.23	1.74		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		10.1	29.9		0.1		7.6	2.6			1.6	0.4
Delay (s)		38.0	63.8		15.2		45.3	18.9			27.0	22.4
Level of Service		D	E		B		D	B			C	C
Approach Delay (s)		58.3			15.2			33.7			26.6	
Approach LOS		E			B			C			C	

Intersection Summary			
HCM Average Control Delay	46.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	82.9%	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												
Volume (vph)	0	0	0	27	94	45	13	32	0	0	45	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.70		1.00			0.99	
Flpb, ped/bikes					0.95	1.00		0.99			1.00	
Frt					1.00	0.85		1.00			0.97	
Flt Protected					0.99	1.00		0.99			1.00	
Satd. Flow (prot)					2747	954		1595			1567	
Flt Permitted					0.99	1.00		0.93			1.00	
Satd. Flow (perm)					2747	954		1512			1567	
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	0	0	0	35	121	58	17	41	0	0	58	17
RTOR Reduction (vph)	0	0	0	0	0	34	0	0	0	0	10	0
Lane Group Flow (vph)	0	0	0	0	156	24	0	58	0	0	65	0
Confl. Peds. (#/hr)				154		203	51					51
Confl. Bikes (#/hr)						14						3
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					25.0	25.0		25.0			25.0	
Effective Green, g (s)					25.0	25.0		25.0			25.0	
Actuated g/C Ratio					0.42	0.42		0.42			0.42	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1145	398		630			653	
v/s Ratio Prot											c0.04	
v/s Ratio Perm					0.06	0.03		0.04				
v/c Ratio					0.14	0.06		0.09			0.10	
Uniform Delay, d1					10.8	10.5		10.6			10.7	
Progression Factor					1.00	1.00		0.89			1.00	
Incremental Delay, d2					0.2	0.3		0.3			0.3	
Delay (s)					11.1	10.8		9.7			11.0	
Level of Service					B	B		A			B	
Approach Delay (s)		0.0			11.0			9.7			11.0	
Approach LOS		A			B			A			B	

Intersection Summary			
HCM Average Control Delay	10.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.12		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	45.0%	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												
Volume (vph)	0	0	0	24	113	5	20	5	0	0	3	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.99		1.00	1.00			0.95	
Flpb, ped/bikes				1.00	1.00		0.89	1.00			1.00	
Frt				1.00	0.99		1.00	1.00			0.94	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	3054		1388	1637			1464	
Flt Permitted				0.95	1.00		0.75	1.00			1.00	
Satd. Flow (perm)				1555	3054		1100	1637			1464	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	0	0	0	31	147	6	26	6	0	0	4	3
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	31	151	0	26	6	0	0	7	0
Confl. Peds. (#/hr)						369	74					74
Confl. Bikes (#/hr)						16			1			
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				38.4	38.4		12.3	12.3			12.3	
Effective Green, g (s)				38.4	38.4		12.3	12.3			12.3	
Actuated g/C Ratio				0.64	0.64		0.21	0.21			0.21	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				995	1955		226	336			300	
v/s Ratio Prot				0.02	c0.05			0.00			0.00	
v/s Ratio Perm							c0.02					
v/c Ratio				0.03	0.08		0.12	0.02			0.02	
Uniform Delay, d1				4.0	4.1		19.4	19.0			19.1	
Progression Factor				1.00	1.00		1.48	1.49			1.00	
Incremental Delay, d2				0.1	0.1		1.0	0.1			0.1	
Delay (s)				4.0	4.2		29.8	28.4			19.2	
Level of Service				A	A		C	C			B	
Approach Delay (s)		0.0			4.1			29.5			19.2	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM Average Control Delay	8.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.09		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	127	36	6	65	30	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	132	38	6	68	31	4
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	291					
pX, platoon unblocked						
vC, conflicting volume			570		1031	885
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			570		1031	885
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		72	97
cM capacity (veh/h)			698		110	140

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	88	82	74	35
Volume Left	0	0	6	31
Volume Right	0	38	0	4
cSH	1700	1700	698	113
Volume to Capacity	0.05	0.05	0.01	0.31
Queue Length 95th (ft)	0	0	1	30
Control Delay (s)	0.0	0.0	0.9	50.8
Lane LOS			A	F
Approach Delay (s)	0.0		0.9	50.8
Approach LOS				F

Intersection Summary			
Average Delay	6.7		
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												
Volume (vph)	16	136	16	8	92	8	14	23	11	19	42	9
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		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.57		0.97			0.88			0.93	
Flpb, ped/bikes		0.96	1.00		0.98			0.87			0.87	
Frt		1.00	0.85		0.99			0.97			0.98	
Flt Protected		0.99	1.00		1.00			0.99			0.99	
Satd. Flow (prot)		1570	793		1337			1039			1130	
Flt Permitted		0.97	1.00		0.98			0.93			0.94	
Satd. Flow (perm)		1535	793		1318			985			1072	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	18	156	18	9	106	9	16	26	13	22	48	10
RTOR Reduction (vph)	0	0	9	0	5	0	0	8	0	0	6	0
Lane Group Flow (vph)	0	174	9	0	119	0	0	47	0	0	74	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4			4		
Actuated Green, G (s)		29.0	29.0		29.0			22.0			22.0	
Effective Green, g (s)		29.0	29.0		29.0			22.0			22.0	
Actuated g/C Ratio		0.48	0.48		0.48			0.37			0.37	
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)		742	383		637			361			393	
v/s Ratio Prot												
v/s Ratio Perm		c0.11	0.01		0.09			0.05			c0.07	
v/c Ratio		0.23	0.02		0.19			0.13			0.19	
Uniform Delay, d1		9.0	8.1		8.8			12.6			12.9	
Progression Factor		1.00	1.00		1.00			1.00			1.15	
Incremental Delay, d2		0.7	0.1		0.7			0.7			1.1	
Delay (s)		9.8	8.2		9.5			13.4			15.9	
Level of Service		A	A		A			B			B	
Approach Delay (s)		9.6			9.5			13.4			15.9	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	11.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	77.9%	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												
Volume (vph)	0	143	12	18	131	0	8	0	5	5	2	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		1.00	1.00		0.95			1.00			1.00	
Frpb, ped/bikes		1.00	0.42		1.00			0.78			1.00	
Flpb, ped/bikes		1.00	1.00		0.95			0.81			0.61	
Frt		1.00	0.85		1.00			0.95			1.00	
Flt Protected		1.00	1.00		0.99			0.97			0.96	
Satd. Flow (prot)		1637	571		2926			949			955	
Flt Permitted		1.00	1.00		0.91			0.93			0.93	
Satd. Flow (perm)		1637	571		2685			912			921	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	0	168	14	21	154	0	9	0	6	6	2	0
RTOR Reduction (vph)	0	0	11	0	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	168	3	0	175	0	0	13	0	0	8	0
Confl. Peds. (#/hr)			400	400			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	
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)		396	138		649			555			560	
v/s Ratio Prot		c0.10										
v/s Ratio Perm			0.01		0.07			c0.01			0.01	
v/c Ratio		0.42	0.02		0.27			0.02			0.01	
Uniform Delay, d1		19.2	17.4		18.5			4.7			4.6	
Progression Factor		1.03	1.27		1.00			1.00			1.00	
Incremental Delay, d2		3.3	0.3		1.0			0.1			0.0	
Delay (s)		23.2	22.3		19.5			4.8			4.7	
Level of Service		C	C		B			A			A	
Approach Delay (s)		23.1			19.5			4.8			4.7	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM Average Control Delay	20.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.14		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	156	6	8	16	16	0	146	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		0.82		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		0.93		1.00			1.00
Flt Protected		1.00		0.98		1.00			0.97
Satd. Flow (prot)		942		1070		1637			3015
Flt Permitted		1.00		0.98		1.00			0.95
Satd. Flow (perm)		942		1070		1637			2970
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	179	7	9	18	18	0	168	100
RTOR Reduction (vph)	0	0	0	13	0	0	0	0	0
Lane Group Flow (vph)	0	179	0	21	0	18	0	0	268
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		303		314			891
v/s Ratio Prot						0.01			
v/s Ratio Perm		c0.19		0.02					0.09
v/c Ratio		0.34		0.07		0.06			0.30
Uniform Delay, d1		7.2		15.7		19.8			16.2
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		1.8		0.4		0.1			0.9
Delay (s)		9.0		16.2		19.9			17.0
Level of Service		A		B		B			B
Approach Delay (s)	9.0			16.2		19.9			17.0
Approach LOS	A			B		B			B

Intersection Summary			
HCM Average Control Delay	14.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	53.2%	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												
Volume (vph)	20	208	36	32	115	35	24	66	10	13	50	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.97			1.00	0.59	1.00	0.92			0.88	
Flpb, ped/bikes		0.98			1.00	1.00	0.51	1.00			0.92	
Frt		0.98			1.00	0.85	1.00	0.98			0.97	
Flt Protected		1.00			0.99	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1324			1417	722	791	1293			2419	
Flt Permitted		0.98			0.90	1.00	0.70	1.00			0.90	
Satd. Flow (perm)		1297			1288	722	580	1293			2185	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	22	234	40	36	129	39	27	74	11	15	56	17
RTOR Reduction (vph)	0	2	0	0	0	2	0	7	0	0	0	0
Lane Group Flow (vph)	0	294	0	0	165	37	27	78	0	0	88	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		70.3			70.3	70.3	9.6	9.6			9.6	
Effective Green, g (s)		70.3			70.3	70.3	9.6	9.6			9.6	
Actuated g/C Ratio		0.78			0.78	0.78	0.11	0.11			0.11	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		1013			1006	564	62	138			233	
v/s Ratio Prot								c0.06				
v/s Ratio Perm		c0.23			0.13	0.05	0.05				0.04	
v/c Ratio		0.29			0.16	0.07	0.44	0.56			0.38	
Uniform Delay, d1		2.8			2.5	2.3	37.7	38.2			37.4	
Progression Factor		1.00			1.00	1.00	1.45	1.48			1.00	
Incremental Delay, d2		0.7			0.4	0.2	4.8	5.2			1.0	
Delay (s)		3.5			2.8	2.5	59.4	61.9			38.4	
Level of Service		A			A	A	E	E			D	
Approach Delay (s)		3.5			2.8			61.3			38.4	
Approach LOS		A			A			E			D	

Intersection Summary			
HCM Average Control Delay	16.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	110.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Volume (vph)	17	229	31	6	123	6	9	30	29	22	24	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.97			0.99			0.74			0.81	
Flpb, ped/bikes		0.99			0.99			0.93			0.83	
Frt		0.99			0.99			0.94			0.96	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		1338			1390			925			914	
Flt Permitted		0.98			0.99			0.96			0.90	
Satd. Flow (perm)		1318			1375			898			834	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	20	269	36	7	145	7	11	35	34	26	28	24
RTOR Reduction (vph)	0	1	0	0	1	0	0	27	0	0	17	0
Lane Group Flow (vph)	0	324	0	0	158	0	0	53	0	0	61	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.6			62.6			18.6			18.6	
Effective Green, g (s)		62.6			62.6			18.6			18.6	
Actuated g/C Ratio		0.70			0.70			0.21			0.21	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		917			956			186			172	
v/s Ratio Prot												
v/s Ratio Perm		c0.25			0.11			0.06			c0.07	
v/c Ratio		0.35			0.17			0.29			0.35	
Uniform Delay, d1		5.5			4.7			30.1			30.5	
Progression Factor		1.00			1.00			1.47			1.00	
Incremental Delay, d2		1.1			0.4			3.4			5.6	
Delay (s)		6.6			5.1			47.5			36.1	
Level of Service		A			A			D			D	
Approach Delay (s)		6.6			5.1			47.5			36.1	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	14.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	16	223	30	13	92	8	11	3	82	4	22	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.96			1.00	0.66		0.52			0.86	
Flpb, ped/bikes		0.98			0.97	1.00		0.94			0.95	
Frt		0.98			1.00	0.85		0.88			0.97	
Flt Protected		1.00			0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1331			1388	802		618			1134	
Flt Permitted		0.99			0.96	1.00		0.98			0.98	
Satd. Flow (perm)		1315			1339	802		607			1118	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	242	33	14	100	9	12	3	89	4	24	9
RTOR Reduction (vph)	0	5	0	0	0	3	0	64	0	0	7	0
Lane Group Flow (vph)	0	287	0	0	114	6	0	40	0	0	31	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		57.0			57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0			57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63			0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		833			848	508		169			311	
v/s Ratio Prot												
v/s Ratio Perm		c0.22			0.09	0.01		c0.07			0.03	
v/c Ratio		0.34			0.13	0.01		0.24			0.10	
Uniform Delay, d1		7.7			6.6	6.1		25.1			24.1	
Progression Factor		1.00			0.80	0.61		1.93			1.00	
Incremental Delay, d2		1.1			0.3	0.0		3.0			0.6	
Delay (s)		8.9			5.6	3.7		51.4			24.8	
Level of Service		A			A	A		D			C	
Approach Delay (s)		8.9			5.5			51.4			24.8	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM Average Control Delay	17.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	216	64	6	95	8	30	29	33	5	25	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.66		1.00	0.66		0.80			0.84	
Flpb, ped/bikes		0.97	1.00		0.99	1.00		0.84			0.94	
Frt		1.00	0.85		1.00	0.85		0.95			0.96	
Flt Protected		1.00	1.00		1.00	1.00		0.98			0.99	
Satd. Flow (prot)		1387	786		1409	786		893			1235	
Flt Permitted		0.97	1.00		0.98	1.00		0.91			0.98	
Satd. Flow (perm)		1355	786		1391	786		827			1213	
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)	26	240	71	7	106	9	33	32	37	6	28	14
RTOR Reduction (vph)	0	0	7	0	0	3	0	23	0	0	10	0
Lane Group Flow (vph)	0	266	64	0	113	6	0	79	0	0	38	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63	0.63		0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		858	498		881	498		230			337	
v/s Ratio Prot												
v/s Ratio Perm		c0.20	0.08		0.08	0.01		c0.10			0.03	
v/c Ratio		0.31	0.13		0.13	0.01		0.34			0.11	
Uniform Delay, d1		7.5	6.6		6.6	6.1		25.9			24.2	
Progression Factor		0.70	0.60		1.00	1.00		1.07			1.00	
Incremental Delay, d2		0.9	0.5		0.3	0.0		3.3			0.7	
Delay (s)		6.2	4.4		6.9	6.1		31.2			24.9	
Level of Service		A	A		A	A		C			C	
Approach Delay (s)		5.8			6.8			31.2			24.9	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	11.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations										
Volume (vph)	2	229	29	1	5	17	157	19	131	225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				5.0		5.0		5.0	5.0
Lane Util. Factor	1.00				1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.88				0.74		0.93		1.00	1.00
Flpb, ped/bikes	1.00				0.88		1.00		1.00	1.00
Frt	0.87				0.90		0.98		1.00	1.00
Flt Protected	1.00				0.99		1.00		0.95	1.00
Satd. Flow (prot)	1246				943		2847		1555	3110
Flt Permitted	1.00				0.99		1.00		0.95	1.00
Satd. Flow (perm)	1246				943		2847		1555	3110
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	2	229	29	1	5	17	157	19	131	225
RTOR Reduction (vph)	5	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	255	0	0	0	23	0	176	0	131	225
Confl. Peds. (#/hr)				400	400	400		400		
Confl. Bikes (#/hr)		30	30			10		30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0
Turn Type				Perm					Split	
Protected Phases	4				3		6		2	2
Permitted Phases				3						
Actuated Green, G (s)	19.7				20.0		17.0		13.3	13.3
Effective Green, g (s)	19.7				20.0		17.0		13.3	13.3
Actuated g/C Ratio	0.22				0.22		0.19		0.15	0.15
Clearance Time (s)	5.0				5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	273				210		538		230	460
v/s Ratio Prot	c0.20						c0.06		c0.08	0.07
v/s Ratio Perm					0.02					
v/c Ratio	0.94				0.11		0.33		0.57	0.49
Uniform Delay, d1	34.5				27.9		31.6		35.7	35.2
Progression Factor	1.00				0.91		1.00		0.98	0.98
Incremental Delay, d2	37.2				0.2		1.6		9.8	3.7
Delay (s)	71.7				25.6		33.2		44.9	38.3
Level of Service	E				C		C		D	D
Approach Delay (s)	71.7				25.6		33.2			40.7
Approach LOS	E				C		C			D

Intersection Summary			
HCM Average Control Delay	48.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	73.7%	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												
Volume (vph)	0	1601	33	0	491	9	0	17	25	0	44	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.77			0.93	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.92			0.98	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2889			2891			1013			1306	
Flt Permitted		1.00			1.00			1.00			1.00	
Satd. Flow (perm)		2889			2891			1013			1306	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1740	36	0	534	10	0	18	27	0	48	10
RTOR Reduction (vph)	0	0	0	0	0	0	0	7	0	0	9	0
Lane Group Flow (vph)	0	1776	0	0	544	0	0	38	0	0	49	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type												
Protected Phases		2			6			8			4	
Permitted Phases												
Actuated Green, G (s)		73.3			73.3			7.9			7.9	
Effective Green, g (s)		73.3			73.3			7.9			7.9	
Actuated g/C Ratio		0.81			0.81			0.09			0.09	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2353			2355			89			115	
v/s Ratio Prot		c0.61			0.19			0.04			c0.04	
v/s Ratio Perm												
v/c Ratio		0.75			0.23			0.42			0.43	
Uniform Delay, d1		4.0			1.9			38.9			38.9	
Progression Factor		1.23			1.00			1.00			1.00	
Incremental Delay, d2		1.5			0.1			3.2			2.5	
Delay (s)		6.4			2.0			42.1			41.4	
Level of Service		A			A			D			D	
Approach Delay (s)		6.4			2.0			42.1			41.4	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	6.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	6	1335	375	25	319	21	118	73	65	0	110	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.77		1.00	0.77	1.00	1.00	0.67		0.98	
Flpb, ped/bikes		1.00	1.00		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	0.85		0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3109	1077		3098	1077	3016	1637	933		2837	
Flt Permitted		0.95	1.00		0.83	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		2966	1077		2568	1077	3016	1637	933		2837	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	6	1376	387	26	329	22	122	75	67	0	113	6
RTOR Reduction (vph)	0	0	67	0	0	7	0	0	4	0	5	0
Lane Group Flow (vph)	0	1382	320	0	355	15	122	75	63	0	115	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type	Perm		Perm	Perm		Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		60.2	60.2		60.2	60.2	7.3	20.8	20.8		9.0	
Effective Green, g (s)		60.2	60.2		60.2	60.2	7.3	20.8	20.8		9.0	
Actuated g/C Ratio		0.67	0.67		0.67	0.67	0.08	0.23	0.23		0.10	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		1984	720		1718	720	245	378	216		284	
v/s Ratio Prot							c0.04	0.05			c0.04	
v/s Ratio Perm		c0.47	0.30		0.14	0.01			0.07			
v/c Ratio		0.70	0.45		0.21	0.02	0.50	0.20	0.29		0.40	
Uniform Delay, d1		9.2	7.0		5.7	5.0	39.6	27.9	28.5		38.0	
Progression Factor		1.00	1.00		0.96	0.92	1.00	1.00	1.00		0.73	
Incremental Delay, d2		2.1	2.0		0.3	0.1	1.6	0.3	0.8		0.9	
Delay (s)		11.3	9.0		5.8	4.6	41.2	28.1	29.3		28.7	
Level of Service		B	A		A	A	D	C	C		C	
Approach Delay (s)		10.8			5.7			34.5			28.7	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM Average Control Delay	13.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	120.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	45	1235	360	22	37	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	0.98		0.85	
Flpb, ped/bikes		0.99	1.00		1.00	
Frt		1.00	0.99		0.95	
Flt Protected		1.00	1.00		0.97	
Satd. Flow (prot)		2894	3029		1112	
Flt Permitted		0.92	1.00		0.97	
Satd. Flow (perm)		2677	3029		1112	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	1342	391	24	40	27
RTOR Reduction (vph)	0	0	5	0	22	0
Lane Group Flow (vph)	0	1391	410	0	45	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		65.2	65.2		17.8	
Effective Green, g (s)		65.2	65.2		17.8	
Actuated g/C Ratio		0.72	0.72		0.20	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1939	2194		220	
v/s Ratio Prot			0.14		c0.04	
v/s Ratio Perm		c0.52				
v/c Ratio		0.72	0.19		0.21	
Uniform Delay, d1		7.1	4.0		30.2	
Progression Factor		1.29	1.00		0.96	
Incremental Delay, d2		0.9	0.0		2.0	
Delay (s)		10.2	4.0		31.1	
Level of Service		B	A		C	
Approach Delay (s)		10.2	4.0		31.1	
Approach LOS		B	A		C	

Intersection Summary			
HCM Average Control Delay	9.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	94.3%	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												
Volume (vph)	24	1199	31	18	384	60	29	16	58	15	40	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.96			0.80			0.91	
Flpb, ped/bikes		1.00			1.00			0.92			0.94	
Frt		1.00			0.98			0.92			0.97	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		2871			2732			957			1183	
Flt Permitted		0.94			0.88			0.91			0.94	
Satd. Flow (perm)		2699			2419			884			1124	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	26	1276	33	19	409	64	31	17	62	16	43	19
RTOR Reduction (vph)	0	2	0	0	3	0	0	12	0	0	13	0
Lane Group Flow (vph)	0	1333	0	0	489	0	0	98	0	0	65	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		60.6			60.6			20.6			20.6	
Effective Green, g (s)		60.6			60.6			20.6			20.6	
Actuated g/C Ratio		0.67			0.67			0.23			0.23	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1817			1629			202			257	
v/s Ratio Prot												
v/s Ratio Perm		c0.49			0.20			c0.11			0.06	
v/c Ratio		0.73			0.30			0.48			0.25	
Uniform Delay, d1		9.5			6.0			30.1			28.4	
Progression Factor		1.00			1.12			1.00			1.13	
Incremental Delay, d2		2.7			0.4			8.1			2.3	
Delay (s)		12.2			7.2			38.1			34.3	
Level of Service		B			A			D			C	
Approach Delay (s)		12.2			7.2			38.1			34.3	
Approach LOS		B			A			D			C	

Intersection Summary			
HCM Average Control Delay	13.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	81.7%	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												
Volume (vph)	27	1287	18	26	431	51	35	20	101	33	16	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			0.97			0.77			0.82	
Flpb, ped/bikes		1.00			1.00			0.94			0.92	
Frt		1.00			0.98			0.91			0.93	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2886			2770			929			999	
Flt Permitted		0.93			0.83			0.92			0.85	
Satd. Flow (perm)		2702			2314			861			867	
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)	30	1430	20	29	479	57	39	22	112	37	18	53
RTOR Reduction (vph)	0	1	0	0	2	0	0	10	0	0	39	0
Lane Group Flow (vph)	0	1479	0	0	563	0	0	163	0	0	69	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.5			62.5			18.6			18.6	
Effective Green, g (s)		62.5			62.5			18.6			18.6	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1876			1607			178			179	
v/s Ratio Prot												
v/s Ratio Perm		c0.55			0.24			c0.19			0.08	
v/c Ratio		0.79			0.35			0.91			0.39	
Uniform Delay, d1		9.3			5.6			34.9			30.8	
Progression Factor		0.32			1.45			1.00			1.26	
Incremental Delay, d2		2.6			0.1			43.4			1.4	
Delay (s)		5.6			8.2			78.3			40.2	
Level of Service		A			A			E			D	
Approach Delay (s)		5.6			8.2			78.3			40.2	
Approach LOS		A			A			E			D	

Intersection Summary			
HCM Average Control Delay	13.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	87.1%	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												
Volume (vph)	9	1258	176	10	435	2	37	2	12	1	12	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.96			1.00			0.92			0.81	
Flpb, ped/bikes		1.00			1.00			0.75			0.99	
Frt		0.98			1.00			0.97			0.93	
Flt Protected		1.00			1.00			0.96			1.00	
Satd. Flow (prot)		2751			3098			1055			1220	
Flt Permitted		0.95			0.92			0.81			0.99	
Satd. Flow (perm)		2621			2850			887			1215	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	9	1297	181	10	448	2	38	2	12	1	12	14
RTOR Reduction (vph)	0	2	0	0	0	0	0	9	0	0	11	0
Lane Group Flow (vph)	0	1485	0	0	460	0	0	43	0	0	16	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1808			1967			190			261	
v/s Ratio Prot												
v/s Ratio Perm		c0.57			0.16			c0.05			0.01	
v/c Ratio		0.82			0.23			0.22			0.06	
Uniform Delay, d1		10.0			5.2			29.2			28.1	
Progression Factor		0.37			0.19			1.00			1.91	
Incremental Delay, d2		2.6			0.3			2.7			0.3	
Delay (s)		6.3			1.2			31.9			54.1	
Level of Service		A			A			C			D	
Approach Delay (s)		6.3			1.2			31.9			54.1	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM Average Control Delay	6.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	76.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	21	1252	452	332	376	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3037	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3037	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	23	1361	491	361	409	28
RTOR Reduction (vph)	0	59	0	0	6	0
Lane Group Flow (vph)	23	1302	491	361	431	0
Confl. Peds. (#/hr)						63
Confl. Bikes (#/hr)		22				160
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	11.0	54.1	39.1	69.0	25.9	
Effective Green, g (s)	11.0	54.1	39.1	69.0	25.9	
Actuated g/C Ratio	0.12	0.60	0.43	0.77	0.29	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	190	1472	1310	2235	874	
v/s Ratio Prot	0.01	c0.53	0.16	0.12	c0.14	
v/s Ratio Perm						
v/c Ratio	0.12	0.88	0.37	0.16	0.49	
Uniform Delay, d1	35.2	15.3	17.2	2.8	26.6	
Progression Factor	1.26	0.63	1.24	0.99	1.25	
Incremental Delay, d2	0.2	4.3	0.2	0.2	0.4	
Delay (s)	44.7	14.0	21.4	2.9	33.6	
Level of Service	D	B	C	A	C	
Approach Delay (s)	14.5			13.6	33.6	
Approach LOS	B			B	C	

Intersection Summary			
HCM Average Control Delay	17.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	77.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	132	11	10	0	1616	0	13	76	674
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			1.00			1.00	1.00
Flpb, ped/bikes				0.68			1.00			1.00	1.00
Frt				0.99			1.00			1.00	1.00
Flt Protected				0.96			1.00			0.95	1.00
Satd. Flow (prot)				1919			4458			1555	3110
Flt Permitted				0.96			1.00			0.95	1.00
Satd. Flow (perm)				1919			4458			1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	143	12	11	0	1757	0	14	83	733
RTOR Reduction (vph)	0	0	0	7	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	0	0	159	0	0	1770	0	0	83	733
Confl. Peds. (#/hr)			96	119					96		
Confl. Bikes (#/hr)					4				178		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				11.6			57.2			8.2	69.4
Effective Green, g (s)				11.6			57.2			8.2	69.4
Actuated g/C Ratio				0.13			0.64			0.09	0.77
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				247			2833			142	2398
v/s Ratio Prot							c0.40			c0.05	0.24
v/s Ratio Perm				0.08							
v/c Ratio				0.97dl			0.62			0.58	0.31
Uniform Delay, d1				37.2			9.9			39.3	3.1
Progression Factor				1.00			0.69			1.00	1.00
Incremental Delay, d2				5.7			0.2			3.9	0.3
Delay (s)				42.9			7.1			43.2	3.4
Level of Service				D			A			D	A
Approach Delay (s)	0.0			42.9			7.1				7.5
Approach LOS	A			D			A				A

Intersection Summary			
HCM Average Control Delay	9.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	59.0%	ICU Level of Service	B
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

Movement	EBL2	EBR	EBR2	SEL	SET	SER2	NWL2	NWT	NWR	SWR2
Lane Configurations										
Volume (vph)	9	12	175	21	1042	566	59	755	77	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		7.0	7.0	7.0	7.0	7.0		
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00	1.00	0.95		
Frpb, ped/bikes	1.00	0.93		1.00	1.00	0.96	1.00	0.94		
Flpb, ped/bikes	1.00	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	0.99		
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1555	1137		1555	3110	1336	1555	2897		
Flt Permitted	0.95	1.00		0.27	1.00	1.00	0.19	1.00		
Satd. Flow (perm)	1555	1137		450	3110	1336	314	2897		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	13	190	23	1133	615	64	821	84	0
RTOR Reduction (vph)	0	136	0	0	0	272	0	10	0	0
Lane Group Flow (vph)	10	67	0	23	1133	343	64	895	0	0
Confl. Peds. (#/hr)			38						1000	100
Confl. Bikes (#/hr)		10	10			30			30	10
Parking (#/hr)		5	5							
Turn Type	custom	custom		Perm		Perm	Perm			custom
Protected Phases					6			2		
Permitted Phases	4	4		6		6	2			8
Actuated Green, G (s)	22.5	22.5		44.0	44.0	44.0	44.0	44.0		
Effective Green, g (s)	22.5	22.5		44.0	44.0	44.0	44.0	44.0		
Actuated g/C Ratio	0.28	0.28		0.56	0.56	0.56	0.56	0.56		
Clearance Time (s)	5.5	5.5		7.0	7.0	7.0	7.0	7.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	443	324		251	1732	744	175	1614		
v/s Ratio Prot					c0.36			0.31		
v/s Ratio Perm	0.01	c0.06		0.05		0.26	0.20			
v/c Ratio	0.02	0.21		0.09	0.65	0.46	0.37	0.55		
Uniform Delay, d1	20.3	21.5		8.2	12.2	10.4	9.7	11.2		
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.0	0.3		0.7	1.9	2.0	5.8	1.4		
Delay (s)	20.4	21.8		8.9	14.1	12.5	15.5	12.6		
Level of Service	C	C		A	B	B	B	B		
Approach Delay (s)					13.5			12.8		
Approach LOS					B			B		

Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	90.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	6	0	21	0	0	0	109	887	0	0	7	989
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.74					1.00	1.00				0.97
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.90					1.00	1.00				0.99
Flt Protected		0.99					0.95	1.00				1.00
Satd. Flow (prot)		936					1555	3110				2994
Flt Permitted		0.99					0.95	1.00				0.95
Satd. Flow (perm)		936					1555	3110				2840
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)	7	0	23	0	0	0	121	986	0	0	8	1099
RTOR Reduction (vph)	0	22	0	0	0	0	0	0	0	0	0	3
Lane Group Flow (vph)	0	8	0	0	0	0	121	986	0	0	0	1173
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		4.8					9.0	76.2				62.2
Effective Green, g (s)		4.8					9.0	76.2				62.2
Actuated g/C Ratio		0.05					0.10	0.85				0.69
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		50					156	2633				1963
v/s Ratio Prot		c0.01					c0.08	0.32				
v/s Ratio Perm												c0.41
v/c Ratio		0.16					0.78	0.37				0.60
Uniform Delay, d1		40.7					39.5	1.5				7.3
Progression Factor		1.00					1.14	2.26				1.00
Incremental Delay, d2		1.6					20.1	0.4				1.4
Delay (s)		42.2					65.2	3.9				8.7
Level of Service		D					E	A				A
Approach Delay (s)		42.2			0.0			10.6				8.7
Approach LOS		D			A			B				A

Intersection Summary			
HCM Average Control Delay	10.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	95.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	62
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.90
Adj. Flow (vph)	69
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	215	1018	0	0	391	131	115	213	57	0	0	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				
Lane Util. Factor		0.95			0.95			0.95				
Frpb, ped/bikes		1.00			0.93			0.95				
Flpb, ped/bikes		0.98			1.00			0.91				
Frt		1.00			0.96			0.98				
Flt Protected		0.99			1.00			0.99				
Satd. Flow (prot)		2792			2578			2395				
Flt Permitted		0.72			1.00			0.99				
Satd. Flow (perm)		2039			2578			2395				
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)	219	1039	0	0	399	134	117	217	58	0	0	0
RTOR Reduction (vph)	0	0	0	0	8	0	0	18	0	0	0	0
Lane Group Flow (vph)	0	1258	0	0	525	0	0	374	0	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm					
Protected Phases		2			6			8				
Permitted Phases	2						8					
Actuated Green, G (s)		44.0			44.0			27.0				
Effective Green, g (s)		44.0			44.0			27.0				
Actuated g/C Ratio		0.55			0.55			0.34				
Clearance Time (s)		4.5			4.5			4.5				
Vehicle Extension (s)		3.0			3.0			3.0				
Lane Grp Cap (vph)		1121			1418			808				
v/s Ratio Prot					0.20							
v/s Ratio Perm		c0.62						0.16				
v/c Ratio		1.12			0.37			0.46				
Uniform Delay, d1		18.0			10.2			20.8				
Progression Factor		1.00			0.32			1.00				
Incremental Delay, d2		67.1			0.7			1.9				
Delay (s)		85.1			3.9			22.7				
Level of Service		F			A			C				
Approach Delay (s)		85.1			3.9			22.7			0.0	
Approach LOS		F			A			C			A	

Intersection Summary			
HCM Average Control Delay	54.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	102.8%	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												
Volume (vph)	0	611	464	22	437	0	0	0	0	59	601	83
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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.86			1.00						0.97	
Flpb, ped/bikes		1.00			1.00						0.98	
Frt		0.94			1.00						0.98	
Flt Protected		1.00			1.00						1.00	
Satd. Flow (prot)		2501			3095						2712	
Flt Permitted		1.00			0.85						1.00	
Satd. Flow (perm)		2501			2641						2712	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	630	478	23	451	0	0	0	0	61	620	86
RTOR Reduction (vph)	0	10	0	0	0	0	0	0	0	0	12	0
Lane Group Flow (vph)	0	1098	0	0	474	0	0	0	0	0	755	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		34.0			34.0						37.0	
Effective Green, g (s)		34.0			34.0						37.0	
Actuated g/C Ratio		0.42			0.42						0.46	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		1063			1122						1254	
v/s Ratio Prot		c0.44										
v/s Ratio Perm					0.18						0.28	
v/c Ratio		1.03			0.42						0.60	
Uniform Delay, d1		23.0			16.1						16.0	
Progression Factor		0.87			1.00						1.00	
Incremental Delay, d2		18.7			0.3						2.1	
Delay (s)		38.6			16.4						18.2	
Level of Service		D			B						B	
Approach Delay (s)		38.6			16.4			0.0			18.2	
Approach LOS		D			B			A			B	

Intersection Summary			
HCM Average Control Delay	27.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	49	417	549	949	0	987	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.66	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		1.00	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	916	3016	3110		3073	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	916	3016	3110		3073	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	49	417	549	949	0	987	25
RTOR Reduction (vph)	0	355	0	0	0	2	0
Lane Group Flow (vph)	49	62	549	949	0	1010	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	13.4	13.4	22.1	65.6		37.5	
Effective Green, g (s)	13.4	13.4	22.1	65.6		37.5	
Actuated g/C Ratio	0.15	0.15	0.25	0.73		0.42	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	232	136	741	2267		1280	
v/s Ratio Prot	0.03		c0.18	0.31		c0.33	
v/s Ratio Perm		c0.07					
v/c Ratio	0.21	0.46	0.74	0.42		0.79	
Uniform Delay, d1	33.7	35.0	31.3	4.8		22.8	
Progression Factor	1.00	1.00	1.00	1.00		1.30	
Incremental Delay, d2	0.5	2.4	4.0	0.6		4.2	
Delay (s)	34.1	37.4	35.3	5.3		33.8	
Level of Service	C	D	D	A		C	
Approach Delay (s)	37.1			16.3		33.8	
Approach LOS	D			B		C	

Intersection Summary			
HCM Average Control Delay	25.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	101.0%	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												
Volume (vph)	5	148	10	20	100	5	10	10	6	10	5	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
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.59		1.00	0.75		0.93			1.00	0.44
Flpb, ped/bikes		0.99	1.00		0.95	1.00		0.80			0.79	1.00
Frt		1.00	0.85		1.00	0.85		0.97			1.00	0.85
Flt Protected		1.00	1.00		0.99	1.00		0.98			0.97	1.00
Satd. Flow (prot)		1624	823		1539	1050		1159			1258	614
Flt Permitted		1.00	1.00		0.96	1.00		0.86			0.99	1.00
Satd. Flow (perm)		1619	823		1485	1050		1022			1291	614
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	157	11	21	106	5	11	11	6	11	5	5
RTOR Reduction (vph)	0	0	2	0	0	1	0	6	0	0	0	5
Lane Group Flow (vph)	0	162	9	0	127	4	0	22	0	0	16	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		47.6	47.6		47.6	47.6		3.4			3.4	3.4
Effective Green, g (s)		47.6	47.6		47.6	47.6		3.4			3.4	3.4
Actuated g/C Ratio		0.79	0.79		0.79	0.79		0.06			0.06	0.06
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)		1284	653		1178	833		58			73	35
v/s Ratio Prot												
v/s Ratio Perm		c0.10	0.01		0.09	0.00		c0.02			0.01	0.00
v/c Ratio		0.13	0.01		0.11	0.00		0.39			0.22	0.01
Uniform Delay, d1		1.4	1.3		1.4	1.3		27.3			27.0	26.7
Progression Factor		1.00	1.00		1.35	0.63		1.00			1.18	1.43
Incremental Delay, d2		0.0	0.0		0.2	0.0		4.2			1.5	0.1
Delay (s)		1.5	1.3		2.1	0.8		31.5			33.4	38.2
Level of Service		A	A		A	A		C			C	D
Approach Delay (s)		1.5			2.0			31.5			34.5	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	6.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.14		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	457	9	865	407	56	54	53	14	17	8	291	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.34		0.67	1.00	0.95			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.81	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	558	3110	478		947	1555	1328			1254	1175
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.99	1.00
Satd. Flow (perm)	3110	558	3110	478		947	1555	1328			1300	1175
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)	481	9	911	428	59	57	56	15	18	8	306	34
RTOR Reduction (vph)	0	4	0	181	0	33	0	13	0	0	0	24
Lane Group Flow (vph)	481	5	911	306	0	24	56	20	0	0	314	10
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Effective Green, g (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Actuated g/C Ratio	0.55	0.55	0.55	0.55		0.29	0.29	0.29			0.29	0.29
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1700	305	1700	261		278	456	390			381	345
v/s Ratio Prot	0.15		0.29									
v/s Ratio Perm		0.01		c0.64		0.03	0.04	0.02			c0.24	0.01
v/c Ratio	0.28	0.02	0.54	1.17		0.09	0.12	0.05			0.82	0.03
Uniform Delay, d1	9.1	7.8	10.9	17.0		19.2	19.4	19.0			24.7	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	0.4	0.1	1.2	110.0		0.6	0.6	0.3			18.0	0.2
Delay (s)	9.5	7.9	12.1	127.0		19.8	20.0	19.3			42.7	19.0
Level of Service	A	A	B	F		B	B	B			D	B
Approach Delay (s)	9.5		52.2								40.4	
Approach LOS	A		D								D	

Intersection Summary			
HCM Average Control Delay	39.7	HCM Level of Service	D
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	506	69	48	1128	79	51
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	544	74	52	1213	85	55

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	363	256	456	809	140
Volume Left (vph)	0	0	52	0	85
Volume Right (vph)	0	74	0	0	55
Hadj (s)	0.02	-0.19	0.07	0.02	-0.10
Departure Headway (s)	6.4	6.2	5.9	5.8	6.6
Degree Utilization, x	0.64	0.44	0.75	1.31	0.26
Capacity (veh/h)	554	573	602	627	531
Control Delay (s)	18.9	12.7	23.1	170.0	11.8
Approach Delay (s)	16.3		117.1		11.8
Approach LOS	C		F		B

Intersection Summary			
Delay	79.0		
HCM Level of Service	F		
Intersection Capacity Utilization	78.6%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT
Lane Configurations												
Volume (vph)	7	420	102	23	1	6	1029	19	11	11	6	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4					5.4		4.0			5.0
Lane Util. Factor		0.95					0.95		1.00			1.00
Frpb, ped/bikes		0.87					0.99		0.78			1.00
Flpb, ped/bikes		1.00					1.00		1.00			1.00
Frt		0.97					1.00		0.86			1.00
Flt Protected		1.00					1.00		1.00			0.98
Satd. Flow (prot)		2448					3073		1106			1598
Flt Permitted		0.94					0.95		1.00			0.98
Satd. Flow (perm)		2300					2923		1106			1598
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	8	457	111	25	1	7	1118	21	12	12	7	20
RTOR Reduction (vph)	0	4	0	0	0	0	2	0	0	0	0	0
Lane Group Flow (vph)	0	597	0	0	0	0	1145	0	12	0	0	39
Confl. Peds. (#/hr)	400		400	400	400	400		400	400	400	400	
Confl. Bikes (#/hr)			30	30				30	10			
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm	Perm			Free	Split	Split	
Protected Phases		2					6			4	4	4
Permitted Phases	2				6	6			Free			
Actuated Green, G (s)		41.6					41.6		75.0			9.0
Effective Green, g (s)		41.6					41.6		75.0			9.0
Actuated g/C Ratio		0.55					0.55		1.00			0.12
Clearance Time (s)		5.4					5.4					5.0
Lane Grp Cap (vph)		1276					1621		1106			192
v/s Ratio Prot												0.02
v/s Ratio Perm		0.26					c0.39		0.01			
v/c Ratio		0.47					0.71		0.01			0.20
Uniform Delay, d1		10.0					12.2		0.0			29.8
Progression Factor		1.00					0.23		1.00			1.00
Incremental Delay, d2		1.2					2.0		0.0			2.4
Delay (s)		11.3					4.8		0.0			32.1
Level of Service		B					A		A			C
Approach Delay (s)		11.3					4.8					40.4
Approach LOS		B					A					D

Intersection Summary			
HCM Average Control Delay	10.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	77.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR	NWL	NWR	NWR2
Lane Configurations				
Volume (vph)	46	107	9	7
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0
Lane Util. Factor	1.00	0.97		1.00
Frpb, ped/bikes	0.55	0.94		0.55
Flpb, ped/bikes	1.00	1.00		1.00
Frt	0.85	0.99		0.85
Flt Protected	1.00	0.96		1.00
Satd. Flow (prot)	768	2821		768
Flt Permitted	1.00	0.96		1.00
Satd. Flow (perm)	768	2821		768
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	50	116	10	8
RTOR Reduction (vph)	7	0	0	7
Lane Group Flow (vph)	43	126	0	1
Confl. Peds. (#/hr)	400	400	400	400
Confl. Bikes (#/hr)	10		10	10
Parking (#/hr)				
Turn Type	Perm			Perm
Protected Phases		8		
Permitted Phases	4			8
Actuated Green, G (s)	9.0	9.0		9.0
Effective Green, g (s)	9.0	9.0		9.0
Actuated g/C Ratio	0.12	0.12		0.12
Clearance Time (s)	5.0	5.0		5.0
Lane Grp Cap (vph)	92	339		92
v/s Ratio Prot		c0.04		
v/s Ratio Perm	c0.06			0.00
v/c Ratio	0.47	0.37		0.01
Uniform Delay, d1	30.8	30.4		29.1
Progression Factor	1.00	1.00		1.00
Incremental Delay, d2	16.1	3.1		0.2
Delay (s)	46.8	33.5		29.3
Level of Service	D	C		C
Approach Delay (s)		33.3		
Approach LOS		C		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	405	36	22	1044	31	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.97			1.00	0.86	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.99			1.00	0.94	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2794			3096	1291	
Flt Permitted	1.00			0.94	0.97	
Satd. Flow (perm)	2794			2915	1291	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	445	40	24	1147	34	25
RTOR Reduction (vph)	9	0	0	0	18	0
Lane Group Flow (vph)	476	0	0	1171	42	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1676			1749	387	
v/s Ratio Prot	0.17				c0.03	
v/s Ratio Perm				c0.40		
v/c Ratio	0.28			0.67	0.11	
Uniform Delay, d1	7.2			10.0	19.0	
Progression Factor	0.88			1.00	1.00	
Incremental Delay, d2	0.4			2.1	0.6	
Delay (s)	6.7			12.1	19.5	
Level of Service	A			B	B	
Approach Delay (s)	6.7			12.1	19.5	
Approach LOS	A			B	B	

Intersection Summary			
HCM Average Control Delay	10.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	74.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	412	14	7	1040	5	4
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	453	15	8	1143	5	4

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	302	166	389	762	10
Volume Left (vph)	0	0	8	0	5
Volume Right (vph)	0	15	0	0	4
Hadj (s)	0.02	-0.05	0.03	0.02	-0.14
Departure Headway (s)	5.7	5.6	5.0	5.0	6.3
Degree Utilization, x	0.47	0.26	0.54	1.06	0.02
Capacity (veh/h)	619	628	704	725	545
Control Delay (s)	12.5	9.3	12.6	70.6	9.4
Approach Delay (s)	11.4		51.0		9.4
Approach LOS	B		F		A

Intersection Summary			
Delay	39.3		
HCM Level of Service	E		
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	418	39	1	997	95	49	23	27	107	36	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frpb, ped/bikes		0.96			1.00	0.66		0.91		1.00	0.99	
Flpb, ped/bikes		0.99			1.00	1.00		0.85		0.72	0.87	
Frt		0.99			1.00	0.85		0.96		1.00	1.00	
Flt Protected		1.00			1.00	1.00		0.98		0.95	0.98	
Satd. Flow (prot)		2727			3110	808		1037		1066	1291	
Flt Permitted		0.81			1.00	1.00		0.83		0.72	0.84	
Satd. Flow (perm)		2221			3110	808		878		806	1105	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	42	435	41	1	1039	99	51	24	28	111	38	2
RTOR Reduction (vph)	0	0	0	0	0	4	0	15	0	0	0	0
Lane Group Flow (vph)	0	519	0	0	1039	95	0	88	0	74	77	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10	10		10			10			10
Parking (#/hr)		5	5	5		5	5	5	5			
Turn Type	Perm					Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2				6	6	8			4		
Actuated Green, G (s)		56.5			56.5	56.5		22.5		22.5	22.5	
Effective Green, g (s)		56.5			56.5	56.5		22.5		22.5	22.5	
Actuated g/C Ratio		0.63			0.63	0.63		0.25		0.25	0.25	
Clearance Time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		1394			1952	507		220		202	276	
v/s Ratio Prot					c0.33							
v/s Ratio Perm		0.23				0.12		c0.10		0.09	0.07	
v/c Ratio		0.37			0.53	0.19		0.40		0.37	0.28	
Uniform Delay, d1		8.1			9.4	7.1		28.1		27.9	27.2	
Progression Factor		1.00			1.09	1.26		1.00		1.00	1.00	
Incremental Delay, d2		0.8			1.0	0.7		5.3		1.1	0.6	
Delay (s)		8.9			11.2	9.6		33.5		29.0	27.8	
Level of Service		A			B	A		C		C	C	
Approach Delay (s)		8.9			11.0			33.5			27.9	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM Average Control Delay	13.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR2	NER2
Lane Configurations		
Volume (vph)	50	25
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.5	4.0
Lane Util. Factor	1.00	1.00
Frpb, ped/bikes	0.65	0.78
Flpb, ped/bikes	1.00	1.00
Frt	0.85	0.86
Flt Protected	1.00	1.00
Satd. Flow (prot)	911	967
Flt Permitted	1.00	1.00
Satd. Flow (perm)	911	967
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	52	26
RTOR Reduction (vph)	15	0
Lane Group Flow (vph)	37	26
Confl. Peds. (#/hr)	400	400
Confl. Bikes (#/hr)	10	10
Parking (#/hr)		5
Turn Type	Perm	Free
Protected Phases		
Permitted Phases	4	Free
Actuated Green, G (s)	22.5	90.0
Effective Green, g (s)	22.5	90.0
Actuated g/C Ratio	0.25	1.00
Clearance Time (s)	5.5	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	228	967
v/s Ratio Prot		
v/s Ratio Perm	0.04	0.03
v/c Ratio	0.16	0.03
Uniform Delay, d1	26.4	0.0
Progression Factor	1.00	1.00
Incremental Delay, d2	0.3	0.1
Delay (s)	26.7	0.1
Level of Service	C	A
Approach Delay (s)		
Approach LOS		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	449	0	0	1083	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	499	0	0	1203	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	499	0	0	1203	0
Confl. Peds. (#/hr)						
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		76.0			76.0	
Effective Green, g (s)		76.0			76.0	
Actuated g/C Ratio		0.84			0.84	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		2067			2547	
v/s Ratio Prot		0.20			c0.40	
v/s Ratio Perm						
v/c Ratio		0.24			0.47	
Uniform Delay, d1		1.4			1.8	
Progression Factor		1.23			1.75	
Incremental Delay, d2		0.3			0.4	
Delay (s)		1.9			3.6	
Level of Service		A			A	
Approach Delay (s)	1.9			0.0	3.6	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	3.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	54.2%	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												
Volume (vph)	10	187	50	149	364	28	70	114	77	13	88	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.87		1.00	0.95			1.00	0.62		1.00	0.36
Flpb, ped/bikes		0.99		0.57	1.00			0.80	1.00		0.97	1.00
Frt		0.97		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.99	1.00
Satd. Flow (prot)		2592		892	1352			1087	844		1572	507
Flt Permitted		0.93		0.58	1.00			0.86	1.00		0.96	1.00
Satd. Flow (perm)		2428		547	1352			948	844		1522	507
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)	11	208	56	166	404	31	78	127	86	14	98	46
RTOR Reduction (vph)	0	24	0	0	4	0	0	0	41	0	0	24
Lane Group Flow (vph)	0	251	0	166	431	0	0	205	45	0	112	22
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		36.4		36.4	36.4			43.6	43.6		43.6	43.6
Effective Green, g (s)		36.4		36.4	36.4			43.6	43.6		43.6	43.6
Actuated g/C Ratio		0.40		0.40	0.40			0.48	0.48		0.48	0.48
Clearance Time (s)		5.5		5.5	5.5			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)		982		221	547			459	409		737	246
v/s Ratio Prot					c0.32							
v/s Ratio Perm		0.10		0.30				c0.22	0.05		0.07	0.04
v/c Ratio		0.26		0.75	0.79			0.45	0.11		0.15	0.09
Uniform Delay, d1		17.8		22.9	23.4			15.3	12.6		12.9	12.5
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		0.1		13.4	7.4			3.1	0.5		0.4	0.7
Delay (s)		17.9		36.3	30.9			18.4	13.2		13.3	13.2
Level of Service		B		D	C			B	B		B	B
Approach Delay (s)		17.9			32.4			16.9			13.3	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	23.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
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												
Volume (vph)	0	210	104	19	348	1228	173	0	34	558	151	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.96			1.00	0.96		1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		0.98		1.00	1.00	
Frt		0.95			1.00	0.85		0.98		1.00	0.99	
Flt Protected		1.00			1.00	1.00		0.96		0.95	0.97	
Satd. Flow (prot)		2650			1628	2362		1313		1477	1502	
Flt Permitted		1.00			0.97	1.00		0.52		0.84	0.90	
Satd. Flow (perm)		2650			1589	2362		718		1302	1394	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	219	108	20	362	1279	180	0	35	581	157	14
RTOR Reduction (vph)	0	68	0	0	0	0	0	8	0	0	1	0
Lane Group Flow (vph)	0	259	0	0	382	1279	0	207	0	372	379	0
Confl. Peds. (#/hr)			50	50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		28.0			28.0	65.5		17.5		34.0	34.0	
Effective Green, g (s)		28.0			28.0	65.5		17.5		34.0	34.0	
Actuated g/C Ratio		0.31			0.31	0.73		0.19		0.38	0.38	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		824			494	1719		140		492	527	
v/s Ratio Prot		0.10										
v/s Ratio Perm					c0.24	c0.54		c0.29		0.29	0.27	
v/c Ratio		0.31			0.77	0.74		1.48		0.76	0.72	
Uniform Delay, d1		23.7			28.1	7.3		36.2		24.4	23.9	
Progression Factor		1.00			1.00	1.00		1.00		0.96	0.96	
Incremental Delay, d2		1.0			11.2	3.0		249.5		10.3	8.2	
Delay (s)		24.7			39.3	10.2		285.7		33.7	31.2	
Level of Service		C			D	B		F		C	C	
Approach Delay (s)		24.7			16.9			285.7			32.4	
Approach LOS		C			B			F			C	

Intersection Summary			
HCM Average Control Delay	41.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	90.5%	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												
Volume (vph)	21	571	15	82	1586	17	188	29	105	25	35	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5			3.5			3.5	3.5
Lane Util. Factor		0.95			0.91			0.95			1.00	1.00
Frpb, ped/bikes		0.99			1.00			0.87			1.00	0.62
Flpb, ped/bikes		1.00			0.99			0.80			0.92	1.00
Frt		1.00			1.00			0.95			1.00	0.85
Flt Protected		1.00			1.00			0.97			0.98	1.00
Satd. Flow (prot)		3061			4405			1886			1472	858
Flt Permitted		0.84			0.85			0.77			0.80	1.00
Satd. Flow (perm)		2580			3773			1492			1200	858
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)	23	634	17	91	1762	19	209	32	117	28	39	47
RTOR Reduction (vph)	0	1	0	0	1	0	0	59	0	0	0	6
Lane Group Flow (vph)	0	673	0	0	1871	0	0	299	0	0	67	41
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		62.5			62.5			20.5			20.5	20.5
Effective Green, g (s)		62.5			62.5			20.5			20.5	20.5
Actuated g/C Ratio		0.69			0.69			0.23			0.23	0.23
Clearance Time (s)		3.5			3.5			3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		1792			2620			340			273	195
v/s Ratio Prot												
v/s Ratio Perm		0.26			c0.50			c0.20			0.06	0.05
v/c Ratio		0.38			0.71			0.94dl			0.25	0.21
Uniform Delay, d1		5.7			8.3			33.5			28.4	28.2
Progression Factor		1.00			0.52			1.00			1.00	1.00
Incremental Delay, d2		0.1			0.9			25.9			2.1	2.4
Delay (s)		5.8			5.2			59.4			30.6	30.6
Level of Service		A			A			E			C	C
Approach Delay (s)		5.8			5.2			59.4			30.6	
Approach LOS		A			A			E			C	

Intersection Summary			
HCM Average Control Delay	12.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	92.2%	ICU Level of Service	F
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	9	585	123	5	1276	21	81	175	110	5	326	191
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.91		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.80		1.00		1.00	0.87			0.88	
Flpb, ped/bikes		1.00	1.00		1.00		0.85	1.00			1.00	
Frt		1.00	0.85		1.00		1.00	0.94			0.95	
Flt Protected		1.00	1.00		1.00		0.95	1.00			1.00	
Satd. Flow (prot)		3106	973		4441		1315	3657			3686	
Flt Permitted		0.93	1.00		0.94		0.43	1.00			0.94	
Satd. Flow (perm)		2887	973		4167		590	3657			3456	
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)	9	597	126	5	1302	21	83	179	112	5	333	195
RTOR Reduction (vph)	0	0	1	0	3	0	0	34	0	0	6	0
Lane Group Flow (vph)	0	606	125	0	1325	0	83	257	0	0	527	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		42.9	42.9		42.9		37.1	37.1			37.1	
Effective Green, g (s)		42.9	42.9		42.9		37.1	37.1			37.1	
Actuated g/C Ratio		0.48	0.48		0.48		0.41	0.41			0.41	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1376	464		1986		243	1507			1425	
v/s Ratio Prot								0.07				
v/s Ratio Perm		0.21	0.13		c0.32		0.14				c0.15	
v/c Ratio		0.44	0.27		0.67		0.34	0.17			0.37	
Uniform Delay, d1		15.6	14.1		18.1		18.1	16.7			18.3	
Progression Factor		0.79	0.80		1.52		1.00	1.00			1.00	
Incremental Delay, d2		0.2	0.3		0.8		3.8	0.2			0.7	
Delay (s)		12.5	11.6		28.2		21.9	17.0			19.1	
Level of Service		B	B		C		C	B			B	
Approach Delay (s)		12.3			28.2			18.1			19.1	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	21.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1319	172	0	1960	120	179	167	27	67	156	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.96			0.98		1.00	0.95		1.00	0.94	
Flpb, ped/bikes		1.00			1.00		0.77	1.00		0.77	1.00	
Frt		0.98			0.99		1.00	0.98		1.00	0.97	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4206			4156		1191	1528		1194	1311	
Flt Permitted		1.00			1.00		0.59	1.00		0.58	1.00	
Satd. Flow (perm)		4206			4156		737	1528		732	1311	
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)	0	1346	176	0	2000	122	183	170	28	68	159	35
RTOR Reduction (vph)	0	6	0	0	6	0	0	4	0	0	1	0
Lane Group Flow (vph)	0	1516	0	0	2116	0	183	194	0	68	193	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2430			2401		225	467		224	401	
v/s Ratio Prot		0.36			c0.51			0.13			0.15	
v/s Ratio Perm							c0.25			0.09		
v/c Ratio		0.62			0.88		0.81	0.42		0.30	0.48	
Uniform Delay, d1		12.5			16.3		28.9	24.9		23.9	25.5	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.2			5.1		26.5	2.7		3.5	4.1	
Delay (s)		13.8			21.4		55.4	27.6		27.4	29.6	
Level of Service		B			C		E	C		C	C	
Approach Delay (s)		13.8			21.4			40.9			29.0	
Approach LOS		B			C			D			C	

Intersection Summary			
HCM Average Control Delay	20.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	92.8%	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												
Volume (vph)	0	1063	65	0	1887	65	47	126	36	14	199	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			0.95	
Frpb, ped/bikes		0.99			0.99		1.00	0.93			0.93	
Flpb, ped/bikes		1.00			1.00		0.79	1.00			0.99	
Frt		0.99			1.00		1.00	0.97			0.97	
Flt Protected		1.00			1.00		0.95	1.00			1.00	
Satd. Flow (prot)		4376			4394		1221	1466			2769	
Flt Permitted		1.00			1.00		0.57	1.00			0.94	
Satd. Flow (perm)		4376			4394		729	1466			2602	
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	1119	68	0	1986	68	49	133	38	15	209	57
RTOR Reduction (vph)	0	4	0	0	4	0	0	9	0	0	1	0
Lane Group Flow (vph)	0	1183	0	0	2050	0	49	162	0	0	280	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2592			2602		218	438			778	
v/s Ratio Prot		0.27			c0.47			c0.11				
v/s Ratio Perm							0.07				0.11	
v/c Ratio		0.46			0.79		0.22	0.37			0.36	
Uniform Delay, d1		10.3			14.0		23.7	24.9			24.8	
Progression Factor		1.00			0.32		1.00	1.00			1.00	
Incremental Delay, d2		0.6			1.4		2.4	2.4			1.3	
Delay (s)		10.8			6.0		26.1	27.3			26.1	
Level of Service		B			A		C	C			C	
Approach Delay (s)		10.8			6.0			27.0			26.1	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	96.0%	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												
Volume (vph)	0	1227	58	0	1846	54	34	94	20	27	158	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.98			0.99			0.96			0.94	
Flpb, ped/bikes		1.00			1.00			0.96			0.97	
Frt		0.99			1.00			0.98			0.97	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		4186			4221			1269			1265	
Flt Permitted		1.00			1.00			0.90			0.95	
Satd. Flow (perm)		4186			4221			1153			1212	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1334	63	0	2007	59	37	102	22	29	172	47
RTOR Reduction (vph)	0	5	0	0	3	0	0	6	0	0	1	0
Lane Group Flow (vph)	0	1392	0	0	2063	0	0	155	0	0	247	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2512			2533			346			364	
v/s Ratio Prot		0.33			c0.49							
v/s Ratio Perm								0.13			c0.20	
v/c Ratio		0.55			0.81			0.45			0.68	
Uniform Delay, d1		10.8			14.1			25.5			27.7	
Progression Factor		1.38			1.00			1.00			1.00	
Incremental Delay, d2		0.8			3.0			4.2			9.7	
Delay (s)		15.7			17.1			29.7			37.4	
Level of Service		B			B			C			D	
Approach Delay (s)		15.7			17.1			29.7			37.4	
Approach LOS		B			B			C			D	

Intersection Summary			
HCM Average Control Delay	18.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	75.0%	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		↑↑↑			↑↑↑		↰	↕				↱
Volume (vph)	0	1029	0	0	1005	43	814	431	33	0	0	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.99		1.00	0.99				0.97
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.98				1.00
Satd. Flow (prot)		4282			4380		1415	2687				1367
Flt Permitted		1.00			1.00		0.95	0.98				1.00
Satd. Flow (perm)		4282			4380		1415	2687				1367
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1106	0	0	1081	46	875	463	35	0	0	52
RTOR Reduction (vph)	0	0	0	0	5	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	1106	0	0	1122	0	455	915	0	0	0	52
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		38.0			26.0		42.0	42.0				9.0
Effective Green, g (s)		38.0			26.0		42.0	42.0				9.0
Actuated g/C Ratio		0.42			0.29		0.47	0.47				0.10
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		1808			1265		660	1254				137
v/s Ratio Prot		c0.26			c0.26							
v/s Ratio Perm							0.32	0.34				0.04
v/c Ratio		0.61			0.89		0.69	0.73				0.38
Uniform Delay, d1		20.3			30.6		18.9	19.4				37.9
Progression Factor		1.00			0.68		1.00	1.00				1.00
Incremental Delay, d2		1.6			5.8		5.8	3.8				7.8
Delay (s)		21.8			26.7		24.7	23.2				45.7
Level of Service		C			C		C	C				D
Approach Delay (s)		21.8			26.7			23.7			45.7	
Approach LOS		C			C			C			D	

Intersection Summary			
HCM Average Control Delay	24.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	73.0%	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												
Volume (vph)	107	112	851	0	92	9	1017	232	34	0	448	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		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.97		1.00	0.96			1.00	0.67
Flpb, ped/bikes		0.86	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.99		1.00	0.98			1.00	0.85
Flt Protected		0.98	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1382	2448		1332		4385	1342			3110	815
Flt Permitted		0.79	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		1123	2448		1332		4385	1342			3110	815
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	115	120	915	0	99	10	1094	249	37	0	482	91
RTOR Reduction (vph)	0	0	2	0	4	0	0	6	0	0	0	6
Lane Group Flow (vph)	0	235	913	0	105	0	1094	280	0	0	482	85
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		26.5	55.5		26.5		25.5	55.5			26.5	26.5
Effective Green, g (s)		26.5	52.0		26.5		25.5	55.5			26.5	26.5
Actuated g/C Ratio		0.29	0.58		0.29		0.28	0.62			0.29	0.29
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		331	1414		392		1242	828			916	240
v/s Ratio Prot			0.37		0.08		c0.25	0.21			c0.16	
v/s Ratio Perm		c0.21										0.10
v/c Ratio		0.71	0.65		0.27		0.88	0.34			0.53	0.35
Uniform Delay, d1		28.3	12.8		24.3		30.8	8.4			26.5	25.0
Progression Factor		0.94	0.56		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		5.5	0.8		0.4		9.2	1.1			2.2	4.0
Delay (s)		32.1	8.0		24.7		40.0	9.5			28.7	29.0
Level of Service		C	A		C		D	A			C	C
Approach Delay (s)		12.9			24.7			33.6			28.7	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM Average Control Delay	25.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	76.1%	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												
Volume (vph)	0	0	0	63	207	40	29	36	0	0	46	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.29		1.00			0.90	
Flpb, ped/bikes					0.85	1.00		0.87			1.00	
Frt					1.00	0.85		1.00			0.96	
Flt Protected					0.99	1.00		0.98			1.00	
Satd. Flow (prot)					2450	398		1392			1419	
Flt Permitted					0.99	1.00		0.88			1.00	
Satd. Flow (perm)					2450	398		1258			1419	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	0	72	238	46	33	41	0	0	53	22
RTOR Reduction (vph)	0	0	0	0	0	26	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	310	20	0	74	0	0	75	0
Confl. Peds. (#/hr)				945		1084	569					569
Confl. Bikes (#/hr)						76			2			4
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					32.0	32.0		33.0			33.0	
Effective Green, g (s)					32.0	32.0		33.0			33.0	
Actuated g/C Ratio					0.43	0.43		0.44			0.44	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1045	170		554			624	
v/s Ratio Prot											0.05	
v/s Ratio Perm					0.13	0.05		c0.06				
v/c Ratio					0.30	0.12		0.13			0.12	
Uniform Delay, d1					14.1	13.0		12.5			12.4	
Progression Factor					1.00	1.00		0.84			1.00	
Incremental Delay, d2					0.7	1.4		0.5			0.4	
Delay (s)					14.8	14.3		11.0			12.8	
Level of Service					B	B		B			B	
Approach Delay (s)		0.0			14.8			11.0			12.8	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	57.5%	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												
Volume (vph)	0	0	0	99	242	25	32	25	0	0	40	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.94		1.00	1.00			0.92	
Flpb, ped/bikes				1.00	1.00		0.66	1.00			1.00	
Frt				1.00	0.99		1.00	1.00			0.97	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	2869		1020	1637			1473	
Flt Permitted				0.95	1.00		0.72	1.00			1.00	
Satd. Flow (perm)				1555	2869		773	1637			1473	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	0	111	272	28	36	28	0	0	45	11
RTOR Reduction (vph)	0	0	0	0	6	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	111	294	0	36	28	0	0	56	0
Confl. Peds. (#/hr)						1700	537					569
Confl. Bikes (#/hr)						76			2			4
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				47.4	47.4		18.3	18.3			18.3	
Effective Green, g (s)				47.4	47.4		18.3	18.3			18.3	
Actuated g/C Ratio				0.63	0.63		0.24	0.24			0.24	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				983	1813		189	399			359	
v/s Ratio Prot				0.07	c0.10			0.02			0.04	
v/s Ratio Perm							c0.05					
v/c Ratio				0.11	0.16		0.19	0.07			0.16	
Uniform Delay, d1				5.5	5.7		22.5	21.8			22.3	
Progression Factor				1.00	1.00		1.15	1.15			1.00	
Incremental Delay, d2				0.2	0.2		2.2	0.3			0.9	
Delay (s)				5.7	5.9		28.0	25.4			23.2	
Level of Service				A	A		C	C			C	
Approach Delay (s)		0.0			5.8			26.9			23.2	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	10.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.17		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	157	92	9	73	18	8
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	167	98	10	78	19	9
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	306					
pX, platoon unblocked						
vC, conflicting volume			665		1113	932
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			665		1113	932
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		80	93
cM capacity (veh/h)			644		97	130

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	111	154	87	28
Volume Left	0	0	10	19
Volume Right	0	98	0	9
cSH	1700	1700	644	105
Volume to Capacity	0.07	0.09	0.01	0.26
Queue Length 95th (ft)	0	0	1	24
Control Delay (s)	0.0	0.0	1.3	51.0
Lane LOS			A	F
Approach Delay (s)	0.0		1.3	51.0
Approach LOS				F

Intersection Summary			
Average Delay	4.0		
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												
Volume (vph)	20	151	17	20	81	7	14	46	9	26	56	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	
Lane Util. Factor		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.44		0.96			0.93			0.94	
Flpb, ped/bikes		0.95	1.00		0.92			0.91			0.87	
Frt		1.00	0.85		0.99			0.98			0.99	
Flt Protected		0.99	1.00		0.99			0.99			0.99	
Satd. Flow (prot)		1538	609		1250			1182			1139	
Flt Permitted		0.97	1.00		0.94			0.95			0.92	
Satd. Flow (perm)		1494	609		1182			1133			1061	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	24	178	20	24	95	8	16	54	11	31	66	12
RTOR Reduction (vph)	0	0	9	0	3	0	0	7	0	0	6	0
Lane Group Flow (vph)	0	202	11	0	124	0	0	74	0	0	103	0
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4			4		
Actuated Green, G (s)		40.0	40.0		40.0			26.0			26.0	
Effective Green, g (s)		40.0	40.0		40.0			26.0			26.0	
Actuated g/C Ratio		0.53	0.53		0.53			0.35			0.35	
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)		797	325		630			393			368	
v/s Ratio Prot												
v/s Ratio Perm		c0.14	0.02		0.10			0.07			c0.10	
v/c Ratio		0.25	0.03		0.20			0.19			0.28	
Uniform Delay, d1		9.4	8.3		9.1			17.1			17.7	
Progression Factor		1.00	1.00		1.00			1.00			0.91	
Incremental Delay, d2		0.8	0.2		0.7			1.1			1.9	
Delay (s)		10.2	8.5		9.8			18.2			18.0	
Level of Service		B	A		A			B			B	
Approach Delay (s)		10.1			9.8			18.2			18.0	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM Average Control Delay	12.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	99.6%	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												
Volume (vph)	0	219	11	9	49	0	15	0	39	15	11	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
Lane Util. Factor		1.00	1.00		0.95			1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.26		1.00			0.60			1.00	0.67
Flpb, ped/bikes		1.00	1.00		0.92			0.91			0.72	1.00
Frt		1.00	0.85		1.00			0.90			1.00	0.85
Flt Protected		1.00	1.00		0.99			0.99			0.97	1.00
Satd. Flow (prot)		1637	354		2842			805			1140	933
Flt Permitted		1.00	1.00		0.90			0.95			0.91	1.00
Satd. Flow (perm)		1637	354		2592			779			1066	933
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	233	12	10	52	0	16	0	41	16	12	12
RTOR Reduction (vph)	0	0	9	0	0	0	0	0	0	0	0	5
Lane Group Flow (vph)	0	233	3	0	62	0	0	57	0	0	28	7
Confl. Peds. (#/hr)			800	800			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	36.5
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	36.5
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	0.61
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)		396	86		626			474			648	568
v/s Ratio Prot		c0.14										
v/s Ratio Perm			0.01		0.02			c0.07			0.03	0.01
v/c Ratio		0.59	0.03		0.10			0.12			0.04	0.01
Uniform Delay, d1		20.1	17.4		17.7			5.0			4.7	4.6
Progression Factor		1.00	1.00		1.00			1.00			1.00	1.00
Incremental Delay, d2		6.3	0.7		0.3			0.5			0.0	0.0
Delay (s)		26.4	18.1		18.0			5.5			4.8	4.6
Level of Service		C	B		B			A			A	A
Approach Delay (s)		26.0			18.0			5.5			4.7	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM Average Control Delay	19.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	301	17	73	8	141	4	146	335
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		0.97		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		0.99		1.00			1.00
Flt Protected		1.00		0.96		1.00			0.99
Satd. Flow (prot)		942		1315		1628			3063
Flt Permitted		1.00		0.96		1.00			0.95
Satd. Flow (perm)		942		1315		1628			2970
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	327	18	79	9	153	4	159	364
RTOR Reduction (vph)	0	0	0	6	0	0	0	0	0
Lane Group Flow (vph)	0	327	0	100	0	157	0	0	523
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		373		312			891
v/s Ratio Prot						0.10			
v/s Ratio Perm		c0.35		0.08					0.18
v/c Ratio		0.62		0.27		0.50			0.59
Uniform Delay, d1		9.0		16.7		21.7			17.8
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		5.4		1.8		1.3			2.8
Delay (s)		14.4		18.4		23.0			20.7
Level of Service		B		B		C			C
Approach Delay (s)	14.4			18.4		23.0			20.7
Approach LOS	B			B		C			C

Intersection Summary			
HCM Average Control Delay	18.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	66.7%	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												
Volume (vph)	21	133	44	28	293	29	62	38	22	22	76	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.95			1.00	0.59	1.00	0.80			0.79	
Flpb, ped/bikes		0.98			1.00	1.00	0.60	1.00			0.94	
Frt		0.97			1.00	0.85	1.00	0.95			0.94	
Flt Protected		0.99			1.00	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1275			1426	721	938	1085			2167	
Flt Permitted		0.95			0.96	1.00	0.64	1.00			0.91	
Satd. Flow (perm)		1214			1379	721	631	1085			1985	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	24	153	51	32	337	33	71	44	25	25	87	67
RTOR Reduction (vph)	0	7	0	0	0	6	0	21	0	0	0	0
Lane Group Flow (vph)	0	221	0	0	369	27	71	48	0	0	179	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		63.8			63.8	63.8	16.1	16.1			16.1	
Effective Green, g (s)		63.8			63.8	63.8	16.1	16.1			16.1	
Actuated g/C Ratio		0.71			0.71	0.71	0.18	0.18			0.18	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		861			978	511	113	194			355	
v/s Ratio Prot								0.04				
v/s Ratio Perm		0.18			c0.27	0.04	c0.11				0.09	
v/c Ratio		0.26			0.38	0.05	0.63	0.25			0.50	
Uniform Delay, d1		4.7			5.2	4.0	34.2	31.8			33.3	
Progression Factor		1.00			1.00	1.00	1.28	1.44			1.00	
Incremental Delay, d2		0.7			1.1	0.2	10.4	0.7			1.1	
Delay (s)		5.4			6.3	4.2	54.3	46.5			34.5	
Level of Service		A			A	A	D	D			C	
Approach Delay (s)		5.4			6.1			50.4			34.5	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM Average Control Delay	17.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	118.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Volume (vph)	23	201	25	10	306	16	20	33	23	20	38	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.95			0.98			0.82			0.78	
Flpb, ped/bikes		0.98			0.99			0.87			0.89	
Frt		0.99			0.99			0.96			0.95	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		1310			1377			970			938	
Flt Permitted		0.96			0.99			0.92			0.93	
Satd. Flow (perm)		1258			1366			903			885	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	24	214	27	11	326	17	21	35	24	21	40	34
RTOR Reduction (vph)	0	1	0	0	1	0	0	17	0	0	22	0
Lane Group Flow (vph)	0	264	0	0	353	0	0	63	0	0	73	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.6			62.6			18.6			18.6	
Effective Green, g (s)		62.6			62.6			18.6			18.6	
Actuated g/C Ratio		0.70			0.70			0.21			0.21	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		875			950			187			183	
v/s Ratio Prot												
v/s Ratio Perm		0.21			c0.26			0.07			c0.08	
v/c Ratio		0.30			0.37			0.33			0.40	
Uniform Delay, d1		5.3			5.6			30.4			30.9	
Progression Factor		1.00			1.00			1.78			1.00	
Incremental Delay, d2		0.9			1.1			4.5			6.3	
Delay (s)		6.2			6.7			58.7			37.2	
Level of Service		A			A			E			D	
Approach Delay (s)		6.2			6.7			58.7			37.2	
Approach LOS		A			A			E			D	

Intersection Summary			
HCM Average Control Delay	15.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	14	253	81	21	208	12	26	14	29	19	44	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.89			1.00	0.51		0.76			0.78	
Flpb, ped/bikes		0.99			0.98	1.00		0.84			0.91	
Frt		0.97			1.00	0.85		0.94			0.95	
Flt Protected		1.00			1.00	1.00		0.98			0.99	
Satd. Flow (prot)		1209			1391	617		850			963	
Flt Permitted		0.99			0.95	1.00		0.89			0.95	
Satd. Flow (perm)		1194			1330	617		768			924	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	16	284	91	24	234	13	29	16	33	21	49	44
RTOR Reduction (vph)	0	6	0	0	0	5	0	24	0	0	25	0
Lane Group Flow (vph)	0	385	0	0	258	8	0	54	0	0	89	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		57.0			57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0			57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63			0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		756			842	391		213			257	
v/s Ratio Prot												
v/s Ratio Perm		c0.32			0.19	0.01		0.07			c0.10	
v/c Ratio		0.51			0.31	0.02		0.25			0.35	
Uniform Delay, d1		8.9			7.5	6.1		25.3			26.0	
Progression Factor		1.00			0.84	0.81		0.95			1.00	
Incremental Delay, d2		2.4			0.9	0.1		2.6			3.6	
Delay (s)		11.4			7.2	5.1		26.5			29.6	
Level of Service		B			A	A		C			C	
Approach Delay (s)		11.4			7.1			26.5			29.6	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM Average Control Delay	13.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	17	235	57	7	152	5	23	17	32	14	36	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.51		1.00	0.51		0.75			0.83	
Flpb, ped/bikes		0.98	1.00		0.99	1.00		0.85			0.91	
Frt		1.00	0.85		1.00	0.85		0.94			0.96	
Flt Protected		1.00	1.00		1.00	1.00		0.98			0.99	
Satd. Flow (prot)		1392	604		1409	604		846			1167	
Flt Permitted		0.98	1.00		0.99	1.00		0.91			0.95	
Satd. Flow (perm)		1368	604		1394	604		784			1121	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	19	264	64	8	171	6	26	19	36	16	40	25
RTOR Reduction (vph)	0	0	7	0	0	2	0	26	0	0	18	0
Lane Group Flow (vph)	0	283	57	0	179	4	0	55	0	0	63	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63	0.63		0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		866	383		883	383		218			311	
v/s Ratio Prot												
v/s Ratio Perm		c0.21	0.09		0.13	0.01		c0.07			0.06	
v/c Ratio		0.33	0.15		0.20	0.01		0.25			0.20	
Uniform Delay, d1		7.6	6.7		6.9	6.1		25.2			24.9	
Progression Factor		0.43	0.36		1.00	1.00		0.87			1.00	
Incremental Delay, d2		0.9	0.7		0.5	0.0		2.5			1.5	
Delay (s)		4.2	3.2		7.5	6.1		24.5			26.3	
Level of Service		A	A		A	A		C			C	
Approach Delay (s)		4.0			7.4			24.5			26.3	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	9.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	19	243	13	4	25	10	405	54	1	154	465
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				5.0		5.0			5.0	5.0
Lane Util. Factor	1.00				1.00		0.95			1.00	0.95
Frpb, ped/bikes	0.89				0.90		0.90			1.00	1.00
Flpb, ped/bikes	1.00				0.67		1.00			1.00	1.00
Frt	0.87				0.96		0.98			1.00	1.00
Flt Protected	1.00				0.96		1.00			0.95	1.00
Satd. Flow (prot)	1267				917		2743			1555	3110
Flt Permitted	1.00				0.96		1.00			0.95	1.00
Satd. Flow (perm)	1267				917		2743			1555	3110
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
Adj. Flow (vph)	20	256	14	4	26	11	426	57	1	162	489
RTOR Reduction (vph)	2	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	288	0	0	0	41	0	484	0	0	162	489
Confl. Peds. (#/hr)				400	400	400		400	400		
Confl. Bikes (#/hr)		30	30			10		30	30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0
Turn Type				Perm						Split	
Protected Phases	4				3		6			2	2
Permitted Phases				3							
Actuated Green, G (s)	20.0				20.0		17.0			13.0	13.0
Effective Green, g (s)	20.0				20.0		17.0			13.0	13.0
Actuated g/C Ratio	0.22				0.22		0.19			0.14	0.14
Clearance Time (s)	5.0				5.0		5.0			5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	282				204		518			225	449
v/s Ratio Prot	c0.23						c0.18			0.10	c0.16
v/s Ratio Perm					0.04						
v/c Ratio	1.02				0.20		0.93			0.72	1.09
Uniform Delay, d1	35.0				28.5		36.0			36.8	38.5
Progression Factor	1.00				1.04		1.00			0.85	0.81
Incremental Delay, d2	58.8				0.5		26.2			17.6	68.1
Delay (s)	93.8				30.2		62.2			48.6	99.4
Level of Service	F				C		E			D	F
Approach Delay (s)	93.8				30.2		62.2				86.8
Approach LOS	F				C		E				F

Intersection Summary			
HCM Average Control Delay	78.5	HCM Level of Service	E
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	77.1%	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												
Volume (vph)	0	674	32	5	1347	21	0	36	9	0	71	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.91			1.00			1.00	
Frpb, ped/bikes		0.99			1.00			0.92			0.92	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.97			0.97	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2856			4252			1287			1280	
Flt Permitted		1.00			0.94			1.00			1.00	
Satd. Flow (perm)		2856			3988			1287			1280	
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)	0	749	36	6	1497	23	0	40	10	0	79	21
RTOR Reduction (vph)	0	0	0	0	0	0	0	9	0	0	12	0
Lane Group Flow (vph)	0	785	0	0	1526	0	0	41	0	0	88	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type				Perm								
Protected Phases		2			6			8			4	
Permitted Phases				6								
Actuated Green, G (s)		71.0			71.0			10.2			10.2	
Effective Green, g (s)		71.0			71.0			10.2			10.2	
Actuated g/C Ratio		0.79			0.79			0.11			0.11	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2253			3146			146			145	
v/s Ratio Prot		0.27						0.03			c0.07	
v/s Ratio Perm					c0.38							
v/c Ratio		0.35			0.48			0.28			0.61	
Uniform Delay, d1		2.8			3.2			36.5			38.0	
Progression Factor		0.57			1.00			1.00			1.00	
Incremental Delay, d2		0.4			0.1			1.1			7.4	
Delay (s)		2.0			3.4			37.6			45.4	
Level of Service		A			A			D			D	
Approach Delay (s)		2.0			3.4			37.6			45.4	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	5.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	0	562	193	0	1017	34	346	86	66	0	145	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.70		1.00	0.70	1.00	1.00	0.74		0.99	
Flpb, ped/bikes		1.00	1.00		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	0.85		1.00	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3110	974		3110	974	3016	1637	1024		2876	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		3110	974		3110	974	3016	1637	1024		2876	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	598	205	0	1082	36	368	91	70	0	154	4
RTOR Reduction (vph)	0	0	82	0	0	16	0	0	7	0	3	0
Lane Group Flow (vph)	0	598	123	0	1082	20	368	91	63	0	155	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type			Perm			Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases			2			6			8			
Actuated Green, G (s)		50.2	50.2		50.2	50.2	16.1	30.8	30.8		10.2	
Effective Green, g (s)		50.2	50.2		50.2	50.2	16.1	30.8	30.8		10.2	
Actuated g/C Ratio		0.56	0.56		0.56	0.56	0.18	0.34	0.34		0.11	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		1735	543		1735	543	540	560	350		326	
v/s Ratio Prot		0.19			c0.35		c0.12	0.06			c0.05	
v/s Ratio Perm			0.13			0.02			0.06			
v/c Ratio		0.34	0.23		0.62	0.04	0.68	0.16	0.18		0.48	
Uniform Delay, d1		10.9	10.1		13.5	9.0	34.6	20.6	20.8		37.4	
Progression Factor		1.00	1.00		0.85	0.88	1.00	1.00	1.00		0.92	
Incremental Delay, d2		0.5	1.0		1.6	0.1	3.5	0.1	0.3		1.1	
Delay (s)		11.4	11.0		13.1	8.0	38.1	20.8	21.0		35.6	
Level of Service		B	B		B	A	D	C	C		D	
Approach Delay (s)		11.3			12.9			32.8			35.6	
Approach LOS		B			B			C			D	

Intersection Summary			
HCM Average Control Delay	17.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	75.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	52	504	1013	31	47	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.91		1.00	
Frpb, ped/bikes		1.00	0.99		0.83	
Flpb, ped/bikes		0.99	1.00		1.00	
Frt		1.00	1.00		0.94	
Flt Protected		1.00	1.00		0.97	
Satd. Flow (prot)		2886	4409		1088	
Flt Permitted		0.77	1.00		0.97	
Satd. Flow (perm)		2242	4409		1088	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	55	536	1078	33	50	43
RTOR Reduction (vph)	0	0	3	0	24	0
Lane Group Flow (vph)	0	591	1108	0	69	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		64.0	64.0		19.0	
Effective Green, g (s)		64.0	64.0		19.0	
Actuated g/C Ratio		0.71	0.71		0.21	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1594	3135		230	
v/s Ratio Prot			0.25		c0.06	
v/s Ratio Perm		c0.26				
v/c Ratio		0.37	0.35		0.30	
Uniform Delay, d1		5.1	5.0		29.9	
Progression Factor		0.49	1.00		1.45	
Incremental Delay, d2		0.1	0.1		3.2	
Delay (s)		2.6	5.1		46.5	
Level of Service		A	A		D	
Approach Delay (s)		2.6	5.1		46.5	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	6.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	82.8%	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												
Volume (vph)	12	404	48	41	1045	15	25	35	55	31	77	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			1.00			0.83			0.89	
Flpb, ped/bikes		1.00			0.99			0.95			0.95	
Frt		0.98			1.00			0.94			0.96	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		2768			2876			1047			1155	
Flt Permitted		0.92			0.92			0.92			0.92	
Satd. Flow (perm)		2546			2642			976			1077	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	13	434	52	44	1124	16	27	38	59	33	83	49
RTOR Reduction (vph)	0	2	0	0	1	0	0	36	0	0	17	0
Lane Group Flow (vph)	0	497	0	0	1183	0	0	88	0	0	148	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		60.6			60.6			20.6			20.6	
Effective Green, g (s)		60.6			60.6			20.6			20.6	
Actuated g/C Ratio		0.67			0.67			0.23			0.23	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1714			1779			223			247	
v/s Ratio Prot												
v/s Ratio Perm		0.20			c0.45			0.09			c0.14	
v/c Ratio		0.29			0.66			0.39			0.60	
Uniform Delay, d1		6.0			8.7			29.4			31.0	
Progression Factor		1.00			0.23			1.00			0.91	
Incremental Delay, d2		0.4			1.6			5.1			9.4	
Delay (s)		6.4			3.7			34.5			37.6	
Level of Service		A			A			C			D	
Approach Delay (s)		6.4			3.7			34.5			37.6	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM Average Control Delay	9.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
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												
Volume (vph)	19	500	20	23	1072	30	21	25	58	40	33	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.80			0.89	
Flpb, ped/bikes		1.00			1.00			0.95			0.90	
Frt		0.99			1.00			0.92			0.96	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2855			2869			989			1083	
Flt Permitted		0.89			0.94			0.93			0.80	
Satd. Flow (perm)		2551			2689			929			884	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	543	22	25	1165	33	23	27	63	43	36	33
RTOR Reduction (vph)	0	1	0	0	1	0	0	54	0	0	18	0
Lane Group Flow (vph)	0	585	0	0	1222	0	0	59	0	0	94	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		68.8			68.8			12.3			12.3	
Effective Green, g (s)		68.8			68.8			12.3			12.3	
Actuated g/C Ratio		0.76			0.76			0.14			0.14	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1950			2056			127			121	
v/s Ratio Prot												
v/s Ratio Perm		0.23			c0.45			0.06			c0.11	
v/c Ratio		0.30			0.59			0.46			0.78	
Uniform Delay, d1		3.2			4.6			35.8			37.5	
Progression Factor		0.80			0.33			1.00			0.84	
Incremental Delay, d2		0.4			0.4			2.6			25.9	
Delay (s)		3.0			1.9			38.4			57.4	
Level of Service		A			A			D			E	
Approach Delay (s)		3.0			1.9			38.4			57.4	
Approach LOS		A			A			D			E	

Intersection Summary			
HCM Average Control Delay	7.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	76.1%	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												
Volume (vph)	10	530	57	19	995	2	124	3	24	2	3	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			1.00			0.94			0.72	
Flpb, ped/bikes		1.00			1.00			0.72			0.98	
Frt		0.99			1.00			0.98			0.90	
Flt Protected		1.00			1.00			0.96			1.00	
Satd. Flow (prot)		2785			3098			1042			1036	
Flt Permitted		0.93			0.94			0.75			0.98	
Satd. Flow (perm)		2604			2907			813			1019	
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)	11	589	63	21	1106	2	138	3	27	2	3	16
RTOR Reduction (vph)	0	2	0	0	0	0	0	8	0	0	13	0
Lane Group Flow (vph)	0	661	0	0	1129	0	0	160	0	0	8	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1797			2006			174			219	
v/s Ratio Prot												
v/s Ratio Perm		0.25			c0.39			c0.20			0.01	
v/c Ratio		0.37			0.56			0.92			0.04	
Uniform Delay, d1		5.8			7.1			34.6			28.0	
Progression Factor		1.55			0.22			1.00			0.83	
Incremental Delay, d2		0.6			0.8			49.9			0.1	
Delay (s)		9.6			2.3			84.5			23.4	
Level of Service		A			A			F			C	
Approach Delay (s)		9.6			2.3			84.5			23.4	
Approach LOS		A			A			F			C	

Intersection Summary			
HCM Average Control Delay	12.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	16	539	938	603	633	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3058	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3058	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	586	1020	655	688	33
RTOR Reduction (vph)	0	11	0	0	3	0
Lane Group Flow (vph)	17	575	1020	655	718	0
Confl. Peds. (#/hr)						95
Confl. Bikes (#/hr)		10				81
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	11.0	51.9	36.9	69.0	28.1	
Effective Green, g (s)	11.0	51.9	36.9	69.0	28.1	
Actuated g/C Ratio	0.12	0.58	0.41	0.77	0.31	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	190	1412	1237	2235	955	
v/s Ratio Prot	0.01	c0.24	c0.34	0.22	c0.23	
v/s Ratio Perm						
v/c Ratio	0.09	0.41	0.82	0.29	0.75	
Uniform Delay, d1	35.1	10.5	23.7	3.2	27.8	
Progression Factor	1.40	0.91	0.87	1.28	0.71	
Incremental Delay, d2	0.2	0.2	3.5	0.3	1.3	
Delay (s)	49.1	9.8	24.0	4.3	21.1	
Level of Service	D	A	C	A	C	
Approach Delay (s)	10.9			16.3	21.1	
Approach LOS	B			B	C	

Intersection Summary			
HCM Average Control Delay	16.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	79	317	15	0	96	0	25	23	1202
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			0.97			1.00	1.00
Flpb, ped/bikes				0.78			1.00			1.00	1.00
Frt				0.99			0.97			1.00	1.00
Flt Protected				0.95			1.00			0.95	1.00
Satd. Flow (prot)				2187			4218			1555	3110
Flt Permitted				0.95			1.00			0.95	1.00
Satd. Flow (perm)				2187			4218			1555	3110
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
Adj. Flow (vph)	0	0	88	352	17	0	107	0	28	26	1336
RTOR Reduction (vph)	0	0	0	3	0	0	12	0	0	0	0
Lane Group Flow (vph)	0	0	0	454	0	0	123	0	0	26	1336
Confl. Peds. (#/hr)			125	64					125		
Confl. Bikes (#/hr)					34				86		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				21.9			50.5			4.6	59.1
Effective Green, g (s)				21.9			50.5			4.6	59.1
Actuated g/C Ratio				0.24			0.56			0.05	0.66
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				532			2367			79	2042
v/s Ratio Prot							0.03			0.02	c0.43
v/s Ratio Perm				0.21							
v/c Ratio				0.85			0.05			0.33	0.65
Uniform Delay, d1				32.5			8.9			41.2	9.3
Progression Factor				1.00			0.78			1.00	1.00
Incremental Delay, d2				12.6			0.0			0.9	1.7
Delay (s)				45.1			6.9			42.1	11.0
Level of Service				D			A			D	B
Approach Delay (s)	0.0			45.1			6.9				11.5
Approach LOS	A			D			A				B

Intersection Summary			
HCM Average Control Delay	19.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBR	EBR2	SEL	SET	SER2	NWL2	NWL	NWT	NWR	SWR2
Lane Configurations											
Volume (vph)	24	1	250	12	812	343	100	0	1184	11	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		7.0	7.0	7.0		4.0	7.0		
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00		1.00	0.95		
Frpb, ped/bikes	1.00	0.91		1.00	1.00	0.95		1.00	0.99		
Flpb, ped/bikes	1.00	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	1.00		
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95	1.00		
Satd. Flow (prot)	1555	1105		1555	3110	1323		1555	3088		
Flt Permitted	0.95	1.00		0.21	1.00	1.00		0.40	1.00		
Satd. Flow (perm)	1555	1105		343	3110	1323		655	3088		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	1	272	13	883	373	109	0	1287	12	0
RTOR Reduction (vph)	0	195	0	0	0	231	0	0	1	0	0
Lane Group Flow (vph)	26	78	0	13	883	142	0	109	1298	0	0
Confl. Peds. (#/hr)			64							1000	100
Confl. Bikes (#/hr)		10	10			30				30	10
Parking (#/hr)		5	5								
Turn Type	custom	custom		Perm		Perm	custom	Prot			custom
Protected Phases					6			5	2		
Permitted Phases	4	4		6		6	5				8
Actuated Green, G (s)	22.5	22.5		30.0	30.0	30.0		10.0	44.0		
Effective Green, g (s)	22.5	22.5		30.0	30.0	30.0		10.0	44.0		
Actuated g/C Ratio	0.28	0.28		0.38	0.38	0.38		0.13	0.56		
Clearance Time (s)	5.5	5.5		7.0	7.0	7.0		4.0	7.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	443	315		130	1181	502		83	1720		
v/s Ratio Prot					0.28				c0.42		
v/s Ratio Perm	0.02	c0.07		0.04		0.11		c0.17			
v/c Ratio	0.06	0.25		0.10	0.75	0.28		1.31	0.75		
Uniform Delay, d1	20.5	21.7		15.8	21.2	17.0		34.5	13.4		
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2	0.1	0.4		1.5	4.3	1.4		203.8	3.1		
Delay (s)	20.6	22.2		17.3	25.6	18.4		238.3	16.5		
Level of Service	C	C		B	C	B		F	B		
Approach Delay (s)					23.4				33.7		
Approach LOS					C				C		

Intersection Summary			
HCM Average Control Delay	28.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	105.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	27	0	64	0	0	0	46	1246	0	0	4	898
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.77					1.00	1.00				0.99
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.91					1.00	1.00				1.00
Flt Protected		0.99					0.95	1.00				1.00
Satd. Flow (prot)		982					1555	3110				3085
Flt Permitted		0.99					0.95	1.00				0.95
Satd. Flow (perm)		982					1555	3110				2932
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	29	0	68	0	0	0	49	1326	0	0	4	955
RTOR Reduction (vph)	0	3	0	0	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	0	94	0	0	0	0	49	1326	0	0	0	970
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		12.6					5.4	68.4				58.0
Effective Green, g (s)		12.6					5.4	68.4				58.0
Actuated g/C Ratio		0.14					0.06	0.76				0.64
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		137					93	2364				1890
v/s Ratio Prot		c0.10					0.03	c0.43				
v/s Ratio Perm												0.33
v/c Ratio		0.69					0.53	0.56				0.51
Uniform Delay, d1		36.8					41.1	4.5				8.5
Progression Factor		1.00					1.23	1.82				1.00
Incremental Delay, d2		13.5					4.8	0.9				1.0
Delay (s)		50.3					55.2	9.1				9.5
Level of Service		D					E	A				A
Approach Delay (s)		50.3			0.0			10.8				9.5
Approach LOS		D			A			B				A

Intersection Summary			
HCM Average Control Delay	11.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	95.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	11
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	12
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	69	543	0	0	753	107	274	281	39	0	0	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			
Lane Util. Factor		0.95			0.95			0.95	1.00			
Frpb, ped/bikes		1.00			0.97			1.00	0.71			
Flpb, ped/bikes		0.99			1.00			0.86	1.00			
Frt		1.00			0.98			1.00	0.85			
Flt Protected		0.99			1.00			0.98	1.00			
Satd. Flow (prot)		2840			2726			2416	986			
Flt Permitted		0.72			1.00			0.98	1.00			
Satd. Flow (perm)		2064			2726			2416	986			
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	572	0	0	793	113	288	296	41	0	0	0
RTOR Reduction (vph)	0	0	0	0	14	0	0	0	24	0	0	0
Lane Group Flow (vph)	0	645	0	0	892	0	0	584	17	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm		Perm			
Protected Phases		2			6			8				
Permitted Phases	2						8		8			
Actuated Green, G (s)		37.0			37.0			34.0	34.0			
Effective Green, g (s)		37.0			37.0			34.0	34.0			
Actuated g/C Ratio		0.46			0.46			0.42	0.42			
Clearance Time (s)		4.5			4.5			4.5	4.5			
Vehicle Extension (s)		3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)		955			1261			1027	419			
v/s Ratio Prot					c0.33							
v/s Ratio Perm		0.31						0.24	0.02			
v/c Ratio		0.68			0.71			0.57	0.04			
Uniform Delay, d1		16.8			17.2			17.4	13.5			
Progression Factor		1.00			0.26			1.00	1.00			
Incremental Delay, d2		3.8			2.2			2.3	0.2			
Delay (s)		20.6			6.6			19.7	13.6			
Level of Service		C			A			B	B			
Approach Delay (s)		20.6			6.6			19.3			0.0	
Approach LOS		C			A			B			A	

Intersection Summary			
HCM Average Control Delay	14.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
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												
Volume (vph)	0	322	257	37	717	0	0	0	0	54	587	144
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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.86			1.00						0.96	
Flpb, ped/bikes		1.00			0.99						0.99	
Frt		0.93			1.00						0.97	
Flt Protected		1.00			1.00						1.00	
Satd. Flow (prot)		2483			3084						2666	
Flt Permitted		1.00			0.90						1.00	
Satd. Flow (perm)		2483			2778						2666	
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)	0	329	262	38	732	0	0	0	0	55	599	147
RTOR Reduction (vph)	0	23	0	0	0	0	0	0	0	0	23	0
Lane Group Flow (vph)	0	568	0	0	770	0	0	0	0	0	778	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		26.4			26.4						44.6	
Effective Green, g (s)		26.4			26.4						44.6	
Actuated g/C Ratio		0.33			0.33						0.56	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		819			917						1486	
v/s Ratio Prot		0.23										
v/s Ratio Perm					c0.28						0.29	
v/c Ratio		0.69			0.84						0.52	
Uniform Delay, d1		23.3			24.8						11.1	
Progression Factor		0.68			1.00						1.00	
Incremental Delay, d2		2.0			6.8						1.3	
Delay (s)		17.8			31.7						12.4	
Level of Service		B			C						B	
Approach Delay (s)		17.8			31.7			0.0			12.4	
Approach LOS		B			C			A			B	

Intersection Summary			
HCM Average Control Delay	20.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	94.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	69	319	435	1207	0	927	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.66	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		0.99	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	914	3016	3110		3048	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	914	3016	3110		3048	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	69	319	435	1207	0	927	40
RTOR Reduction (vph)	0	274	0	0	0	3	0
Lane Group Flow (vph)	69	45	435	1207	0	964	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	12.6	12.6	17.5	66.4		42.9	
Effective Green, g (s)	12.6	12.6	17.5	66.4		42.9	
Actuated g/C Ratio	0.14	0.14	0.19	0.74		0.48	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	218	128	586	2294		1453	
v/s Ratio Prot	0.04		c0.14	0.39		c0.32	
v/s Ratio Perm		c0.05					
v/c Ratio	0.32	0.35	0.74	0.53		0.66	
Uniform Delay, d1	34.8	35.0	34.1	5.1		18.0	
Progression Factor	1.00	1.00	1.00	1.00		1.50	
Incremental Delay, d2	0.8	1.6	5.1	0.9		2.2	
Delay (s)	35.7	36.6	39.2	5.9		29.2	
Level of Service	D	D	D	A		C	
Approach Delay (s)	36.5			14.7		29.2	
Approach LOS	D			B		C	

Intersection Summary			
HCM Average Control Delay	22.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	89.5%	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												
Volume (vph)	5	160	25	3	75	10	15	15	18	50	75	15
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		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.46		1.00	0.67		0.87			1.00	0.43
Flpb, ped/bikes		0.99	1.00		0.98	1.00		0.86			0.88	1.00
Frt		1.00	0.85		1.00	0.85		0.95			1.00	0.85
Flt Protected		1.00	1.00		1.00	1.00		0.98			0.98	1.00
Satd. Flow (prot)		1621	635		1609	937		1149			1409	603
Flt Permitted		1.00	1.00		0.99	1.00		0.89			0.85	1.00
Satd. Flow (perm)		1617	635		1604	937		1034			1221	603
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	170	27	3	80	11	16	16	19	53	80	16
RTOR Reduction (vph)	0	0	4	0	0	3	0	16	0	0	0	14
Lane Group Flow (vph)	0	175	23	0	83	8	0	35	0	0	133	2
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		54.3	54.3		54.3	54.3		11.7			11.7	11.7
Effective Green, g (s)		54.3	54.3		54.3	54.3		11.7			11.7	11.7
Actuated g/C Ratio		0.72	0.72		0.72	0.72		0.16			0.16	0.16
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)		1171	460		1161	678		161			190	94
v/s Ratio Prot												
v/s Ratio Perm		c0.11	0.04		0.05	0.01		0.03			c0.11	0.00
v/c Ratio		0.15	0.05		0.07	0.01		0.22			0.70	0.03
Uniform Delay, d1		3.2	3.0		3.0	2.9		27.6			30.0	26.8
Progression Factor		1.00	1.00		1.00	1.00		1.00			0.85	0.63
Incremental Delay, d2		0.1	0.0		0.1	0.0		0.7			10.7	0.1
Delay (s)		3.3	3.0		3.1	2.9		28.3			36.2	17.1
Level of Service		A	A		A	A		C			D	B
Approach Delay (s)		3.2			3.1			28.3			34.2	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	15.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	104.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	465	34	533	399	79	67	43	16	26	6	377	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.34		0.67	1.00	0.95			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.81	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	558	3110	478		947	1555	1328			1258	1175
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.99	1.00
Satd. Flow (perm)	3110	558	3110	478		947	1555	1328			1314	1175
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	484	35	555	416	82	70	45	17	27	6	393	86
RTOR Reduction (vph)	0	16	0	181	0	33	0	19	0	0	0	61
Lane Group Flow (vph)	484	19	555	317	0	37	45	25	0	0	399	25
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Effective Green, g (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Actuated g/C Ratio	0.55	0.55	0.55	0.55		0.29	0.29	0.29			0.29	0.29
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1700	305	1700	261		278	456	390			385	345
v/s Ratio Prot	0.16		0.18									
v/s Ratio Perm		0.03		c0.66		0.04	0.03	0.02			c0.30	0.02
v/c Ratio	0.28	0.06	0.33	1.21		0.13	0.10	0.06			1.04	0.07
Uniform Delay, d1	9.1	8.0	9.4	17.0		19.5	19.3	19.1			26.5	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	0.4	0.4	0.5	125.9		1.0	0.4	0.3			55.6	0.4
Delay (s)	9.5	8.4	9.9	142.9		20.5	19.7	19.4			82.1	19.5
Level of Service	A	A	A	F		C	B	B			F	B
Approach Delay (s)	9.5		72.8								71.0	
Approach LOS	A		E								E	

Intersection Summary			
HCM Average Control Delay	53.8	HCM Level of Service	D
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	725	101	50	779	136	101
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	747	104	52	803	140	104

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	498	353	319	535	244
Volume Left (vph)	0	0	52	0	140
Volume Right (vph)	0	104	0	0	104
Hadj (s)	0.02	-0.19	0.10	0.02	-0.12
Departure Headway (s)	6.7	6.5	6.8	6.7	6.9
Degree Utilization, x	0.93	0.64	0.60	1.00	0.47
Capacity (veh/h)	530	542	521	535	524
Control Delay (s)	48.7	19.2	18.4	63.1	15.7
Approach Delay (s)	36.4		46.4		15.7
Approach LOS	E		E		C

Intersection Summary			
Delay	38.2		
HCM Level of Service	E		
Intersection Capacity Utilization	81.7%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT
Lane Configurations												
Volume (vph)	67	635	89	18	4	17	650	40	28	22	20	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4					5.4		4.0			5.0
Lane Util. Factor		0.95					0.95		1.00			1.00
Frpb, ped/bikes		0.92					0.98		0.78			1.00
Flpb, ped/bikes		0.99					1.00		1.00			1.00
Frt		0.98					0.99		0.86			1.00
Flt Protected		1.00					1.00		1.00			0.98
Satd. Flow (prot)		2604					2998		1106			1599
Flt Permitted		0.82					0.92		1.00			0.98
Satd. Flow (perm)		2150					2754		1106			1599
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	71	676	95	19	4	18	691	43	30	23	21	50
RTOR Reduction (vph)	0	0	0	0	0	0	6	0	0	0	0	0
Lane Group Flow (vph)	0	861	0	0	0	0	750	0	30	0	0	94
Confl. Peds. (#/hr)	400		400	400	400	400		400	400	400	400	
Confl. Bikes (#/hr)			30	30				30	10			
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm	Perm			Free	Split	Split	
Protected Phases		2					6			4	4	4
Permitted Phases	2				6	6			Free			
Actuated Green, G (s)		41.6					41.6		75.0			9.0
Effective Green, g (s)		41.6					41.6		75.0			9.0
Actuated g/C Ratio		0.55					0.55		1.00			0.12
Clearance Time (s)		5.4					5.4					5.0
Lane Grp Cap (vph)		1193					1528		1106			192
v/s Ratio Prot												c0.06
v/s Ratio Perm		c0.40					0.27		0.03			
v/c Ratio		0.72					0.49		0.03			0.49
Uniform Delay, d1		12.4					10.2		0.0			30.9
Progression Factor		1.00					0.38		1.00			1.00
Incremental Delay, d2		3.8					1.0		0.0			8.7
Delay (s)		16.2					4.9		0.0			39.5
Level of Service		B					A		A			D
Approach Delay (s)		16.2					4.9					39.8
Approach LOS		B					A					D

Intersection Summary			
HCM Average Control Delay	15.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	113.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR	NWL	NWR	NWR2
Lane Configurations				
Volume (vph)	50	110	30	11
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0
Lane Util. Factor	1.00	0.97		1.00
Frpb, ped/bikes	0.55	0.84		0.55
Flpb, ped/bikes	1.00	1.00		1.00
Frt	0.85	0.97		0.85
Flt Protected	1.00	0.96		1.00
Satd. Flow (prot)	768	2482		768
Flt Permitted	1.00	0.96		1.00
Satd. Flow (perm)	768	2482		768
Peak-hour factor, PHF	0.94	0.94	0.94	0.94
Adj. Flow (vph)	53	117	32	12
RTOR Reduction (vph)	21	0	0	11
Lane Group Flow (vph)	32	149	0	1
Confl. Peds. (#/hr)	400	400	400	400
Confl. Bikes (#/hr)	10		10	10
Parking (#/hr)				
Turn Type	Perm			Perm
Protected Phases		8		
Permitted Phases	4			8
Actuated Green, G (s)	9.0	9.0		9.0
Effective Green, g (s)	9.0	9.0		9.0
Actuated g/C Ratio	0.12	0.12		0.12
Clearance Time (s)	5.0	5.0		5.0
Lane Grp Cap (vph)	92	298		92
v/s Ratio Prot		c0.06		
v/s Ratio Perm	0.04			0.00
v/c Ratio	0.35	0.50		0.02
Uniform Delay, d1	30.3	30.9		29.1
Progression Factor	1.00	1.00		1.00
Incremental Delay, d2	10.0	5.9		0.3
Delay (s)	40.3	36.8		29.4
Level of Service	D	D		C
Approach Delay (s)		36.2		
Approach LOS		D		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	663	47	34	668	76	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.98			1.00	0.85	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.99			1.00	0.94	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2817			3087	1274	
Flt Permitted	1.00			0.89	0.97	
Satd. Flow (perm)	2817			2756	1274	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	745	53	38	751	85	70
RTOR Reduction (vph)	7	0	0	0	24	0
Lane Group Flow (vph)	791	0	0	789	131	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1690			1654	382	
v/s Ratio Prot	0.28				c0.10	
v/s Ratio Perm				c0.29		
v/c Ratio	0.47			0.48	0.34	
Uniform Delay, d1	8.3			8.4	20.5	
Progression Factor	0.76			1.00	1.00	
Incremental Delay, d2	0.7			1.0	2.4	
Delay (s)	7.0			9.4	22.9	
Level of Service	A			A	C	
Approach Delay (s)	7.0			9.4	22.9	
Approach LOS	A			A	C	

Intersection Summary			
HCM Average Control Delay	9.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	664	42	17	700	9	16
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	714	45	18	753	10	17

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	476	283	269	502	27
Volume Left (vph)	0	0	18	0	10
Volume Right (vph)	0	45	0	0	17
Hadj (s)	0.02	-0.09	0.05	0.02	-0.29
Departure Headway (s)	5.4	5.3	5.4	5.4	6.3
Degree Utilization, x	0.71	0.42	0.40	0.75	0.05
Capacity (veh/h)	476	654	643	652	536
Control Delay (s)	19.5	10.8	10.8	21.5	9.6
Approach Delay (s)	16.2		17.8		9.6
Approach LOS	C		C		A

Intersection Summary			
Delay	16.9		
HCM Level of Service	C		
Intersection Capacity Utilization	55.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	88	539	34	12	583	203	66	50	25	124	66	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frpb, ped/bikes		0.96			1.00	0.54		0.94		1.00	0.96	
Flpb, ped/bikes		0.98			1.00	1.00		0.88		0.76	0.93	
Frt		0.99			1.00	0.85		0.98		1.00	0.99	
Flt Protected		0.99			1.00	1.00		0.98		0.95	0.99	
Satd. Flow (prot)		2683			3110	657		1131		1119	1362	
Flt Permitted		0.78			1.00	1.00		0.82		0.71	0.90	
Satd. Flow (perm)		2107			3110	657		946		837	1241	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	97	592	37	13	641	223	73	55	27	136	73	8
RTOR Reduction (vph)	0	2	0	0	0	24	0	11	0	0	0	0
Lane Group Flow (vph)	0	737	0	0	641	199	0	144	0	105	112	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10	10		10			10			10
Parking (#/hr)		5	5	5		5	5	5	5			
Turn Type	Perm					Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2				6	6	8			4		
Actuated Green, G (s)		27.5			27.5	27.5		21.5		21.5	21.5	
Effective Green, g (s)		27.5			27.5	27.5		21.5		21.5	21.5	
Actuated g/C Ratio		0.46			0.46	0.46		0.36		0.36	0.36	
Clearance Time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		966			1425	301		339		300	445	
v/s Ratio Prot					0.21							
v/s Ratio Perm		c0.35				0.30		c0.15		0.13	0.09	
v/c Ratio		0.76			0.45	0.66		0.43		0.35	0.25	
Uniform Delay, d1		13.5			11.1	12.6		14.6		14.1	13.6	
Progression Factor		1.00			1.30	1.52		1.00		1.00	1.00	
Incremental Delay, d2		5.7			1.0	10.5		3.9		0.7	0.3	
Delay (s)		19.2			15.4	29.7		18.4		14.8	13.9	
Level of Service		B			B	C		B		B	B	
Approach Delay (s)		19.2			19.1			18.4			14.1	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	18.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	92.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR2	NER2
Lane Configurations		
Volume (vph)	71	42
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.5	4.0
Lane Util. Factor	1.00	1.00
Frpb, ped/bikes	0.68	0.78
Flpb, ped/bikes	1.00	1.00
Frt	0.85	0.86
Flt Protected	1.00	1.00
Satd. Flow (prot)	952	967
Flt Permitted	1.00	1.00
Satd. Flow (perm)	952	967
Peak-hour factor, PHF	0.91	0.91
Adj. Flow (vph)	78	46
RTOR Reduction (vph)	10	0
Lane Group Flow (vph)	68	46
Confl. Peds. (#/hr)	400	400
Confl. Bikes (#/hr)	10	10
Parking (#/hr)		5
Turn Type	Perm	Free
Protected Phases		
Permitted Phases	4	Free
Actuated Green, G (s)	21.5	60.0
Effective Green, g (s)	21.5	60.0
Actuated g/C Ratio	0.36	1.00
Clearance Time (s)	5.5	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	341	967
v/s Ratio Prot		
v/s Ratio Perm	0.07	0.05
v/c Ratio	0.20	0.05
Uniform Delay, d1	13.3	0.0
Progression Factor	1.00	1.00
Incremental Delay, d2	0.3	0.1
Delay (s)	13.6	0.1
Level of Service	B	A
Approach Delay (s)		
Approach LOS		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	661	0	0	789	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	726	0	0	867	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	726	0	0	867	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)		30				30
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		46.0			46.0	
Effective Green, g (s)		46.0			46.0	
Actuated g/C Ratio		0.77			0.77	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1877			2312	
v/s Ratio Prot		c0.30			0.29	
v/s Ratio Perm						
v/c Ratio		0.39			0.38	
Uniform Delay, d1		2.3			2.3	
Progression Factor		0.61			1.37	
Incremental Delay, d2		0.4			0.4	
Delay (s)		1.9			3.6	
Level of Service		A			A	
Approach Delay (s)	1.9			0.0	3.6	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	2.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	29.9%	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												
Volume (vph)	20	187	77	162	182	28	67	159	105	27	149	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.84		1.00	0.92			1.00	0.66		1.00	0.44
Flpb, ped/bikes		0.97		0.64	1.00			0.87	1.00		0.96	1.00
Frt		0.96		1.00	0.98			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.99	1.00		0.99	1.00
Satd. Flow (prot)		2438		996	1297			1199	903		1566	609
Flt Permitted		0.92		0.57	1.00			0.87	1.00		0.94	1.00
Satd. Flow (perm)		2263		593	1297			1059	903		1481	609
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	201	83	174	196	30	72	171	113	29	160	27
RTOR Reduction (vph)	0	24	0	0	11	0	0	0	29	0	0	14
Lane Group Flow (vph)	0	282	0	174	215	0	0	243	84	0	189	13
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		21.4		21.4	21.4			28.6	28.6		28.6	28.6
Effective Green, g (s)		21.4		21.4	21.4			28.6	28.6		28.6	28.6
Actuated g/C Ratio		0.36		0.36	0.36			0.48	0.48		0.48	0.48
Clearance Time (s)		5.5		5.5	5.5			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)		807		212	463			505	430		706	290
v/s Ratio Prot					0.17							
v/s Ratio Perm		0.12		c0.29				c0.23	0.09		0.13	0.02
v/c Ratio		0.35		0.82	0.46			0.48	0.20		0.27	0.04
Uniform Delay, d1		14.2		17.6	14.9			10.7	9.1		9.4	8.4
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		0.3		21.8	0.7			3.3	1.0		0.9	0.3
Delay (s)		14.4		39.3	15.6			13.9	10.1		10.3	8.7
Level of Service		B		D	B			B	B		B	A
Approach Delay (s)		14.4			25.9			12.7			10.1	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	16.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	70.5%	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												
Volume (vph)	0	215	106	13	239	776	157	0	30	644	137	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.93			1.00	0.96		1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		0.98		1.00	1.00	
Frt		0.95			1.00	0.85		0.98		1.00	0.99	
Flt Protected		1.00			1.00	1.00		0.96		0.95	0.97	
Satd. Flow (prot)		2583			1625	2357		1317		1477	1494	
Flt Permitted		1.00			0.97	1.00		0.50		0.84	0.90	
Satd. Flow (perm)		2583			1580	2357		693		1308	1380	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	224	110	14	249	808	164	0	31	671	143	20
RTOR Reduction (vph)	0	90	0	0	0	0	0	11	0	0	3	0
Lane Group Flow (vph)	0	244	0	0	263	808	0	184	0	416	415	0
Confl. Peds. (#/hr)	50		50	50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		11.0			11.0	38.5		14.5		24.0	24.0	
Effective Green, g (s)		11.0			11.0	38.5		14.5		24.0	24.0	
Actuated g/C Ratio		0.18			0.18	0.64		0.24		0.40	0.40	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		474			290	1512		167		523	552	
v/s Ratio Prot		0.09										
v/s Ratio Perm					c0.17	0.34		c0.27		c0.32	0.30	
v/c Ratio		0.52			0.91	0.53		1.10		0.80	0.75	
Uniform Delay, d1		22.1			24.0	5.9		22.8		15.8	15.4	
Progression Factor		1.00			1.00	1.00		1.00		0.54	0.54	
Incremental Delay, d2		4.0			33.6	1.4		98.8		11.6	8.9	
Delay (s)		26.1			57.6	7.2		121.5		20.2	17.2	
Level of Service		C			E	A		F		C	B	
Approach Delay (s)		26.1			19.6			121.5			18.7	
Approach LOS		C			B			F			B	

Intersection Summary			
HCM Average Control Delay	28.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	72.0%	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												
Volume (vph)	43	748	28	34	798	32	273	54	162	26	31	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Lane Util. Factor		0.95			0.95	1.00		0.95			1.00	1.00
Frpb, ped/bikes		0.98			1.00	0.66		0.89			1.00	0.66
Flpb, ped/bikes		1.00			0.99	1.00		0.83			0.93	1.00
Frt		0.99			1.00	0.85		0.95			1.00	0.85
Flt Protected		1.00			1.00	1.00		0.97			0.98	1.00
Satd. Flow (prot)		3015			3087	806		1987			1490	921
Flt Permitted		0.88			0.90	1.00		0.77			0.79	1.00
Satd. Flow (perm)		2657			2789	806		1582			1204	921
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	45	779	29	35	831	33	284	56	169	27	32	44
RTOR Reduction (vph)	0	5	0	0	0	13	0	16	0	0	0	14
Lane Group Flow (vph)	0	848	0	0	866	20	0	493	0	0	59	30
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Actuated Green, G (s)		27.3			27.3	27.3		25.7			25.7	25.7
Effective Green, g (s)		27.3			27.3	27.3		25.7			25.7	25.7
Actuated g/C Ratio		0.46			0.46	0.46		0.43			0.43	0.43
Clearance Time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)		1209			1269	367		678			516	394
v/s Ratio Prot												
v/s Ratio Perm		c0.32			0.31	0.03		c0.31			0.05	0.03
v/c Ratio		0.70			0.68	0.06		0.73			0.11	0.08
Uniform Delay, d1		13.1			12.9	9.1		14.2			10.3	10.1
Progression Factor		1.00			0.92	1.17		1.00			1.00	1.00
Incremental Delay, d2		1.9			1.3	0.1		6.7			0.4	0.4
Delay (s)		14.9			13.2	10.8		20.9			10.8	10.5
Level of Service		B			B	B		C			B	B
Approach Delay (s)		14.9			13.1			20.9			10.6	
Approach LOS		B			B			C			B	

Intersection Summary			
HCM Average Control Delay	15.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	88.9%	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												
Volume (vph)	59	740	148	88	539	12	72	227	115	9	232	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.95		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.76		1.00		1.00	0.89			0.86	
Flpb, ped/bikes		0.99	1.00		0.99		0.83	1.00			1.00	
Frt		1.00	0.85		1.00		1.00	0.95			0.94	
Flt Protected		1.00	1.00		0.99		0.95	1.00			1.00	
Satd. Flow (prot)		3079	922		3039		1293	3781			3597	
Flt Permitted		0.85	1.00		0.70		0.48	1.00			0.93	
Satd. Flow (perm)		2632	922		2134		655	3781			3348	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	64	804	161	96	586	13	78	247	125	10	252	190
RTOR Reduction (vph)	0	0	6	0	3	0	0	10	0	0	18	0
Lane Group Flow (vph)	0	868	155	0	692	0	78	362	0	0	434	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		27.0	27.0		27.0		23.0	23.0			23.0	
Effective Green, g (s)		27.0	27.0		27.0		23.0	23.0			23.0	
Actuated g/C Ratio		0.45	0.45		0.45		0.38	0.38			0.38	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1184	415		960		251	1449			1283	
v/s Ratio Prot								0.10				
v/s Ratio Perm		c0.33	0.17		0.32		0.12				c0.13	
v/c Ratio		0.73	0.37		0.72		0.31	0.25			0.34	
Uniform Delay, d1		13.5	10.9		13.4		13.0	12.6			13.1	
Progression Factor		0.52	0.56		0.83		1.00	1.00			1.00	
Incremental Delay, d2		2.0	0.5		2.6		3.2	0.4			0.7	
Delay (s)		9.0	6.6		13.7		16.2	13.0			13.8	
Level of Service		A	A		B		B	B			B	
Approach Delay (s)		8.6			13.7			13.6			13.8	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	11.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	100.0%	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												
Volume (vph)	0	1312	197	0	1612	89	207	202	39	80	155	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.95			0.98		1.00	0.95		1.00	0.93	
Flpb, ped/bikes		1.00			1.00		0.77	1.00		0.79	1.00	
Frt		0.98			0.99		1.00	0.98		1.00	0.97	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4173			4167		1196	1512		1231	1289	
Flt Permitted		1.00			1.00		0.58	1.00		0.51	1.00	
Satd. Flow (perm)		4173			4167		727	1512		660	1289	
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)	0	1339	201	0	1645	91	211	206	40	82	158	43
RTOR Reduction (vph)	0	6	0	0	5	0	0	5	0	0	2	0
Lane Group Flow (vph)	0	1534	0	0	1731	0	211	241	0	82	199	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2411			2408		222	462		202	394	
v/s Ratio Prot		0.37			c0.42			0.16			0.15	
v/s Ratio Perm							c0.29			0.12		
v/c Ratio		0.64			0.72		0.95	0.52		0.41	0.50	
Uniform Delay, d1		12.7			13.7		30.6	25.8		24.8	25.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.3			1.9		48.8	4.2		6.0	4.6	
Delay (s)		14.0			15.6		79.4	30.0		30.7	30.2	
Level of Service		B			B		E	C		C	C	
Approach Delay (s)		14.0			15.6			52.8			30.4	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM Average Control Delay	20.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	92.3%	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												
Volume (vph)	0	1255	62	0	1453	65	68	155	25	32	173	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			1.00	
Frpb, ped/bikes		0.98			0.98		1.00	0.95			0.93	
Flpb, ped/bikes		1.00			1.00		0.82	1.00			0.97	
Frt		0.99			0.99		1.00	0.98			0.97	
Flt Protected		1.00			1.00		0.95	1.00			0.99	
Satd. Flow (prot)		4363			4372		1278	1530			1420	
Flt Permitted		1.00			1.00		0.47	1.00			0.94	
Satd. Flow (perm)		4363			4372		631	1530			1348	
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	1321	65	0	1529	68	72	163	26	34	182	62
RTOR Reduction (vph)	0	5	0	0	5	0	0	6	0	0	4	0
Lane Group Flow (vph)	0	1381	0	0	1592	0	72	183	0	0	274	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2584			2589		189	457			403	
v/s Ratio Prot		0.32			c0.36			0.12				
v/s Ratio Perm							0.11				c0.20	
v/c Ratio		0.53			0.61		0.38	0.40			0.68	
Uniform Delay, d1		10.9			11.8		25.0	25.1			27.8	
Progression Factor		1.00			0.24		1.00	1.00			1.00	
Incremental Delay, d2		0.8			0.8		5.7	2.6			9.0	
Delay (s)		11.7			3.6		30.7	27.7			36.8	
Level of Service		B			A		C	C			D	
Approach Delay (s)		11.7			3.6			28.6			36.8	
Approach LOS		B			A			C			D	

Intersection Summary			
HCM Average Control Delay	11.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	99.7%	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												
Volume (vph)	0	1357	49	0	1517	59	45	91	18	36	141	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.96			0.93	
Flpb, ped/bikes		1.00			1.00			0.94			0.96	
Frt		0.99			0.99			0.98			0.97	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		4208			4202			1260			1237	
Flt Permitted		1.00			1.00			0.86			0.93	
Satd. Flow (perm)		4208			4202			1101			1161	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	1444	52	0	1614	63	48	97	19	38	150	50
RTOR Reduction (vph)	0	4	0	0	4	0	0	4	0	0	3	0
Lane Group Flow (vph)	0	1492	0	0	1673	0	0	160	0	0	235	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2525			2521			330			348	
v/s Ratio Prot		0.35			c0.40							
v/s Ratio Perm								0.15			c0.20	
v/c Ratio		0.59			0.66			0.48			0.68	
Uniform Delay, d1		11.2			12.0			25.8			27.7	
Progression Factor		1.98			1.00			1.00			1.00	
Incremental Delay, d2		0.9			1.4			5.0			10.1	
Delay (s)		23.0			13.4			30.8			37.7	
Level of Service		C			B			C			D	
Approach Delay (s)		23.0			13.4			30.8			37.7	
Approach LOS		C			B			C			D	

Intersection Summary			
HCM Average Control Delay	19.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	75.0%	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		↑↑↑			↑↑↑↱		↰	↰↑↑↱				↱
Volume (vph)	0	1234	0	0	878	46	667	596	46	0	0	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.98		1.00	0.98				0.97
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.99				1.00
Satd. Flow (prot)		4282			4361		1415	2686				1367
Flt Permitted		1.00			1.00		0.95	0.99				1.00
Satd. Flow (perm)		4282			4361		1415	2686				1367
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	1418	0	0	1009	53	767	685	53	0	0	43
RTOR Reduction (vph)	0	0	0	0	7	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	1418	0	0	1055	0	491	1010	0	0	0	43
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		53.0			41.0		27.0	27.0				9.0
Effective Green, g (s)		53.0			41.0		27.0	27.0				9.0
Actuated g/C Ratio		0.59			0.46		0.30	0.30				0.10
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		2522			1987		425	806				137
v/s Ratio Prot		c0.33			0.24							
v/s Ratio Perm							0.35	0.38				0.03
v/c Ratio		0.56			0.53		1.16	1.25				0.31
Uniform Delay, d1		11.4			17.6		31.5	31.5				37.6
Progression Factor		1.00			0.32		1.00	1.00				1.00
Incremental Delay, d2		0.9			0.7		93.4	123.9				5.9
Delay (s)		12.3			6.3		124.9	155.4				43.5
Level of Service		B			A		F	F				D
Approach Delay (s)		12.3			6.3			145.5			43.5	
Approach LOS		B			A			F			D	

Intersection Summary			
HCM Average Control Delay	60.8	HCM Level of Service	E
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
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												
Volume (vph)	143	140	825	0	88	5	775	258	41	0	452	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		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.98		1.00	0.95			1.00	0.67
Flpb, ped/bikes		0.86	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.99		1.00	0.98			1.00	0.85
Flt Protected		0.98	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1369	2448		1358		4385	1330			3110	815
Flt Permitted		0.79	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		1110	2448		1358		4385	1330			3110	815
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	147	144	851	0	91	5	799	266	42	0	466	99
RTOR Reduction (vph)	0	0	2	0	2	0	0	6	0	0	0	17
Lane Group Flow (vph)	0	291	849	0	94	0	799	302	0	0	466	82
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		30.3	53.3		30.3		19.5	51.7			28.7	28.7
Effective Green, g (s)		30.3	49.8		30.3		19.5	51.7			28.7	28.7
Actuated g/C Ratio		0.34	0.55		0.34		0.22	0.57			0.32	0.32
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		374	1355		457		950	764			992	260
v/s Ratio Prot			0.35		0.07		c0.18	0.23			c0.15	
v/s Ratio Perm		c0.26										0.10
v/c Ratio		0.78	0.63		0.21		0.84	0.40			0.47	0.32
Uniform Delay, d1		26.8	13.7		21.3		33.8	10.5			24.6	23.2
Progression Factor		1.02	0.80		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		8.1	0.7		0.2		8.9	1.5			1.6	3.2
Delay (s)		35.3	11.7		21.5		42.7	12.1			26.2	26.4
Level of Service		D	B		C		D	B			C	C
Approach Delay (s)		17.7			21.5			34.2			26.2	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM Average Control Delay	25.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	72.5%	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												
Volume (vph)	0	0	0	62	264	56	40	57	0	0	43	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.11		1.00			0.93	
Flpb, ped/bikes					0.86	1.00		0.86			1.00	
Frt					1.00	0.85		1.00			0.97	
Flt Protected					0.99	1.00		0.98			1.00	
Satd. Flow (prot)					2481	156		1375			1481	
Flt Permitted					0.99	1.00		0.89			1.00	
Satd. Flow (perm)					2481	156		1244			1481	
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)	0	0	0	69	293	62	44	63	0	0	48	11
RTOR Reduction (vph)	0	0	0	0	0	36	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	362	26	0	107	0	0	59	0
Confl. Peds. (#/hr)				1245		1700	831					831
Confl. Bikes (#/hr)						158			9			17
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					25.0	25.0		25.0			25.0	
Effective Green, g (s)					25.0	25.0		25.0			25.0	
Actuated g/C Ratio					0.42	0.42		0.42			0.42	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1034	65		518			617	
v/s Ratio Prot											0.04	
v/s Ratio Perm					0.15	c0.17		c0.09				
v/c Ratio					0.35	0.40		0.21			0.10	
Uniform Delay, d1					12.0	12.2		11.2			10.6	
Progression Factor					1.00	1.00		0.88			1.00	
Incremental Delay, d2					0.9	17.2		0.7			0.3	
Delay (s)					12.9	29.4		10.5			10.9	
Level of Service					B	C		B			B	
Approach Delay (s)		0.0			15.3			10.5			10.9	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	45.0%	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												
Volume (vph)	0	0	0	136	306	29	103	28	0	0	41	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.94		1.00	1.00			0.88	
Flpb, ped/bikes				1.00	1.00		0.62	1.00			1.00	
Frt				1.00	0.99		1.00	1.00			0.96	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	2882		970	1637			1390	
Flt Permitted				0.95	1.00		0.72	1.00			1.00	
Satd. Flow (perm)				1555	2882		730	1637			1390	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	0	153	344	33	116	31	0	0	46	18
RTOR Reduction (vph)	0	0	0	0	6	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	153	371	0	116	31	0	0	64	0
Confl. Peds. (#/hr)						1700	585					585
Confl. Bikes (#/hr)						113			6			3
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				38.4	38.4		12.3	12.3			12.3	
Effective Green, g (s)				38.4	38.4		12.3	12.3			12.3	
Actuated g/C Ratio				0.64	0.64		0.21	0.21			0.21	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				995	1844		150	336			285	
v/s Ratio Prot				0.10	c0.13			0.02			0.05	
v/s Ratio Perm							c0.16					
v/c Ratio				0.15	0.20		0.77	0.09			0.22	
Uniform Delay, d1				4.3	4.5		22.5	19.3			19.9	
Progression Factor				1.00	1.00		1.51	1.57			1.00	
Incremental Delay, d2				0.3	0.2		31.3	0.5			1.8	
Delay (s)				4.6	4.7		65.3	30.9			21.7	
Level of Service				A	A		E	C			C	
Approach Delay (s)		0.0			4.7			58.0			21.7	
Approach LOS		A			A			E			C	

Intersection Summary			
HCM Average Control Delay	16.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	271	95	14	80	39	23
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	295	103	15	87	42	25
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	306					
pX, platoon unblocked						
vC, conflicting volume			798		1264	999
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			798		1264	999
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		45	79
cM capacity (veh/h)			574		76	118

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	196	201	102	67
Volume Left	0	0	15	42
Volume Right	0	103	0	25
cSH	1700	1700	574	88
Volume to Capacity	0.12	0.12	0.03	0.77
Queue Length 95th (ft)	0	0	2	98
Control Delay (s)	0.0	0.0	2.0	123.6
Lane LOS			A	F
Approach Delay (s)	0.0		2.0	123.6
Approach LOS				F

Intersection Summary			
Average Delay	15.0		
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												
Volume (vph)	0	198	31	5	112	6	44	92	46	17	64	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	
Lane Util. Factor		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.42		0.97			0.87			0.90	
Flpb, ped/bikes		1.00	1.00		0.98			0.90			0.94	
Frt		1.00	0.85		0.99			0.97			0.98	
Flt Protected		1.00	1.00		1.00			0.99			0.99	
Satd. Flow (prot)		1637	588		1357			1068			1181	
Flt Permitted		1.00	1.00		0.99			0.90			0.93	
Satd. Flow (perm)		1637	588		1344			977			1110	
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	0	264	41	7	149	8	59	123	61	23	85	24
RTOR Reduction (vph)	0	0	21	0	3	0	0	3	0	0	4	0
Lane Group Flow (vph)	0	264	20	0	161	0	0	240	0	0	128	0
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type			Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases			2	2			4			4		
Actuated Green, G (s)		29.0	29.0		29.0			22.0			22.0	
Effective Green, g (s)		29.0	29.0		29.0			22.0			22.0	
Actuated g/C Ratio		0.48	0.48		0.48			0.37			0.37	
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)		791	284		650			358			407	
v/s Ratio Prot		c0.16										
v/s Ratio Perm			0.03		0.12			c0.25			0.11	
v/c Ratio		0.33	0.07		0.25			0.67			0.31	
Uniform Delay, d1		9.5	8.3		9.1			16.0			13.6	
Progression Factor		1.00	1.00		1.00			0.66			0.85	
Incremental Delay, d2		1.1	0.5		0.9			9.1			2.0	
Delay (s)		10.7	8.8		10.0			19.7			13.5	
Level of Service		B	A		B			B			B	
Approach Delay (s)		10.4			10.0			19.7			13.5	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	13.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	77.9%	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												
Volume (vph)	0	220	31	14	61	0	50	0	59	12	15	21
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		1.00	1.00		0.95			1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.26		1.00			0.70			1.00	0.67
Flpb, ped/bikes		1.00	1.00		0.91			0.86			0.80	1.00
Frt		1.00	0.85		1.00			0.93			1.00	0.85
Flt Protected		1.00	1.00		0.99			0.98			0.98	1.00
Satd. Flow (prot)		1637	354		2816			893			1274	933
Flt Permitted		1.00	1.00		0.89			0.89			0.92	1.00
Satd. Flow (perm)		1637	354		2522			812			1192	933
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	253	36	16	70	0	57	0	68	14	17	24
RTOR Reduction (vph)	0	0	27	0	0	0	0	0	0	0	0	9
Lane Group Flow (vph)	0	253	9	0	86	0	0	125	0	0	31	15
Confl. Peds. (#/hr)			800	800			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	36.5
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	36.5
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	0.61
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)		396	86		609			494			725	568
v/s Ratio Prot		c0.15										
v/s Ratio Perm			0.02		0.03			c0.15			0.03	0.02
v/c Ratio		0.64	0.10		0.14			0.25			0.04	0.03
Uniform Delay, d1		20.4	17.7		17.9			5.4			4.7	4.7
Progression Factor		1.08	1.39		1.00			1.23			1.00	1.00
Incremental Delay, d2		7.6	2.3		0.5			1.2			0.0	0.0
Delay (s)		29.7	26.9		18.3			7.9			4.7	4.7
Level of Service		C	C		B			A			A	A
Approach Delay (s)		29.3			18.3			7.9			4.7	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM Average Control Delay	20.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	307	9	59	0	155	0	340	484
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		1.00		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		1.00		1.00			1.00
Flt Protected		1.00		0.95		1.00			0.98
Satd. Flow (prot)		942		1360		1637			3047
Flt Permitted		1.00		0.95		1.00			0.95
Satd. Flow (perm)		942		1360		1637			2970
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	323	9	62	0	163	0	358	509
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	323	0	71	0	163	0	0	867
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		385		314			891
v/s Ratio Prot						0.10			
v/s Ratio Perm		c0.34		0.05					c0.29
v/c Ratio		0.61		0.18		0.52			0.97
Uniform Delay, d1		8.9		16.3		21.8			20.8
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		5.3		1.1		1.5			24.3
Delay (s)		14.2		17.3		23.2			45.1
Level of Service		B		B		C			D
Approach Delay (s)	14.2			17.3		23.2			45.1
Approach LOS	B			B		C			D

Intersection Summary			
HCM Average Control Delay	34.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	77.5%	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												
Volume (vph)	28	178	50	41	190	44	42	98	33	31	75	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.95			1.00	0.56	1.00	0.86			0.82	
Flpb, ped/bikes		0.97			1.00	1.00	0.60	1.00			0.92	
Frt		0.97			1.00	0.85	1.00	0.96			0.95	
Flt Protected		0.99			0.99	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1273			1419	682	931	1184			2212	
Flt Permitted		0.95			0.91	1.00	0.64	1.00			0.87	
Satd. Flow (perm)		1219			1305	682	627	1184			1949	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	32	202	57	47	216	50	48	111	38	35	85	57
RTOR Reduction (vph)	0	10	0	0	0	12	0	26	0	0	0	0
Lane Group Flow (vph)	0	281	0	0	263	38	48	123	0	0	177	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		38.2			38.2	38.2	11.7	11.7			11.7	
Effective Green, g (s)		38.2			38.2	38.2	11.7	11.7			11.7	
Actuated g/C Ratio		0.64			0.64	0.64	0.19	0.19			0.19	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		776			831	434	122	231			380	
v/s Ratio Prot								c0.10				
v/s Ratio Perm		c0.23			0.20	0.06	0.08				0.09	
v/c Ratio		0.36			0.32	0.09	0.39	0.53			0.47	
Uniform Delay, d1		5.1			5.0	4.2	21.1	21.7			21.4	
Progression Factor		1.00			1.00	1.00	1.45	1.57			1.00	
Incremental Delay, d2		1.3			1.0	0.4	2.1	2.4			0.9	
Delay (s)		6.5			6.0	4.6	32.7	36.5			22.3	
Level of Service		A			A	A	C	D			C	
Approach Delay (s)		6.5			5.7			35.6			22.3	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM Average Control Delay	15.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	89.6%	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		✣			✣			✣			✣	
Volume (vph)	49	230	44	17	183	21	17	100	32	32	50	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.93			0.95			0.88			0.85	
Flpb, ped/bikes		0.95			0.98			0.95			0.89	
Frt		0.98			0.99			0.97			0.96	
Flt Protected		0.99			1.00			0.99			0.99	
Satd. Flow (prot)		1226			1307			1161			1033	
Flt Permitted		0.93			0.97			0.96			0.89	
Satd. Flow (perm)		1145			1267			1127			936	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	54	253	48	19	201	23	19	110	35	35	55	33
RTOR Reduction (vph)	0	10	0	0	6	0	0	17	0	0	22	0
Lane Group Flow (vph)	0	345	0	0	237	0	0	147	0	0	101	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		32.6			32.6			18.6			18.6	
Effective Green, g (s)		32.6			32.6			18.6			18.6	
Actuated g/C Ratio		0.54			0.54			0.31			0.31	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		622			688			349			290	
v/s Ratio Prot												
v/s Ratio Perm		c0.30			0.19			c0.13			0.11	
v/c Ratio		0.56			0.34			0.42			0.35	
Uniform Delay, d1		9.0			7.7			16.4			16.0	
Progression Factor		1.00			1.00			1.09			0.43	
Incremental Delay, d2		3.6			1.4			3.5			3.2	
Delay (s)		12.5			9.1			21.3			10.1	
Level of Service		B			A			C			B	
Approach Delay (s)		12.5			9.1			21.3			10.1	
Approach LOS		B			A			C			B	

Intersection Summary			
HCM Average Control Delay	12.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	57.3%	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												
Volume (vph)	19	207	64	18	121	29	31	42	73	33	57	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.88			1.00	0.46		0.74			0.89	
Flpb, ped/bikes		0.97			0.96	1.00		0.91			0.89	
Frt		0.97			1.00	0.85		0.93			0.97	
Flt Protected		1.00			0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1188			1366	565		885			1081	
Flt Permitted		0.98			0.95	1.00		0.93			0.90	
Satd. Flow (perm)		1170			1308	565		834			988	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	20	223	69	19	130	31	33	45	78	35	61	26
RTOR Reduction (vph)	0	17	0	0	0	15	0	17	0	0	16	0
Lane Group Flow (vph)	0	295	0	0	149	16	0	139	0	0	106	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		31.0			31.0	31.0		21.0			21.0	
Effective Green, g (s)		31.0			31.0	31.0		21.0			21.0	
Actuated g/C Ratio		0.52			0.52	0.52		0.35			0.35	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		605			676	292		292			346	
v/s Ratio Prot												
v/s Ratio Perm		c0.25			0.11	0.03		c0.17			0.11	
v/c Ratio		0.49			0.22	0.05		0.48			0.31	
Uniform Delay, d1		9.4			7.9	7.2		15.2			14.2	
Progression Factor		1.00			0.82	0.66		0.91			1.07	
Incremental Delay, d2		2.8			0.7	0.4		5.1			2.2	
Delay (s)		12.2			7.2	5.1		18.9			17.3	
Level of Service		B			A	A		B			B	
Approach Delay (s)		12.2			6.9			18.9			17.3	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM Average Control Delay	13.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	79.2%	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												
Volume (vph)	22	211	63	17	83	13	16	50	52	15	23	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.48		1.00	0.48		0.75			0.82	
Flpb, ped/bikes		0.96	1.00		0.94	1.00		0.93			0.89	
Frt		1.00	0.85		1.00	0.85		0.94			0.96	
Flt Protected		1.00	1.00		0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1369	573		1335	573		934			1125	
Flt Permitted		0.98	1.00		0.94	1.00		0.97			0.92	
Satd. Flow (perm)		1341	573		1269	573		908			1051	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	25	243	72	20	95	15	18	57	60	17	26	20
RTOR Reduction (vph)	0	0	6	0	0	5	0	32	0	0	15	0
Lane Group Flow (vph)	0	268	66	0	115	10	0	103	0	0	48	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		36.0	36.0		36.0	36.0		16.0			16.0	
Effective Green, g (s)		36.0	36.0		36.0	36.0		16.0			16.0	
Actuated g/C Ratio		0.60	0.60		0.60	0.60		0.27			0.27	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		805	344		761	344		242			280	
v/s Ratio Prot												
v/s Ratio Perm		c0.20	0.11		0.09	0.02		c0.11			0.05	
v/c Ratio		0.33	0.19		0.15	0.03		0.43			0.17	
Uniform Delay, d1		6.0	5.4		5.3	4.9		18.2			16.9	
Progression Factor		0.93	0.94		1.00	1.00		1.06			1.39	
Incremental Delay, d2		1.0	1.1		0.4	0.2		5.2			1.3	
Delay (s)		6.6	6.2		5.7	5.0		24.4			24.9	
Level of Service		A	A		A	A		C			C	
Approach Delay (s)		6.5			5.6			24.4			24.9	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	11.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations										
Volume (vph)	24	150	50	4	34	14	306	166	114	817
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				4.0		5.0		5.0	5.0
Lane Util. Factor	1.00				1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.89				0.90		0.77		1.00	1.00
Flpb, ped/bikes	1.00				0.63		1.00		1.00	1.00
Frt	0.88				0.96		0.95		1.00	1.00
Flt Protected	0.99				0.96		1.00		0.95	1.00
Satd. Flow (prot)	1269				856		2282		1555	3110
Flt Permitted	0.99				0.96		1.00		0.95	1.00
Satd. Flow (perm)	1269				856		2282		1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	163	54	4	37	15	333	180	124	888
RTOR Reduction (vph)	12	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	231	0	0	0	56	0	513	0	124	888
Confl. Peds. (#/hr)				400	400	400		400		
Confl. Bikes (#/hr)		30	30			10		30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0
Turn Type				custom					Split	
Protected Phases	4!				8!		6		2	2
Permitted Phases				3						
Actuated Green, G (s)	18.7				44.7		17.0		14.3	14.3
Effective Green, g (s)	18.7				44.7		17.0		14.3	14.3
Actuated g/C Ratio	0.21				0.50		0.19		0.16	0.16
Clearance Time (s)	5.0				4.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	264				425		431		247	494
v/s Ratio Prot	c0.18						c0.22		0.08	c0.29
v/s Ratio Perm					0.07					
v/c Ratio	0.88				0.13		1.19		0.50	1.80
Uniform Delay, d1	34.5				12.2		36.5		34.6	37.9
Progression Factor	1.00				1.02		1.00		0.77	0.86
Incremental Delay, d2	25.9				0.1		106.6		6.7	366.5
Delay (s)	60.5				12.6		143.1		33.3	399.0
Level of Service	E				B		F		C	F
Approach Delay (s)	60.5				12.6		143.1			354.2
Approach LOS	E				B		F			F

Intersection Summary			
HCM Average Control Delay	245.2	HCM Level of Service	F
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	71.3%	ICU Level of Service	C
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	739	26	0	599	14	0	53	19	0	97	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.91			0.91	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.96			0.96	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2865			2880			1256			1252	
Flt Permitted		1.00			1.00			1.00			1.00	
Satd. Flow (perm)		2865			2880			1256			1252	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	770	27	0	624	15	0	55	20	0	101	38
RTOR Reduction (vph)	0	3	0	0	2	0	0	17	0	0	26	0
Lane Group Flow (vph)	0	794	0	0	637	0	0	58	0	0	113	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type												
Protected Phases		2			6			8			4	
Permitted Phases												
Actuated Green, G (s)		41.7			41.7			9.5			9.5	
Effective Green, g (s)		41.7			41.7			9.5			9.5	
Actuated g/C Ratio		0.70			0.70			0.16			0.16	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1991			2002			199			198	
v/s Ratio Prot		c0.28			0.22			0.05			c0.09	
v/s Ratio Perm												
v/c Ratio		0.40			0.32			0.29			0.57	
Uniform Delay, d1		3.9			3.6			22.3			23.4	
Progression Factor		0.47			1.00			1.00			1.00	
Incremental Delay, d2		0.5			0.1			0.8			3.9	
Delay (s)		2.3			3.7			23.1			27.3	
Level of Service		A			A			C			C	
Approach Delay (s)		2.3			3.7			23.1			27.3	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	5.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	50.0%	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												
Volume (vph)	0	558	136	2	455	36	179	125	71	0	158	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.69		1.00	0.69	1.00	1.00	0.72		0.98	
Flpb, ped/bikes		1.00	1.00		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	0.85		0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3110	959		3109	959	3016	1637	1005		2847	
Flt Permitted		1.00	1.00		0.95	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		3110	959		2966	959	3016	1637	1005		2847	
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)	0	569	139	2	464	37	183	128	72	0	161	8
RTOR Reduction (vph)	0	0	60	0	0	16	0	0	6	0	7	0
Lane Group Flow (vph)	0	569	79	0	466	21	183	128	66	0	162	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type	Perm		Perm	Perm		Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		34.1	34.1		34.1	34.1	4.9	16.9	16.9		7.5	
Effective Green, g (s)		34.1	34.1		34.1	34.1	4.9	16.9	16.9		7.5	
Actuated g/C Ratio		0.57	0.57		0.57	0.57	0.08	0.28	0.28		0.12	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		1768	545		1686	545	246	461	283		356	
v/s Ratio Prot		c0.18					c0.06	0.08			c0.06	
v/s Ratio Perm			0.08		0.16	0.02			0.07			
v/c Ratio		0.32	0.14		0.28	0.04	0.74	0.28	0.23		0.46	
Uniform Delay, d1		6.8	6.1		6.6	5.7	26.9	16.8	16.6		24.4	
Progression Factor		1.00	1.00		1.60	2.49	1.00	1.00	1.00		0.98	
Incremental Delay, d2		0.5	0.6		0.4	0.1	11.5	0.3	0.4		0.9	
Delay (s)		7.3	6.7		11.0	14.4	38.5	17.1	17.0		24.7	
Level of Service		A	A		B	B	D	B	B		C	
Approach Delay (s)		7.2			11.3			27.3			24.7	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM Average Control Delay	14.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	72.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	92	480	482	63	47	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	0.96		0.81	
Flpb, ped/bikes		0.98	1.00		1.00	
Frt		1.00	0.98		0.92	
Flt Protected		0.99	1.00		0.98	
Satd. Flow (prot)		2827	2935		1043	
Flt Permitted		0.79	1.00		0.98	
Satd. Flow (perm)		2258	2935		1043	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	98	511	513	67	50	67
RTOR Reduction (vph)	0	0	20	0	41	0
Lane Group Flow (vph)	0	609	560	0	76	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		32.2	32.2		20.8	
Effective Green, g (s)		32.2	32.2		20.8	
Actuated g/C Ratio		0.54	0.54		0.35	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1212	1575		362	
v/s Ratio Prot			0.19		c0.07	
v/s Ratio Perm		c0.27				
v/c Ratio		0.50	0.36		0.21	
Uniform Delay, d1		8.8	8.0		13.8	
Progression Factor		1.62	1.00		1.13	
Incremental Delay, d2		0.3	0.1		1.2	
Delay (s)		14.6	8.1		16.8	
Level of Service		B	A		B	
Approach Delay (s)		14.6	8.1		16.8	
Approach LOS		B	A		B	

Intersection Summary			
HCM Average Control Delay	11.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	80.0%	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												
Volume (vph)	26	321	41	23	492	71	33	57	46	24	70	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.96			0.95			0.89			0.88	
Flpb, ped/bikes		0.99			0.99			0.94			0.96	
Frt		0.98			0.98			0.95			0.95	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		2705			2691			1137			1141	
Flt Permitted		0.90			0.93			0.91			0.95	
Satd. Flow (perm)		2441			2514			1049			1087	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	28	341	44	24	523	76	35	61	49	26	74	60
RTOR Reduction (vph)	0	15	0	0	18	0	0	31	0	0	22	0
Lane Group Flow (vph)	0	398	0	0	605	0	0	114	0	0	138	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		30.6			30.6			20.6			20.6	
Effective Green, g (s)		30.6			30.6			20.6			20.6	
Actuated g/C Ratio		0.51			0.51			0.34			0.34	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1245			1282			360			373	
v/s Ratio Prot												
v/s Ratio Perm		0.16			c0.24			0.11			c0.13	
v/c Ratio		0.32			0.47			0.32			0.37	
Uniform Delay, d1		8.6			9.5			14.5			14.8	
Progression Factor		1.00			1.06			1.00			0.99	
Incremental Delay, d2		0.7			1.2			2.3			2.7	
Delay (s)		9.3			11.2			16.8			17.3	
Level of Service		A			B			B			B	
Approach Delay (s)		9.3			11.2			16.8			17.3	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	12.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	62.3%	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												
Volume (vph)	33	542	33	29	430	47	55	42	59	24	44	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.98			0.96			0.88			0.89	
Flpb, ped/bikes		0.99			0.99			0.91			0.95	
Frt		0.99			0.99			0.95			0.95	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		2793			2734			1063			1134	
Flt Permitted		0.91			0.91			0.88			0.92	
Satd. Flow (perm)		2559			2488			947			1056	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	34	559	34	30	443	48	57	43	61	25	45	37
RTOR Reduction (vph)	0	5	0	0	9	0	0	27	0	0	30	0
Lane Group Flow (vph)	0	622	0	0	512	0	0	134	0	0	77	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		39.1			39.1			12.0			12.0	
Effective Green, g (s)		39.1			39.1			12.0			12.0	
Actuated g/C Ratio		0.65			0.65			0.20			0.20	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1668			1621			189			211	
v/s Ratio Prot												
v/s Ratio Perm		c0.24			0.21			c0.14			0.07	
v/c Ratio		0.37			0.32			0.71			0.37	
Uniform Delay, d1		4.8			4.6			22.4			20.7	
Progression Factor		1.89			1.00			1.00			0.96	
Incremental Delay, d2		0.6			0.1			11.5			1.1	
Delay (s)		9.7			4.7			33.8			21.0	
Level of Service		A			A			C			C	
Approach Delay (s)		9.7			4.7			33.8			21.0	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	11.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	72.6%	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												
Volume (vph)	20	551	62	20	418	9	58	7	14	7	9	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			0.99			0.94			0.76	
Flpb, ped/bikes		1.00			1.00			0.76			0.96	
Frt		0.99			1.00			0.98			0.91	
Flt Protected		1.00			1.00			0.96			0.99	
Satd. Flow (prot)		2769			3060			1096			1080	
Flt Permitted		0.93			0.91			0.77			0.96	
Satd. Flow (perm)		2587			2802			872			1048	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	22	619	70	22	470	10	65	8	16	8	10	34
RTOR Reduction (vph)	0	2	0	0	2	0	0	9	0	0	27	0
Lane Group Flow (vph)	0	709	0	0	500	0	0	80	0	0	25	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1785			1933			187			225	
v/s Ratio Prot												
v/s Ratio Perm		c0.27			0.18			c0.09			0.02	
v/c Ratio		0.40			0.26			0.43			0.11	
Uniform Delay, d1		6.0			5.3			30.6			28.5	
Progression Factor		1.00			0.19			1.00			0.99	
Incremental Delay, d2		0.7			0.3			7.1			0.1	
Delay (s)		6.6			1.3			37.6			28.4	
Level of Service		A			A			D			C	
Approach Delay (s)		6.6			1.3			37.6			28.4	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM Average Control Delay	7.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	75.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	36	535	441	894	434	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3024	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3024	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	37	552	455	922	447	37
RTOR Reduction (vph)	0	47	0	0	5	0
Lane Group Flow (vph)	37	505	455	922	479	0
Confl. Peds. (#/hr)						109
Confl. Bikes (#/hr)		10				64
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	11.0	35.5	20.5	69.0	44.5	
Effective Green, g (s)	11.0	35.5	20.5	69.0	44.5	
Actuated g/C Ratio	0.12	0.39	0.23	0.77	0.49	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	190	966	687	2235	1495	
v/s Ratio Prot	0.02	c0.21	c0.15	c0.32	0.16	
v/s Ratio Perm						
v/c Ratio	0.19	0.52	0.66	0.41	0.32	
Uniform Delay, d1	35.5	20.8	31.6	3.6	13.7	
Progression Factor	1.25	0.68	0.90	1.68	1.21	
Incremental Delay, d2	0.5	0.5	2.0	0.5	0.0	
Delay (s)	44.9	14.6	30.4	6.5	16.6	
Level of Service	D	B	C	A	B	
Approach Delay (s)	16.5			14.4	16.6	
Approach LOS	B			B	B	

Intersection Summary			
HCM Average Control Delay	15.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	52.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	83	221	16	0	913	0	55	2	1115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			0.99			1.00	1.00
Flpb, ped/bikes				0.71			1.00			1.00	1.00
Frt				0.99			0.99			1.00	1.00
Flt Protected				0.95			1.00			0.95	1.00
Satd. Flow (prot)				1987			4400			1555	3110
Flt Permitted				0.95			1.00			0.95	1.00
Satd. Flow (perm)				1987			4400			1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	90	240	17	0	992	0	60	2	1212
RTOR Reduction (vph)	0	0	0	5	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	0	0	342	0	0	1047	0	0	2	1212
Confl. Peds. (#/hr)			107	139					107		
Confl. Bikes (#/hr)					8				106		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				19.0			55.6			2.4	62.0
Effective Green, g (s)				19.0			55.6			2.4	62.0
Actuated g/C Ratio				0.21			0.62			0.03	0.69
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				419			2718			41	2142
v/s Ratio Prot							0.24			0.00	c0.39
v/s Ratio Perm				0.17							
v/c Ratio				0.82			0.39			0.05	0.57
Uniform Delay, d1				33.8			8.6			42.7	7.1
Progression Factor				1.00			1.30			1.00	1.00
Incremental Delay, d2				11.7			0.0			0.2	1.1
Delay (s)				45.5			11.2			42.9	8.2
Level of Service				D			B			D	A
Approach Delay (s)	0.0			45.5			11.2				8.3
Approach LOS	A			D			B				A

Intersection Summary			
HCM Average Control Delay	14.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	51.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBL	EBR	EBR2	SEL	SET	SER2	NWL2	NWL	NWT	NWR	SWR2
Lane Configurations												
Volume (vph)	22	0	5	134	17	740	180	18	0	1112	29	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5		7.0	7.0	7.0		7.0	7.0		
Lane Util. Factor		1.00	1.00		1.00	0.95	1.00		1.00	0.95		
Frpb, ped/bikes		1.00	0.86		1.00	1.00	0.96		1.00	0.98		
Flpb, ped/bikes		1.00	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	1.00		
Flt Protected		0.95	1.00		0.95	1.00	1.00		0.95	1.00		
Satd. Flow (prot)		1555	1052		1555	3110	1334		1555	3049		
Flt Permitted		0.95	1.00		0.16	1.00	1.00		0.32	1.00		
Satd. Flow (perm)		1555	1052		258	3110	1334		530	3049		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	0	5	146	18	804	196	20	0	1209	32	0
RTOR Reduction (vph)	0	0	106	0	0	0	92	0	0	2	0	0
Lane Group Flow (vph)	0	24	45	0	18	804	104	0	20	1239	0	0
Confl. Peds. (#/hr)				130							1000	100
Confl. Bikes (#/hr)			10	10			30				30	10
Parking (#/hr)			5	5								
Turn Type	Perm		Perm		Perm		Perm	Perm	Perm			custom
Protected Phases		4				6				2		
Permitted Phases	4		4		6		6	2	2			8
Actuated Green, G (s)		18.0	18.0		34.5	34.5	34.5		34.5	34.5		
Effective Green, g (s)		18.0	18.0		34.5	34.5	34.5		34.5	34.5		
Actuated g/C Ratio		0.28	0.28		0.53	0.53	0.53		0.53	0.53		
Clearance Time (s)		5.5	5.5		7.0	7.0	7.0		7.0	7.0		
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)		431	291		137	1651	708		281	1618		
v/s Ratio Prot						0.26				c0.41		
v/s Ratio Perm		0.02	c0.04		0.07		0.08		0.04			
v/c Ratio		0.06	0.16		0.13	0.49	0.15		0.07	0.77		
Uniform Delay, d1		17.3	17.8		7.7	9.7	7.8		7.4	12.1		
Progression Factor		1.00	1.00		1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2		0.1	0.3		2.0	1.0	0.4		0.5	3.5		
Delay (s)		17.3	18.0		9.7	10.7	8.2		7.9	15.6		
Level of Service		B	B		A	B	A		A	B		
Approach Delay (s)		17.9				10.2				15.4		
Approach LOS		B				B				B		

Intersection Summary			
HCM Average Control Delay	13.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	81.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	17	0	7	0	0	0	30	1163	0	0	9	726
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.90					1.00	1.00				0.99
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.96					1.00	1.00				1.00
Flt Protected		0.97					0.95	1.00				1.00
Satd. Flow (prot)		1200					1555	3110				3068
Flt Permitted		0.97					0.95	1.00				0.94
Satd. Flow (perm)		1200					1555	3110				2877
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	18	0	7	0	0	0	32	1237	0	0	10	772
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	0	19	0	0	0	0	32	1237	0	0	0	797
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		3.6					5.4	77.4				67.0
Effective Green, g (s)		3.6					5.4	77.4				67.0
Actuated g/C Ratio		0.04					0.06	0.86				0.74
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		48					93	2675				2142
v/s Ratio Prot		c0.02					0.02	c0.40				
v/s Ratio Perm												0.28
v/c Ratio		0.40					0.34	0.46				0.37
Uniform Delay, d1		42.1					40.6	1.5				4.1
Progression Factor		1.00					1.23	2.90				1.00
Incremental Delay, d2		5.4					2.0	0.5				0.5
Delay (s)		47.6					52.1	4.8				4.6
Level of Service		D					D	A				A
Approach Delay (s)		47.6			0.0			6.0				4.6
Approach LOS		D			A			A				A

Intersection Summary			
HCM Average Control Delay	5.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	93.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	15
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	16
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	58	415	0	0	407	38	145	137	18	0	0	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				
Lane Util. Factor		0.95			0.95			0.95				
Frpb, ped/bikes		1.00			0.98			0.98				
Flpb, ped/bikes		0.98			1.00			0.85				
Frt		1.00			0.99			0.99				
Flt Protected		0.99			1.00			0.98				
Satd. Flow (prot)		2812			2774			2320				
Flt Permitted		0.84			1.00			0.98				
Satd. Flow (perm)		2389			2774			2320				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	62	441	0	0	433	40	154	146	19	0	0	0
RTOR Reduction (vph)	0	0	0	0	9	0	0	6	0	0	0	0
Lane Group Flow (vph)	0	503	0	0	464	0	0	313	0	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm					
Protected Phases		2			6			8				
Permitted Phases	2						8					
Actuated Green, G (s)		44.0			44.0			27.0				
Effective Green, g (s)		44.0			44.0			27.0				
Actuated g/C Ratio		0.55			0.55			0.34				
Clearance Time (s)		4.5			4.5			4.5				
Vehicle Extension (s)		3.0			3.0			3.0				
Lane Grp Cap (vph)		1314			1526			783				
v/s Ratio Prot					0.17							
v/s Ratio Perm		c0.21						0.13				
v/c Ratio		0.38			0.30			0.40				
Uniform Delay, d1		10.3			9.7			20.3				
Progression Factor		1.00			0.13			1.00				
Incremental Delay, d2		0.8			0.5			1.5				
Delay (s)		11.1			1.8			21.8				
Level of Service		B			A			C				
Approach Delay (s)		11.1			1.8			21.8			0.0	
Approach LOS		B			A			C			A	

Intersection Summary			
HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	93.1%	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												
Volume (vph)	0	274	161	34	375	0	0	0	0	15	248	71
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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.88			1.00						0.95	
Flpb, ped/bikes		1.00			0.99						0.99	
Frt		0.94			1.00						0.97	
Flt Protected		1.00			1.00						1.00	
Satd. Flow (prot)		2580			3058						2654	
Flt Permitted		1.00			0.88						1.00	
Satd. Flow (perm)		2580			2705						2654	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	295	173	37	403	0	0	0	0	16	267	76
RTOR Reduction (vph)	0	61	0	0	0	0	0	0	0	0	25	0
Lane Group Flow (vph)	0	407	0	0	440	0	0	0	0	0	334	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		20.9			20.9						50.1	
Effective Green, g (s)		20.9			20.9						50.1	
Actuated g/C Ratio		0.26			0.26						0.63	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		674			707						1662	
v/s Ratio Prot		0.16										
v/s Ratio Perm					c0.16						0.13	
v/c Ratio		0.60			0.62						0.20	
Uniform Delay, d1		25.9			26.1						6.4	
Progression Factor		0.62			1.00						1.00	
Incremental Delay, d2		1.4			1.7						0.3	
Delay (s)		17.5			27.8						6.7	
Level of Service		B			C						A	
Approach Delay (s)		17.5			27.8			0.0			6.7	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM Average Control Delay	18.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	83.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	50	245	369	1169	0	705	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.65	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		0.99	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	910	3016	3110		3051	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	910	3016	3110		3051	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	50	245	369	1169	0	705	29
RTOR Reduction (vph)	0	215	0	0	0	2	0
Lane Group Flow (vph)	50	30	369	1169	0	732	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	11.0	11.0	16.1	68.0		45.9	
Effective Green, g (s)	11.0	11.0	16.1	68.0		45.9	
Actuated g/C Ratio	0.12	0.12	0.18	0.76		0.51	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	190	111	540	2350		1556	
v/s Ratio Prot	0.03		c0.12	c0.38		0.24	
v/s Ratio Perm		c0.03					
v/c Ratio	0.26	0.27	0.68	0.50		0.47	
Uniform Delay, d1	35.8	35.9	34.6	4.3		14.2	
Progression Factor	1.00	1.00	1.00	1.00		1.16	
Incremental Delay, d2	0.7	1.3	3.6	0.8		1.0	
Delay (s)	36.6	37.2	38.1	5.1		17.5	
Level of Service	D	D	D	A		B	
Approach Delay (s)	37.1			13.0		17.5	
Approach LOS	D			B		B	

Intersection Summary			
HCM Average Control Delay	17.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	77.6%	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												
Volume (vph)	15	219	10	5	116	15	5	75	7	30	105	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
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.43		1.00	0.66		0.98			1.00	0.46
Flpb, ped/bikes		0.98	1.00		0.98	1.00		0.98			0.94	1.00
Frt		1.00	0.85		1.00	0.85		0.99			1.00	0.85
Flt Protected		1.00	1.00		1.00	1.00		1.00			0.99	1.00
Satd. Flow (prot)		1602	600		1608	917		1540			1523	643
Flt Permitted		0.98	1.00		0.99	1.00		0.98			0.91	1.00
Satd. Flow (perm)		1583	600		1598	917		1514			1401	643
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	16	233	11	5	123	16	5	80	7	32	112	5
RTOR Reduction (vph)	0	0	3	0	0	5	0	6	0	0	0	4
Lane Group Flow (vph)	0	249	8	0	128	11	0	86	0	0	144	1
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		41.0	41.0		41.0	41.0		10.0			10.0	10.0
Effective Green, g (s)		41.0	41.0		41.0	41.0		10.0			10.0	10.0
Actuated g/C Ratio		0.68	0.68		0.68	0.68		0.17			0.17	0.17
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)		1082	410		1092	627		252			234	107
v/s Ratio Prot												
v/s Ratio Perm		c0.16	0.01		0.08	0.01		0.06			c0.10	0.00
v/c Ratio		0.23	0.02		0.12	0.02		0.34			0.62	0.01
Uniform Delay, d1		3.6	3.0		3.3	3.0		22.1			23.2	20.9
Progression Factor		1.00	1.00		1.26	1.44		1.04			1.30	1.63
Incremental Delay, d2		0.1	0.0		0.2	0.1		0.8			4.7	0.0
Delay (s)		3.7	3.1		4.3	4.4		23.7			35.0	34.1
Level of Service		A	A		A	A		C			C	C
Approach Delay (s)		3.7			4.3			23.7			34.9	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
101: Marina Boulevard & Yacht Road

8/6/2013

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	1101	20	285	199	38	8	20	4	5	5	187	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.34		0.67	1.00	0.95			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.74	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	558	3110	478		947	1555	1328			1146	1175
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.99	1.00
Satd. Flow (perm)	3110	558	3110	478		947	1555	1328			1195	1175
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	1237	22	320	224	43	9	22	4	6	6	210	15
RTOR Reduction (vph)	0	5	0	121	0	4	0	4	0	0	0	11
Lane Group Flow (vph)	1237	17	320	146	0	5	22	6	0	0	216	4
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Effective Green, g (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Actuated g/C Ratio	0.55	0.55	0.55	0.55		0.29	0.29	0.29			0.29	0.29
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1700	305	1700	261		278	456	390			351	345
v/s Ratio Prot	c0.40		0.10									
v/s Ratio Perm		0.03		0.31		0.01	0.01	0.00			c0.18	0.00
v/c Ratio	0.73	0.06	0.19	0.56		0.02	0.05	0.01			0.62	0.01
Uniform Delay, d1	12.8	7.9	8.6	11.1		18.8	19.0	18.8			22.9	18.8
Progression Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	2.8	0.3	0.2	8.4		0.1	0.2	0.1			7.8	0.1
Delay (s)	15.6	8.3	8.8	19.5		18.9	19.2	18.9			30.7	18.9
Level of Service	B	A	A	B		B	B	B			C	B
Approach Delay (s)	15.4		13.7								29.9	
Approach LOS	B		B								C	

Intersection Summary			
HCM Average Control Delay	16.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	1123	54	14	431	88	51
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1195	57	15	459	94	54

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	796	456	168	306	148
Volume Left (vph)	0	0	15	0	94
Volume Right (vph)	0	57	0	0	54
Hadj (s)	0.02	-0.07	0.06	0.02	-0.08
Departure Headway (s)	5.7	5.6	6.4	6.3	6.5
Degree Utilization, x	1.26	0.71	0.30	0.54	0.27
Capacity (veh/h)	630	631	549	557	541
Control Delay (s)	145.6	19.7	10.9	15.3	11.8
Approach Delay (s)	99.8		13.8		11.8
Approach LOS	F		B		B

Intersection Summary			
Delay	71.1		
HCM Level of Service	F		
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	1007	140	11	1	355	20	6	7	3	11	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4				5.4		4.0			5.0	5.0
Lane Util. Factor		0.95				0.95		1.00			1.00	1.00
Frpb, ped/bikes		0.93				0.98		0.78			1.00	0.55
Flpb, ped/bikes		1.00				1.00		1.00			1.00	1.00
Frt		0.98				0.99		0.86			1.00	0.85
Flt Protected		1.00				1.00		1.00			0.98	1.00
Satd. Flow (prot)		2638				3020		1106			1598	768
Flt Permitted		0.94				0.95		1.00			0.98	1.00
Satd. Flow (perm)		2486				2878		1106			1598	768
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	25	1095	152	12	1	386	22	7	8	3	12	18
RTOR Reduction (vph)	0	1	0	0	0	5	0	0	0	0	0	16
Lane Group Flow (vph)	0	1283	0	0	0	404	0	7	0	0	23	2
Confl. Peds. (#/hr)	400		400	400	400		400	400	400	400		400
Confl. Bikes (#/hr)			30	30			30	10				10
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm			Free	Split	Split		Perm
Protected Phases		2				6			4	4	4	
Permitted Phases	2				6			Free				4
Actuated Green, G (s)		41.6				41.6		75.0			9.0	9.0
Effective Green, g (s)		41.6				41.6		75.0			9.0	9.0
Actuated g/C Ratio		0.55				0.55		1.00			0.12	0.12
Clearance Time (s)		5.4				5.4					5.0	5.0
Lane Grp Cap (vph)		1379				1596		1106			192	92
v/s Ratio Prot											c0.01	
v/s Ratio Perm		c0.52				0.14		0.01				0.00
v/c Ratio		0.93				0.25		0.01			0.12	0.02
Uniform Delay, d1		15.4				8.7		0.0			29.5	29.1
Progression Factor		1.00				1.47		1.00			1.00	1.00
Incremental Delay, d2		12.5				0.4		0.0			1.3	0.5
Delay (s)		27.9				13.1		0.0			30.7	29.6
Level of Service		C				B		A			C	C
Approach Delay (s)		27.9				13.1					30.2	
Approach LOS		C				B					C	

Intersection Summary			
HCM Average Control Delay	24.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	95.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	NWL	NWR	NWR2
Lane Configurations			
Volume (vph)	81	18	2
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	5.0		5.0
Lane Util. Factor	0.97		1.00
Frpb, ped/bikes	0.86		0.55
Flpb, ped/bikes	1.00		1.00
Frt	0.97		0.85
Flt Protected	0.96		1.00
Satd. Flow (prot)	2556		768
Flt Permitted	0.96		1.00
Satd. Flow (perm)	2556		768
Peak-hour factor, PHF	0.92	0.92	0.92
Adj. Flow (vph)	88	20	2
RTOR Reduction (vph)	0	0	2
Lane Group Flow (vph)	108	0	0
Confl. Peds. (#/hr)	400	400	400
Confl. Bikes (#/hr)		10	10
Parking (#/hr)			
Turn Type			Perm
Protected Phases	8		
Permitted Phases			8
Actuated Green, G (s)	9.0		9.0
Effective Green, g (s)	9.0		9.0
Actuated g/C Ratio	0.12		0.12
Clearance Time (s)	5.0		5.0
Lane Grp Cap (vph)	307		92
v/s Ratio Prot	c0.04		
v/s Ratio Perm			0.00
v/c Ratio	0.35		0.00
Uniform Delay, d1	30.3		29.0
Progression Factor	1.00		1.00
Incremental Delay, d2	3.1		0.1
Delay (s)	33.5		29.1
Level of Service	C		C
Approach Delay (s)	33.4		
Approach LOS	C		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1013	30	8	330	53	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.99			1.00	0.91	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	1.00			1.00	0.96	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2872			3102	1379	
Flt Permitted	1.00			0.93	0.97	
Satd. Flow (perm)	2872			2899	1379	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1066	32	8	347	56	22
RTOR Reduction (vph)	3	0	0	0	11	0
Lane Group Flow (vph)	1095	0	0	355	67	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1723			1739	414	
v/s Ratio Prot	c0.38				c0.05	
v/s Ratio Perm				0.12		
v/c Ratio	0.64			0.20	0.16	
Uniform Delay, d1	9.7			6.8	19.3	
Progression Factor	1.25			1.00	1.00	
Incremental Delay, d2	0.7			0.3	0.8	
Delay (s)	12.8			7.1	20.1	
Level of Service	B			A	C	
Approach Delay (s)	12.8			7.1	20.1	
Approach LOS	B			A	C	

Intersection Summary			
HCM Average Control Delay	11.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	1019	7	4	320	9	8
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1084	7	4	340	10	9

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	723	369	118	227	18
Volume Left (vph)	0	0	4	0	10
Volume Right (vph)	0	7	0	0	9
Hadj (s)	0.02	0.00	0.04	0.02	-0.16
Departure Headway (s)	4.9	4.9	5.7	5.7	6.2
Degree Utilization, x	0.98	0.50	0.19	0.36	0.03
Capacity (veh/h)	724	727	619	626	563
Control Delay (s)	49.6	11.5	8.8	10.6	9.4
Approach Delay (s)	36.7		9.9		9.4
Approach LOS	E		A		A

Intersection Summary			
Delay	30.1		
HCM Level of Service	D		
Intersection Capacity Utilization	51.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR2
Lane Configurations												
Volume (vph)	31	939	22	4	321	85	42	30	41	14	12	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5	5.5		5.5		5.5	5.5	5.5
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	1.00
Frpb, ped/bikes		0.99			1.00	0.66		0.88		1.00	1.00	0.65
Flpb, ped/bikes		0.99			1.00	1.00		0.88		0.73	0.96	1.00
Frt		1.00			1.00	0.85		0.95		1.00	1.00	0.85
Flt Protected		1.00			1.00	1.00		0.98		0.95	0.99	1.00
Satd. Flow (prot)		2841			3110	808		1027		1080	1484	911
Flt Permitted		0.93			1.00	1.00		0.89		0.70	0.97	1.00
Satd. Flow (perm)		2659			3110	808		934		791	1455	911
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)	32	958	22	4	328	87	43	31	42	14	12	3
RTOR Reduction (vph)	0	0	0	0	0	4	0	18	0	0	0	2
Lane Group Flow (vph)	0	1016	0	0	328	83	0	98	0	12	14	1
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10	10		10			10			10
Parking (#/hr)		5	5	5		5	5	5	5			
Turn Type	Perm					Perm	Perm			Perm		Perm
Protected Phases		2			6			8			4	
Permitted Phases	2				6	6	8			4		4
Actuated Green, G (s)		56.5			56.5	56.5		22.5		22.5	22.5	22.5
Effective Green, g (s)		56.5			56.5	56.5		22.5		22.5	22.5	22.5
Actuated g/C Ratio		0.63			0.63	0.63		0.25		0.25	0.25	0.25
Clearance Time (s)		5.5			5.5	5.5		5.5		5.5	5.5	5.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		1669			1952	507		234		198	364	228
v/s Ratio Prot					0.11							
v/s Ratio Perm		c0.38				0.10		c0.10		0.02	0.01	0.00
v/c Ratio		0.61			0.17	0.16		0.42		0.06	0.04	0.00
Uniform Delay, d1		10.1			7.0	6.9		28.3		25.7	25.6	25.3
Progression Factor		1.00			2.17	2.37		1.00		1.00	1.00	1.00
Incremental Delay, d2		1.7			0.2	0.7		5.4		0.1	0.0	0.0
Delay (s)		11.7			15.3	17.1		33.7		25.8	25.6	25.3
Level of Service		B			B	B		C		C	C	C
Approach Delay (s)		11.7			15.7			33.7			25.7	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM Average Control Delay	14.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	NER2
Lane Configurations	
Volume (vph)	17
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.78
Flpb, ped/bikes	1.00
Frt	0.86
Flt Protected	1.00
Satd. Flow (prot)	967
Flt Permitted	1.00
Satd. Flow (perm)	967
Peak-hour factor, PHF	0.98
Adj. Flow (vph)	17
RTOR Reduction (vph)	0
Lane Group Flow (vph)	17
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	10
Parking (#/hr)	5
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Actuated Green, G (s)	90.0
Effective Green, g (s)	90.0
Actuated g/C Ratio	1.00
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	967
v/s Ratio Prot	
v/s Ratio Perm	0.02
v/c Ratio	0.02
Uniform Delay, d1	0.0
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	0.0
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	977	0	0	417	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1051	0	0	448	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	1051	0	0	448	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)		30				30
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		90.0			90.0	
Effective Green, g (s)		90.0			90.0	
Actuated g/C Ratio		1.00			1.00	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		2448			3016	
v/s Ratio Prot		c0.43			0.15	
v/s Ratio Perm						
v/c Ratio		0.43			0.15	
Uniform Delay, d1		0.0			0.0	
Progression Factor		1.00			1.00	
Incremental Delay, d2		0.5			0.1	
Delay (s)		0.5			0.1	
Level of Service		A			A	
Approach Delay (s)	0.5			0.0	0.1	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	0.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	54.2%	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												
Volume (vph)	5	368	78	78	104	8	71	80	124	24	75	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.89		1.00	0.96			1.00	0.62		1.00	0.37
Flpb, ped/bikes		0.99		0.73	1.00			0.74	1.00		0.93	1.00
Frt		0.97		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.99	1.00
Satd. Flow (prot)		2673		1134	1354			1012	844		1500	508
Flt Permitted		0.95		0.37	1.00			0.84	1.00		0.93	1.00
Satd. Flow (perm)		2547		443	1354			869	844		1409	508
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)	5	387	82	82	109	8	75	84	131	25	79	18
RTOR Reduction (vph)	0	30	0	0	4	0	0	0	19	0	0	7
Lane Group Flow (vph)	0	444	0	82	113	0	0	159	112	0	104	11
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		23.1		23.1	23.1			56.9	56.9		56.9	56.9
Effective Green, g (s)		23.1		23.1	23.1			56.9	56.9		56.9	56.9
Actuated g/C Ratio		0.26		0.26	0.26			0.63	0.63		0.63	0.63
Clearance Time (s)		5.5		5.5	5.5			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)		654		114	348			549	534		891	321
v/s Ratio Prot					0.08							
v/s Ratio Perm		0.17		c0.19				c0.18	0.13		0.07	0.02
v/c Ratio		0.68		0.72	0.32			0.29	0.21		0.12	0.04
Uniform Delay, d1		30.1		30.5	27.1			7.5	7.0		6.6	6.2
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		2.8		19.4	0.5			1.3	0.9		0.3	0.2
Delay (s)		32.9		49.9	27.7			8.8	7.9		6.8	6.4
Level of Service		C		D	C			A	A		A	A
Approach Delay (s)		32.9			36.8			8.4			6.8	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM Average Control Delay	24.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
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												
Volume (vph)	0	447	106	12	175	464	88	0	33	981	75	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.98			1.00	0.96		0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		0.99		1.00	1.00	
Frt		0.97			1.00	0.85		0.96		1.00	1.00	
Flt Protected		1.00			1.00	1.00		0.96		0.95	0.96	
Satd. Flow (prot)		2789			1627	2362		1305		1477	1490	
Flt Permitted		1.00			0.78	1.00		0.50		0.73	0.76	
Satd. Flow (perm)		2789			1272	2362		678		1132	1178	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	461	109	12	180	478	91	0	34	1011	77	3
RTOR Reduction (vph)	0	23	0	0	0	0	0	15	0	0	0	0
Lane Group Flow (vph)	0	547	0	0	192	478	0	110	0	546	545	0
Confl. Peds. (#/hr)	50			50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		17.0			17.0	65.5		17.5		45.0	45.0	
Effective Green, g (s)		17.0			17.0	65.5		17.5		45.0	45.0	
Actuated g/C Ratio		0.19			0.19	0.73		0.19		0.50	0.50	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		527			240	1719		132		566	589	
v/s Ratio Prot		c0.20										
v/s Ratio Perm					0.15	0.20		c0.16		c0.48	0.46	
v/c Ratio		1.04			0.80	0.28		0.83		0.96	0.93	
Uniform Delay, d1		36.5			34.9	4.2		34.8		21.7	20.9	
Progression Factor		1.00			1.00	1.00		1.00		1.11	1.10	
Incremental Delay, d2		49.5			23.7	0.4		42.9		28.7	21.4	
Delay (s)		86.0			58.6	4.6		77.7		52.7	44.5	
Level of Service		F			E	A		E		D	D	
Approach Delay (s)		86.0			20.1			77.7			48.6	
Approach LOS		F			C			E			D	

Intersection Summary			
HCM Average Control Delay	51.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	67.0%	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												
Volume (vph)	17	1436	19	34	535	17	118	51	185	23	18	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Lane Util. Factor		0.95			0.95	1.00		0.95			1.00	1.00
Frpb, ped/bikes		1.00			1.00	0.62		0.80			1.00	0.62
Flpb, ped/bikes		1.00			1.00	1.00		0.88			0.89	1.00
Frt		1.00			1.00	0.85		0.92			1.00	0.85
Flt Protected		1.00			1.00	1.00		0.98			0.97	1.00
Satd. Flow (prot)		3081			3100	754		1864			1423	858
Flt Permitted		0.95			0.81	1.00		0.84			0.76	1.00
Satd. Flow (perm)		2916			2511	754		1586			1117	858
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	18	1496	20	35	557	18	123	53	193	24	19	24
RTOR Reduction (vph)	0	1	0	0	0	1	0	11	0	0	0	19
Lane Group Flow (vph)	0	1533	0	0	592	17	0	358	0	0	43	5
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Actuated Green, G (s)		62.7			62.7	62.7		20.3			20.3	20.3
Effective Green, g (s)		62.7			62.7	62.7		20.3			20.3	20.3
Actuated g/C Ratio		0.70			0.70	0.70		0.23			0.23	0.23
Clearance Time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)		2031			1749	525		358			252	194
v/s Ratio Prot												
v/s Ratio Perm		c0.53			0.24	0.02		c0.23			0.04	0.01
v/c Ratio		0.75			0.34	0.03		1.00			0.17	0.03
Uniform Delay, d1		8.7			5.4	4.2		34.9			28.1	27.2
Progression Factor		1.00			0.79	0.71		1.00			1.00	1.00
Incremental Delay, d2		1.6			0.1	0.0		47.7			1.5	0.3
Delay (s)		10.4			4.4	3.0		82.5			29.5	27.4
Level of Service		B			A	A		F			C	C
Approach Delay (s)		10.4			4.4			82.5			28.8	
Approach LOS		B			A			F			C	

Intersection Summary			
HCM Average Control Delay	19.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	88.7%	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												
Volume (vph)	20	1502	109	0	468	27	72	275	178	7	129	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.95		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.80		0.99		1.00	0.86			0.88	
Flpb, ped/bikes		1.00	1.00		1.00		0.74	1.00			0.99	
Frt		1.00	0.85		0.99		1.00	0.94			0.95	
Flt Protected		1.00	1.00		1.00		0.95	1.00			1.00	
Satd. Flow (prot)		3104	974		3051		1144	3606			3714	
Flt Permitted		0.94	1.00		1.00		0.61	1.00			0.92	
Satd. Flow (perm)		2934	974		3051		740	3606			3425	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	21	1565	114	0	488	28	75	286	185	7	134	69
RTOR Reduction (vph)	0	0	1	0	0	0	0	7	0	0	54	0
Lane Group Flow (vph)	0	1586	113	0	516	0	75	464	0	0	156	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm				Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4				2			6		
Actuated Green, G (s)		59.8	59.8		59.8		20.2	20.2			20.2	
Effective Green, g (s)		59.8	59.8		59.8		20.2	20.2			20.2	
Actuated g/C Ratio		0.66	0.66		0.66		0.22	0.22			0.22	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1949	647		2027		166	809			769	
v/s Ratio Prot					0.17			c0.13				
v/s Ratio Perm		c0.54	0.12				0.10				0.05	
v/c Ratio		0.81	0.18		0.25		0.45	0.57			0.20	
Uniform Delay, d1		11.0	5.7		6.1		30.1	31.1			28.4	
Progression Factor		0.62	0.50		0.98		1.00	1.00			1.00	
Incremental Delay, d2		1.8	0.1		0.1		8.6	2.9			0.6	
Delay (s)		8.6	3.0		6.1		38.8	34.0			29.0	
Level of Service		A	A		A		D	C			C	
Approach Delay (s)		8.2			6.1			34.7			29.0	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	14.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
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												
Volume (vph)	0	2026	196	0	1241	55	128	141	28	89	104	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.97			0.98		1.00	0.95		1.00	0.92	
Flpb, ped/bikes		1.00			1.00		0.74	1.00		0.76	1.00	
Frt		0.99			0.99		1.00	0.97		1.00	0.96	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4268			4188		1149	1509		1174	1261	
Flt Permitted		1.00			1.00		0.67	1.00		0.62	1.00	
Satd. Flow (perm)		4268			4188		805	1509		766	1261	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	2089	202	0	1279	57	132	145	29	92	107	37
RTOR Reduction (vph)	0	8	0	0	5	0	0	1	0	0	6	0
Lane Group Flow (vph)	0	2283	0	0	1331	0	132	173	0	92	138	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2466			2420		246	461		234	385	
v/s Ratio Prot		c0.53			0.32			0.11			0.11	
v/s Ratio Perm							c0.16			0.12		
v/c Ratio		0.93			0.55		0.54	0.38		0.39	0.36	
Uniform Delay, d1		17.2			11.8		26.0	24.5		24.7	24.4	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		7.4			0.9		8.2	2.3		4.9	2.6	
Delay (s)		24.7			12.7		34.1	26.9		29.6	27.0	
Level of Service		C			B		C	C		C	C	
Approach Delay (s)		24.7			12.7			30.0			28.0	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM Average Control Delay	21.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
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												
Volume (vph)	0	2023	67	0	1120	67	54	128	33	42	121	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			1.00	
Frpb, ped/bikes		0.99			0.98		1.00	0.93			0.94	
Flpb, ped/bikes		1.00			1.00		0.80	1.00			0.95	
Frt		1.00			0.99		1.00	0.97			0.98	
Flt Protected		1.00			1.00		0.95	1.00			0.99	
Satd. Flow (prot)		4396			4341		1236	1479			1408	
Flt Permitted		1.00			1.00		0.55	1.00			0.90	
Satd. Flow (perm)		4396			4341		720	1479			1285	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	2199	73	0	1217	73	59	139	36	46	132	40
RTOR Reduction (vph)	0	4	0	0	6	0	0	1	0	0	7	0
Lane Group Flow (vph)	0	2268	0	0	1284	0	59	174	0	0	211	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2603			2571		215	442			384	
v/s Ratio Prot		c0.52			0.30			0.12				
v/s Ratio Perm							0.08				c0.16	
v/c Ratio		0.87			0.50		0.27	0.39			0.55	
Uniform Delay, d1		15.5			10.6		24.1	25.1			26.5	
Progression Factor		1.00			1.11		1.00	1.00			1.00	
Incremental Delay, d2		4.4			0.6		3.1	2.6			5.6	
Delay (s)		19.8			12.4		27.2	27.7			32.0	
Level of Service		B			B		C	C			C	
Approach Delay (s)		19.8			12.4			27.6			32.0	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM Average Control Delay	18.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	102.6%	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												
Volume (vph)	0	1861	95	0	1123	42	35	78	18	47	145	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.98			0.99			0.96			0.96	
Flpb, ped/bikes		1.00			1.00			0.95			0.95	
Frt		0.99			0.99			0.98			0.98	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		4178			4204			1255			1262	
Flt Permitted		1.00			1.00			0.89			0.91	
Satd. Flow (perm)		4178			4204			1128			1159	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	1980	101	0	1195	45	37	83	19	50	154	31
RTOR Reduction (vph)	0	6	0	0	4	0	0	1	0	0	6	0
Lane Group Flow (vph)	0	2075	0	0	1236	0	0	138	0	0	229	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2507			2522			338			348	
v/s Ratio Prot		c0.50			0.29							
v/s Ratio Perm								0.12			c0.20	
v/c Ratio		0.83			0.49			0.41			0.66	
Uniform Delay, d1		14.3			10.2			25.1			27.5	
Progression Factor		0.47			1.00			1.00			1.00	
Incremental Delay, d2		1.6			0.7			3.6			9.3	
Delay (s)		8.3			10.9			28.7			36.8	
Level of Service		A			B			C			D	
Approach Delay (s)		8.3			10.9			28.7			36.8	
Approach LOS		A			B			C			D	

Intersection Summary			
HCM Average Control Delay	11.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	75.0%	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		↑↑↑			↑↑↑		↰	↕				↱
Volume (vph)	0	1720	0	0	533	27	527	460	45	0	0	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.98		1.00	0.98				0.97
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.99				1.00
Satd. Flow (prot)		4282			4366		1415	2671				1367
Flt Permitted		1.00			1.00		0.95	0.99				1.00
Satd. Flow (perm)		4282			4366		1415	2671				1367
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	1811	0	0	561	28	555	484	47	0	0	25
RTOR Reduction (vph)	0	0	0	0	6	0	0	6	0	0	0	0
Lane Group Flow (vph)	0	1811	0	0	583	0	355	725	0	0	0	25
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		53.0			41.0		27.0	27.0				9.0
Effective Green, g (s)		53.0			41.0		27.0	27.0				9.0
Actuated g/C Ratio		0.59			0.46		0.30	0.30				0.10
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		2522			1989		425	801				137
v/s Ratio Prot		c0.42			0.13							
v/s Ratio Perm							0.25	0.27				0.02
v/c Ratio		0.72			0.29		0.84	0.91				0.18
Uniform Delay, d1		13.2			15.4		29.4	30.3				37.1
Progression Factor		1.00			1.78		1.00	1.00				1.00
Incremental Delay, d2		1.8			0.3		17.4	15.7				2.9
Delay (s)		15.0			27.7		46.8	46.0				40.0
Level of Service		B			C		D	D				D
Approach Delay (s)		15.0			27.7			46.3			40.0	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM Average Control Delay	27.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	67.8%	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												
Volume (vph)	225	150	1382	0	78	8	384	287	26	0	425	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		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.97		1.00	0.96			1.00	0.67
Flpb, ped/bikes		0.83	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.99		1.00	0.99			1.00	0.85
Flt Protected		0.97	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1318	2448		1334		4385	1357			3110	815
Flt Permitted		0.76	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		1039	2448		1334		4385	1357			3110	815
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	234	156	1440	0	81	8	400	299	27	0	443	40
RTOR Reduction (vph)	0	0	3	0	4	0	0	4	0	0	0	28
Lane Group Flow (vph)	0	390	1437	0	85	0	400	322	0	0	443	12
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		39.5	54.5		39.5		11.5	42.5			27.5	27.5
Effective Green, g (s)		39.5	51.0		39.5		11.5	42.5			27.5	27.5
Actuated g/C Ratio		0.44	0.57		0.44		0.13	0.47			0.31	0.31
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		456	1387		585		560	641			950	249
v/s Ratio Prot			c0.59		0.06		0.09	c0.24			0.14	
v/s Ratio Perm		0.38										0.01
v/c Ratio		0.86	1.04		0.15		0.71	0.50			0.47	0.05
Uniform Delay, d1		22.7	19.5		15.1		37.7	16.4			25.3	22.0
Progression Factor		1.23	1.74		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		10.3	29.9		0.1		7.6	2.8			1.6	0.4
Delay (s)		38.3	63.8		15.2		45.3	19.2			27.0	22.4
Level of Service		D	E		B		D	B			C	C
Approach Delay (s)		58.3			15.2			33.6			26.6	
Approach LOS		E			B			C			C	

Intersection Summary			
HCM Average Control Delay	46.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	82.9%	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												
Volume (vph)	0	0	0	27	94	45	13	32	0	0	45	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.70		1.00			0.99	
Flpb, ped/bikes					0.95	1.00		0.99			1.00	
Frt					1.00	0.85		1.00			0.97	
Flt Protected					0.99	1.00		0.99			1.00	
Satd. Flow (prot)					2747	954		1595			1567	
Flt Permitted					0.99	1.00		0.93			1.00	
Satd. Flow (perm)					2747	954		1512			1567	
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	0	0	0	35	121	58	17	41	0	0	58	17
RTOR Reduction (vph)	0	0	0	0	0	34	0	0	0	0	10	0
Lane Group Flow (vph)	0	0	0	0	156	24	0	58	0	0	65	0
Confl. Peds. (#/hr)				154		203	51					51
Confl. Bikes (#/hr)						14						3
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					25.0	25.0		25.0			25.0	
Effective Green, g (s)					25.0	25.0		25.0			25.0	
Actuated g/C Ratio					0.42	0.42		0.42			0.42	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1145	398		630			653	
v/s Ratio Prot											c0.04	
v/s Ratio Perm					0.06	0.03		0.04				
v/c Ratio					0.14	0.06		0.09			0.10	
Uniform Delay, d1					10.8	10.5		10.6			10.7	
Progression Factor					1.00	1.00		0.88			1.00	
Incremental Delay, d2					0.2	0.3		0.3			0.3	
Delay (s)					11.1	10.8		9.6			11.0	
Level of Service					B	B		A			B	
Approach Delay (s)		0.0			11.0			9.6			11.0	
Approach LOS		A			B			A			B	

Intersection Summary			
HCM Average Control Delay	10.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.12		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	45.0%	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												
Volume (vph)	0	0	0	24	113	5	20	5	0	0	3	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.99		1.00	1.00			0.95	
Flpb, ped/bikes				1.00	1.00		0.89	1.00			1.00	
Frt				1.00	0.99		1.00	1.00			0.94	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	3054		1388	1637			1464	
Flt Permitted				0.95	1.00		0.75	1.00			1.00	
Satd. Flow (perm)				1555	3054		1100	1637			1464	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	0	0	0	31	147	6	26	6	0	0	4	3
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	31	151	0	26	6	0	0	7	0
Confl. Peds. (#/hr)						369	74					74
Confl. Bikes (#/hr)						16			1			
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				38.4	38.4		12.3	12.3			12.3	
Effective Green, g (s)				38.4	38.4		12.3	12.3			12.3	
Actuated g/C Ratio				0.64	0.64		0.21	0.21			0.21	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				995	1955		226	336			300	
v/s Ratio Prot				0.02	c0.05			0.00			0.00	
v/s Ratio Perm							c0.02					
v/c Ratio				0.03	0.08		0.12	0.02			0.02	
Uniform Delay, d1				4.0	4.1		19.4	19.0			19.1	
Progression Factor				1.00	1.00		1.43	1.47			1.00	
Incremental Delay, d2				0.1	0.1		1.0	0.1			0.1	
Delay (s)				4.0	4.2		28.8	28.0			19.2	
Level of Service				A	A		C	C			B	
Approach Delay (s)		0.0			4.1			28.7			19.2	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM Average Control Delay	8.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.09		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	129	36	6	65	30	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	134	38	6	68	31	4
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	291					
pX, platoon unblocked						
vC, conflicting volume			572		1033	886
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			572		1033	886
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		72	97
cM capacity (veh/h)			697		110	140

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	90	82	74	35
Volume Left	0	0	6	31
Volume Right	0	38	0	4
cSH	1700	1700	697	113
Volume to Capacity	0.05	0.05	0.01	0.31
Queue Length 95th (ft)	0	0	1	31
Control Delay (s)	0.0	0.0	1.0	51.0
Lane LOS			A	F
Approach Delay (s)	0.0		1.0	51.0
Approach LOS				F

Intersection Summary			
Average Delay	6.7		
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												
Volume (vph)	16	136	16	8	94	8	19	23	13	19	42	9
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		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.57		0.97			0.88			0.93	
Flpb, ped/bikes		0.96	1.00		0.98			0.84			0.87	
Frt		1.00	0.85		0.99			0.97			0.98	
Flt Protected		0.99	1.00		1.00			0.98			0.99	
Satd. Flow (prot)		1570	793		1338			1003			1131	
Flt Permitted		0.97	1.00		0.98			0.92			0.93	
Satd. Flow (perm)		1535	793		1320			934			1072	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	18	156	18	9	108	9	22	26	15	22	48	10
RTOR Reduction (vph)	0	0	9	0	5	0	0	10	0	0	6	0
Lane Group Flow (vph)	0	174	9	0	121	0	0	54	0	0	74	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4			4		
Actuated Green, G (s)		29.0	29.0		29.0			22.0			22.0	
Effective Green, g (s)		29.0	29.0		29.0			22.0			22.0	
Actuated g/C Ratio		0.48	0.48		0.48			0.37			0.37	
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)		742	383		638			342			393	
v/s Ratio Prot												
v/s Ratio Perm		c0.11	0.01		0.09			0.06			c0.07	
v/c Ratio		0.23	0.02		0.19			0.16			0.19	
Uniform Delay, d1		9.0	8.1		8.8			12.8			12.9	
Progression Factor		1.00	1.00		1.00			1.00			1.15	
Incremental Delay, d2		0.7	0.1		0.7			1.0			1.1	
Delay (s)		9.8	8.2		9.5			13.7			15.9	
Level of Service		A	A		A			B			B	
Approach Delay (s)		9.6			9.5			13.7			15.9	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	11.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	77.9%	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												
Volume (vph)	0	153	12	18	133	0	8	0	7	5	2	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		1.00	1.00		0.95			1.00			1.00	
Frpb, ped/bikes		1.00	0.42		1.00			0.74			1.00	
Flpb, ped/bikes		1.00	1.00		0.95			0.83			0.61	
Frt		1.00	0.85		1.00			0.94			1.00	
Flt Protected		1.00	1.00		0.99			0.97			0.96	
Satd. Flow (prot)		1637	571		2933			920			957	
Flt Permitted		1.00	1.00		0.91			0.94			0.93	
Satd. Flow (perm)		1637	571		2689			888			922	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	0	180	14	21	156	0	9	0	8	6	2	0
RTOR Reduction (vph)	0	0	11	0	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	180	3	0	177	0	0	15	0	0	8	0
Confl. Peds. (#/hr)			400	400			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	
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)		396	138		650			540			561	
v/s Ratio Prot		c0.11										
v/s Ratio Perm			0.01		0.07			c0.02			0.01	
v/c Ratio		0.45	0.02		0.27			0.03			0.01	
Uniform Delay, d1		19.4	17.4		18.5			4.7			4.6	
Progression Factor		1.01	1.21		1.00			1.00			1.00	
Incremental Delay, d2		3.7	0.3		1.0			0.1			0.0	
Delay (s)		23.4	21.3		19.5			4.8			4.7	
Level of Service		C	C		B			A			A	
Approach Delay (s)		23.2			19.5			4.8			4.7	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM Average Control Delay	20.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.15		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	156	6	8	16	16	0	148	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		0.82		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		0.93		1.00			1.00
Flt Protected		1.00		0.98		1.00			0.97
Satd. Flow (prot)		942		1070		1637			3015
Flt Permitted		1.00		0.98		1.00			0.95
Satd. Flow (perm)		942		1070		1637			2970
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	179	7	9	18	18	0	170	100
RTOR Reduction (vph)	0	0	0	13	0	0	0	0	0
Lane Group Flow (vph)	0	179	0	21	0	18	0	0	270
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		303		314			891
v/s Ratio Prot						0.01			
v/s Ratio Perm		c0.19		0.02					0.09
v/c Ratio		0.34		0.07		0.06			0.30
Uniform Delay, d1		7.2		15.7		19.8			16.2
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		1.8		0.4		0.1			0.9
Delay (s)		9.0		16.2		19.9			17.0
Level of Service		A		B		B			B
Approach Delay (s)	9.0			16.2		19.9			17.0
Approach LOS	A			B		B			B

Intersection Summary			
HCM Average Control Delay	14.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.5
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												
Volume (vph)	20	213	36	32	115	35	24	66	10	13	50	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.97			1.00	0.59	1.00	0.92			0.88	
Flpb, ped/bikes		0.98			1.00	1.00	0.51	1.00			0.92	
Frt		0.98			1.00	0.85	1.00	0.98			0.97	
Flt Protected		1.00			0.99	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1325			1417	722	791	1293			2419	
Flt Permitted		0.98			0.90	1.00	0.70	1.00			0.90	
Satd. Flow (perm)		1299			1287	722	580	1293			2185	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	22	239	40	36	129	39	27	74	11	15	56	17
RTOR Reduction (vph)	0	2	0	0	0	2	0	7	0	0	0	0
Lane Group Flow (vph)	0	299	0	0	165	37	27	78	0	0	88	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		70.3			70.3	70.3	9.6	9.6			9.6	
Effective Green, g (s)		70.3			70.3	70.3	9.6	9.6			9.6	
Actuated g/C Ratio		0.78			0.78	0.78	0.11	0.11			0.11	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		1015			1005	564	62	138			233	
v/s Ratio Prot								c0.06				
v/s Ratio Perm		c0.23			0.13	0.05	0.05				0.04	
v/c Ratio		0.29			0.16	0.07	0.44	0.56			0.38	
Uniform Delay, d1		2.8			2.5	2.3	37.7	38.2			37.4	
Progression Factor		1.00			1.00	1.00	1.46	1.48			1.00	
Incremental Delay, d2		0.7			0.4	0.2	4.8	5.2			1.0	
Delay (s)		3.5			2.8	2.5	59.7	61.8			38.4	
Level of Service		A			A	A	E	E			D	
Approach Delay (s)		3.5			2.8			61.3			38.4	
Approach LOS		A			A			E			D	

Intersection Summary			
HCM Average Control Delay	16.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	110.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Volume (vph)	17	229	31	6	125	6	9	37	29	22	24	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.97			0.99			0.77			0.81	
Flpb, ped/bikes		0.99			0.99			0.94			0.84	
Frt		0.99			0.99			0.95			0.96	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		1338			1390			971			919	
Flt Permitted		0.98			0.99			0.97			0.90	
Satd. Flow (perm)		1318			1376			946			837	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	20	269	36	7	147	7	11	44	34	26	28	24
RTOR Reduction (vph)	0	1	0	0	1	0	0	25	0	0	17	0
Lane Group Flow (vph)	0	324	0	0	160	0	0	64	0	0	61	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.6			62.6			18.6			18.6	
Effective Green, g (s)		62.6			62.6			18.6			18.6	
Actuated g/C Ratio		0.70			0.70			0.21			0.21	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		917			957			196			173	
v/s Ratio Prot												
v/s Ratio Perm		c0.25			0.12			0.07			c0.07	
v/c Ratio		0.35			0.17			0.33			0.35	
Uniform Delay, d1		5.5			4.7			30.4			30.5	
Progression Factor		1.00			1.00			1.40			1.00	
Incremental Delay, d2		1.1			0.4			3.9			5.5	
Delay (s)		6.6			5.1			46.3			36.0	
Level of Service		A			A			D			D	
Approach Delay (s)		6.6			5.1			46.3			36.0	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	15.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	16	223	30	13	94	8	11	11	82	4	22	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.96			1.00	0.66		0.56			0.86	
Flpb, ped/bikes		0.98			0.98	1.00		0.95			0.95	
Frt		0.98			1.00	0.85		0.89			0.97	
Flt Protected		1.00			0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1331			1388	802		673			1135	
Flt Permitted		0.99			0.96	1.00		0.98			0.98	
Satd. Flow (perm)		1315			1340	802		662			1119	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	242	33	14	102	9	12	12	89	4	24	9
RTOR Reduction (vph)	0	5	0	0	0	3	0	64	0	0	7	0
Lane Group Flow (vph)	0	287	0	0	116	6	0	49	0	0	31	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		57.0			57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0			57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63			0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		833			849	508		184			311	
v/s Ratio Prot												
v/s Ratio Perm		c0.22			0.09	0.01		c0.07			0.03	
v/c Ratio		0.34			0.14	0.01		0.26			0.10	
Uniform Delay, d1		7.7			6.6	6.1		25.3			24.1	
Progression Factor		1.00			0.80	0.62		1.77			1.00	
Incremental Delay, d2		1.1			0.3	0.0		3.2			0.6	
Delay (s)		8.9			5.6	3.8		47.9			24.8	
Level of Service		A			A	A		D			C	
Approach Delay (s)		8.9			5.5			47.9			24.8	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM Average Control Delay	16.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	216	64	6	97	8	30	31	33	5	25	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.66		1.00	0.66		0.80			0.84	
Flpb, ped/bikes		0.97	1.00		0.99	1.00		0.84			0.94	
Frt		1.00	0.85		1.00	0.85		0.95			0.96	
Flt Protected		1.00	1.00		1.00	1.00		0.98			0.99	
Satd. Flow (prot)		1388	786		1409	786		901			1236	
Flt Permitted		0.97	1.00		0.98	1.00		0.91			0.98	
Satd. Flow (perm)		1355	786		1392	786		837			1213	
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)	26	240	71	7	108	9	33	34	37	6	28	14
RTOR Reduction (vph)	0	0	7	0	0	3	0	22	0	0	10	0
Lane Group Flow (vph)	0	266	64	0	115	6	0	82	0	0	38	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63	0.63		0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		858	498		882	498		233			337	
v/s Ratio Prot												
v/s Ratio Perm		c0.20	0.08		0.08	0.01		c0.10			0.03	
v/c Ratio		0.31	0.13		0.13	0.01		0.35			0.11	
Uniform Delay, d1		7.5	6.6		6.6	6.1		26.0			24.2	
Progression Factor		0.72	0.61		1.00	1.00		1.07			1.00	
Incremental Delay, d2		0.9	0.5		0.3	0.0		3.4			0.7	
Delay (s)		6.3	4.5		6.9	6.1		31.3			24.9	
Level of Service		A	A		A	A		C			C	
Approach Delay (s)		5.9			6.8			31.3			24.9	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	11.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations										
Volume (vph)	2	229	29	1	5	17	157	19	133	227
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				5.0		5.0		5.0	5.0
Lane Util. Factor	1.00				1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.88				0.74		0.93		1.00	1.00
Flpb, ped/bikes	1.00				0.88		1.00		1.00	1.00
Frt	0.87				0.90		0.98		1.00	1.00
Flt Protected	1.00				0.99		1.00		0.95	1.00
Satd. Flow (prot)	1246				943		2847		1555	3110
Flt Permitted	1.00				0.99		1.00		0.95	1.00
Satd. Flow (perm)	1246				943		2847		1555	3110
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	2	229	29	1	5	17	157	19	133	227
RTOR Reduction (vph)	5	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	255	0	0	0	23	0	176	0	133	227
Confl. Peds. (#/hr)				400	400	400		400		
Confl. Bikes (#/hr)		30	30			10		30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0
Turn Type				Perm					Split	
Protected Phases	4				3		6		2	2
Permitted Phases				3						
Actuated Green, G (s)	19.7				20.0		17.0		13.3	13.3
Effective Green, g (s)	19.7				20.0		17.0		13.3	13.3
Actuated g/C Ratio	0.22				0.22		0.19		0.15	0.15
Clearance Time (s)	5.0				5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	273				210		538		230	460
v/s Ratio Prot	c0.20						c0.06		c0.09	0.07
v/s Ratio Perm					0.02					
v/c Ratio	0.94				0.11		0.33		0.58	0.49
Uniform Delay, d1	34.5				27.9		31.6		35.7	35.3
Progression Factor	1.00				0.91		1.00		0.98	0.98
Incremental Delay, d2	37.2				0.2		1.6		10.1	3.7
Delay (s)	71.7				25.6		33.2		45.2	38.4
Level of Service	E				C		C		D	D
Approach Delay (s)	71.7				25.6		33.2			40.9
Approach LOS	E				C		C			D

Intersection Summary			
HCM Average Control Delay	48.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	73.7%	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												
Volume (vph)	0	1617	33	0	491	9	0	19	25	0	44	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.78			0.93	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.92			0.98	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2889			2891			1037			1306	
Flt Permitted		1.00			1.00			1.00			1.00	
Satd. Flow (perm)		2889			2891			1037			1306	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1758	36	0	534	10	0	21	27	0	48	10
RTOR Reduction (vph)	0	0	0	0	0	0	0	7	0	0	9	0
Lane Group Flow (vph)	0	1794	0	0	544	0	0	41	0	0	49	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type												
Protected Phases		2			6			8			4	
Permitted Phases												
Actuated Green, G (s)		73.2			73.2			8.0			8.0	
Effective Green, g (s)		73.2			73.2			8.0			8.0	
Actuated g/C Ratio		0.81			0.81			0.09			0.09	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2350			2351			92			116	
v/s Ratio Prot		c0.62			0.19			c0.04			0.04	
v/s Ratio Perm												
v/c Ratio		0.76			0.23			0.44			0.42	
Uniform Delay, d1		4.1			1.9			38.9			38.8	
Progression Factor		1.21			1.00			1.00			1.00	
Incremental Delay, d2		1.5			0.1			3.4			2.5	
Delay (s)		6.5			2.0			42.3			41.3	
Level of Service		A			A			D			D	
Approach Delay (s)		6.5			2.0			42.3			41.3	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	7.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	6	1353	375	25	319	21	118	73	67	0	110	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.77		1.00	0.77	1.00	1.00	0.67		0.98	
Flpb, ped/bikes		1.00	1.00		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	0.85		0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3109	1077		3098	1077	3016	1637	933		2837	
Flt Permitted		0.95	1.00		0.82	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		2966	1077		2563	1077	3016	1637	933		2837	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	6	1395	387	26	329	22	122	75	69	0	113	6
RTOR Reduction (vph)	0	0	66	0	0	7	0	0	3	0	5	0
Lane Group Flow (vph)	0	1401	321	0	355	15	122	75	66	0	115	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type	Perm		Perm	Perm		Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		60.2	60.2		60.2	60.2	7.3	20.8	20.8		9.0	
Effective Green, g (s)		60.2	60.2		60.2	60.2	7.3	20.8	20.8		9.0	
Actuated g/C Ratio		0.67	0.67		0.67	0.67	0.08	0.23	0.23		0.10	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		1984	720		1714	720	245	378	216		284	
v/s Ratio Prot							c0.04	0.05			c0.04	
v/s Ratio Perm		c0.47	0.30		0.14	0.01			0.07			
v/c Ratio		0.71	0.45		0.21	0.02	0.50	0.20	0.31		0.40	
Uniform Delay, d1		9.3	7.0		5.7	5.0	39.6	27.9	28.6		38.0	
Progression Factor		1.00	1.00		0.96	0.92	1.00	1.00	1.00		0.73	
Incremental Delay, d2		2.1	2.0		0.3	0.1	1.6	0.3	0.8		0.9	
Delay (s)		11.5	9.0		5.8	4.6	41.2	28.1	29.4		28.8	
Level of Service		B	A		A	A	D	C	C		C	
Approach Delay (s)		11.0			5.7			34.5			28.8	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM Average Control Delay	13.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	120.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	52	1245	360	22	37	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	0.98		0.85	
Flpb, ped/bikes		0.99	1.00		1.00	
Frt		1.00	0.99		0.95	
Flt Protected		1.00	1.00		0.97	
Satd. Flow (prot)		2891	3029		1112	
Flt Permitted		0.92	1.00		0.97	
Satd. Flow (perm)		2655	3029		1112	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	57	1353	391	24	40	27
RTOR Reduction (vph)	0	0	5	0	22	0
Lane Group Flow (vph)	0	1410	410	0	45	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		65.2	65.2		17.8	
Effective Green, g (s)		65.2	65.2		17.8	
Actuated g/C Ratio		0.72	0.72		0.20	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1923	2194		220	
v/s Ratio Prot			0.14		c0.04	
v/s Ratio Perm		c0.53				
v/c Ratio		0.73	0.19		0.21	
Uniform Delay, d1		7.3	4.0		30.2	
Progression Factor		1.30	1.00		0.96	
Incremental Delay, d2		1.1	0.0		2.0	
Delay (s)		10.5	4.0		31.1	
Level of Service		B	A		C	
Approach Delay (s)		10.5	4.0		31.1	
Approach LOS		B	A		C	

Intersection Summary			
HCM Average Control Delay	9.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	100.6%	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												
Volume (vph)	27	1206	31	18	384	60	29	20	58	15	40	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.96			0.81			0.91	
Flpb, ped/bikes		1.00			1.00			0.92			0.95	
Frt		1.00			0.98			0.93			0.97	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		2870			2732			972			1184	
Flt Permitted		0.94			0.88			0.91			0.94	
Satd. Flow (perm)		2691			2417			900			1124	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	29	1283	33	19	409	64	31	21	62	16	43	19
RTOR Reduction (vph)	0	2	0	0	3	0	0	12	0	0	13	0
Lane Group Flow (vph)	0	1343	0	0	489	0	0	102	0	0	65	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		60.6			60.6			20.6			20.6	
Effective Green, g (s)		60.6			60.6			20.6			20.6	
Actuated g/C Ratio		0.67			0.67			0.23			0.23	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1812			1627			206			257	
v/s Ratio Prot												
v/s Ratio Perm		c0.50			0.20			c0.11			0.06	
v/c Ratio		0.74			0.30			0.49			0.25	
Uniform Delay, d1		9.6			6.0			30.2			28.4	
Progression Factor		1.00			1.11			1.00			1.13	
Incremental Delay, d2		2.8			0.4			8.2			2.3	
Delay (s)		12.4			7.2			38.4			34.3	
Level of Service		B			A			D			C	
Approach Delay (s)		12.4			7.2			38.4			34.3	
Approach LOS		B			A			D			C	

Intersection Summary			
HCM Average Control Delay	13.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	84.4%	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												
Volume (vph)	29	1293	18	26	431	51	35	20	101	33	16	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			0.97			0.77			0.82	
Flpb, ped/bikes		1.00			1.00			0.94			0.92	
Frt		1.00			0.98			0.91			0.93	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2886			2770			929			998	
Flt Permitted		0.93			0.83			0.91			0.85	
Satd. Flow (perm)		2696			2312			860			868	
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)	32	1437	20	29	479	57	39	22	112	37	18	53
RTOR Reduction (vph)	0	1	0	0	2	0	0	10	0	0	39	0
Lane Group Flow (vph)	0	1488	0	0	563	0	0	163	0	0	69	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.4			62.4			18.7			18.7	
Effective Green, g (s)		62.4			62.4			18.7			18.7	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1869			1603			179			180	
v/s Ratio Prot												
v/s Ratio Perm		c0.55			0.24			c0.19			0.08	
v/c Ratio		0.80			0.35			0.91			0.38	
Uniform Delay, d1		9.4			5.6			34.9			30.7	
Progression Factor		0.32			1.50			1.00			1.26	
Incremental Delay, d2		2.7			0.1			43.1			1.4	
Delay (s)		5.7			8.5			78.0			40.1	
Level of Service		A			A			E			D	
Approach Delay (s)		5.7			8.5			78.0			40.1	
Approach LOS		A			A			E			D	

Intersection Summary			
HCM Average Control Delay	13.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	88.9%	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												
Volume (vph)	9	1258	176	10	442	2	37	2	12	1	12	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.96			1.00			0.92			0.81	
Flpb, ped/bikes		1.00			1.00			0.75			0.99	
Frt		0.98			1.00			0.97			0.93	
Flt Protected		1.00			1.00			0.96			1.00	
Satd. Flow (prot)		2751			3098			1055			1220	
Flt Permitted		0.95			0.92			0.81			0.99	
Satd. Flow (perm)		2621			2852			887			1215	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	9	1297	181	10	456	2	38	2	12	1	12	14
RTOR Reduction (vph)	0	2	0	0	0	0	0	9	0	0	11	0
Lane Group Flow (vph)	0	1485	0	0	468	0	0	43	0	0	16	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1808			1968			190			261	
v/s Ratio Prot												
v/s Ratio Perm		c0.57			0.16			c0.05			0.01	
v/c Ratio		0.82			0.24			0.22			0.06	
Uniform Delay, d1		10.0			5.2			29.2			28.1	
Progression Factor		0.38			0.19			1.00			1.91	
Incremental Delay, d2		2.6			0.3			2.7			0.3	
Delay (s)		6.3			1.2			31.9			54.1	
Level of Service		A			A			C			D	
Approach Delay (s)		6.3			1.2			31.9			54.1	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM Average Control Delay	6.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	76.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	21	1252	459	335	376	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3037	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3037	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	23	1361	499	364	409	28
RTOR Reduction (vph)	0	59	0	0	6	0
Lane Group Flow (vph)	23	1302	499	364	431	0
Confl. Peds. (#/hr)						63
Confl. Bikes (#/hr)		22				160
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	11.0	54.1	39.1	69.0	25.9	
Effective Green, g (s)	11.0	54.1	39.1	69.0	25.9	
Actuated g/C Ratio	0.12	0.60	0.43	0.77	0.29	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	190	1472	1310	2235	874	
v/s Ratio Prot	0.01	c0.53	0.17	0.12	c0.14	
v/s Ratio Perm						
v/c Ratio	0.12	0.88	0.38	0.16	0.49	
Uniform Delay, d1	35.2	15.3	17.2	2.8	26.6	
Progression Factor	1.25	0.64	1.24	0.98	1.25	
Incremental Delay, d2	0.2	4.3	0.2	0.2	0.4	
Delay (s)	44.1	14.1	21.6	2.9	33.6	
Level of Service	D	B	C	A	C	
Approach Delay (s)	14.6			13.7	33.6	
Approach LOS	B			B	C	

Intersection Summary			
HCM Average Control Delay	17.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	77.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	132	12	10	0	1616	0	13	87	685
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			1.00			1.00	1.00
Flpb, ped/bikes				0.68			1.00			1.00	1.00
Frt				0.99			1.00			1.00	1.00
Flt Protected				0.96			1.00			0.95	1.00
Satd. Flow (prot)				1921			4458			1555	3110
Flt Permitted				0.96			1.00			0.95	1.00
Satd. Flow (perm)				1921			4458			1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	143	13	11	0	1757	0	14	95	745
RTOR Reduction (vph)	0	0	0	7	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	0	0	160	0	0	1770	0	0	95	745
Confl. Peds. (#/hr)			96	119					96		
Confl. Bikes (#/hr)					4				178		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				11.7			56.6			8.7	69.3
Effective Green, g (s)				11.7			56.6			8.7	69.3
Actuated g/C Ratio				0.13			0.63			0.10	0.77
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				250			2804			150	2395
v/s Ratio Prot							c0.40			c0.06	0.24
v/s Ratio Perm				0.08							
v/c Ratio				0.97dl			0.63			0.63	0.31
Uniform Delay, d1				37.2			10.3			39.1	3.1
Progression Factor				1.00			0.71			1.00	1.00
Incremental Delay, d2				5.5			0.2			6.3	0.3
Delay (s)				42.7			7.5			45.4	3.5
Level of Service				D			A			D	A
Approach Delay (s)	0.0			42.7			7.5				8.2
Approach LOS	A			D			A				A

Intersection Summary			
HCM Average Control Delay	9.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	59.4%	ICU Level of Service	B
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

Movement	EBL2	EBR	EBR2	SEL	SET	SER2	NWL2	NWT	NWR	SWR2
Lane Configurations										
Volume (vph)	9	12	175	21	1042	566	59	766	77	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		7.0	7.0	7.0	7.0	7.0		
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00	1.00	0.95		
Frpb, ped/bikes	1.00	0.93		1.00	1.00	0.96	1.00	0.95		
Flpb, ped/bikes	1.00	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	0.99		
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1555	1137		1555	3110	1336	1555	2899		
Flt Permitted	0.95	1.00		0.27	1.00	1.00	0.19	1.00		
Satd. Flow (perm)	1555	1137		442	3110	1336	314	2899		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	13	190	23	1133	615	64	833	84	0
RTOR Reduction (vph)	0	136	0	0	0	272	0	10	0	0
Lane Group Flow (vph)	10	67	0	23	1133	343	64	907	0	0
Confl. Peds. (#/hr)			38						1000	100
Confl. Bikes (#/hr)		10	10			30			30	10
Parking (#/hr)		5	5							
Turn Type	custom	custom		Perm		Perm	Perm			custom
Protected Phases					6			2		
Permitted Phases	4	4		6		6	2			8
Actuated Green, G (s)	22.5	22.5		44.0	44.0	44.0	44.0	44.0		
Effective Green, g (s)	22.5	22.5		44.0	44.0	44.0	44.0	44.0		
Actuated g/C Ratio	0.28	0.28		0.56	0.56	0.56	0.56	0.56		
Clearance Time (s)	5.5	5.5		7.0	7.0	7.0	7.0	7.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	443	324		246	1732	744	175	1615		
v/s Ratio Prot					c0.36			0.31		
v/s Ratio Perm	0.01	c0.06		0.05		0.26	0.20			
v/c Ratio	0.02	0.21		0.09	0.65	0.46	0.37	0.56		
Uniform Delay, d1	20.3	21.5		8.2	12.2	10.4	9.7	11.3		
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.0	0.3		0.8	1.9	2.0	5.8	1.4		
Delay (s)	20.4	21.8		8.9	14.1	12.5	15.5	12.7		
Level of Service	C	C		A	B	B	B	B		
Approach Delay (s)					13.5			12.9		
Approach LOS					B			B		

Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	90.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	6	0	21	0	0	0	109	898	0	0	7	989
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.74					1.00	1.00				0.97
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.90					1.00	1.00				0.99
Flt Protected		0.99					0.95	1.00				1.00
Satd. Flow (prot)		936					1555	3110				2994
Flt Permitted		0.99					0.95	1.00				0.95
Satd. Flow (perm)		936					1555	3110				2840
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)	7	0	23	0	0	0	121	998	0	0	8	1099
RTOR Reduction (vph)	0	22	0	0	0	0	0	0	0	0	0	3
Lane Group Flow (vph)	0	8	0	0	0	0	121	998	0	0	0	1173
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		4.8					9.0	76.2				62.2
Effective Green, g (s)		4.8					9.0	76.2				62.2
Actuated g/C Ratio		0.05					0.10	0.85				0.69
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		50					156	2633				1963
v/s Ratio Prot		c0.01					c0.08	0.32				
v/s Ratio Perm												c0.41
v/c Ratio		0.16					0.78	0.38				0.60
Uniform Delay, d1		40.7					39.5	1.6				7.3
Progression Factor		1.00					1.14	2.26				1.00
Incremental Delay, d2		1.6					20.1	0.4				1.4
Delay (s)		42.2					65.2	3.9				8.7
Level of Service		D					E	A				A
Approach Delay (s)		42.2			0.0			10.6				8.7
Approach LOS		D			A			B				A

Intersection Summary			
HCM Average Control Delay	10.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	95.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	62
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.90
Adj. Flow (vph)	69
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	215	1020	0	0	391	131	115	214	57	0	0	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				
Lane Util. Factor		0.95			0.95			0.95				
Frpb, ped/bikes		1.00			0.93			0.95				
Flpb, ped/bikes		0.98			1.00			0.91				
Frt		1.00			0.96			0.98				
Flt Protected		0.99			1.00			0.99				
Satd. Flow (prot)		2792			2578			2396				
Flt Permitted		0.72			1.00			0.99				
Satd. Flow (perm)		2040			2578			2396				
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)	219	1041	0	0	399	134	117	218	58	0	0	0
RTOR Reduction (vph)	0	0	0	0	8	0	0	17	0	0	0	0
Lane Group Flow (vph)	0	1260	0	0	525	0	0	376	0	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm					
Protected Phases		2			6			8				
Permitted Phases	2						8					
Actuated Green, G (s)		44.0			44.0			27.0				
Effective Green, g (s)		44.0			44.0			27.0				
Actuated g/C Ratio		0.55			0.55			0.34				
Clearance Time (s)		4.5			4.5			4.5				
Vehicle Extension (s)		3.0			3.0			3.0				
Lane Grp Cap (vph)		1122			1418			809				
v/s Ratio Prot					0.20							
v/s Ratio Perm		c0.62						0.16				
v/c Ratio		1.12			0.37			0.46				
Uniform Delay, d1		18.0			10.2			20.8				
Progression Factor		1.00			0.32			1.00				
Incremental Delay, d2		67.4			0.7			1.9				
Delay (s)		85.4			3.9			22.7				
Level of Service		F			A			C				
Approach Delay (s)		85.4			3.9			22.7			0.0	
Approach LOS		F			A			C			A	

Intersection Summary			
HCM Average Control Delay	54.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	102.8%	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												
Volume (vph)	0	613	464	22	437	0	0	0	0	59	601	83
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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.86			1.00						0.97	
Flpb, ped/bikes		1.00			1.00						0.98	
Frt		0.94			1.00						0.98	
Flt Protected		1.00			1.00						1.00	
Satd. Flow (prot)		2502			3095						2712	
Flt Permitted		1.00			0.85						1.00	
Satd. Flow (perm)		2502			2639						2712	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	632	478	23	451	0	0	0	0	61	620	86
RTOR Reduction (vph)	0	10	0	0	0	0	0	0	0	0	12	0
Lane Group Flow (vph)	0	1100	0	0	474	0	0	0	0	0	755	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		34.0			34.0						37.0	
Effective Green, g (s)		34.0			34.0						37.0	
Actuated g/C Ratio		0.42			0.42						0.46	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		1063			1122						1254	
v/s Ratio Prot		c0.44										
v/s Ratio Perm					0.18						0.28	
v/c Ratio		1.04			0.42						0.60	
Uniform Delay, d1		23.0			16.1						16.0	
Progression Factor		0.87			1.00						1.00	
Incremental Delay, d2		19.4			0.3						2.1	
Delay (s)		39.4			16.4						18.2	
Level of Service		D			B						B	
Approach Delay (s)		39.4			16.4			0.0			18.2	
Approach LOS		D			B			A			B	

Intersection Summary			
HCM Average Control Delay	27.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	51	417	549	956	0	987	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.66	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		1.00	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	916	3016	3110		3073	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	916	3016	3110		3073	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	51	417	549	956	0	987	25
RTOR Reduction (vph)	0	355	0	0	0	2	0
Lane Group Flow (vph)	51	62	549	956	0	1010	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	13.4	13.4	22.1	65.6		37.5	
Effective Green, g (s)	13.4	13.4	22.1	65.6		37.5	
Actuated g/C Ratio	0.15	0.15	0.25	0.73		0.42	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	232	136	741	2267		1280	
v/s Ratio Prot	0.03		c0.18	0.31		c0.33	
v/s Ratio Perm		c0.07					
v/c Ratio	0.22	0.46	0.74	0.42		0.79	
Uniform Delay, d1	33.7	35.0	31.3	4.8		22.8	
Progression Factor	1.00	1.00	1.00	1.00		1.30	
Incremental Delay, d2	0.5	2.4	4.0	0.6		4.2	
Delay (s)	34.2	37.4	35.3	5.4		33.8	
Level of Service	C	D	D	A		C	
Approach Delay (s)	37.0			16.3		33.8	
Approach LOS	D			B		C	

Intersection Summary			
HCM Average Control Delay	25.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	101.0%	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												
Volume (vph)	5	150	10	20	102	5	10	10	14	10	5	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
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.59		1.00	0.75		0.86			1.00	0.44
Flpb, ped/bikes		0.99	1.00		0.95	1.00		0.85			0.80	1.00
Frt		1.00	0.85		1.00	0.85		0.95			1.00	0.85
Flt Protected		1.00	1.00		0.99	1.00		0.99			0.97	1.00
Satd. Flow (prot)		1624	823		1541	1050		1120			1262	617
Flt Permitted		1.00	1.00		0.96	1.00		0.89			0.94	1.00
Satd. Flow (perm)		1620	823		1488	1050		1016			1223	617
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	160	11	21	109	5	11	11	15	11	5	5
RTOR Reduction (vph)	0	0	2	0	0	1	0	14	0	0	0	5
Lane Group Flow (vph)	0	165	9	0	130	4	0	23	0	0	16	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		47.4	47.4		47.4	47.4		3.6			3.6	3.6
Effective Green, g (s)		47.4	47.4		47.4	47.4		3.6			3.6	3.6
Actuated g/C Ratio		0.79	0.79		0.79	0.79		0.06			0.06	0.06
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)		1280	650		1176	830		61			73	37
v/s Ratio Prot												
v/s Ratio Perm		c0.10	0.01		0.09	0.00		c0.02			0.01	0.00
v/c Ratio		0.13	0.01		0.11	0.00		0.38			0.22	0.01
Uniform Delay, d1		1.5	1.3		1.4	1.3		27.1			26.9	26.5
Progression Factor		1.00	1.00		1.41	0.73		1.00			1.19	1.45
Incremental Delay, d2		0.0	0.0		0.2	0.0		3.8			1.5	0.1
Delay (s)		1.5	1.3		2.2	1.0		31.0			33.6	38.6
Level of Service		A	A		A	A		C			C	D
Approach Delay (s)		1.5			2.2			31.0			34.8	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	6.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.15		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	457	9	867	407	56	54	53	14	17	8	291	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.34		0.67	1.00	0.95			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.81	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	558	3110	478		947	1555	1328			1254	1175
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.99	1.00
Satd. Flow (perm)	3110	558	3110	478		947	1555	1328			1300	1175
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)	481	9	913	428	59	57	56	15	18	8	306	34
RTOR Reduction (vph)	0	4	0	181	0	33	0	13	0	0	0	24
Lane Group Flow (vph)	481	5	913	306	0	24	56	20	0	0	314	10
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Effective Green, g (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Actuated g/C Ratio	0.55	0.55	0.55	0.55		0.29	0.29	0.29			0.29	0.29
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1700	305	1700	261		278	456	390			381	345
v/s Ratio Prot	0.15		0.29									
v/s Ratio Perm		0.01		c0.64		0.03	0.04	0.02			c0.24	0.01
v/c Ratio	0.28	0.02	0.54	1.17		0.09	0.12	0.05			0.82	0.03
Uniform Delay, d1	9.1	7.8	10.9	17.0		19.2	19.4	19.0			24.7	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	0.4	0.1	1.2	110.0		0.6	0.6	0.3			18.0	0.2
Delay (s)	9.5	7.9	12.1	127.0		19.8	20.0	19.3			42.7	19.0
Level of Service	A	A	B	F		B	B	B			D	B
Approach Delay (s)	9.5		52.1								40.4	
Approach LOS	A		D								D	

Intersection Summary			
HCM Average Control Delay	39.7	HCM Level of Service	D
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	506	69	48	1130	79	49
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	544	74	52	1215	85	53

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	363	256	457	810	138
Volume Left (vph)	0	0	52	0	85
Volume Right (vph)	0	74	0	0	53
Hadj (s)	0.02	-0.19	0.07	0.02	-0.09
Departure Headway (s)	6.4	6.2	5.9	5.8	6.6
Degree Utilization, x	0.64	0.44	0.75	1.31	0.25
Capacity (veh/h)	554	573	603	628	530
Control Delay (s)	18.8	12.7	23.1	170.1	11.8
Approach Delay (s)	16.3		117.1		11.8
Approach LOS	C		F		B

Intersection Summary			
Delay	79.1		
HCM Level of Service	F		
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT
Lane Configurations												
Volume (vph)	7	417	102	23	1	6	1030	19	11	11	6	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4					5.4		4.0			5.0
Lane Util. Factor		0.95					0.95		1.00			1.00
Frpb, ped/bikes		0.87					0.99		0.78			1.00
Flpb, ped/bikes		1.00					1.00		1.00			1.00
Frt		0.97					1.00		0.86			1.00
Flt Protected		1.00					1.00		1.00			0.98
Satd. Flow (prot)		2445					3073		1106			1598
Flt Permitted		0.94					0.95		1.00			0.98
Satd. Flow (perm)		2297					2923		1106			1598
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	8	453	111	25	1	7	1120	21	12	12	7	20
RTOR Reduction (vph)	0	4	0	0	0	0	2	0	0	0	0	0
Lane Group Flow (vph)	0	593	0	0	0	0	1147	0	12	0	0	39
Confl. Peds. (#/hr)	400		400	400	400	400		400	400	400	400	
Confl. Bikes (#/hr)			30	30				30	10			
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm	Perm			Free	Split	Split	
Protected Phases		2					6			4	4	4
Permitted Phases	2				6	6			Free			
Actuated Green, G (s)		41.6					41.6		75.0			9.0
Effective Green, g (s)		41.6					41.6		75.0			9.0
Actuated g/C Ratio		0.55					0.55		1.00			0.12
Clearance Time (s)		5.4					5.4					5.0
Lane Grp Cap (vph)		1274					1621		1106			192
v/s Ratio Prot												0.02
v/s Ratio Perm		0.26					c0.39		0.01			
v/c Ratio		0.47					0.71		0.01			0.20
Uniform Delay, d1		10.0					12.2		0.0			29.8
Progression Factor		1.00					0.23		1.00			1.00
Incremental Delay, d2		1.2					2.0		0.0			2.4
Delay (s)		11.2					4.8		0.0			32.1
Level of Service		B					A		A			C
Approach Delay (s)		11.2					4.8					40.4
Approach LOS		B					A					D

Intersection Summary			
HCM Average Control Delay	10.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	77.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR	NWL	NWR	NWR2
Lane Configurations				
Volume (vph)	46	107	9	7
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0
Lane Util. Factor	1.00	0.97		1.00
Frpb, ped/bikes	0.55	0.94		0.55
Flpb, ped/bikes	1.00	1.00		1.00
Frt	0.85	0.99		0.85
Flt Protected	1.00	0.96		1.00
Satd. Flow (prot)	768	2821		768
Flt Permitted	1.00	0.96		1.00
Satd. Flow (perm)	768	2821		768
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	50	116	10	8
RTOR Reduction (vph)	7	0	0	7
Lane Group Flow (vph)	43	126	0	1
Confl. Peds. (#/hr)	400	400	400	400
Confl. Bikes (#/hr)	10		10	10
Parking (#/hr)				
Turn Type	Perm			Perm
Protected Phases		8		
Permitted Phases	4			8
Actuated Green, G (s)	9.0	9.0		9.0
Effective Green, g (s)	9.0	9.0		9.0
Actuated g/C Ratio	0.12	0.12		0.12
Clearance Time (s)	5.0	5.0		5.0
Lane Grp Cap (vph)	92	339		92
v/s Ratio Prot		c0.04		
v/s Ratio Perm	c0.06			0.00
v/c Ratio	0.47	0.37		0.01
Uniform Delay, d1	30.8	30.4		29.1
Progression Factor	1.00	1.00		1.00
Incremental Delay, d2	16.1	3.1		0.2
Delay (s)	46.8	33.5		29.3
Level of Service	D	C		C
Approach Delay (s)		33.3		
Approach LOS		C		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	402	36	22	1045	31	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.97			1.00	0.86	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.99			1.00	0.94	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2793			3096	1291	
Flt Permitted	1.00			0.94	0.97	
Satd. Flow (perm)	2793			2915	1291	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	442	40	24	1148	34	25
RTOR Reduction (vph)	9	0	0	0	18	0
Lane Group Flow (vph)	473	0	0	1172	42	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1676			1749	387	
v/s Ratio Prot	0.17				c0.03	
v/s Ratio Perm				c0.40		
v/c Ratio	0.28			0.67	0.11	
Uniform Delay, d1	7.2			10.0	19.0	
Progression Factor	0.88			1.00	1.00	
Incremental Delay, d2	0.4			2.1	0.6	
Delay (s)	6.7			12.1	19.5	
Level of Service	A			B	B	
Approach Delay (s)	6.7			12.1	19.5	
Approach LOS	A			B	B	

Intersection Summary			
HCM Average Control Delay	10.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	75.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	409	14	7	1041	5	4
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	449	15	8	1144	5	4

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	300	165	389	763	10
Volume Left (vph)	0	0	8	0	5
Volume Right (vph)	0	15	0	0	4
Hadj (s)	0.02	-0.05	0.03	0.02	-0.14
Departure Headway (s)	5.7	5.6	5.0	5.0	6.3
Degree Utilization, x	0.47	0.26	0.54	1.06	0.02
Capacity (veh/h)	619	628	705	726	546
Control Delay (s)	12.4	9.3	12.6	70.6	9.4
Approach Delay (s)	11.3		51.0		9.4
Approach LOS	B		F		A

Intersection Summary			
Delay	39.4		
HCM Level of Service	E		
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	36	420	39	1	998	90	49	23	27	107	36	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frpb, ped/bikes		0.96			1.00	0.66		0.91		1.00	0.99	
Flpb, ped/bikes		0.99			1.00	1.00		0.85		0.72	0.87	
Frt		0.99			1.00	0.85		0.96		1.00	1.00	
Flt Protected		1.00			1.00	1.00		0.98		0.95	0.98	
Satd. Flow (prot)		2729			3110	808		1037		1066	1291	
Flt Permitted		0.83			1.00	1.00		0.83		0.72	0.84	
Satd. Flow (perm)		2263			3110	808		878		806	1105	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	38	438	41	1	1040	94	51	24	28	111	38	2
RTOR Reduction (vph)	0	0	0	0	0	4	0	15	0	0	0	0
Lane Group Flow (vph)	0	518	0	0	1040	90	0	88	0	74	77	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10	10		10			10			10
Parking (#/hr)		5	5	5		5	5	5	5			
Turn Type	Perm					Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2				6	6	8			4		
Actuated Green, G (s)		56.5			56.5	56.5		22.5		22.5	22.5	
Effective Green, g (s)		56.5			56.5	56.5		22.5		22.5	22.5	
Actuated g/C Ratio		0.63			0.63	0.63		0.25		0.25	0.25	
Clearance Time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		1421			1952	507		220		202	276	
v/s Ratio Prot					c0.33							
v/s Ratio Perm		0.23				0.11		c0.10		0.09	0.07	
v/c Ratio		0.36			0.53	0.18		0.40		0.37	0.28	
Uniform Delay, d1		8.1			9.4	7.0		28.1		27.9	27.2	
Progression Factor		1.00			1.09	1.26		1.00		1.00	1.00	
Incremental Delay, d2		0.7			1.0	0.7		5.3		1.1	0.6	
Delay (s)		8.8			11.2	9.6		33.5		29.0	27.8	
Level of Service		A			B	A		C		C	C	
Approach Delay (s)		8.8			11.0			33.5			27.9	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM Average Control Delay	13.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR2	NER2
Lane Configurations		
Volume (vph)	50	25
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.5	4.0
Lane Util. Factor	1.00	1.00
Frpb, ped/bikes	0.65	0.78
Flpb, ped/bikes	1.00	1.00
Frt	0.85	0.86
Flt Protected	1.00	1.00
Satd. Flow (prot)	911	967
Flt Permitted	1.00	1.00
Satd. Flow (perm)	911	967
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	52	26
RTOR Reduction (vph)	15	0
Lane Group Flow (vph)	37	26
Confl. Peds. (#/hr)	400	400
Confl. Bikes (#/hr)	10	10
Parking (#/hr)		5
Turn Type	Perm	Free
Protected Phases		
Permitted Phases	4	Free
Actuated Green, G (s)	22.5	90.0
Effective Green, g (s)	22.5	90.0
Actuated g/C Ratio	0.25	1.00
Clearance Time (s)	5.5	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	228	967
v/s Ratio Prot		
v/s Ratio Perm	0.04	0.03
v/c Ratio	0.16	0.03
Uniform Delay, d1	26.4	0.0
Progression Factor	1.00	1.00
Incremental Delay, d2	0.3	0.1
Delay (s)	26.7	0.1
Level of Service	C	A
Approach Delay (s)		
Approach LOS		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	451	0	0	1079	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	501	0	0	1199	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	501	0	0	1199	0
Confl. Peds. (#/hr)						
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		76.0			76.0	
Effective Green, g (s)		76.0			76.0	
Actuated g/C Ratio		0.84			0.84	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		2067			2547	
v/s Ratio Prot		0.20			c0.40	
v/s Ratio Perm						
v/c Ratio		0.24			0.47	
Uniform Delay, d1		1.4			1.8	
Progression Factor		1.20			1.75	
Incremental Delay, d2		0.3			0.4	
Delay (s)		1.9			3.6	
Level of Service		A			A	
Approach Delay (s)	1.9			0.0	3.6	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	3.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	54.2%	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												
Volume (vph)	10	187	50	149	364	28	70	114	77	13	88	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.87		1.00	0.95			1.00	0.62		1.00	0.36
Flpb, ped/bikes		0.99		0.57	1.00			0.80	1.00		0.97	1.00
Frt		0.97		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.99	1.00
Satd. Flow (prot)		2592		892	1352			1087	844		1572	507
Flt Permitted		0.93		0.58	1.00			0.86	1.00		0.96	1.00
Satd. Flow (perm)		2428		547	1352			948	844		1522	507
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)	11	208	56	166	404	31	78	127	86	14	98	46
RTOR Reduction (vph)	0	24	0	0	4	0	0	0	41	0	0	24
Lane Group Flow (vph)	0	251	0	166	431	0	0	205	45	0	112	22
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		36.4		36.4	36.4			43.6	43.6		43.6	43.6
Effective Green, g (s)		36.4		36.4	36.4			43.6	43.6		43.6	43.6
Actuated g/C Ratio		0.40		0.40	0.40			0.48	0.48		0.48	0.48
Clearance Time (s)		5.5		5.5	5.5			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)		982		221	547			459	409		737	246
v/s Ratio Prot					c0.32							
v/s Ratio Perm		0.10		0.30				c0.22	0.05		0.07	0.04
v/c Ratio		0.26		0.75	0.79			0.45	0.11		0.15	0.09
Uniform Delay, d1		17.8		22.9	23.4			15.3	12.6		12.9	12.5
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		0.1		13.4	7.4			3.1	0.5		0.4	0.7
Delay (s)		17.9		36.3	30.9			18.4	13.2		13.3	13.2
Level of Service		B		D	C			B	B		B	B
Approach Delay (s)		17.9			32.4			16.9			13.3	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	23.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
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												
Volume (vph)	0	210	104	19	348	1224	173	0	34	560	151	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.96			1.00	0.96		1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		0.98		1.00	1.00	
Frt		0.95			1.00	0.85		0.98		1.00	0.99	
Flt Protected		1.00			1.00	1.00		0.96		0.95	0.97	
Satd. Flow (prot)		2650			1628	2362		1313		1477	1502	
Flt Permitted		1.00			0.97	1.00		0.52		0.84	0.90	
Satd. Flow (perm)		2650			1589	2362		717		1302	1394	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	219	108	20	362	1275	180	0	35	583	157	14
RTOR Reduction (vph)	0	68	0	0	0	0	0	8	0	0	1	0
Lane Group Flow (vph)	0	259	0	0	382	1275	0	207	0	373	380	0
Confl. Peds. (#/hr)			50	50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		28.0			28.0	65.5		17.5		34.0	34.0	
Effective Green, g (s)		28.0			28.0	65.5		17.5		34.0	34.0	
Actuated g/C Ratio		0.31			0.31	0.73		0.19		0.38	0.38	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		824			494	1719		139		492	527	
v/s Ratio Prot		0.10										
v/s Ratio Perm					c0.24	c0.54		c0.29		0.29	0.27	
v/c Ratio		0.31			0.77	0.74		1.49		0.76	0.72	
Uniform Delay, d1		23.7			28.1	7.2		36.2		24.4	23.9	
Progression Factor		1.00			1.00	1.00		1.00		0.96	0.96	
Incremental Delay, d2		1.0			11.2	2.9		254.1		10.4	8.2	
Delay (s)		24.7			39.3	10.2		290.4		33.8	31.2	
Level of Service		C			D	B		F		C	C	
Approach Delay (s)		24.7			16.9			290.4			32.5	
Approach LOS		C			B			F			C	

Intersection Summary			
HCM Average Control Delay	41.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	90.5%	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												
Volume (vph)	21	571	15	82	1592	17	186	29	108	25	35	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5			3.5			3.5	3.5
Lane Util. Factor		0.95			0.91			0.95			1.00	1.00
Frpb, ped/bikes		0.99			1.00			0.87			1.00	0.62
Flpb, ped/bikes		1.00			0.99			0.80			0.92	1.00
Frt		1.00			1.00			0.95			1.00	0.85
Flt Protected		1.00			1.00			0.97			0.98	1.00
Satd. Flow (prot)		3061			4405			1884			1473	858
Flt Permitted		0.84			0.85			0.77			0.80	1.00
Satd. Flow (perm)		2579			3774			1493			1200	858
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)	23	634	17	91	1769	19	207	32	120	28	39	47
RTOR Reduction (vph)	0	1	0	0	1	0	0	60	0	0	0	6
Lane Group Flow (vph)	0	673	0	0	1878	0	0	299	0	0	67	41
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		62.7			62.7			20.3			20.3	20.3
Effective Green, g (s)		62.7			62.7			20.3			20.3	20.3
Actuated g/C Ratio		0.70			0.70			0.23			0.23	0.23
Clearance Time (s)		3.5			3.5			3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		1797			2629			337			271	194
v/s Ratio Prot												
v/s Ratio Perm		0.26			c0.50			c0.20			0.06	0.05
v/c Ratio		0.37			0.71			0.94dl			0.25	0.21
Uniform Delay, d1		5.6			8.2			33.8			28.6	28.3
Progression Factor		1.00			0.52			1.00			1.00	1.00
Incremental Delay, d2		0.1			0.9			27.5			2.2	2.5
Delay (s)		5.7			5.2			61.2			30.8	30.8
Level of Service		A			A			E			C	C
Approach Delay (s)		5.7			5.2			61.2			30.8	
Approach LOS		A			A			E			C	

Intersection Summary			
HCM Average Control Delay	12.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	92.3%	ICU Level of Service	F
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	9	589	123	5	1285	21	80	178	114	5	331	191
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.91		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.80		1.00		1.00	0.87			0.88	
Flpb, ped/bikes		1.00	1.00		1.00		0.85	1.00			1.00	
Frt		1.00	0.85		1.00		1.00	0.94			0.95	
Flt Protected		1.00	1.00		1.00		0.95	1.00			1.00	
Satd. Flow (prot)		3106	973		4441		1317	3648			3693	
Flt Permitted		0.93	1.00		0.94		0.42	1.00			0.94	
Satd. Flow (perm)		2887	973		4167		587	3648			3463	
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)	9	601	126	5	1311	21	82	182	116	5	338	195
RTOR Reduction (vph)	0	0	1	0	3	0	0	33	0	0	6	0
Lane Group Flow (vph)	0	610	125	0	1334	0	82	265	0	0	532	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		43.1	43.1		43.1		36.9	36.9			36.9	
Effective Green, g (s)		43.1	43.1		43.1		36.9	36.9			36.9	
Actuated g/C Ratio		0.48	0.48		0.48		0.41	0.41			0.41	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1383	466		1996		241	1496			1420	
v/s Ratio Prot								0.07				
v/s Ratio Perm		0.21	0.13		c0.32		0.14				c0.15	
v/c Ratio		0.44	0.27		0.67		0.34	0.18			0.37	
Uniform Delay, d1		15.5	14.0		18.0		18.2	16.9			18.5	
Progression Factor		0.79	0.79		1.50		1.00	1.00			1.00	
Incremental Delay, d2		0.2	0.3		0.8		3.8	0.3			0.8	
Delay (s)		12.4	11.4		27.8		22.0	17.1			19.3	
Level of Service		B	B		C		C	B			B	
Approach Delay (s)		12.2			27.8			18.2			19.3	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	21.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1319	172	0	1961	120	179	165	27	67	156	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.96			0.98		1.00	0.95		1.00	0.94	
Flpb, ped/bikes		1.00			1.00		0.77	1.00		0.77	1.00	
Frt		0.98			0.99		1.00	0.98		1.00	0.97	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4206			4156		1191	1527		1192	1311	
Flt Permitted		1.00			1.00		0.59	1.00		0.59	1.00	
Satd. Flow (perm)		4206			4156		737	1527		734	1311	
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)	0	1346	176	0	2001	122	183	168	28	68	159	35
RTOR Reduction (vph)	0	6	0	0	6	0	0	4	0	0	1	0
Lane Group Flow (vph)	0	1516	0	0	2117	0	183	192	0	68	193	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2430			2401		225	467		224	401	
v/s Ratio Prot		0.36			c0.51			0.13			0.15	
v/s Ratio Perm							c0.25			0.09		
v/c Ratio		0.62			0.88		0.81	0.41		0.30	0.48	
Uniform Delay, d1		12.5			16.4		28.9	24.8		23.9	25.5	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.2			5.1		26.5	2.7		3.5	4.1	
Delay (s)		13.8			21.5		55.4	27.5		27.4	29.6	
Level of Service		B			C		E	C		C	C	
Approach Delay (s)		13.8			21.5			40.9			29.0	
Approach LOS		B			C			D			C	

Intersection Summary			
HCM Average Control Delay	20.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
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												
Volume (vph)	0	1063	65	0	1888	65	47	126	36	14	199	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			0.95	
Frpb, ped/bikes		0.99			0.99		1.00	0.93			0.93	
Flpb, ped/bikes		1.00			1.00		0.79	1.00			0.99	
Frt		0.99			1.00		1.00	0.97			0.97	
Flt Protected		1.00			1.00		0.95	1.00			1.00	
Satd. Flow (prot)		4376			4394		1221	1466			2769	
Flt Permitted		1.00			1.00		0.57	1.00			0.94	
Satd. Flow (perm)		4376			4394		729	1466			2602	
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	1119	68	0	1987	68	49	133	38	15	209	57
RTOR Reduction (vph)	0	4	0	0	4	0	0	9	0	0	1	0
Lane Group Flow (vph)	0	1183	0	0	2051	0	49	162	0	0	280	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2592			2602		218	438			778	
v/s Ratio Prot		0.27			c0.47			c0.11				
v/s Ratio Perm							0.07				0.11	
v/c Ratio		0.46			0.79		0.22	0.37			0.36	
Uniform Delay, d1		10.3			14.0		23.7	24.9			24.8	
Progression Factor		1.00			0.32		1.00	1.00			1.00	
Incremental Delay, d2		0.6			1.4		2.4	2.4			1.3	
Delay (s)		10.8			6.0		26.1	27.3			26.1	
Level of Service		B			A		C	C			C	
Approach Delay (s)		10.8			6.0			27.0			26.1	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	96.0%	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												
Volume (vph)	0	1227	58	0	1847	54	34	94	20	27	158	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.98			0.99			0.96			0.94	
Flpb, ped/bikes		1.00			1.00			0.96			0.97	
Frt		0.99			1.00			0.98			0.97	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		4186			4221			1269			1265	
Flt Permitted		1.00			1.00			0.90			0.95	
Satd. Flow (perm)		4186			4221			1153			1212	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1334	63	0	2008	59	37	102	22	29	172	47
RTOR Reduction (vph)	0	5	0	0	3	0	0	6	0	0	1	0
Lane Group Flow (vph)	0	1392	0	0	2064	0	0	155	0	0	247	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2512			2533			346			364	
v/s Ratio Prot		0.33			c0.49							
v/s Ratio Perm								0.13			c0.20	
v/c Ratio		0.55			0.81			0.45			0.68	
Uniform Delay, d1		10.8			14.1			25.5			27.7	
Progression Factor		1.38			1.00			1.00			1.00	
Incremental Delay, d2		0.8			3.0			4.2			9.8	
Delay (s)		15.7			17.1			29.7			37.5	
Level of Service		B			B			C			D	
Approach Delay (s)		15.7			17.1			29.7			37.5	
Approach LOS		B			B			C			D	

Intersection Summary			
HCM Average Control Delay	18.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	75.0%	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		↑↑↑			↑↑↑		↰	↕				↱
Volume (vph)	0	1029	0	0	1006	43	814	432	33	0	0	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.99		1.00	0.99				0.97
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.98				1.00
Satd. Flow (prot)		4282			4381		1415	2687				1367
Flt Permitted		1.00			1.00		0.95	0.98				1.00
Satd. Flow (perm)		4282			4381		1415	2687				1367
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1106	0	0	1082	46	875	465	35	0	0	52
RTOR Reduction (vph)	0	0	0	0	5	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	1106	0	0	1123	0	455	917	0	0	0	52
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		38.0			26.0		42.0	42.0				9.0
Effective Green, g (s)		38.0			26.0		42.0	42.0				9.0
Actuated g/C Ratio		0.42			0.29		0.47	0.47				0.10
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		1808			1266		660	1254				137
v/s Ratio Prot		c0.26			c0.26							
v/s Ratio Perm							0.32	0.34				0.04
v/c Ratio		0.61			0.89		0.69	0.73				0.38
Uniform Delay, d1		20.3			30.6		18.9	19.4				37.9
Progression Factor		1.00			0.68		1.00	1.00				1.00
Incremental Delay, d2		1.6			5.8		5.8	3.8				7.8
Delay (s)		21.8			26.7		24.7	23.2				45.7
Level of Service		C			C		C	C				D
Approach Delay (s)		21.8			26.7			23.7			45.7	
Approach LOS		C			C			C			D	

Intersection Summary			
HCM Average Control Delay	24.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	73.0%	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												
Volume (vph)	107	112	851	0	92	9	1017	236	34	0	456	86
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		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.97		1.00	0.96			1.00	0.67
Flpb, ped/bikes		0.86	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.99		1.00	0.98			1.00	0.85
Flt Protected		0.98	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1382	2448		1332		4385	1344			3110	815
Flt Permitted		0.79	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		1123	2448		1332		4385	1344			3110	815
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	115	120	915	0	99	10	1094	254	37	0	490	92
RTOR Reduction (vph)	0	0	2	0	4	0	0	6	0	0	0	6
Lane Group Flow (vph)	0	235	913	0	105	0	1094	285	0	0	490	86
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		26.5	55.5		26.5		25.5	55.5			26.5	26.5
Effective Green, g (s)		26.5	52.0		26.5		25.5	55.5			26.5	26.5
Actuated g/C Ratio		0.29	0.58		0.29		0.28	0.62			0.29	0.29
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		331	1414		392		1242	829			916	240
v/s Ratio Prot			0.37		0.08		c0.25	0.21			c0.16	
v/s Ratio Perm		c0.21										0.11
v/c Ratio		0.71	0.65		0.27		0.88	0.34			0.53	0.36
Uniform Delay, d1		28.3	12.8		24.3		30.8	8.4			26.6	25.0
Progression Factor		0.94	0.56		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		5.5	0.8		0.4		9.2	1.1			2.2	4.1
Delay (s)		32.1	8.0		24.7		40.0	9.5			28.8	29.1
Level of Service		C	A		C		D	A			C	C
Approach Delay (s)		12.9			24.7			33.6			28.9	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM Average Control Delay	25.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	76.1%	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												
Volume (vph)	0	0	0	63	207	40	29	36	0	0	46	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.29		1.00			0.90	
Flpb, ped/bikes					0.85	1.00		0.87			1.00	
Frt					1.00	0.85		1.00			0.96	
Flt Protected					0.99	1.00		0.98			1.00	
Satd. Flow (prot)					2450	398		1392			1419	
Flt Permitted					0.99	1.00		0.88			1.00	
Satd. Flow (perm)					2450	398		1258			1419	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	0	72	238	46	33	41	0	0	53	22
RTOR Reduction (vph)	0	0	0	0	0	26	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	310	20	0	74	0	0	75	0
Confl. Peds. (#/hr)				945		1084	569					569
Confl. Bikes (#/hr)						76			2			4
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					32.0	32.0		33.0			33.0	
Effective Green, g (s)					32.0	32.0		33.0			33.0	
Actuated g/C Ratio					0.43	0.43		0.44			0.44	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1045	170		554			624	
v/s Ratio Prot											0.05	
v/s Ratio Perm					0.13	0.05		c0.06				
v/c Ratio					0.30	0.12		0.13			0.12	
Uniform Delay, d1					14.1	13.0		12.5			12.4	
Progression Factor					1.00	1.00		0.84			1.00	
Incremental Delay, d2					0.7	1.4		0.5			0.4	
Delay (s)					14.8	14.3		11.0			12.8	
Level of Service					B	B		B			B	
Approach Delay (s)		0.0			14.8			11.0			12.8	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	57.5%	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												
Volume (vph)	0	0	0	99	242	25	32	25	0	0	40	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.94		1.00	1.00			0.92	
Flpb, ped/bikes				1.00	1.00		0.66	1.00			1.00	
Frt				1.00	0.99		1.00	1.00			0.97	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	2869		1020	1637			1473	
Flt Permitted				0.95	1.00		0.72	1.00			1.00	
Satd. Flow (perm)				1555	2869		773	1637			1473	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	0	111	272	28	36	28	0	0	45	11
RTOR Reduction (vph)	0	0	0	0	6	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	111	294	0	36	28	0	0	56	0
Confl. Peds. (#/hr)						1700	537					569
Confl. Bikes (#/hr)						76			2			4
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				47.4	47.4		18.3	18.3			18.3	
Effective Green, g (s)				47.4	47.4		18.3	18.3			18.3	
Actuated g/C Ratio				0.63	0.63		0.24	0.24			0.24	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				983	1813		189	399			359	
v/s Ratio Prot				0.07	c0.10			0.02			0.04	
v/s Ratio Perm							c0.05					
v/c Ratio				0.11	0.16		0.19	0.07			0.16	
Uniform Delay, d1				5.5	5.7		22.5	21.8			22.3	
Progression Factor				1.00	1.00		1.15	1.15			1.00	
Incremental Delay, d2				0.2	0.2		2.2	0.3			0.9	
Delay (s)				5.7	5.9		28.0	25.4			23.2	
Level of Service				A	A		C	C			C	
Approach Delay (s)		0.0			5.8			26.8			23.2	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	10.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.17		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	157	92	9	75	18	8
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	167	98	10	80	19	9
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	306					
pX, platoon unblocked						
vC, conflicting volume			665		1115	932
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			665		1115	932
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		80	93
cM capacity (veh/h)			644		97	130

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	111	154	89	28
Volume Left	0	0	10	19
Volume Right	0	98	0	9
cSH	1700	1700	644	105
Volume to Capacity	0.07	0.09	0.01	0.26
Queue Length 95th (ft)	0	0	1	24
Control Delay (s)	0.0	0.0	1.3	51.1
Lane LOS			A	F
Approach Delay (s)	0.0		1.3	51.1
Approach LOS				F

Intersection Summary			
Average Delay	4.0		
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												
Volume (vph)	20	153	22	22	83	7	17	46	10	26	56	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	
Lane Util. Factor		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.44		0.97			0.93			0.94	
Flpb, ped/bikes		0.95	1.00		0.92			0.90			0.87	
Frt		1.00	0.85		0.99			0.98			0.99	
Flt Protected		0.99	1.00		0.99			0.99			0.99	
Satd. Flow (prot)		1540	609		1248			1157			1141	
Flt Permitted		0.97	1.00		0.93			0.94			0.92	
Satd. Flow (perm)		1495	609		1175			1096			1062	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	24	180	26	26	98	8	20	54	12	31	66	12
RTOR Reduction (vph)	0	0	12	0	3	0	0	7	0	0	6	0
Lane Group Flow (vph)	0	204	14	0	129	0	0	79	0	0	103	0
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4			4		
Actuated Green, G (s)		40.0	40.0		40.0			26.0			26.0	
Effective Green, g (s)		40.0	40.0		40.0			26.0			26.0	
Actuated g/C Ratio		0.53	0.53		0.53			0.35			0.35	
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)		797	325		627			380			368	
v/s Ratio Prot												
v/s Ratio Perm		c0.14	0.02		0.11			0.07			c0.10	
v/c Ratio		0.26	0.04		0.21			0.21			0.28	
Uniform Delay, d1		9.5	8.4		9.2			17.2			17.7	
Progression Factor		1.00	1.00		1.00			1.00			0.91	
Incremental Delay, d2		0.8	0.2		0.7			1.2			1.9	
Delay (s)		10.2	8.6		9.9			18.5			18.0	
Level of Service		B	A		A			B			B	
Approach Delay (s)		10.0			9.9			18.5			18.0	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM Average Control Delay	12.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	99.6%	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												
Volume (vph)	0	225	11	9	57	0	15	0	39	15	11	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
Lane Util. Factor		1.00	1.00		0.95			1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.26		1.00			0.60			1.00	0.67
Flpb, ped/bikes		1.00	1.00		0.93			0.91			0.72	1.00
Frt		1.00	0.85		1.00			0.90			1.00	0.85
Flt Protected		1.00	1.00		0.99			0.99			0.97	1.00
Satd. Flow (prot)		1637	354		2879			805			1140	933
Flt Permitted		1.00	1.00		0.91			0.95			0.91	1.00
Satd. Flow (perm)		1637	354		2636			779			1066	933
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	239	12	10	61	0	16	0	41	16	12	12
RTOR Reduction (vph)	0	0	9	0	0	0	0	0	0	0	0	5
Lane Group Flow (vph)	0	239	3	0	71	0	0	57	0	0	28	7
Confl. Peds. (#/hr)			800	800			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	36.5
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	36.5
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	0.61
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)		396	86		637			474			648	568
v/s Ratio Prot		c0.15										
v/s Ratio Perm			0.01		0.03			c0.07			0.03	0.01
v/c Ratio		0.60	0.03		0.11			0.12			0.04	0.01
Uniform Delay, d1		20.2	17.4		17.7			5.0			4.7	4.6
Progression Factor		1.00	1.00		1.00			1.00			1.00	1.00
Incremental Delay, d2		6.7	0.7		0.4			0.5			0.0	0.0
Delay (s)		26.9	18.1		18.1			5.5			4.8	4.6
Level of Service		C	B		B			A			A	A
Approach Delay (s)		26.5			18.1			5.5			4.7	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM Average Control Delay	20.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	304	17	73	8	141	4	147	335
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		0.97		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		0.99		1.00			1.00
Flt Protected		1.00		0.96		1.00			0.98
Satd. Flow (prot)		942		1315		1628			3063
Flt Permitted		1.00		0.96		1.00			0.95
Satd. Flow (perm)		942		1315		1628			2970
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	330	18	79	9	153	4	160	364
RTOR Reduction (vph)	0	0	0	6	0	0	0	0	0
Lane Group Flow (vph)	0	330	0	100	0	157	0	0	524
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		373		312			891
v/s Ratio Prot						0.10			
v/s Ratio Perm		c0.35		0.08					0.18
v/c Ratio		0.63		0.27		0.50			0.59
Uniform Delay, d1		9.0		16.7		21.7			17.8
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		5.6		1.8		1.3			2.8
Delay (s)		14.6		18.4		23.0			20.7
Level of Service		B		B		C			C
Approach Delay (s)	14.6			18.4		23.0			20.7
Approach LOS	B			B		C			C

Intersection Summary			
HCM Average Control Delay	19.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	66.7%	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												
Volume (vph)	21	136	44	28	297	29	62	38	22	22	76	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.95			1.00	0.59	1.00	0.80			0.79	
Flpb, ped/bikes		0.98			1.00	1.00	0.60	1.00			0.94	
Frt		0.97			1.00	0.85	1.00	0.95			0.94	
Flt Protected		0.99			1.00	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1277			1426	721	938	1085			2167	
Flt Permitted		0.95			0.96	1.00	0.64	1.00			0.91	
Satd. Flow (perm)		1216			1379	721	631	1085			1985	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	24	156	51	32	341	33	71	44	25	25	87	67
RTOR Reduction (vph)	0	7	0	0	0	6	0	21	0	0	0	0
Lane Group Flow (vph)	0	224	0	0	373	27	71	48	0	0	179	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		63.8			63.8	63.8	16.1	16.1			16.1	
Effective Green, g (s)		63.8			63.8	63.8	16.1	16.1			16.1	
Actuated g/C Ratio		0.71			0.71	0.71	0.18	0.18			0.18	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		862			978	511	113	194			355	
v/s Ratio Prot								0.04				
v/s Ratio Perm		0.18			c0.27	0.04	c0.11				0.09	
v/c Ratio		0.26			0.38	0.05	0.63	0.25			0.50	
Uniform Delay, d1		4.7			5.2	4.0	34.2	31.8			33.3	
Progression Factor		1.00			1.00	1.00	1.28	1.44			1.00	
Incremental Delay, d2		0.7			1.1	0.2	10.4	0.7			1.1	
Delay (s)		5.4			6.4	4.2	54.2	46.5			34.5	
Level of Service		A			A	A	D	D			C	
Approach Delay (s)		5.4			6.2			50.4			34.5	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM Average Control Delay	17.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	118.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Volume (vph)	23	203	25	10	308	16	20	37	23	20	45	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.95			0.98			0.83			0.80	
Flpb, ped/bikes		0.98			0.99			0.88			0.90	
Frt		0.99			0.99			0.96			0.96	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		1311			1377			993			973	
Flt Permitted		0.96			0.99			0.92			0.94	
Satd. Flow (perm)		1259			1366			925			921	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	24	216	27	11	328	17	21	39	24	21	48	34
RTOR Reduction (vph)	0	1	0	0	1	0	0	16	0	0	20	0
Lane Group Flow (vph)	0	266	0	0	355	0	0	68	0	0	83	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.6			62.6			18.6			18.6	
Effective Green, g (s)		62.6			62.6			18.6			18.6	
Actuated g/C Ratio		0.70			0.70			0.21			0.21	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		876			950			191			190	
v/s Ratio Prot												
v/s Ratio Perm		0.21			c0.26			0.07			c0.09	
v/c Ratio		0.30			0.37			0.36			0.44	
Uniform Delay, d1		5.3			5.6			30.6			31.1	
Progression Factor		1.00			1.00			1.76			1.00	
Incremental Delay, d2		0.9			1.1			4.9			7.2	
Delay (s)		6.2			6.8			58.6			38.3	
Level of Service		A			A			E			D	
Approach Delay (s)		6.2			6.8			58.6			38.3	
Approach LOS		A			A			E			D	

Intersection Summary			
HCM Average Control Delay	16.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	14	255	81	21	208	12	26	18	29	19	50	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.89			1.00	0.51		0.77			0.79	
Flpb, ped/bikes		0.99			0.98	1.00		0.85			0.92	
Frt		0.97			1.00	0.85		0.95			0.95	
Flt Protected		1.00			1.00	1.00		0.98			0.99	
Satd. Flow (prot)		1211			1391	617		878			982	
Flt Permitted		0.99			0.95	1.00		0.89			0.95	
Satd. Flow (perm)		1196			1330	617		794			943	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	16	287	91	24	234	13	29	20	33	21	56	46
RTOR Reduction (vph)	0	6	0	0	0	5	0	24	0	0	24	0
Lane Group Flow (vph)	0	388	0	0	258	8	0	58	0	0	99	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		57.0			57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0			57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63			0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		757			842	391		221			262	
v/s Ratio Prot												
v/s Ratio Perm		c0.32			0.19	0.01		0.07			c0.11	
v/c Ratio		0.51			0.31	0.02		0.26			0.38	
Uniform Delay, d1		9.0			7.5	6.1		25.3			26.2	
Progression Factor		1.00			0.84	0.81		0.94			1.00	
Incremental Delay, d2		2.5			0.9	0.1		2.7			4.1	
Delay (s)		11.4			7.2	5.1		26.4			30.4	
Level of Service		B			A	A		C			C	
Approach Delay (s)		11.4			7.1			26.4			30.4	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM Average Control Delay	14.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	17	237	57	7	152	5	23	17	32	14	36	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.51		1.00	0.51		0.75			0.83	
Flpb, ped/bikes		0.98	1.00		0.99	1.00		0.85			0.91	
Frt		1.00	0.85		1.00	0.85		0.94			0.96	
Flt Protected		1.00	1.00		1.00	1.00		0.98			0.99	
Satd. Flow (prot)		1392	604		1409	604		846			1167	
Flt Permitted		0.98	1.00		0.99	1.00		0.91			0.95	
Satd. Flow (perm)		1368	604		1394	604		784			1121	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	19	266	64	8	171	6	26	19	36	16	40	25
RTOR Reduction (vph)	0	0	7	0	0	2	0	26	0	0	18	0
Lane Group Flow (vph)	0	285	57	0	179	4	0	55	0	0	63	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63	0.63		0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		866	383		883	383		218			311	
v/s Ratio Prot												
v/s Ratio Perm		c0.21	0.09		0.13	0.01		c0.07			0.06	
v/c Ratio		0.33	0.15		0.20	0.01		0.25			0.20	
Uniform Delay, d1		7.6	6.7		6.9	6.1		25.2			24.9	
Progression Factor		0.43	0.36		1.00	1.00		0.87			1.00	
Incremental Delay, d2		0.9	0.7		0.5	0.0		2.5			1.5	
Delay (s)		4.2	3.2		7.5	6.1		24.5			26.3	
Level of Service		A	A		A	A		C			C	
Approach Delay (s)		4.0			7.4			24.5			26.3	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	9.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	19	245	13	4	25	10	408	54	1	154	466
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				5.0		5.0			5.0	5.0
Lane Util. Factor	1.00				1.00		0.95			1.00	0.95
Frpb, ped/bikes	0.89				0.90		0.90			1.00	1.00
Flpb, ped/bikes	1.00				0.67		1.00			1.00	1.00
Frt	0.87				0.96		0.98			1.00	1.00
Flt Protected	1.00				0.96		1.00			0.95	1.00
Satd. Flow (prot)	1267				917		2746			1555	3110
Flt Permitted	1.00				0.96		1.00			0.95	1.00
Satd. Flow (perm)	1267				917		2746			1555	3110
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
Adj. Flow (vph)	20	258	14	4	26	11	429	57	1	162	491
RTOR Reduction (vph)	2	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	290	0	0	0	41	0	487	0	0	162	491
Confl. Peds. (#/hr)				400	400	400		400	400		
Confl. Bikes (#/hr)		30	30			10		30	30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0
Turn Type				Perm						Split	
Protected Phases	4				3		6			2	2
Permitted Phases				3							
Actuated Green, G (s)	20.0				20.0		17.0			13.0	13.0
Effective Green, g (s)	20.0				20.0		17.0			13.0	13.0
Actuated g/C Ratio	0.22				0.22		0.19			0.14	0.14
Clearance Time (s)	5.0				5.0		5.0			5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	282				204		519			225	449
v/s Ratio Prot	c0.23						c0.18			0.10	c0.16
v/s Ratio Perm					0.04						
v/c Ratio	1.03				0.20		0.94			0.72	1.09
Uniform Delay, d1	35.0				28.5		36.0			36.8	38.5
Progression Factor	1.00				1.04		1.00			0.85	0.82
Incremental Delay, d2	60.8				0.5		26.8			17.6	69.6
Delay (s)	95.8				30.2		62.8			48.7	101.0
Level of Service	F				C		E			D	F
Approach Delay (s)	95.8				30.2		62.8				88.1
Approach LOS	F				C		E				F

Intersection Summary			
HCM Average Control Delay	79.6	HCM Level of Service	E
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	77.3%	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												
Volume (vph)	0	683	32	0	1360	21	0	36	11	0	73	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.91			1.00			1.00	
Frpb, ped/bikes		0.99			1.00			0.91			0.92	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.97			0.97	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2857			4253			1265			1283	
Flt Permitted		1.00			1.00			1.00			1.00	
Satd. Flow (perm)		2857			4253			1265			1283	
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)	0	759	36	0	1511	23	0	40	12	0	81	21
RTOR Reduction (vph)	0	0	0	0	0	0	0	11	0	0	12	0
Lane Group Flow (vph)	0	795	0	0	1534	0	0	41	0	0	90	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type												
Protected Phases		2			6			8			4	
Permitted Phases												
Actuated Green, G (s)		70.9			70.9			10.3			10.3	
Effective Green, g (s)		70.9			70.9			10.3			10.3	
Actuated g/C Ratio		0.79			0.79			0.11			0.11	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2251			3350			145			147	
v/s Ratio Prot		0.28			c0.36			0.03			c0.07	
v/s Ratio Perm												
v/c Ratio		0.35			0.46			0.29			0.62	
Uniform Delay, d1		2.8			3.2			36.5			38.0	
Progression Factor		0.58			1.00			1.00			1.00	
Incremental Delay, d2		0.4			0.1			1.1			7.4	
Delay (s)		2.0			3.3			37.6			45.4	
Level of Service		A			A			D			D	
Approach Delay (s)		2.0			3.3			37.6			45.4	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	5.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	0	572	193	2	1032	34	345	86	66	0	145	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.70		1.00	0.70	1.00	1.00	0.74		0.99	
Flpb, ped/bikes		1.00	1.00		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	0.85		1.00	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3110	974		3109	974	3016	1637	1024		2876	
Flt Permitted		1.00	1.00		0.95	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		3110	974		2968	974	3016	1637	1024		2876	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	609	205	2	1098	36	367	91	70	0	154	4
RTOR Reduction (vph)	0	0	80	0	0	16	0	0	7	0	3	0
Lane Group Flow (vph)	0	609	125	0	1100	20	367	91	63	0	155	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type			Perm	Perm		Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases			2	6		6			8			
Actuated Green, G (s)		50.2	50.2		50.2	50.2	16.1	30.8	30.8		10.2	
Effective Green, g (s)		50.2	50.2		50.2	50.2	16.1	30.8	30.8		10.2	
Actuated g/C Ratio		0.56	0.56		0.56	0.56	0.18	0.34	0.34		0.11	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		1735	543		1655	543	540	560	350		326	
v/s Ratio Prot		0.20					c0.12	0.06			c0.05	
v/s Ratio Perm			0.13		c0.37	0.02			0.06			
v/c Ratio		0.35	0.23		0.66	0.04	0.68	0.16	0.18		0.48	
Uniform Delay, d1		10.9	10.1		14.0	9.0	34.5	20.6	20.8		37.4	
Progression Factor		1.00	1.00		0.85	0.87	1.00	1.00	1.00		0.92	
Incremental Delay, d2		0.6	1.0		2.0	0.1	3.4	0.1	0.3		1.1	
Delay (s)		11.5	11.1		13.9	7.9	37.9	20.8	21.0		35.6	
Level of Service		B	B		B	A	D	C	C		D	
Approach Delay (s)		11.4			13.7			32.7			35.6	
Approach LOS		B			B			C			D	

Intersection Summary			
HCM Average Control Delay	18.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	89.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	56	508	1020	31	47	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.91		1.00	
Frpb, ped/bikes		1.00	0.99		0.82	
Flpb, ped/bikes		0.99	1.00		1.00	
Frt		1.00	1.00		0.93	
Flt Protected		1.00	1.00		0.98	
Satd. Flow (prot)		2884	4409		1066	
Flt Permitted		0.76	1.00		0.98	
Satd. Flow (perm)		2196	4409		1066	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	60	540	1085	33	50	50
RTOR Reduction (vph)	0	0	3	0	24	0
Lane Group Flow (vph)	0	600	1115	0	76	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		64.0	64.0		19.0	
Effective Green, g (s)		64.0	64.0		19.0	
Actuated g/C Ratio		0.71	0.71		0.21	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1562	3135		225	
v/s Ratio Prot			0.25		c0.07	
v/s Ratio Perm		c0.27				
v/c Ratio		0.38	0.36		0.34	
Uniform Delay, d1		5.2	5.0		30.2	
Progression Factor		0.51	1.00		1.52	
Incremental Delay, d2		0.2	0.1		3.9	
Delay (s)		2.8	5.1		49.7	
Level of Service		A	A		D	
Approach Delay (s)		2.8	5.1		49.7	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	6.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	86.6%	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												
Volume (vph)	14	406	48	41	1050	15	25	37	55	31	80	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			1.00			0.83			0.89	
Flpb, ped/bikes		1.00			0.99			0.95			0.95	
Frt		0.98			1.00			0.94			0.96	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		2768			2876			1054			1151	
Flt Permitted		0.91			0.92			0.92			0.93	
Satd. Flow (perm)		2525			2642			985			1077	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	15	437	52	44	1129	16	27	40	59	33	86	53
RTOR Reduction (vph)	0	2	0	0	1	0	0	35	0	0	17	0
Lane Group Flow (vph)	0	502	0	0	1188	0	0	91	0	0	155	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		60.6			60.6			20.6			20.6	
Effective Green, g (s)		60.6			60.6			20.6			20.6	
Actuated g/C Ratio		0.67			0.67			0.23			0.23	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1700			1779			225			247	
v/s Ratio Prot												
v/s Ratio Perm		0.20			c0.45			0.09			c0.14	
v/c Ratio		0.30			0.67			0.40			0.63	
Uniform Delay, d1		6.0			8.7			29.5			31.2	
Progression Factor		1.00			0.23			1.00			0.94	
Incremental Delay, d2		0.4			1.7			5.3			10.5	
Delay (s)		6.4			3.7			34.8			39.7	
Level of Service		A			A			C			D	
Approach Delay (s)		6.4			3.7			34.8			39.7	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM Average Control Delay	9.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	90.7%	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												
Volume (vph)	19	502	20	23	1077	30	21	25	58	40	33	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.80			0.89	
Flpb, ped/bikes		1.00			1.00			0.95			0.90	
Frt		0.99			1.00			0.92			0.96	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2855			2869			989			1083	
Flt Permitted		0.89			0.94			0.93			0.80	
Satd. Flow (perm)		2551			2689			929			884	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	546	22	25	1171	33	23	27	63	43	36	33
RTOR Reduction (vph)	0	1	0	0	1	0	0	54	0	0	18	0
Lane Group Flow (vph)	0	588	0	0	1228	0	0	59	0	0	94	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		68.8			68.8			12.3			12.3	
Effective Green, g (s)		68.8			68.8			12.3			12.3	
Actuated g/C Ratio		0.76			0.76			0.14			0.14	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1950			2056			127			121	
v/s Ratio Prot												
v/s Ratio Perm		0.23			c0.46			0.06			c0.11	
v/c Ratio		0.30			0.60			0.46			0.78	
Uniform Delay, d1		3.2			4.6			35.8			37.5	
Progression Factor		0.79			0.34			1.00			0.85	
Incremental Delay, d2		0.4			0.4			2.6			25.9	
Delay (s)		3.0			2.0			38.4			57.6	
Level of Service		A			A			D			E	
Approach Delay (s)		3.0			2.0			38.4			57.6	
Approach LOS		A			A			D			E	

Intersection Summary			
HCM Average Control Delay	7.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	76.3%	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												
Volume (vph)	10	536	57	19	997	2	124	3	24	2	3	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			1.00			0.94			0.72	
Flpb, ped/bikes		1.00			1.00			0.72			0.98	
Frt		0.99			1.00			0.98			0.90	
Flt Protected		1.00			1.00			0.96			1.00	
Satd. Flow (prot)		2786			3098			1042			1036	
Flt Permitted		0.93			0.94			0.75			0.98	
Satd. Flow (perm)		2606			2906			813			1019	
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)	11	596	63	21	1108	2	138	3	27	2	3	16
RTOR Reduction (vph)	0	2	0	0	0	0	0	8	0	0	13	0
Lane Group Flow (vph)	0	668	0	0	1131	0	0	160	0	0	8	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1798			2005			174			219	
v/s Ratio Prot												
v/s Ratio Perm		0.26			c0.39			c0.20			0.01	
v/c Ratio		0.37			0.56			0.92			0.04	
Uniform Delay, d1		5.8			7.1			34.6			28.0	
Progression Factor		1.55			0.22			1.00			0.83	
Incremental Delay, d2		0.6			0.8			49.9			0.1	
Delay (s)		9.6			2.4			84.5			23.2	
Level of Service		A			A			F			C	
Approach Delay (s)		9.6			2.4			84.5			23.2	
Approach LOS		A			A			F			C	

Intersection Summary			
HCM Average Control Delay	12.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	16	545	940	605	635	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3059	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3059	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	592	1022	658	690	33
RTOR Reduction (vph)	0	11	0	0	3	0
Lane Group Flow (vph)	17	581	1022	658	720	0
Confl. Peds. (#/hr)						95
Confl. Bikes (#/hr)		10				81
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	11.0	51.9	36.9	69.0	28.1	
Effective Green, g (s)	11.0	51.9	36.9	69.0	28.1	
Actuated g/C Ratio	0.12	0.58	0.41	0.77	0.31	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	190	1412	1237	2235	955	
v/s Ratio Prot	0.01	c0.24	c0.34	0.23	c0.24	
v/s Ratio Perm						
v/c Ratio	0.09	0.41	0.83	0.29	0.75	
Uniform Delay, d1	35.1	10.6	23.7	3.2	27.8	
Progression Factor	1.39	0.90	0.86	1.28	0.71	
Incremental Delay, d2	0.2	0.2	3.5	0.3	1.3	
Delay (s)	49.0	9.7	24.0	4.3	21.1	
Level of Service	D	A	C	A	C	
Approach Delay (s)	10.8			16.3	21.1	
Approach LOS	B			B	C	

Intersection Summary			
HCM Average Control Delay	16.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	79	317	15	0	106	0	25	27	1206
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			0.98			1.00	1.00
Flpb, ped/bikes				0.78			1.00			1.00	1.00
Frt				0.99			0.97			1.00	1.00
Flt Protected				0.95			1.00			0.95	1.00
Satd. Flow (prot)				2187			4236			1555	3110
Flt Permitted				0.95			1.00			0.95	1.00
Satd. Flow (perm)				2187			4236			1555	3110
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
Adj. Flow (vph)	0	0	88	352	17	0	118	0	28	30	1340
RTOR Reduction (vph)	0	0	0	3	0	0	12	0	0	0	0
Lane Group Flow (vph)	0	0	0	454	0	0	134	0	0	30	1340
Confl. Peds. (#/hr)			125	64					125		
Confl. Bikes (#/hr)					34				86		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				21.9			50.4			4.7	59.1
Effective Green, g (s)				21.9			50.4			4.7	59.1
Actuated g/C Ratio				0.24			0.56			0.05	0.66
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				532			2372			81	2042
v/s Ratio Prot							0.03			0.02	c0.43
v/s Ratio Perm				0.21							
v/c Ratio				0.85			0.06			0.37	0.66
Uniform Delay, d1				32.5			9.0			41.2	9.3
Progression Factor				1.00			0.78			1.00	1.00
Incremental Delay, d2				12.6			0.0			1.0	1.7
Delay (s)				45.1			7.1			42.3	11.0
Level of Service				D			A			D	B
Approach Delay (s)	0.0			45.1			7.1				11.7
Approach LOS	A			D			A				B

Intersection Summary			
HCM Average Control Delay	19.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBR	EBR2	SEL	SET	SER2	NWL2	NWL	NWT	NWR	SWR2
Lane Configurations											
Volume (vph)	24	1	250	12	820	344	100	0	1188	11	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		7.0	7.0	7.0		4.0	7.0		
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00		1.00	0.95		
Frpb, ped/bikes	1.00	0.91		1.00	1.00	0.95		1.00	0.99		
Flpb, ped/bikes	1.00	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	1.00		
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95	1.00		
Satd. Flow (prot)	1555	1105		1555	3110	1323		1555	3088		
Flt Permitted	0.95	1.00		0.21	1.00	1.00		0.40	1.00		
Satd. Flow (perm)	1555	1105		340	3110	1323		655	3088		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	1	272	13	891	374	109	0	1291	12	0
RTOR Reduction (vph)	0	195	0	0	0	232	0	0	1	0	0
Lane Group Flow (vph)	26	78	0	13	891	142	0	109	1302	0	0
Confl. Peds. (#/hr)			64							1000	100
Confl. Bikes (#/hr)		10	10			30				30	10
Parking (#/hr)		5	5								
Turn Type	custom	custom		Perm		Perm	custom	Prot			custom
Protected Phases					6			5	2		
Permitted Phases	4	4		6		6	5				8
Actuated Green, G (s)	22.5	22.5		30.0	30.0	30.0		10.0	44.0		
Effective Green, g (s)	22.5	22.5		30.0	30.0	30.0		10.0	44.0		
Actuated g/C Ratio	0.28	0.28		0.38	0.38	0.38		0.13	0.56		
Clearance Time (s)	5.5	5.5		7.0	7.0	7.0		4.0	7.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	443	315		129	1181	502		83	1720		
v/s Ratio Prot					0.29				c0.42		
v/s Ratio Perm	0.02	c0.07		0.04		0.11		c0.17			
v/c Ratio	0.06	0.25		0.10	0.75	0.28		1.31	0.76		
Uniform Delay, d1	20.5	21.7		15.8	21.3	17.0		34.5	13.4		
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2	0.1	0.4		1.6	4.5	1.4		203.8	3.2		
Delay (s)	20.6	22.2		17.4	25.8	18.4		238.3	16.6		
Level of Service	C	C		B	C	B		F	B		
Approach Delay (s)					23.6				33.7		
Approach LOS					C				C		

Intersection Summary			
HCM Average Control Delay	28.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	9.5
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	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	27	0	64	0	0	0	46	1250	0	0	4	906
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.77					1.00	1.00				0.99
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.91					1.00	1.00				1.00
Flt Protected		0.99					0.95	1.00				1.00
Satd. Flow (prot)		982					1555	3110				3085
Flt Permitted		0.99					0.95	1.00				0.95
Satd. Flow (perm)		982					1555	3110				2933
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	29	0	68	0	0	0	49	1330	0	0	4	964
RTOR Reduction (vph)	0	3	0	0	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	0	94	0	0	0	0	49	1330	0	0	0	979
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		12.6					5.4	68.4				58.0
Effective Green, g (s)		12.6					5.4	68.4				58.0
Actuated g/C Ratio		0.14					0.06	0.76				0.64
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		137					93	2364				1890
v/s Ratio Prot		c0.10					0.03	c0.43				
v/s Ratio Perm												0.33
v/c Ratio		0.69					0.53	0.56				0.52
Uniform Delay, d1		36.8					41.1	4.5				8.5
Progression Factor		1.00					1.22	1.82				1.00
Incremental Delay, d2		13.5					4.8	0.9				1.0
Delay (s)		50.3					55.1	9.1				9.6
Level of Service		D					E	A				A
Approach Delay (s)		50.3			0.0			10.8				9.6
Approach LOS		D			A			B				A

Intersection Summary			
HCM Average Control Delay	11.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	95.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	11
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	12
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	69	544	0	0	755	107	274	281	39	0	0	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			
Lane Util. Factor		0.95			0.95			0.95	1.00			
Frpb, ped/bikes		1.00			0.97			1.00	0.71			
Flpb, ped/bikes		0.99			1.00			0.86	1.00			
Frt		1.00			0.98			1.00	0.85			
Flt Protected		0.99			1.00			0.98	1.00			
Satd. Flow (prot)		2840			2726			2416	986			
Flt Permitted		0.72			1.00			0.98	1.00			
Satd. Flow (perm)		2062			2726			2416	986			
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	573	0	0	795	113	288	296	41	0	0	0
RTOR Reduction (vph)	0	0	0	0	14	0	0	0	24	0	0	0
Lane Group Flow (vph)	0	646	0	0	894	0	0	584	17	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm		Perm			
Protected Phases		2			6			8				
Permitted Phases	2						8		8			
Actuated Green, G (s)		37.0			37.0			34.0	34.0			
Effective Green, g (s)		37.0			37.0			34.0	34.0			
Actuated g/C Ratio		0.46			0.46			0.42	0.42			
Clearance Time (s)		4.5			4.5			4.5	4.5			
Vehicle Extension (s)		3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)		954			1261			1027	419			
v/s Ratio Prot					c0.33							
v/s Ratio Perm		0.31						0.24	0.02			
v/c Ratio		0.68			0.71			0.57	0.04			
Uniform Delay, d1		16.8			17.2			17.4	13.5			
Progression Factor		1.00			0.26			1.00	1.00			
Incremental Delay, d2		3.9			2.2			2.3	0.2			
Delay (s)		20.7			6.6			19.7	13.6			
Level of Service		C			A			B	B			
Approach Delay (s)		20.7			6.6			19.3			0.0	
Approach LOS		C			A			B			A	

Intersection Summary			
HCM Average Control Delay	14.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
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												
Volume (vph)	0	323	257	37	719	0	0	0	0	54	588	144
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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.86			1.00						0.96	
Flpb, ped/bikes		1.00			0.99						0.99	
Frt		0.93			1.00						0.97	
Flt Protected		1.00			1.00						1.00	
Satd. Flow (prot)		2484			3084						2667	
Flt Permitted		1.00			0.90						1.00	
Satd. Flow (perm)		2484			2778						2667	
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)	0	330	262	38	734	0	0	0	0	55	600	147
RTOR Reduction (vph)	0	23	0	0	0	0	0	0	0	0	23	0
Lane Group Flow (vph)	0	569	0	0	772	0	0	0	0	0	779	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		26.4			26.4						44.6	
Effective Green, g (s)		26.4			26.4						44.6	
Actuated g/C Ratio		0.33			0.33						0.56	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		820			917						1487	
v/s Ratio Prot		0.23										
v/s Ratio Perm					c0.28						0.29	
v/c Ratio		0.69			0.84						0.52	
Uniform Delay, d1		23.3			24.9						11.1	
Progression Factor		0.68			1.00						1.00	
Incremental Delay, d2		2.0			7.1						1.3	
Delay (s)		17.9			31.9						12.4	
Level of Service		B			C						B	
Approach Delay (s)		17.9			31.9			0.0			12.4	
Approach LOS		B			C			A			B	

Intersection Summary			
HCM Average Control Delay	20.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	94.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	70	319	435	1210	0	933	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.66	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		0.99	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	914	3016	3110		3046	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	914	3016	3110		3046	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	70	319	435	1210	0	933	42
RTOR Reduction (vph)	0	274	0	0	0	3	0
Lane Group Flow (vph)	70	45	435	1210	0	972	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	12.6	12.6	17.5	66.4		42.9	
Effective Green, g (s)	12.6	12.6	17.5	66.4		42.9	
Actuated g/C Ratio	0.14	0.14	0.19	0.74		0.48	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	218	128	586	2294		1452	
v/s Ratio Prot	0.05		c0.14	0.39		c0.32	
v/s Ratio Perm		c0.05					
v/c Ratio	0.32	0.35	0.74	0.53		0.67	
Uniform Delay, d1	34.8	35.0	34.1	5.1		18.1	
Progression Factor	1.00	1.00	1.00	1.00		1.50	
Incremental Delay, d2	0.9	1.6	5.1	0.9		2.2	
Delay (s)	35.7	36.6	39.2	5.9		29.4	
Level of Service	D	D	D	A		C	
Approach Delay (s)	36.5			14.7		29.4	
Approach LOS	D			B		C	

Intersection Summary			
HCM Average Control Delay	22.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	89.8%	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												
Volume (vph)	5	161	25	9	78	10	15	15	22	50	75	15
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		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.46		1.00	0.67		0.86			1.00	0.43
Flpb, ped/bikes		0.99	1.00		0.96	1.00		0.87			0.88	1.00
Frt		1.00	0.85		1.00	0.85		0.94			1.00	0.85
Flt Protected		1.00	1.00		0.99	1.00		0.99			0.98	1.00
Satd. Flow (prot)		1621	635		1555	937		1136			1411	603
Flt Permitted		1.00	1.00		0.98	1.00		0.89			0.85	1.00
Satd. Flow (perm)		1617	635		1527	937		1029			1220	603
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	171	27	10	83	11	16	16	23	53	80	16
RTOR Reduction (vph)	0	0	4	0	0	3	0	18	0	0	0	14
Lane Group Flow (vph)	0	176	23	0	93	8	0	37	0	0	133	2
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		54.3	54.3		54.3	54.3		11.7			11.7	11.7
Effective Green, g (s)		54.3	54.3		54.3	54.3		11.7			11.7	11.7
Actuated g/C Ratio		0.72	0.72		0.72	0.72		0.16			0.16	0.16
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)		1171	460		1106	678		161			190	94
v/s Ratio Prot												
v/s Ratio Perm		c0.11	0.04		0.06	0.01		0.04			c0.11	0.00
v/c Ratio		0.15	0.05		0.08	0.01		0.23			0.70	0.03
Uniform Delay, d1		3.2	3.0		3.0	2.9		27.7			30.0	26.8
Progression Factor		1.00	1.00		1.00	1.00		1.00			0.85	0.63
Incremental Delay, d2		0.1	0.0		0.1	0.0		0.7			10.7	0.1
Delay (s)		3.3	3.0		3.2	2.9		28.5			36.3	17.1
Level of Service		A	A		A	A		C			D	B
Approach Delay (s)		3.2			3.2			28.5			34.2	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	15.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	104.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	466	34	534	399	79	67	43	16	26	6	377	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.34		0.67	1.00	0.95			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.81	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	558	3110	478		947	1555	1328			1258	1175
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.99	1.00
Satd. Flow (perm)	3110	558	3110	478		947	1555	1328			1314	1175
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	485	35	556	416	82	70	45	17	27	6	393	86
RTOR Reduction (vph)	0	16	0	181	0	33	0	19	0	0	0	61
Lane Group Flow (vph)	485	19	556	317	0	37	45	25	0	0	399	25
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Effective Green, g (s)	41.0	41.0	41.0	41.0		22.0	22.0	22.0			22.0	22.0
Actuated g/C Ratio	0.55	0.55	0.55	0.55		0.29	0.29	0.29			0.29	0.29
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1700	305	1700	261		278	456	390			385	345
v/s Ratio Prot	0.16		0.18									
v/s Ratio Perm		0.03		c0.66		0.04	0.03	0.02			c0.30	0.02
v/c Ratio	0.29	0.06	0.33	1.21		0.13	0.10	0.06			1.04	0.07
Uniform Delay, d1	9.1	8.0	9.4	17.0		19.5	19.3	19.1			26.5	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	0.4	0.4	0.5	125.9		1.0	0.4	0.3			55.6	0.4
Delay (s)	9.6	8.4	9.9	142.9		20.5	19.7	19.4			82.1	19.5
Level of Service	A	A	A	F		C	B	B			F	B
Approach Delay (s)	9.5		72.7								71.0	
Approach LOS	A		E								E	

Intersection Summary			
HCM Average Control Delay	53.7	HCM Level of Service	D
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	726	101	50	780	136	101
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	748	104	52	804	140	104

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	499	354	320	536	244
Volume Left (vph)	0	0	52	0	140
Volume Right (vph)	0	104	0	0	104
Hadj (s)	0.02	-0.19	0.10	0.02	-0.12
Departure Headway (s)	6.7	6.5	6.8	6.7	6.9
Degree Utilization, x	0.93	0.64	0.60	1.00	0.47
Capacity (veh/h)	530	542	521	536	524
Control Delay (s)	49.0	19.3	18.4	63.5	15.7
Approach Delay (s)	36.6		46.7		15.7
Approach LOS	E		E		C

Intersection Summary			
Delay	38.4		
HCM Level of Service	E		
Intersection Capacity Utilization	81.8%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT
Lane Configurations												
Volume (vph)	67	636	89	18	4	17	651	40	28	22	20	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4					5.4		4.0			5.0
Lane Util. Factor		0.95					0.95		1.00			1.00
Frpb, ped/bikes		0.92					0.98		0.78			1.00
Flpb, ped/bikes		0.99					1.00		1.00			1.00
Frt		0.98					0.99		0.86			1.00
Flt Protected		1.00					1.00		1.00			0.98
Satd. Flow (prot)		2605					2998		1106			1599
Flt Permitted		0.82					0.92		1.00			0.98
Satd. Flow (perm)		2150					2755		1106			1599
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	71	677	95	19	4	18	693	43	30	23	21	50
RTOR Reduction (vph)	0	0	0	0	0	0	6	0	0	0	0	0
Lane Group Flow (vph)	0	862	0	0	0	0	752	0	30	0	0	94
Confl. Peds. (#/hr)	400		400	400	400	400		400	400	400	400	
Confl. Bikes (#/hr)			30	30				30	10			
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm	Perm			Free	Split	Split	
Protected Phases		2					6			4	4	4
Permitted Phases	2				6	6			Free			
Actuated Green, G (s)		41.6					41.6		75.0			9.0
Effective Green, g (s)		41.6					41.6		75.0			9.0
Actuated g/C Ratio		0.55					0.55		1.00			0.12
Clearance Time (s)		5.4					5.4					5.0
Lane Grp Cap (vph)		1193					1528		1106			192
v/s Ratio Prot												c0.06
v/s Ratio Perm		c0.40					0.27		0.03			
v/c Ratio		0.72					0.49		0.03			0.49
Uniform Delay, d1		12.4					10.2		0.0			30.9
Progression Factor		1.00					0.38		1.00			1.00
Incremental Delay, d2		3.8					1.0		0.0			8.7
Delay (s)		16.2					4.9		0.0			39.5
Level of Service		B					A		A			D
Approach Delay (s)		16.2					4.9					40.0
Approach LOS		B					A					D

Intersection Summary			
HCM Average Control Delay	15.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	113.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR	NWL	NWR	NWR2
Lane Configurations				
Volume (vph)	50	110	30	11
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0
Lane Util. Factor	1.00	0.97		1.00
Frpb, ped/bikes	0.55	0.84		0.55
Flpb, ped/bikes	1.00	1.00		1.00
Frt	0.85	0.97		0.85
Flt Protected	1.00	0.96		1.00
Satd. Flow (prot)	768	2482		768
Flt Permitted	1.00	0.96		1.00
Satd. Flow (perm)	768	2482		768
Peak-hour factor, PHF	0.94	0.94	0.94	0.94
Adj. Flow (vph)	53	117	32	12
RTOR Reduction (vph)	20	0	0	11
Lane Group Flow (vph)	33	149	0	1
Confl. Peds. (#/hr)	400	400	400	400
Confl. Bikes (#/hr)	10		10	10
Parking (#/hr)				
Turn Type	Perm			Perm
Protected Phases		8		
Permitted Phases	4			8
Actuated Green, G (s)	9.0	9.0		9.0
Effective Green, g (s)	9.0	9.0		9.0
Actuated g/C Ratio	0.12	0.12		0.12
Clearance Time (s)	5.0	5.0		5.0
Lane Grp Cap (vph)	92	298		92
v/s Ratio Prot		c0.06		
v/s Ratio Perm	0.04			0.00
v/c Ratio	0.36	0.50		0.02
Uniform Delay, d1	30.3	30.9		29.1
Progression Factor	1.00	1.00		1.00
Incremental Delay, d2	10.4	5.9		0.3
Delay (s)	40.8	36.8		29.4
Level of Service	D	D		C
Approach Delay (s)		36.2		
Approach LOS		D		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	664	47	34	669	76	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.98			1.00	0.85	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.99			1.00	0.94	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2818			3087	1274	
Flt Permitted	1.00			0.89	0.97	
Satd. Flow (perm)	2818			2756	1274	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	746	53	38	752	85	70
RTOR Reduction (vph)	7	0	0	0	24	0
Lane Group Flow (vph)	792	0	0	790	131	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1691			1654	382	
v/s Ratio Prot	0.28				c0.10	
v/s Ratio Perm				c0.29		
v/c Ratio	0.47			0.48	0.34	
Uniform Delay, d1	8.3			8.4	20.5	
Progression Factor	0.76			1.00	1.00	
Incremental Delay, d2	0.7			1.0	2.4	
Delay (s)	7.0			9.4	22.9	
Level of Service	A			A	C	
Approach Delay (s)	7.0			9.4	22.9	
Approach LOS	A			A	C	

Intersection Summary			
HCM Average Control Delay	9.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	665	42	17	701	9	16
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	715	45	18	754	10	17

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	477	284	270	503	27
Volume Left (vph)	0	0	18	0	10
Volume Right (vph)	0	45	0	0	17
Hadj (s)	0.02	-0.09	0.05	0.02	-0.29
Departure Headway (s)	5.4	5.3	5.4	5.4	6.3
Degree Utilization, x	0.71	0.42	0.41	0.75	0.05
Capacity (veh/h)	477	653	643	652	536
Control Delay (s)	19.5	10.8	10.9	21.6	9.6
Approach Delay (s)	16.3		17.8		9.6
Approach LOS	C		C		A

Intersection Summary			
Delay	16.9		
HCM Level of Service	C		
Intersection Capacity Utilization	55.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	88	540	34	12	583	203	66	50	25	124	66	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frpb, ped/bikes		0.96			1.00	0.54		0.94		1.00	0.96	
Flpb, ped/bikes		0.98			1.00	1.00		0.88		0.76	0.93	
Frt		0.99			1.00	0.85		0.98		1.00	0.99	
Flt Protected		0.99			1.00	1.00		0.98		0.95	0.99	
Satd. Flow (prot)		2683			3110	657		1131		1119	1362	
Flt Permitted		0.78			1.00	1.00		0.82		0.71	0.90	
Satd. Flow (perm)		2108			3110	657		946		837	1241	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	97	593	37	13	641	223	73	55	27	136	73	8
RTOR Reduction (vph)	0	2	0	0	0	24	0	11	0	0	0	0
Lane Group Flow (vph)	0	738	0	0	641	199	0	144	0	105	112	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10	10		10			10			10
Parking (#/hr)		5	5	5		5	5	5	5			
Turn Type	Perm					Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2				6	6	8			4		
Actuated Green, G (s)		27.5			27.5	27.5		21.5		21.5	21.5	
Effective Green, g (s)		27.5			27.5	27.5		21.5		21.5	21.5	
Actuated g/C Ratio		0.46			0.46	0.46		0.36		0.36	0.36	
Clearance Time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		966			1425	301		339		300	445	
v/s Ratio Prot					0.21							
v/s Ratio Perm		c0.35				0.30		c0.15		0.13	0.09	
v/c Ratio		0.76			0.45	0.66		0.43		0.35	0.25	
Uniform Delay, d1		13.5			11.1	12.6		14.6		14.1	13.6	
Progression Factor		1.00			1.30	1.52		1.00		1.00	1.00	
Incremental Delay, d2		5.7			1.0	10.5		3.9		0.7	0.3	
Delay (s)		19.3			15.4	29.7		18.4		14.8	13.9	
Level of Service		B			B	C		B		B	B	
Approach Delay (s)		19.3			19.1			18.4			14.1	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	18.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	92.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR2	NER2
Lane Configurations		
Volume (vph)	71	42
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.5	4.0
Lane Util. Factor	1.00	1.00
Frpb, ped/bikes	0.68	0.78
Flpb, ped/bikes	1.00	1.00
Frt	0.85	0.86
Flt Protected	1.00	1.00
Satd. Flow (prot)	952	967
Flt Permitted	1.00	1.00
Satd. Flow (perm)	952	967
Peak-hour factor, PHF	0.91	0.91
Adj. Flow (vph)	78	46
RTOR Reduction (vph)	10	0
Lane Group Flow (vph)	68	46
Confl. Peds. (#/hr)	400	400
Confl. Bikes (#/hr)	10	10
Parking (#/hr)		5
Turn Type	Perm	Free
Protected Phases		
Permitted Phases	4	Free
Actuated Green, G (s)	21.5	60.0
Effective Green, g (s)	21.5	60.0
Actuated g/C Ratio	0.36	1.00
Clearance Time (s)	5.5	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	341	967
v/s Ratio Prot		
v/s Ratio Perm	0.07	0.05
v/c Ratio	0.20	0.05
Uniform Delay, d1	13.3	0.0
Progression Factor	1.00	1.00
Incremental Delay, d2	0.3	0.1
Delay (s)	13.6	0.1
Level of Service	B	A
Approach Delay (s)		
Approach LOS		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	662	0	0	790	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	727	0	0	868	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	727	0	0	868	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)		30				30
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		46.0			46.0	
Effective Green, g (s)		46.0			46.0	
Actuated g/C Ratio		0.77			0.77	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1877			2312	
v/s Ratio Prot		c0.30			0.29	
v/s Ratio Perm						
v/c Ratio		0.39			0.38	
Uniform Delay, d1		2.3			2.3	
Progression Factor		0.61			1.38	
Incremental Delay, d2		0.4			0.4	
Delay (s)		1.9			3.6	
Level of Service		A			A	
Approach Delay (s)	1.9			0.0	3.6	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	2.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	29.9%	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												
Volume (vph)	20	187	77	162	182	28	67	159	105	27	149	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.84		1.00	0.92			1.00	0.66		1.00	0.44
Flpb, ped/bikes		0.97		0.64	1.00			0.87	1.00		0.96	1.00
Frt		0.96		1.00	0.98			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.99	1.00		0.99	1.00
Satd. Flow (prot)		2438		996	1297			1199	903		1566	609
Flt Permitted		0.92		0.57	1.00			0.87	1.00		0.94	1.00
Satd. Flow (perm)		2263		593	1297			1059	903		1481	609
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	201	83	174	196	30	72	171	113	29	160	27
RTOR Reduction (vph)	0	24	0	0	11	0	0	0	29	0	0	14
Lane Group Flow (vph)	0	282	0	174	215	0	0	243	84	0	189	13
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		21.4		21.4	21.4			28.6	28.6		28.6	28.6
Effective Green, g (s)		21.4		21.4	21.4			28.6	28.6		28.6	28.6
Actuated g/C Ratio		0.36		0.36	0.36			0.48	0.48		0.48	0.48
Clearance Time (s)		5.5		5.5	5.5			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)		807		212	463			505	430		706	290
v/s Ratio Prot					0.17							
v/s Ratio Perm		0.12		c0.29				c0.23	0.09		0.13	0.02
v/c Ratio		0.35		0.82	0.46			0.48	0.20		0.27	0.04
Uniform Delay, d1		14.2		17.6	14.9			10.7	9.1		9.4	8.4
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		0.3		21.8	0.7			3.3	1.0		0.9	0.3
Delay (s)		14.4		39.3	15.6			13.9	10.1		10.3	8.7
Level of Service		B		D	B			B	B		B	A
Approach Delay (s)		14.4			25.9			12.7			10.1	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	16.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	70.5%	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												
Volume (vph)	0	215	106	13	239	777	157	0	30	645	137	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.93			1.00	0.96		1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		0.98		1.00	1.00	
Frt		0.95			1.00	0.85		0.98		1.00	0.99	
Flt Protected		1.00			1.00	1.00		0.96		0.95	0.97	
Satd. Flow (prot)		2583			1625	2357		1317		1477	1494	
Flt Permitted		1.00			0.97	1.00		0.50		0.84	0.90	
Satd. Flow (perm)		2583			1580	2357		693		1308	1380	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	224	110	14	249	809	164	0	31	672	143	20
RTOR Reduction (vph)	0	90	0	0	0	0	0	11	0	0	3	0
Lane Group Flow (vph)	0	244	0	0	263	809	0	184	0	417	415	0
Confl. Peds. (#/hr)	50		50	50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		11.0			11.0	38.5		14.5		24.0	24.0	
Effective Green, g (s)		11.0			11.0	38.5		14.5		24.0	24.0	
Actuated g/C Ratio		0.18			0.18	0.64		0.24		0.40	0.40	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		474			290	1512		167		523	552	
v/s Ratio Prot		0.09										
v/s Ratio Perm					c0.17	0.34		c0.27		c0.32	0.30	
v/c Ratio		0.52			0.91	0.54		1.10		0.80	0.75	
Uniform Delay, d1		22.1			24.0	5.9		22.8		15.9	15.4	
Progression Factor		1.00			1.00	1.00		1.00		0.54	0.54	
Incremental Delay, d2		4.0			33.6	1.4		98.8		11.7	8.9	
Delay (s)		26.1			57.6	7.2		121.5		20.3	17.2	
Level of Service		C			E	A		F		C	B	
Approach Delay (s)		26.1			19.6			121.5			18.7	
Approach LOS		C			B			F			B	

Intersection Summary			
HCM Average Control Delay	28.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	72.0%	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												
Volume (vph)	43	749	28	34	804	32	273	54	167	26	31	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Lane Util. Factor		0.95			0.95	1.00		0.95			1.00	1.00
Frpb, ped/bikes		0.98			1.00	0.66		0.89			1.00	0.66
Flpb, ped/bikes		1.00			0.99	1.00		0.83			0.93	1.00
Frt		0.99			1.00	0.85		0.95			1.00	0.85
Flt Protected		1.00			1.00	1.00		0.97			0.98	1.00
Satd. Flow (prot)		3015			3087	806		1984			1491	921
Flt Permitted		0.88			0.90	1.00		0.78			0.79	1.00
Satd. Flow (perm)		2656			2791	806		1582			1203	921
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	45	780	29	35	838	33	284	56	174	27	32	44
RTOR Reduction (vph)	0	5	0	0	0	12	0	16	0	0	0	14
Lane Group Flow (vph)	0	849	0	0	873	21	0	498	0	0	59	30
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Actuated Green, G (s)		27.4			27.4	27.4		25.6			25.6	25.6
Effective Green, g (s)		27.4			27.4	27.4		25.6			25.6	25.6
Actuated g/C Ratio		0.46			0.46	0.46		0.43			0.43	0.43
Clearance Time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)		1213			1275	368		675			513	393
v/s Ratio Prot												
v/s Ratio Perm		c0.32			0.31	0.03		c0.31			0.05	0.03
v/c Ratio		0.70			0.68	0.06		0.74			0.12	0.08
Uniform Delay, d1		13.0			12.9	9.1		14.4			10.4	10.2
Progression Factor		1.00			0.92	1.16		1.00			1.00	1.00
Incremental Delay, d2		1.8			1.3	0.1		7.1			0.5	0.4
Delay (s)		14.8			13.2	10.6		21.5			10.8	10.6
Level of Service		B			B	B		C			B	B
Approach Delay (s)		14.8			13.1			21.5			10.7	
Approach LOS		B			B			C			B	

Intersection Summary			
HCM Average Control Delay	15.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	89.1%	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												
Volume (vph)	59	745	148	91	545	12	72	230	120	9	235	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.95		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.76		1.00		1.00	0.89			0.86	
Flpb, ped/bikes		0.99	1.00		0.99		0.83	1.00			1.00	
Frt		1.00	0.85		1.00		1.00	0.95			0.94	
Flt Protected		1.00	1.00		0.99		0.95	1.00			1.00	
Satd. Flow (prot)		3080	922		3039		1294	3769			3602	
Flt Permitted		0.85	1.00		0.69		0.48	1.00			0.93	
Satd. Flow (perm)		2630	922		2107		654	3769			3353	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	64	810	161	99	592	13	78	250	130	10	255	190
RTOR Reduction (vph)	0	0	6	0	3	0	0	9	0	0	17	0
Lane Group Flow (vph)	0	874	155	0	701	0	78	371	0	0	438	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		27.0	27.0		27.0		23.0	23.0			23.0	
Effective Green, g (s)		27.0	27.0		27.0		23.0	23.0			23.0	
Actuated g/C Ratio		0.45	0.45		0.45		0.38	0.38			0.38	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1184	415		948		251	1445			1285	
v/s Ratio Prot								0.10				
v/s Ratio Perm		0.33	0.17		c0.33		0.12				c0.13	
v/c Ratio		0.74	0.37		0.74		0.31	0.26			0.34	
Uniform Delay, d1		13.6	10.9		13.6		13.0	12.7			13.1	
Progression Factor		0.52	0.56		0.84		1.00	1.00			1.00	
Incremental Delay, d2		2.1	0.5		3.0		3.2	0.4			0.7	
Delay (s)		9.1	6.6		14.3		16.2	13.1			13.8	
Level of Service		A	A		B		B	B			B	
Approach Delay (s)		8.7			14.3			13.6			13.8	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	11.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	100.0%	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												
Volume (vph)	0	1314	197	0	1613	89	207	202	39	80	155	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.95			0.98		1.00	0.95		1.00	0.93	
Flpb, ped/bikes		1.00			1.00		0.77	1.00		0.79	1.00	
Frt		0.98			0.99		1.00	0.98		1.00	0.97	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4173			4167		1196	1512		1231	1289	
Flt Permitted		1.00			1.00		0.58	1.00		0.51	1.00	
Satd. Flow (perm)		4173			4167		727	1512		660	1289	
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)	0	1341	201	0	1646	91	211	206	40	82	158	43
RTOR Reduction (vph)	0	6	0	0	5	0	0	4	0	0	2	0
Lane Group Flow (vph)	0	1536	0	0	1732	0	211	242	0	82	199	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2411			2408		222	462		202	394	
v/s Ratio Prot		0.37			c0.42			0.16			0.15	
v/s Ratio Perm							c0.29			0.12		
v/c Ratio		0.64			0.72		0.95	0.52		0.41	0.50	
Uniform Delay, d1		12.7			13.7		30.6	25.8		24.8	25.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.3			1.9		48.8	4.2		6.0	4.6	
Delay (s)		14.0			15.6		79.4	30.0		30.7	30.2	
Level of Service		B			B		E	C		C	C	
Approach Delay (s)		14.0			15.6			52.8			30.4	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM Average Control Delay	20.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	92.3%	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												
Volume (vph)	0	1257	62	0	1454	65	68	155	25	32	173	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			1.00	
Frpb, ped/bikes		0.98			0.98		1.00	0.95			0.93	
Flpb, ped/bikes		1.00			1.00		0.82	1.00			0.97	
Frt		0.99			0.99		1.00	0.98			0.97	
Flt Protected		1.00			1.00		0.95	1.00			0.99	
Satd. Flow (prot)		4363			4372		1278	1530			1420	
Flt Permitted		1.00			1.00		0.47	1.00			0.94	
Satd. Flow (perm)		4363			4372		631	1530			1348	
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	1323	65	0	1531	68	72	163	26	34	182	62
RTOR Reduction (vph)	0	5	0	0	5	0	0	6	0	0	4	0
Lane Group Flow (vph)	0	1383	0	0	1594	0	72	183	0	0	274	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2584			2589		189	457			403	
v/s Ratio Prot		0.32			c0.36			0.12				
v/s Ratio Perm							0.11				c0.20	
v/c Ratio		0.54			0.62		0.38	0.40			0.68	
Uniform Delay, d1		11.0			11.8		25.0	25.1			27.8	
Progression Factor		1.00			0.24		1.00	1.00			1.00	
Incremental Delay, d2		0.8			0.8		5.7	2.6			9.0	
Delay (s)		11.8			3.6		30.7	27.7			36.8	
Level of Service		B			A		C	C			D	
Approach Delay (s)		11.8			3.6			28.6			36.8	
Approach LOS		B			A			C			D	

Intersection Summary			
HCM Average Control Delay	11.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	99.7%	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												
Volume (vph)	0	1359	49	0	1518	59	45	91	18	36	141	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.96			0.93	
Flpb, ped/bikes		1.00			1.00			0.94			0.96	
Frt		0.99			0.99			0.98			0.97	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		4208			4202			1260			1237	
Flt Permitted		1.00			1.00			0.86			0.93	
Satd. Flow (perm)		4208			4202			1101			1161	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	1446	52	0	1615	63	48	97	19	38	150	50
RTOR Reduction (vph)	0	4	0	0	4	0	0	4	0	0	3	0
Lane Group Flow (vph)	0	1494	0	0	1674	0	0	160	0	0	235	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2525			2521			330			348	
v/s Ratio Prot		0.36			c0.40							
v/s Ratio Perm								0.15			c0.20	
v/c Ratio		0.59			0.66			0.48			0.68	
Uniform Delay, d1		11.2			12.0			25.8			27.7	
Progression Factor		1.98			1.00			1.00			1.00	
Incremental Delay, d2		0.9			1.4			5.0			10.1	
Delay (s)		23.1			13.4			30.8			37.7	
Level of Service		C			B			C			D	
Approach Delay (s)		23.1			13.4			30.8			37.7	
Approach LOS		C			B			C			D	

Intersection Summary			
HCM Average Control Delay	19.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	75.0%	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		↑↑↑			↑↑↑		↰	↕				↱
Volume (vph)	0	1236	0	0	879	46	667	600	46	0	0	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.98		1.00	0.98				0.97
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.99				1.00
Satd. Flow (prot)		4282			4361		1415	2687				1367
Flt Permitted		1.00			1.00		0.95	0.99				1.00
Satd. Flow (perm)		4282			4361		1415	2687				1367
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	1421	0	0	1010	53	767	690	53	0	0	43
RTOR Reduction (vph)	0	0	0	0	7	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	1421	0	0	1056	0	491	1015	0	0	0	43
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		53.0			41.0		27.0	27.0				9.0
Effective Green, g (s)		53.0			41.0		27.0	27.0				9.0
Actuated g/C Ratio		0.59			0.46		0.30	0.30				0.10
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		2522			1987		425	806				137
v/s Ratio Prot		c0.33			0.24							
v/s Ratio Perm							0.35	0.38				0.03
v/c Ratio		0.56			0.53		1.16	1.26				0.31
Uniform Delay, d1		11.4			17.6		31.5	31.5				37.6
Progression Factor		1.00			0.32		1.00	1.00				1.00
Incremental Delay, d2		0.9			0.7		93.4	126.6				5.9
Delay (s)		12.3			6.3		124.9	158.1				43.5
Level of Service		B			A		F	F				D
Approach Delay (s)		12.3			6.3			147.3			43.5	
Approach LOS		B			A			F			D	

Intersection Summary			
HCM Average Control Delay	61.6	HCM Level of Service	E
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	64.7%	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												
Volume (vph)	145	140	825	0	88	5	775	265	41	0	458	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		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.98		1.00	0.95			1.00	0.67
Flpb, ped/bikes		0.86	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.99		1.00	0.98			1.00	0.85
Flt Protected		0.98	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1368	2448		1358		4385	1332			3110	815
Flt Permitted		0.79	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		1108	2448		1358		4385	1332			3110	815
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	149	144	851	0	91	5	799	273	42	0	472	100
RTOR Reduction (vph)	0	0	2	0	2	0	0	6	0	0	0	17
Lane Group Flow (vph)	0	293	849	0	94	0	799	309	0	0	472	83
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		30.4	53.4		30.4		19.5	51.6			28.6	28.6
Effective Green, g (s)		30.4	49.9		30.4		19.5	51.6			28.6	28.6
Actuated g/C Ratio		0.34	0.55		0.34		0.22	0.57			0.32	0.32
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		374	1357		459		950	764			988	259
v/s Ratio Prot			0.35		0.07		c0.18	0.23			c0.15	
v/s Ratio Perm		c0.26										0.10
v/c Ratio		0.78	0.63		0.20		0.84	0.40			0.48	0.32
Uniform Delay, d1		26.8	13.7		21.2		33.8	10.7			24.7	23.3
Progression Factor		1.02	0.80		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		8.5	0.7		0.2		8.9	1.6			1.7	3.2
Delay (s)		35.8	11.7		21.4		42.7	12.3			26.3	26.6
Level of Service		D	B		C		D	B			C	C
Approach Delay (s)		17.9			21.4			34.1			26.4	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM Average Control Delay	25.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	72.6%	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												
Volume (vph)	0	0	0	62	264	56	40	57	0	0	43	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.11		1.00			0.93	
Flpb, ped/bikes					0.86	1.00		0.86			1.00	
Frt					1.00	0.85		1.00			0.97	
Flt Protected					0.99	1.00		0.98			1.00	
Satd. Flow (prot)					2481	156		1375			1481	
Flt Permitted					0.99	1.00		0.89			1.00	
Satd. Flow (perm)					2481	156		1244			1481	
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)	0	0	0	69	293	62	44	63	0	0	48	11
RTOR Reduction (vph)	0	0	0	0	0	36	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	362	26	0	107	0	0	59	0
Confl. Peds. (#/hr)				1245		1700	831					831
Confl. Bikes (#/hr)						158			9			17
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					25.0	25.0		25.0			25.0	
Effective Green, g (s)					25.0	25.0		25.0			25.0	
Actuated g/C Ratio					0.42	0.42		0.42			0.42	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1034	65		518			617	
v/s Ratio Prot											0.04	
v/s Ratio Perm					0.15	c0.17		c0.09				
v/c Ratio					0.35	0.40		0.21			0.10	
Uniform Delay, d1					12.0	12.2		11.2			10.6	
Progression Factor					1.00	1.00		0.87			1.00	
Incremental Delay, d2					0.9	17.2		0.7			0.3	
Delay (s)					12.9	29.4		10.3			10.9	
Level of Service					B	C		B			B	
Approach Delay (s)		0.0			15.3			10.3			10.9	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	45.0%	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												
Volume (vph)	0	0	0	136	306	29	103	28	0	0	41	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.94		1.00	1.00			0.88	
Flpb, ped/bikes				1.00	1.00		0.62	1.00			1.00	
Frt				1.00	0.99		1.00	1.00			0.96	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	2882		970	1637			1390	
Flt Permitted				0.95	1.00		0.72	1.00			1.00	
Satd. Flow (perm)				1555	2882		730	1637			1390	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	0	153	344	33	116	31	0	0	46	18
RTOR Reduction (vph)	0	0	0	0	6	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	153	371	0	116	31	0	0	64	0
Confl. Peds. (#/hr)						1700	585					585
Confl. Bikes (#/hr)						113			6			3
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				38.4	38.4		12.3	12.3			12.3	
Effective Green, g (s)				38.4	38.4		12.3	12.3			12.3	
Actuated g/C Ratio				0.64	0.64		0.21	0.21			0.21	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				995	1844		150	336			285	
v/s Ratio Prot				0.10	c0.13			0.02			0.05	
v/s Ratio Perm							c0.16					
v/c Ratio				0.15	0.20		0.77	0.09			0.22	
Uniform Delay, d1				4.3	4.5		22.5	19.3			19.9	
Progression Factor				1.00	1.00		1.51	1.58			1.00	
Incremental Delay, d2				0.3	0.2		31.2	0.5			1.8	
Delay (s)				4.6	4.7		65.3	31.0			21.7	
Level of Service				A	A		E	C			C	
Approach Delay (s)		0.0			4.7			58.1			21.7	
Approach LOS		A			A			E			C	

Intersection Summary			
HCM Average Control Delay	16.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	271	95	14	81	39	23
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	295	103	15	88	42	25
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	306					
pX, platoon unblocked						
vC, conflicting volume			798		1265	999
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			798		1265	999
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		44	79
cM capacity (veh/h)			574		76	118

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	196	201	103	67
Volume Left	0	0	15	42
Volume Right	0	103	0	25
cSH	1700	1700	574	88
Volume to Capacity	0.12	0.12	0.03	0.77
Queue Length 95th (ft)	0	0	2	98
Control Delay (s)	0.0	0.0	2.0	123.9
Lane LOS			A	F
Approach Delay (s)	0.0		2.0	123.9
Approach LOS				F

Intersection Summary			
Average Delay	15.0		
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												
Volume (vph)	0	198	34	0	113	6	47	92	48	17	64	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	
Lane Util. Factor		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.42		0.97			0.87			0.90	
Flpb, ped/bikes		1.00	1.00		1.00			0.90			0.94	
Frt		1.00	0.85		0.99			0.97			0.98	
Flt Protected		1.00	1.00		1.00			0.99			0.99	
Satd. Flow (prot)		1637	588		1381			1059			1182	
Flt Permitted		1.00	1.00		1.00			0.90			0.93	
Satd. Flow (perm)		1637	588		1381			964			1109	
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	0	264	45	0	151	8	63	123	64	23	85	24
RTOR Reduction (vph)	0	0	22	0	3	0	0	3	0	0	4	0
Lane Group Flow (vph)	0	264	23	0	156	0	0	247	0	0	128	0
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type			Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases			2	2			4			4		
Actuated Green, G (s)		29.0	29.0		29.0			22.0			22.0	
Effective Green, g (s)		29.0	29.0		29.0			22.0			22.0	
Actuated g/C Ratio		0.48	0.48		0.48			0.37			0.37	
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)		791	284		667			353			407	
v/s Ratio Prot		c0.16			0.11							
v/s Ratio Perm			0.04					c0.26			0.11	
v/c Ratio		0.33	0.08		0.23			0.70			0.31	
Uniform Delay, d1		9.5	8.3		9.0			16.2			13.6	
Progression Factor		1.00	1.00		1.00			0.65			0.85	
Incremental Delay, d2		1.1	0.6		0.8			10.4			2.0	
Delay (s)		10.7	8.9		9.8			21.0			13.5	
Level of Service		B	A		A			C			B	
Approach Delay (s)		10.4			9.8			21.0			13.5	
Approach LOS		B			A			C			B	

Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	77.9%	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												
Volume (vph)	0	228	31	14	67	0	50	0	59	12	15	21
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		1.00	1.00		0.95			1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.26		1.00			0.70			1.00	0.67
Flpb, ped/bikes		1.00	1.00		0.92			0.86			0.80	1.00
Frt		1.00	0.85		1.00			0.93			1.00	0.85
Flt Protected		1.00	1.00		0.99			0.98			0.98	1.00
Satd. Flow (prot)		1637	354		2844			893			1274	933
Flt Permitted		1.00	1.00		0.89			0.89			0.92	1.00
Satd. Flow (perm)		1637	354		2553			812			1192	933
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	262	36	16	77	0	57	0	68	14	17	24
RTOR Reduction (vph)	0	0	27	0	0	0	0	0	0	0	0	9
Lane Group Flow (vph)	0	262	9	0	93	0	0	125	0	0	31	15
Confl. Peds. (#/hr)			800	800			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	36.5
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	36.5
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	0.61
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)		396	86		617			494			725	568
v/s Ratio Prot		c0.16										
v/s Ratio Perm			0.02		0.04			c0.15			0.03	0.02
v/c Ratio		0.66	0.10		0.15			0.25			0.04	0.03
Uniform Delay, d1		20.5	17.7		17.9			5.4			4.7	4.7
Progression Factor		1.08	1.38		1.00			1.23			1.00	1.00
Incremental Delay, d2		8.3	2.3		0.5			1.2			0.0	0.0
Delay (s)		30.4	26.7		18.4			7.9			4.7	4.7
Level of Service		C	C		B			A			A	A
Approach Delay (s)		30.0			18.4			7.9			4.7	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM Average Control Delay	20.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	308	9	59	0	155	0	342	484
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		1.00		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		1.00		1.00			1.00
Flt Protected		1.00		0.95		1.00			0.98
Satd. Flow (prot)		942		1360		1637			3047
Flt Permitted		1.00		0.95		1.00			0.95
Satd. Flow (perm)		942		1360		1637			2970
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	324	9	62	0	163	0	360	509
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	324	0	71	0	163	0	0	869
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		385		314			891
v/s Ratio Prot						0.10			
v/s Ratio Perm		c0.34		0.05					c0.29
v/c Ratio		0.62		0.18		0.52			0.98
Uniform Delay, d1		8.9		16.3		21.8			20.8
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		5.3		1.1		1.5			24.7
Delay (s)		14.2		17.3		23.2			45.5
Level of Service		B		B		C			D
Approach Delay (s)	14.2			17.3		23.2			45.5
Approach LOS	B			B		C			D

Intersection Summary			
HCM Average Control Delay	34.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	77.6%	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												
Volume (vph)	28	181	50	41	193	44	42	98	33	31	75	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.95			1.00	0.56	1.00	0.86			0.82	
Flpb, ped/bikes		0.97			1.00	1.00	0.60	1.00			0.92	
Frt		0.97			1.00	0.85	1.00	0.96			0.95	
Flt Protected		0.99			0.99	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1275			1420	682	931	1184			2212	
Flt Permitted		0.95			0.91	1.00	0.64	1.00			0.87	
Satd. Flow (perm)		1222			1306	682	627	1184			1949	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	32	206	57	47	219	50	48	111	38	35	85	57
RTOR Reduction (vph)	0	10	0	0	0	12	0	26	0	0	0	0
Lane Group Flow (vph)	0	285	0	0	266	38	48	123	0	0	177	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		38.2			38.2	38.2	11.7	11.7			11.7	
Effective Green, g (s)		38.2			38.2	38.2	11.7	11.7			11.7	
Actuated g/C Ratio		0.64			0.64	0.64	0.19	0.19			0.19	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		778			831	434	122	231			380	
v/s Ratio Prot								c0.10				
v/s Ratio Perm		c0.23			0.20	0.06	0.08				0.09	
v/c Ratio		0.37			0.32	0.09	0.39	0.53			0.47	
Uniform Delay, d1		5.2			5.0	4.2	21.1	21.7			21.4	
Progression Factor		1.00			1.00	1.00	1.45	1.57			1.00	
Incremental Delay, d2		1.3			1.0	0.4	2.1	2.4			0.9	
Delay (s)		6.5			6.0	4.6	32.6	36.5			22.3	
Level of Service		A			A	A	C	D			C	
Approach Delay (s)		6.5			5.8			35.5			22.3	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM Average Control Delay	14.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	89.7%	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		✣			✣			✣			✣	
Volume (vph)	49	230	44	17	184	21	17	105	32	32	54	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.93			0.95			0.89			0.86	
Flpb, ped/bikes		0.95			0.98			0.95			0.89	
Frt		0.98			0.99			0.97			0.96	
Flt Protected		0.99			1.00			0.99			0.99	
Satd. Flow (prot)		1226			1307			1169			1046	
Flt Permitted		0.93			0.97			0.96			0.90	
Satd. Flow (perm)		1145			1268			1135			949	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	54	253	48	19	202	23	19	115	35	35	59	33
RTOR Reduction (vph)	0	10	0	0	6	0	0	16	0	0	21	0
Lane Group Flow (vph)	0	345	0	0	238	0	0	153	0	0	106	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		32.6			32.6			18.6			18.6	
Effective Green, g (s)		32.6			32.6			18.6			18.6	
Actuated g/C Ratio		0.54			0.54			0.31			0.31	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		622			689			352			294	
v/s Ratio Prot												
v/s Ratio Perm		c0.30			0.19			c0.13			0.11	
v/c Ratio		0.56			0.34			0.44			0.36	
Uniform Delay, d1		9.0			7.7			16.5			16.1	
Progression Factor		1.00			1.00			1.07			0.41	
Incremental Delay, d2		3.6			1.4			3.6			3.3	
Delay (s)		12.5			9.1			21.3			10.0	
Level of Service		B			A			C			A	
Approach Delay (s)		12.5			9.1			21.3			10.0	
Approach LOS		B			A			C			A	

Intersection Summary			
HCM Average Control Delay	12.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	57.6%	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												
Volume (vph)	19	207	64	18	121	29	31	47	73	33	61	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.88			1.00	0.46		0.75			0.89	
Flpb, ped/bikes		0.97			0.96	1.00		0.92			0.90	
Frt		0.97			1.00	0.85		0.94			0.97	
Flt Protected		1.00			0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1188			1366	565		905			1087	
Flt Permitted		0.98			0.95	1.00		0.93			0.90	
Satd. Flow (perm)		1170			1308	565		853			997	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	20	223	69	19	130	31	33	51	78	35	66	28
RTOR Reduction (vph)	0	17	0	0	0	15	0	17	0	0	17	0
Lane Group Flow (vph)	0	295	0	0	149	16	0	145	0	0	112	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		31.0			31.0	31.0		21.0			21.0	
Effective Green, g (s)		31.0			31.0	31.0		21.0			21.0	
Actuated g/C Ratio		0.52			0.52	0.52		0.35			0.35	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		605			676	292		299			349	
v/s Ratio Prot												
v/s Ratio Perm		c0.25			0.11	0.03		c0.17			0.11	
v/c Ratio		0.49			0.22	0.05		0.49			0.32	
Uniform Delay, d1		9.4			7.9	7.2		15.3			14.3	
Progression Factor		1.00			0.82	0.66		0.91			1.07	
Incremental Delay, d2		2.8			0.7	0.4		5.1			2.4	
Delay (s)		12.2			7.3	5.1		19.0			17.7	
Level of Service		B			A	A		B			B	
Approach Delay (s)		12.2			6.9			19.0			17.7	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM Average Control Delay	13.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	79.2%	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												
Volume (vph)	22	211	63	17	83	13	16	50	52	15	23	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.48		1.00	0.48		0.75			0.82	
Flpb, ped/bikes		0.96	1.00		0.94	1.00		0.93			0.89	
Frt		1.00	0.85		1.00	0.85		0.94			0.96	
Flt Protected		1.00	1.00		0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1369	573		1335	573		934			1125	
Flt Permitted		0.98	1.00		0.94	1.00		0.97			0.92	
Satd. Flow (perm)		1341	573		1269	573		908			1051	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	25	243	72	20	95	15	18	57	60	17	26	20
RTOR Reduction (vph)	0	0	6	0	0	5	0	32	0	0	15	0
Lane Group Flow (vph)	0	268	66	0	115	10	0	103	0	0	48	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		36.0	36.0		36.0	36.0		16.0			16.0	
Effective Green, g (s)		36.0	36.0		36.0	36.0		16.0			16.0	
Actuated g/C Ratio		0.60	0.60		0.60	0.60		0.27			0.27	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		805	344		761	344		242			280	
v/s Ratio Prot												
v/s Ratio Perm		c0.20	0.11		0.09	0.02		c0.11			0.05	
v/c Ratio		0.33	0.19		0.15	0.03		0.43			0.17	
Uniform Delay, d1		6.0	5.4		5.3	4.9		18.2			16.9	
Progression Factor		0.94	0.95		1.00	1.00		1.06			1.40	
Incremental Delay, d2		1.0	1.1		0.4	0.2		5.2			1.3	
Delay (s)		6.6	6.2		5.7	5.0		24.5			25.0	
Level of Service		A	A		A	A		C			C	
Approach Delay (s)		6.5			5.6			24.5			25.0	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	11.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations										
Volume (vph)	24	150	50	4	34	14	307	166	114	819
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				4.0		5.0		5.0	5.0
Lane Util. Factor	1.00				1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.89				0.90		0.78		1.00	1.00
Flpb, ped/bikes	1.00				0.63		1.00		1.00	1.00
Frt	0.88				0.96		0.95		1.00	1.00
Flt Protected	0.99				0.96		1.00		0.95	1.00
Satd. Flow (prot)	1269				856		2283		1555	3110
Flt Permitted	0.99				0.96		1.00		0.95	1.00
Satd. Flow (perm)	1269				856		2283		1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	163	54	4	37	15	334	180	124	890
RTOR Reduction (vph)	12	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	231	0	0	0	56	0	514	0	124	890
Confl. Peds. (#/hr)				400	400	400		400		
Confl. Bikes (#/hr)		30	30			10		30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0
Turn Type				custom					Split	
Protected Phases	4!				8!		6		2	2
Permitted Phases				3						
Actuated Green, G (s)	18.7				44.7		17.0		14.3	14.3
Effective Green, g (s)	18.7				44.7		17.0		14.3	14.3
Actuated g/C Ratio	0.21				0.50		0.19		0.16	0.16
Clearance Time (s)	5.0				4.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	264				425		431		247	494
v/s Ratio Prot	c0.18						c0.23		0.08	c0.29
v/s Ratio Perm					0.07					
v/c Ratio	0.88				0.13		1.19		0.50	1.80
Uniform Delay, d1	34.5				12.2		36.5		34.6	37.9
Progression Factor	1.00				1.03		1.00		0.76	0.86
Incremental Delay, d2	25.9				0.1		107.5		6.7	368.3
Delay (s)	60.5				12.7		144.0		33.1	400.6
Level of Service	E				B		F		C	F
Approach Delay (s)	60.5				12.7		144.0			355.7
Approach LOS	E				B		F			F

Intersection Summary			
HCM Average Control Delay	246.4	HCM Level of Service	F
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	71.3%	ICU Level of Service	C
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	751	26	0	608	14	0	53	20	0	97	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.91			0.91	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.96			0.96	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2865			2880			1250			1252	
Flt Permitted		1.00			1.00			1.00			1.00	
Satd. Flow (perm)		2865			2880			1250			1252	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	782	27	0	633	15	0	55	21	0	101	38
RTOR Reduction (vph)	0	3	0	0	2	0	0	18	0	0	26	0
Lane Group Flow (vph)	0	806	0	0	646	0	0	58	0	0	113	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type												
Protected Phases		2			6			8			4	
Permitted Phases												
Actuated Green, G (s)		41.7			41.7			9.5			9.5	
Effective Green, g (s)		41.7			41.7			9.5			9.5	
Actuated g/C Ratio		0.70			0.70			0.16			0.16	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1991			2002			198			198	
v/s Ratio Prot		c0.28			0.22			0.05			c0.09	
v/s Ratio Perm												
v/c Ratio		0.40			0.32			0.29			0.57	
Uniform Delay, d1		3.9			3.6			22.3			23.4	
Progression Factor		0.47			1.00			1.00			1.00	
Incremental Delay, d2		0.5			0.1			0.8			3.9	
Delay (s)		2.3			3.7			23.1			27.3	
Level of Service		A			A			C			C	
Approach Delay (s)		2.3			3.7			23.1			27.3	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	5.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	50.0%	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												
Volume (vph)	0	571	136	2	464	36	179	125	71	0	158	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.69		1.00	0.69	1.00	1.00	0.72		0.98	
Flpb, ped/bikes		1.00	1.00		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	0.85		0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3110	959		3109	959	3016	1637	1005		2847	
Flt Permitted		1.00	1.00		0.95	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		3110	959		2966	959	3016	1637	1005		2847	
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)	0	583	139	2	473	37	183	128	72	0	161	8
RTOR Reduction (vph)	0	0	60	0	0	16	0	0	6	0	7	0
Lane Group Flow (vph)	0	583	79	0	475	21	183	128	66	0	162	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type	Perm		Perm	Perm		Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		34.1	34.1		34.1	34.1	4.9	16.9	16.9		7.5	
Effective Green, g (s)		34.1	34.1		34.1	34.1	4.9	16.9	16.9		7.5	
Actuated g/C Ratio		0.57	0.57		0.57	0.57	0.08	0.28	0.28		0.12	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		1768	545		1686	545	246	461	283		356	
v/s Ratio Prot		c0.19					c0.06	0.08			c0.06	
v/s Ratio Perm			0.08		0.16	0.02			0.07			
v/c Ratio		0.33	0.14		0.28	0.04	0.74	0.28	0.23		0.46	
Uniform Delay, d1		6.9	6.1		6.7	5.7	26.9	16.8	16.6		24.4	
Progression Factor		1.00	1.00		1.59	2.46	1.00	1.00	1.00		0.98	
Incremental Delay, d2		0.5	0.6		0.4	0.1	11.5	0.3	0.4		0.9	
Delay (s)		7.4	6.7		11.0	14.2	38.5	17.1	17.0		24.8	
Level of Service		A	A		B	B	D	B	B		C	
Approach Delay (s)		7.2			11.2			27.3			24.8	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM Average Control Delay	14.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	72.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	97	488	488	63	47	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	0.96		0.80	
Flpb, ped/bikes		0.98	1.00		1.00	
Frt		1.00	0.98		0.92	
Flt Protected		0.99	1.00		0.98	
Satd. Flow (prot)		2825	2937		1035	
Flt Permitted		0.79	1.00		0.98	
Satd. Flow (perm)		2237	2937		1035	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	103	519	519	67	50	71
RTOR Reduction (vph)	0	0	20	0	41	0
Lane Group Flow (vph)	0	622	566	0	80	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		32.2	32.2		20.8	
Effective Green, g (s)		32.2	32.2		20.8	
Actuated g/C Ratio		0.54	0.54		0.35	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1201	1576		359	
v/s Ratio Prot			0.19		c0.08	
v/s Ratio Perm		c0.28				
v/c Ratio		0.52	0.36		0.22	
Uniform Delay, d1		8.9	8.0		13.9	
Progression Factor		1.63	1.00		1.06	
Incremental Delay, d2		0.4	0.1		1.3	
Delay (s)		14.9	8.1		16.1	
Level of Service		B	A		B	
Approach Delay (s)		14.9	8.1		16.1	
Approach LOS		B	A		B	

Intersection Summary			
HCM Average Control Delay	12.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	80.0%	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												
Volume (vph)	28	326	41	23	496	71	33	59	46	24	72	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.96			0.95			0.89			0.88	
Flpb, ped/bikes		0.99			0.99			0.94			0.96	
Frt		0.98			0.98			0.95			0.95	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		2706			2693			1141			1142	
Flt Permitted		0.89			0.93			0.91			0.95	
Satd. Flow (perm)		2431			2516			1053			1090	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	30	347	44	24	528	76	35	63	49	26	77	62
RTOR Reduction (vph)	0	15	0	0	18	0	0	30	0	0	21	0
Lane Group Flow (vph)	0	406	0	0	610	0	0	117	0	0	144	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		30.6			30.6			20.6			20.6	
Effective Green, g (s)		30.6			30.6			20.6			20.6	
Actuated g/C Ratio		0.51			0.51			0.34			0.34	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1240			1283			362			374	
v/s Ratio Prot												
v/s Ratio Perm		0.17			c0.24			0.11			c0.13	
v/c Ratio		0.33			0.48			0.32			0.38	
Uniform Delay, d1		8.6			9.5			14.5			14.9	
Progression Factor		1.00			1.06			1.00			0.97	
Incremental Delay, d2		0.7			1.2			2.4			2.8	
Delay (s)		9.4			11.3			16.9			17.3	
Level of Service		A			B			B			B	
Approach Delay (s)		9.4			11.3			16.9			17.3	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	12.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
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												
Volume (vph)	33	546	33	29	434	47	55	42	59	24	44	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.98			0.96			0.88			0.89	
Flpb, ped/bikes		0.99			0.99			0.91			0.95	
Frt		0.99			0.99			0.95			0.95	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		2794			2736			1063			1134	
Flt Permitted		0.91			0.91			0.88			0.92	
Satd. Flow (perm)		2560			2489			946			1056	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	34	563	34	30	447	48	57	43	61	25	45	37
RTOR Reduction (vph)	0	5	0	0	9	0	0	26	0	0	30	0
Lane Group Flow (vph)	0	626	0	0	516	0	0	135	0	0	77	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		39.0			39.0			12.1			12.1	
Effective Green, g (s)		39.0			39.0			12.1			12.1	
Actuated g/C Ratio		0.65			0.65			0.20			0.20	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1664			1618			191			213	
v/s Ratio Prot												
v/s Ratio Perm		c0.24			0.21			c0.14			0.07	
v/c Ratio		0.38			0.32			0.70			0.36	
Uniform Delay, d1		4.9			4.6			22.3			20.6	
Progression Factor		1.90			1.00			1.00			0.96	
Incremental Delay, d2		0.6			0.1			11.2			1.0	
Delay (s)		9.9			4.7			33.5			20.8	
Level of Service		A			A			C			C	
Approach Delay (s)		9.9			4.7			33.5			20.8	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	11.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	72.7%	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												
Volume (vph)	20	555	62	20	424	9	58	7	14	7	9	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			0.99			0.94			0.76	
Flpb, ped/bikes		1.00			1.00			0.76			0.96	
Frt		0.99			1.00			0.98			0.91	
Flt Protected		1.00			1.00			0.96			0.99	
Satd. Flow (prot)		2770			3061			1096			1080	
Flt Permitted		0.93			0.91			0.77			0.96	
Satd. Flow (perm)		2588			2803			872			1048	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	22	624	70	22	476	10	65	8	16	8	10	34
RTOR Reduction (vph)	0	2	0	0	2	0	0	9	0	0	27	0
Lane Group Flow (vph)	0	714	0	0	506	0	0	80	0	0	25	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1786			1934			187			225	
v/s Ratio Prot												
v/s Ratio Perm		c0.28			0.18			c0.09			0.02	
v/c Ratio		0.40			0.26			0.43			0.11	
Uniform Delay, d1		6.0			5.3			30.6			28.5	
Progression Factor		1.00			0.19			1.00			0.99	
Incremental Delay, d2		0.7			0.3			7.1			0.1	
Delay (s)		6.6			1.3			37.6			28.1	
Level of Service		A			A			D			C	
Approach Delay (s)		6.6			1.3			37.6			28.1	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM Average Control Delay	7.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	75.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	36	539	447	896	436	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3024	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3024	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	37	556	461	924	449	37
RTOR Reduction (vph)	0	46	0	0	5	0
Lane Group Flow (vph)	37	510	461	924	481	0
Confl. Peds. (#/hr)						109
Confl. Bikes (#/hr)		10				64
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	11.0	35.7	20.7	69.0	44.3	
Effective Green, g (s)	11.0	35.7	20.7	69.0	44.3	
Actuated g/C Ratio	0.12	0.40	0.23	0.77	0.49	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	190	971	694	2235	1488	
v/s Ratio Prot	0.02	c0.21	c0.15	c0.32	0.16	
v/s Ratio Perm						
v/c Ratio	0.19	0.53	0.66	0.41	0.32	
Uniform Delay, d1	35.5	20.7	31.5	3.6	13.8	
Progression Factor	1.26	0.68	0.90	1.70	1.20	
Incremental Delay, d2	0.5	0.5	2.0	0.5	0.0	
Delay (s)	45.1	14.5	30.2	6.6	16.6	
Level of Service	D	B	C	A	B	
Approach Delay (s)	16.4			14.4	16.6	
Approach LOS	B			B	B	

Intersection Summary			
HCM Average Control Delay	15.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	52.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	83	222	16	0	920	0	55	10	1123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			0.99			1.00	1.00
Flpb, ped/bikes				0.71			1.00			1.00	1.00
Frt				0.99			0.99			1.00	1.00
Flt Protected				0.95			1.00			0.95	1.00
Satd. Flow (prot)				1988			4401			1555	3110
Flt Permitted				0.95			1.00			0.95	1.00
Satd. Flow (perm)				1988			4401			1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	90	241	17	0	1000	0	60	11	1221
RTOR Reduction (vph)	0	0	0	5	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	0	0	343	0	0	1055	0	0	11	1221
Confl. Peds. (#/hr)			107	139					107		
Confl. Bikes (#/hr)					8				106		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				19.1			54.3			3.6	61.9
Effective Green, g (s)				19.1			54.3			3.6	61.9
Actuated g/C Ratio				0.21			0.60			0.04	0.69
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				422			2655			62	2139
v/s Ratio Prot							0.24			0.01	c0.39
v/s Ratio Perm				0.17							
v/c Ratio				0.81			0.40			0.18	0.57
Uniform Delay, d1				33.8			9.3			41.8	7.2
Progression Factor				1.00			1.30			1.00	1.00
Incremental Delay, d2				11.4			0.0			0.5	1.1
Delay (s)				45.2			12.1			42.3	8.3
Level of Service				D			B			D	A
Approach Delay (s)	0.0			45.2			12.1				8.6
Approach LOS	A			D			B				A

Intersection Summary			
HCM Average Control Delay	14.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	52.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBL	EBR	EBR2	SEL	SET	SER2	NWL2	NWL	NWT	NWR	SWR2
Lane Configurations												
Volume (vph)	22	0	5	134	17	745	181	18	0	1120	29	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5		7.0	7.0	7.0		7.0	7.0		
Lane Util. Factor		1.00	1.00		1.00	0.95	1.00		1.00	0.95		
Frpb, ped/bikes		1.00	0.86		1.00	1.00	0.96		1.00	0.98		
Flpb, ped/bikes		1.00	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	1.00		
Flt Protected		0.95	1.00		0.95	1.00	1.00		0.95	1.00		
Satd. Flow (prot)		1555	1052		1555	3110	1334		1555	3050		
Flt Permitted		0.95	1.00		0.16	1.00	1.00		0.32	1.00		
Satd. Flow (perm)		1555	1052		254	3110	1334		526	3050		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	0	5	146	18	810	197	20	0	1217	32	0
RTOR Reduction (vph)	0	0	106	0	0	0	92	0	0	2	0	0
Lane Group Flow (vph)	0	24	45	0	18	810	105	0	20	1247	0	0
Confl. Peds. (#/hr)				130							1000	100
Confl. Bikes (#/hr)			10	10			30				30	10
Parking (#/hr)			5	5								
Turn Type	Perm		Perm		Perm		Perm	Perm	Perm			custom
Protected Phases		4				6				2		
Permitted Phases	4		4		6		6	2	2			8
Actuated Green, G (s)		18.0	18.0		34.5	34.5	34.5		34.5	34.5		
Effective Green, g (s)		18.0	18.0		34.5	34.5	34.5		34.5	34.5		
Actuated g/C Ratio		0.28	0.28		0.53	0.53	0.53		0.53	0.53		
Clearance Time (s)		5.5	5.5		7.0	7.0	7.0		7.0	7.0		
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)		431	291		135	1651	708		279	1619		
v/s Ratio Prot						0.26				c0.41		
v/s Ratio Perm		0.02	c0.04		0.07		0.08		0.04			
v/c Ratio		0.06	0.16		0.13	0.49	0.15		0.07	0.77		
Uniform Delay, d1		17.3	17.8		7.7	9.7	7.8		7.4	12.1		
Progression Factor		1.00	1.00		1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2		0.1	0.3		2.0	1.0	0.4		0.5	3.6		
Delay (s)		17.3	18.0		9.7	10.7	8.2		7.9	15.7		
Level of Service		B	B		A	B	A		A	B		
Approach Delay (s)		17.9				10.2				15.6		
Approach LOS		B				B				B		

Intersection Summary			
HCM Average Control Delay	13.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	81.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	17	0	7	0	0	0	30	1171	0	0	9	731
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.90					1.00	1.00				0.99
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.96					1.00	1.00				1.00
Flt Protected		0.97					0.95	1.00				1.00
Satd. Flow (prot)		1200					1555	3110				3069
Flt Permitted		0.97					0.95	1.00				0.94
Satd. Flow (perm)		1200					1555	3110				2877
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	18	0	7	0	0	0	32	1246	0	0	10	778
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	0	19	0	0	0	0	32	1246	0	0	0	803
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		3.6					5.4	77.4				67.0
Effective Green, g (s)		3.6					5.4	77.4				67.0
Actuated g/C Ratio		0.04					0.06	0.86				0.74
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		48					93	2675				2142
v/s Ratio Prot		c0.02					0.02	c0.40				
v/s Ratio Perm												0.28
v/c Ratio		0.40					0.34	0.47				0.37
Uniform Delay, d1		42.1					40.6	1.5				4.1
Progression Factor		1.00					1.22	2.89				1.00
Incremental Delay, d2		5.4					2.0	0.5				0.5
Delay (s)		47.6					51.7	4.8				4.6
Level of Service		D					D	A				A
Approach Delay (s)		47.6			0.0			6.0				4.6
Approach LOS		D			A			A				A

Intersection Summary			
HCM Average Control Delay	5.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	93.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	15
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	16
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	58	417	0	0	408	38	145	138	18	0	0	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				
Lane Util. Factor		0.95			0.95			0.95				
Frpb, ped/bikes		1.00			0.98			0.98				
Flpb, ped/bikes		0.98			1.00			0.85				
Frt		1.00			0.99			0.99				
Flt Protected		0.99			1.00			0.98				
Satd. Flow (prot)		2813			2775			2322				
Flt Permitted		0.84			1.00			0.98				
Satd. Flow (perm)		2390			2775			2322				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	62	444	0	0	434	40	154	147	19	0	0	0
RTOR Reduction (vph)	0	0	0	0	9	0	0	6	0	0	0	0
Lane Group Flow (vph)	0	506	0	0	465	0	0	314	0	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm					
Protected Phases		2			6			8				
Permitted Phases	2						8					
Actuated Green, G (s)		44.0			44.0			27.0				
Effective Green, g (s)		44.0			44.0			27.0				
Actuated g/C Ratio		0.55			0.55			0.34				
Clearance Time (s)		4.5			4.5			4.5				
Vehicle Extension (s)		3.0			3.0			3.0				
Lane Grp Cap (vph)		1315			1526			784				
v/s Ratio Prot					0.17							
v/s Ratio Perm		c0.21						0.14				
v/c Ratio		0.38			0.31			0.40				
Uniform Delay, d1		10.3			9.7			20.3				
Progression Factor		1.00			0.13			1.00				
Incremental Delay, d2		0.9			0.5			1.5				
Delay (s)		11.1			1.8			21.8				
Level of Service		B			A			C				
Approach Delay (s)		11.1			1.8			21.8			0.0	
Approach LOS		B			A			C			A	

Intersection Summary			
HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	93.1%	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												
Volume (vph)	0	276	161	34	376	0	0	0	0	15	249	71
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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.88			1.00						0.95	
Flpb, ped/bikes		1.00			0.99						0.99	
Frt		0.94			1.00						0.97	
Flt Protected		1.00			1.00						1.00	
Satd. Flow (prot)		2582			3058						2655	
Flt Permitted		1.00			0.88						1.00	
Satd. Flow (perm)		2582			2705						2655	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	297	173	37	404	0	0	0	0	16	268	76
RTOR Reduction (vph)	0	61	0	0	0	0	0	0	0	0	25	0
Lane Group Flow (vph)	0	409	0	0	441	0	0	0	0	0	335	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		20.9			20.9						50.1	
Effective Green, g (s)		20.9			20.9						50.1	
Actuated g/C Ratio		0.26			0.26						0.63	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		675			707						1663	
v/s Ratio Prot		0.16										
v/s Ratio Perm					c0.16						0.13	
v/c Ratio		0.61			0.62						0.20	
Uniform Delay, d1		25.9			26.1						6.4	
Progression Factor		0.62			1.00						1.00	
Incremental Delay, d2		1.5			1.7						0.3	
Delay (s)		17.5			27.8						6.7	
Level of Service		B			C						A	
Approach Delay (s)		17.5			27.8			0.0			6.7	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM Average Control Delay	18.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	83.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	52	245	369	1174	0	709	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.65	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		0.99	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	910	3016	3110		3049	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	910	3016	3110		3049	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	52	245	369	1174	0	709	30
RTOR Reduction (vph)	0	215	0	0	0	2	0
Lane Group Flow (vph)	52	30	369	1174	0	737	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	11.0	11.0	16.1	68.0		45.9	
Effective Green, g (s)	11.0	11.0	16.1	68.0		45.9	
Actuated g/C Ratio	0.12	0.12	0.18	0.76		0.51	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	190	111	540	2350		1555	
v/s Ratio Prot	c0.03		c0.12	c0.38		0.24	
v/s Ratio Perm		0.03					
v/c Ratio	0.27	0.27	0.68	0.50		0.47	
Uniform Delay, d1	35.9	35.9	34.6	4.3		14.2	
Progression Factor	1.00	1.00	1.00	1.00		1.16	
Incremental Delay, d2	0.8	1.3	3.6	0.8		1.0	
Delay (s)	36.7	37.2	38.1	5.1		17.5	
Level of Service	D	D	D	A		B	
Approach Delay (s)	37.1			13.0		17.5	
Approach LOS	D			B		B	

Intersection Summary			
HCM Average Control Delay	17.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	77.7%	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												
Volume (vph)	15	220	10	3	118	15	5	75	12	30	105	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
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.43		1.00	0.66		0.96			1.00	0.46
Flpb, ped/bikes		0.98	1.00		0.99	1.00		0.98			0.94	1.00
Frt		1.00	0.85		1.00	0.85		0.98			1.00	0.85
Flt Protected		1.00	1.00		1.00	1.00		1.00			0.99	1.00
Satd. Flow (prot)		1602	600		1620	917		1502			1525	643
Flt Permitted		0.98	1.00		1.00	1.00		0.98			0.92	1.00
Satd. Flow (perm)		1583	600		1615	917		1478			1414	643
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	16	234	11	3	126	16	5	80	13	32	112	5
RTOR Reduction (vph)	0	0	3	0	0	5	0	6	0	0	0	4
Lane Group Flow (vph)	0	250	8	0	129	11	0	92	0	0	144	1
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		41.0	41.0		41.0	41.0		10.0			10.0	10.0
Effective Green, g (s)		41.0	41.0		41.0	41.0		10.0			10.0	10.0
Actuated g/C Ratio		0.68	0.68		0.68	0.68		0.17			0.17	0.17
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)		1082	410		1104	627		246			236	107
v/s Ratio Prot												
v/s Ratio Perm		c0.16	0.01		0.08	0.01		0.06			c0.10	0.00
v/c Ratio		0.23	0.02		0.12	0.02		0.37			0.61	0.01
Uniform Delay, d1		3.6	3.0		3.3	3.0		22.2			23.2	20.9
Progression Factor		1.00	1.00		1.27	1.47		1.05			1.31	1.64
Incremental Delay, d2		0.1	0.0		0.2	0.1		0.9			4.6	0.0
Delay (s)		3.7	3.1		4.4	4.5		24.2			34.9	34.2
Level of Service		A	A		A	A		C			C	C
Approach Delay (s)		3.7			4.4			24.2			34.8	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	1810	30	290	200	40	60	20	10	10	10	190	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.35		0.64	1.00	0.95			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.74	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	559	3110	480		904	1555	1315			1148	1172
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.98	1.00
Satd. Flow (perm)	3110	559	3110	480		904	1555	1315			1180	1172
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	2034	34	326	225	45	67	22	11	11	11	213	22
RTOR Reduction (vph)	0	4	0	101	0	2	0	9	0	0	0	17
Lane Group Flow (vph)	2034	30	326	169	0	65	22	13	0	0	224	5
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	47.0	47.0	47.0	47.0		16.0	16.0	16.0			16.0	16.0
Effective Green, g (s)	47.0	47.0	47.0	47.0		16.0	16.0	16.0			16.0	16.0
Actuated g/C Ratio	0.63	0.63	0.63	0.63		0.21	0.21	0.21			0.21	0.21
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1949	350	1949	301		193	332	281			252	250
v/s Ratio Prot	c0.65		0.10									
v/s Ratio Perm		0.05		0.35		0.07	0.01	0.01			c0.19	0.00
v/c Ratio	1.04	0.08	0.17	0.56		0.34	0.07	0.05			0.89	0.02
Uniform Delay, d1	14.0	5.5	5.8	8.1		25.0	23.5	23.4			28.6	23.3
Progression Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	32.8	0.5	0.2	7.4		4.7	0.4	0.3			34.0	0.1
Delay (s)	46.8	6.0	6.0	15.5		29.7	23.9	23.8			62.6	23.4
Level of Service	D	A	A	B		C	C	C			E	C
Approach Delay (s)	46.2		10.3								59.1	
Approach LOS	D		B								E	

Intersection Summary			
HCM Average Control Delay	39.5	HCM Level of Service	D
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	86.4%	ICU Level of Service	E
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	1840	60	20	440	90	40
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1957	64	21	468	96	43

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	1305	716	177	312	138
Volume Left (vph)	0	0	21	0	96
Volume Right (vph)	0	64	0	0	43
Hadj (s)	0.02	-0.05	0.08	0.02	-0.03
Departure Headway (s)	5.7	5.6	6.7	6.6	6.6
Degree Utilization, x	2.06	1.12	0.33	0.57	0.25
Capacity (veh/h)	644	644	532	539	532
Control Delay (s)	495.9	93.7	11.7	16.9	11.8
Approach Delay (s)	353.4		15.0		11.8
Approach LOS	F		C		B

Intersection Summary			
Delay	273.0		
HCM Level of Service	F		
Intersection Capacity Utilization	78.9%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	1610	230	20	10	360	20	10	10	10	20	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4				5.4		4.0			5.0	5.0
Lane Util. Factor		0.95				0.95		1.00			1.00	1.00
Frpb, ped/bikes		0.92				0.98		0.78			1.00	0.55
Flpb, ped/bikes		1.00				1.00		1.00			1.00	1.00
Frt		0.98				0.99		0.86			1.00	0.85
Flt Protected		1.00				1.00		1.00			0.98	1.00
Satd. Flow (prot)		2631				3019		1106			1597	768
Flt Permitted		0.94				0.76		1.00			0.98	1.00
Satd. Flow (perm)		2480				2291		1106			1597	768
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	1750	250	22	11	391	22	11	11	11	22	22
RTOR Reduction (vph)	0	1	0	0	0	5	0	0	0	0	0	19
Lane Group Flow (vph)	0	2054	0	0	0	419	0	11	0	0	44	3
Confl. Peds. (#/hr)	400		400	400	400		400	400	400	400		400
Confl. Bikes (#/hr)			30	30			30	10				10
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm			Free	Split	Split		Perm
Protected Phases		2				6			4	4	4	
Permitted Phases	2				6			Free				4
Actuated Green, G (s)		41.6				41.6		75.0			9.0	9.0
Effective Green, g (s)		41.6				41.6		75.0			9.0	9.0
Actuated g/C Ratio		0.55				0.55		1.00			0.12	0.12
Clearance Time (s)		5.4				5.4					5.0	5.0
Lane Grp Cap (vph)		1376				1271		1106			192	92
v/s Ratio Prot											c0.03	
v/s Ratio Perm		c0.83				0.18		0.01				0.00
v/c Ratio		1.49				0.33		0.01			0.23	0.03
Uniform Delay, d1		16.7				9.1		0.0			29.9	29.1
Progression Factor		1.00				0.84		1.00			1.00	1.00
Incremental Delay, d2		225.7				0.7		0.0			2.8	0.6
Delay (s)		242.4				8.4		0.0			32.6	29.7
Level of Service		F				A		A			C	C
Approach Delay (s)		242.4				8.4					31.7	
Approach LOS		F				A					C	

Intersection Summary			
HCM Average Control Delay	189.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	123.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	NWL	NWR	NWR2
Lane Configurations			
Volume (vph)	90	20	10
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	5.0		5.0
Lane Util. Factor	0.97		1.00
Frpb, ped/bikes	0.86		0.55
Flpb, ped/bikes	1.00		1.00
Frt	0.97		0.85
Flt Protected	0.96		1.00
Satd. Flow (prot)	2560		768
Flt Permitted	0.96		1.00
Satd. Flow (perm)	2560		768
Peak-hour factor, PHF	0.92	0.92	0.92
Adj. Flow (vph)	98	22	11
RTOR Reduction (vph)	0	0	1
Lane Group Flow (vph)	120	0	10
Confl. Peds. (#/hr)	400	400	400
Confl. Bikes (#/hr)		10	10
Parking (#/hr)			
Turn Type			Perm
Protected Phases	8		
Permitted Phases			8
Actuated Green, G (s)	9.0		9.0
Effective Green, g (s)	9.0		9.0
Actuated g/C Ratio	0.12		0.12
Clearance Time (s)	5.0		5.0
Lane Grp Cap (vph)	307		92
v/s Ratio Prot	c0.05		
v/s Ratio Perm			0.01
v/c Ratio	0.39		0.11
Uniform Delay, d1	30.5		29.4
Progression Factor	1.00		1.00
Incremental Delay, d2	3.7		2.4
Delay (s)	34.2		31.8
Level of Service	C		C
Approach Delay (s)	34.0		
Approach LOS	C		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1600	30	10	340	60	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.99			1.00	0.89	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	1.00			1.00	0.95	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2888			3103	1344	
Flt Permitted	1.00			0.90	0.97	
Satd. Flow (perm)	2888			2791	1344	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1684	32	11	358	63	32
RTOR Reduction (vph)	2	0	0	0	2	0
Lane Group Flow (vph)	1714	0	0	369	93	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1733			1675	403	
v/s Ratio Prot	c0.59				c0.07	
v/s Ratio Perm				0.13		
v/c Ratio	0.99			0.22	0.23	
Uniform Delay, d1	14.8			6.9	19.7	
Progression Factor	0.09			1.00	1.00	
Incremental Delay, d2	4.5			0.3	1.3	
Delay (s)	5.8			7.2	21.1	
Level of Service	A			A	C	
Approach Delay (s)	5.8			7.2	21.1	
Approach LOS	A			A	C	

Intersection Summary			
HCM Average Control Delay	6.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	75.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	1590	10	10	330	10	10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1691	11	11	351	11	11

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	1128	574	128	234	21
Volume Left (vph)	0	0	11	0	11
Volume Right (vph)	0	11	0	0	11
Hadj (s)	0.02	0.00	0.06	0.02	-0.18
Departure Headway (s)	5.0	4.9	6.0	6.0	6.2
Degree Utilization, x	1.55	0.79	0.21	0.39	0.04
Capacity (veh/h)	722	718	580	589	559
Control Delay (s)	268.4	22.5	9.5	11.6	9.4
Approach Delay (s)	185.4		10.8		9.4
Approach LOS	F		B		A

Intersection Summary			
Delay	153.3		
HCM Level of Service	F		
Intersection Capacity Utilization	69.2%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR2
Lane Configurations												
Volume (vph)	10	1500	30	10	330	50	50	30	50	20	20	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5	5.5		5.5		5.5	5.5	5.5
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	1.00
Frpb, ped/bikes		0.99			1.00	0.66		0.87		1.00	1.00	0.65
Flpb, ped/bikes		1.00			1.00	1.00		0.88		0.74	0.98	1.00
Frt		1.00			1.00	0.85		0.95		1.00	1.00	0.85
Flt Protected		1.00			1.00	1.00		0.98		0.95	1.00	1.00
Satd. Flow (prot)		2859			3110	808		1012		1097	1512	911
Flt Permitted		0.95			1.00	1.00		0.88		0.67	0.98	1.00
Satd. Flow (perm)		2724			3110	808		908		774	1490	911
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)	10	1531	31	10	337	51	51	31	51	20	20	10
RTOR Reduction (vph)	0	0	0	0	0	4	0	5	0	0	0	8
Lane Group Flow (vph)	0	1582	0	0	337	47	0	129	0	18	22	3
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10	10		10			10			10
Parking (#/hr)		5	5	5		5	5	5	5			
Turn Type	Perm					Perm	Perm			Perm		Perm
Protected Phases		2			6			8			4	
Permitted Phases	2				6	6	8			4		4
Actuated Green, G (s)		56.5			56.5	56.5		22.5		22.5	22.5	22.5
Effective Green, g (s)		56.5			56.5	56.5		22.5		22.5	22.5	22.5
Actuated g/C Ratio		0.63			0.63	0.63		0.25		0.25	0.25	0.25
Clearance Time (s)		5.5			5.5	5.5		5.5		5.5	5.5	5.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		1710			1952	507		227		194	373	228
v/s Ratio Prot					0.11							
v/s Ratio Perm		c0.58				0.06		c0.14		0.02	0.01	0.00
v/c Ratio		0.92			0.17	0.09		0.57		0.09	0.06	0.01
Uniform Delay, d1		14.9			7.0	6.6		29.5		25.9	25.7	25.4
Progression Factor		1.00			0.58	0.51		1.00		1.00	1.00	1.00
Incremental Delay, d2		10.0			0.2	0.4		9.8		0.2	0.1	0.0
Delay (s)		24.9			4.2	3.7		39.3		26.1	25.8	25.4
Level of Service		C			A	A		D		C	C	C
Approach Delay (s)		24.9			4.2			39.3			25.8	
Approach LOS		C			A			D			C	

Intersection Summary			
HCM Average Control Delay	21.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	127.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	NER2
Lane Configurations	
Volume (vph)	30
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.78
Flpb, ped/bikes	1.00
Frt	0.86
Flt Protected	1.00
Satd. Flow (prot)	967
Flt Permitted	1.00
Satd. Flow (perm)	967
Peak-hour factor, PHF	0.98
Adj. Flow (vph)	31
RTOR Reduction (vph)	0
Lane Group Flow (vph)	31
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	10
Parking (#/hr)	5
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Actuated Green, G (s)	90.0
Effective Green, g (s)	90.0
Actuated g/C Ratio	1.00
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	967
v/s Ratio Prot	
v/s Ratio Perm	0.03
v/c Ratio	0.03
Uniform Delay, d1	0.0
Progression Factor	1.00
Incremental Delay, d2	0.1
Delay (s)	0.1
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	1560	0	0	390	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1677	0	0	419	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	1677	0	0	419	0
Confl. Peds. (#/hr)						
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		76.0			76.0	
Effective Green, g (s)		76.0			76.0	
Actuated g/C Ratio		0.84			0.84	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		2067			2547	
v/s Ratio Prot		c0.68			0.14	
v/s Ratio Perm						
v/c Ratio		0.81			0.16	
Uniform Delay, d1		3.5			1.3	
Progression Factor		1.22			1.12	
Incremental Delay, d2		1.8			0.1	
Delay (s)		6.0			1.6	
Level of Service		A			A	
Approach Delay (s)	6.0			0.0	1.6	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	5.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
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												
Volume (vph)	10	370	90	80	200	10	80	90	230	30	100	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.88		1.00	0.97			1.00	0.62		1.00	0.37
Flpb, ped/bikes		0.99		0.74	1.00			0.76	1.00		0.93	1.00
Frt		0.97		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.99	1.00
Satd. Flow (prot)		2618		1153	1376			1030	844		1507	508
Flt Permitted		0.95		0.36	1.00			0.82	1.00		0.92	1.00
Satd. Flow (perm)		2480		435	1376			865	844		1401	508
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)	11	389	95	84	211	11	84	95	242	32	105	21
RTOR Reduction (vph)	0	27	0	0	2	0	0	0	6	0	0	8
Lane Group Flow (vph)	0	468	0	84	220	0	0	179	236	0	137	13
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		23.8		23.8	23.8			56.2	56.2		56.2	56.2
Effective Green, g (s)		23.8		23.8	23.8			56.2	56.2		56.2	56.2
Actuated g/C Ratio		0.26		0.26	0.26			0.62	0.62		0.62	0.62
Clearance Time (s)		5.5		5.5	5.5			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)		656		115	364			540	527		875	317
v/s Ratio Prot					0.16							
v/s Ratio Perm		0.19		c0.19				0.21	c0.28		0.10	0.03
v/c Ratio		0.71		0.73	0.60			0.33	0.45		0.16	0.04
Uniform Delay, d1		30.0		30.2	29.0			8.0	8.8		7.0	6.5
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		3.7		21.0	2.8			1.6	2.7		0.4	0.2
Delay (s)		33.7		51.2	31.8			9.6	11.6		7.4	6.8
Level of Service		C		D	C			A	B		A	A
Approach Delay (s)		33.7			37.1			10.7			7.3	
Approach LOS		C			D			B			A	

Intersection Summary			
HCM Average Control Delay	24.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	67.2%	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												
Volume (vph)	0	450	110	20	180	430	90	0	40	1390	110	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.98			1.00	0.96		0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		0.99		1.00	1.00	
Frt		0.97			1.00	0.85		0.96		1.00	1.00	
Flt Protected		1.00			0.99	1.00		0.97		0.95	0.96	
Satd. Flow (prot)		2786			1622	2362		1308		1477	1488	
Flt Permitted		1.00			0.65	1.00		0.19		0.67	0.67	
Satd. Flow (perm)		2786			1054	2362		262		1044	1038	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	464	113	21	186	443	93	0	41	1433	113	10
RTOR Reduction (vph)	0	24	0	0	0	0	0	16	0	0	1	0
Lane Group Flow (vph)	0	553	0	0	207	443	0	118	0	774	782	0
Confl. Peds. (#/hr)	50			50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		17.0			17.0	65.5		17.5		45.0	45.0	
Effective Green, g (s)		17.0			17.0	65.5		17.5		45.0	45.0	
Actuated g/C Ratio		0.19			0.19	0.73		0.19		0.50	0.50	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		526			199	1719		51		522	519	
v/s Ratio Prot		c0.20										
v/s Ratio Perm					0.20	0.19		c0.45		0.74	c0.75	
v/c Ratio		1.05			1.04	0.26		2.31		1.48	1.51	
Uniform Delay, d1		36.5			36.5	4.1		36.2		22.5	22.5	
Progression Factor		1.00			1.00	1.00		1.00		0.89	0.89	
Incremental Delay, d2		53.7			74.7	0.4		646.9		224.0	234.2	
Delay (s)		90.2			111.2	4.5		683.2		244.1	254.3	
Level of Service		F			F	A		F		F	F	
Approach Delay (s)		90.2			38.5			683.2			249.2	
Approach LOS		F			D			F			F	

Intersection Summary			
HCM Average Control Delay	190.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	88.8%	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												
Volume (vph)	20	1460	30	60	520	20	110	60	280	30	30	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Lane Util. Factor		0.95			0.95	1.00		0.95			1.00	1.00
Frpb, ped/bikes		0.99			1.00	0.62		0.76			1.00	0.62
Flpb, ped/bikes		1.00			1.00	1.00		0.92			0.92	1.00
Frt		1.00			1.00	0.85		0.91			1.00	0.85
Flt Protected		1.00			0.99	1.00		0.99			0.98	1.00
Satd. Flow (prot)		3069			3094	754		1822			1470	860
Flt Permitted		0.94			0.64	1.00		0.86			0.75	1.00
Satd. Flow (perm)		2897			1994	754		1582			1133	860
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	21	1521	31	62	542	21	115	62	292	31	31	31
RTOR Reduction (vph)	0	2	0	0	0	9	0	3	0	0	0	20
Lane Group Flow (vph)	0	1571	0	0	604	12	0	466	0	0	62	11
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Actuated Green, G (s)		52.3			52.3	52.3		30.7			30.7	30.7
Effective Green, g (s)		52.3			52.3	52.3		30.7			30.7	30.7
Actuated g/C Ratio		0.58			0.58	0.58		0.34			0.34	0.34
Clearance Time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)		1683			1159	438		540			386	293
v/s Ratio Prot												
v/s Ratio Perm		c0.54			0.30	0.02		c0.29			0.05	0.01
v/c Ratio		0.93			0.86dl	0.03		0.98dr			0.16	0.04
Uniform Delay, d1		17.3			11.3	8.0		27.7			20.7	19.8
Progression Factor		1.00			0.48	0.27		1.00			1.00	1.00
Incremental Delay, d2		10.0			0.4	0.0		16.6			0.9	0.2
Delay (s)		27.3			5.8	2.2		44.3			21.6	20.0
Level of Service		C			A	A		D			C	C
Approach Delay (s)		27.3			5.7			44.3			21.0	
Approach LOS		C			A			D			C	

Intersection Summary			
HCM Average Control Delay	25.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	106.1%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	1590	150	0	470	30	70	280	210	10	140	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.95		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.80		0.99		1.00	0.84			0.88	
Flpb, ped/bikes		1.00	1.00		1.00		0.74	1.00			0.99	
Frt		1.00	0.85		0.99		1.00	0.94			0.95	
Flt Protected		1.00	1.00		1.00		0.95	1.00			1.00	
Satd. Flow (prot)		3104	974		3045		1155	3531			3728	
Flt Permitted		0.95	1.00		1.00		0.60	1.00			0.91	
Satd. Flow (perm)		2935	974		3045		733	3531			3402	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	21	1656	156	0	490	31	73	292	219	10	146	73
RTOR Reduction (vph)	0	0	1	0	0	0	0	5	0	0	56	0
Lane Group Flow (vph)	0	1677	155	0	521	0	73	506	0	0	173	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm				Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4				2			6		
Actuated Green, G (s)		59.5	59.5		59.5		20.5	20.5			20.5	
Effective Green, g (s)		59.5	59.5		59.5		20.5	20.5			20.5	
Actuated g/C Ratio		0.66	0.66		0.66		0.23	0.23			0.23	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1940	644		2013		167	804			775	
v/s Ratio Prot					0.17			c0.14				
v/s Ratio Perm		c0.57	0.16				0.10				0.05	
v/c Ratio		0.86	0.24		0.26		0.44	0.63			0.22	
Uniform Delay, d1		12.1	6.1		6.2		29.8	31.3			28.3	
Progression Factor		0.32	0.44		1.89		1.00	1.00			1.00	
Incremental Delay, d2		1.8	0.1		0.1		8.1	3.7			0.7	
Delay (s)		5.6	2.8		11.8		37.9	35.0			28.9	
Level of Service		A	A		B		D	D			C	
Approach Delay (s)		5.4			11.8			35.4			28.9	
Approach LOS		A			B			D			C	

Intersection Summary			
HCM Average Control Delay	13.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	108.7%	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												
Volume (vph)	0	2510	220	0	1490	60	140	130	40	90	110	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.97			0.99		1.00	0.92		1.00	0.91	
Flpb, ped/bikes		1.00			1.00		0.74	1.00		0.76	1.00	
Frt		0.99			0.99		1.00	0.96		1.00	0.96	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4285			4197		1157	1458		1175	1255	
Flt Permitted		1.00			1.00		0.65	1.00		0.62	1.00	
Satd. Flow (perm)		4285			4197		793	1458		764	1255	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	2588	227	0	1536	62	144	134	41	93	113	41
RTOR Reduction (vph)	0	8	0	0	5	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	2807	0	0	1593	0	144	175	0	93	151	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2476			2425		242	446		233	383	
v/s Ratio Prot		c0.66			0.38			0.12			0.12	
v/s Ratio Perm							c0.18			0.12		
v/c Ratio		1.13			0.66		0.60	0.39		0.40	0.39	
Uniform Delay, d1		19.0			12.9		26.5	24.7		24.7	24.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		65.8			1.4		10.3	2.6		5.0	3.0	
Delay (s)		84.8			14.3		36.9	27.2		29.8	27.7	
Level of Service		F			B		D	C		C	C	
Approach Delay (s)		84.8			14.3			31.6			28.5	
Approach LOS		F			B			C			C	

Intersection Summary			
HCM Average Control Delay	56.0	HCM Level of Service	E
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	104.9%	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												
Volume (vph)	0	2450	110	0	1320	70	90	130	60	90	130	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			1.00	
Frpb, ped/bikes		0.98			0.98		1.00	0.90			0.95	
Flpb, ped/bikes		1.00			1.00		0.82	1.00			0.92	
Frt		0.99			0.99		1.00	0.95			0.98	
Flt Protected		1.00			1.00		0.95	1.00			0.98	
Satd. Flow (prot)		4371			4355		1280	1397			1378	
Flt Permitted		1.00			1.00		0.52	1.00			0.74	
Satd. Flow (perm)		4371			4355		695	1397			1041	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	2663	120	0	1435	76	98	141	65	98	141	43
RTOR Reduction (vph)	0	5	0	0	6	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	2778	0	0	1505	0	98	206	0	0	278	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2589			2579		208	418			311	
v/s Ratio Prot		c0.64			0.35			0.15				
v/s Ratio Perm							0.14				c0.27	
v/c Ratio		1.07			0.58		0.47	0.49			0.89	
Uniform Delay, d1		18.4			11.4		25.7	25.9			30.2	
Progression Factor		1.00			1.62		1.00	1.00			1.00	
Incremental Delay, d2		41.0			0.8		7.5	4.1			29.9	
Delay (s)		59.3			19.4		33.2	30.1			60.0	
Level of Service		E			B		C	C			E	
Approach Delay (s)		59.3			19.4			31.1			60.0	
Approach LOS		E			B			C			E	

Intersection Summary			
HCM Average Control Delay	45.2	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	113.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	2150	200	0	1350	50	80	80	30	50	150	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.97			0.99			0.95			0.96	
Flpb, ped/bikes		1.00			1.00			0.92			0.95	
Frt		0.99			0.99			0.98			0.98	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		4101			4206			1196			1271	
Flt Permitted		1.00			1.00			0.73			0.90	
Satd. Flow (perm)		4101			4206			894			1157	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	2287	213	0	1436	53	85	85	32	53	160	32
RTOR Reduction (vph)	0	6	0	0	4	0	0	1	0	0	4	0
Lane Group Flow (vph)	0	2494	0	0	1485	0	0	201	0	0	241	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2461			2524			268			347	
v/s Ratio Prot		c0.61			0.35							
v/s Ratio Perm								c0.23			0.21	
v/c Ratio		1.01			0.59			0.75			0.69	
Uniform Delay, d1		18.0			11.1			28.5			27.8	
Progression Factor		0.13			1.00			1.00			1.00	
Incremental Delay, d2		9.3			1.0			17.5			10.9	
Delay (s)		11.6			12.1			46.0			38.7	
Level of Service		B			B			D			D	
Approach Delay (s)		11.6			12.1			46.0			38.7	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	14.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	82.1%	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		↑↑↑			↑↑↑		↰	↕				↱
Volume (vph)	0	1750	0	0	570	30	870	450	50	0	0	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.98		1.00	0.98				0.97
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.98				1.00
Satd. Flow (prot)		4282			4360		1415	2659				1373
Flt Permitted		1.00			1.00		0.95	0.98				1.00
Satd. Flow (perm)		4282			4360		1415	2659				1373
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	1842	0	0	600	32	916	474	53	0	0	63
RTOR Reduction (vph)	0	0	0	0	7	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	1842	0	0	625	0	476	963	0	0	0	63
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		44.0			30.0		36.0	36.0				11.0
Effective Green, g (s)		44.0			30.0		36.0	36.0				11.0
Actuated g/C Ratio		0.49			0.33		0.40	0.40				0.12
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		2093			1453		566	1064				168
v/s Ratio Prot		c0.43			0.14							
v/s Ratio Perm							0.34	0.36				0.05
v/c Ratio		0.88			0.43		0.84	0.91				0.38
Uniform Delay, d1		20.6			23.3		24.4	25.4				36.3
Progression Factor		1.00			0.30		1.00	1.00				1.00
Incremental Delay, d2		5.7			0.8		14.1	12.5				6.3
Delay (s)		26.3			7.8		38.5	37.9				42.6
Level of Service		C			A		D	D				D
Approach Delay (s)		26.3			7.8			38.1			42.6	
Approach LOS		C			A			D			D	

Intersection Summary			
HCM Average Control Delay	27.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	75.4%	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												
Volume (vph)	280	240	1390	0	120	30	400	280	40	0	430	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		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.93		1.00	0.94			1.00	0.67
Flpb, ped/bikes		0.86	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.97		1.00	0.98			1.00	0.85
Flt Protected		0.97	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1372	2448		1265		4385	1319			3110	815
Flt Permitted		0.75	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		1050	2448		1265		4385	1319			3110	815
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	292	250	1448	0	125	31	417	292	42	0	448	52
RTOR Reduction (vph)	0	0	2	0	10	0	0	6	0	0	0	37
Lane Group Flow (vph)	0	542	1446	0	146	0	417	328	0	0	448	15
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		40.5	55.5		40.5		11.5	41.5			26.5	26.5
Effective Green, g (s)		40.5	52.0		40.5		11.5	41.5			26.5	26.5
Actuated g/C Ratio		0.45	0.58		0.45		0.13	0.46			0.29	0.29
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		473	1414		569		560	608			916	240
v/s Ratio Prot			c0.59		0.12		0.10	c0.25			0.14	
v/s Ratio Perm		c0.52										0.02
v/c Ratio		1.15	1.02		0.26		0.74	0.54			0.49	0.06
Uniform Delay, d1		24.8	19.0		15.4		37.8	17.4			26.2	22.8
Progression Factor		0.23	0.60		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		78.5	23.2		0.2		8.7	3.4			1.9	0.5
Delay (s)		84.2	34.5		15.6		46.5	20.8			28.0	23.3
Level of Service		F	C		B		D	C			C	C
Approach Delay (s)		48.1			15.6			35.1			27.5	
Approach LOS		D			B			D			C	

Intersection Summary			
HCM Average Control Delay	40.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	99.2%	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												
Volume (vph)	0	0	0	30	100	50	20	40	0	0	50	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.70		1.00			0.98	
Flpb, ped/bikes					0.95	1.00		0.99			1.00	
Frt					1.00	0.85		1.00			0.96	
Flt Protected					0.99	1.00		0.98			1.00	
Satd. Flow (prot)					2744	954		1589			1548	
Flt Permitted					0.99	1.00		0.91			1.00	
Satd. Flow (perm)					2744	954		1471			1548	
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	0	0	0	38	128	64	26	51	0	0	64	26
RTOR Reduction (vph)	0	0	0	0	0	36	0	0	0	0	16	0
Lane Group Flow (vph)	0	0	0	0	166	28	0	77	0	0	74	0
Confl. Peds. (#/hr)				154		203	51					51
Confl. Bikes (#/hr)						14						3
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					26.0	26.0		24.0			24.0	
Effective Green, g (s)					26.0	26.0		24.0			24.0	
Actuated g/C Ratio					0.43	0.43		0.40			0.40	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1189	413		588			619	
v/s Ratio Prot											0.05	
v/s Ratio Perm					0.06	0.03		c0.05				
v/c Ratio					0.14	0.07		0.13			0.12	
Uniform Delay, d1					10.3	9.9		11.4			11.3	
Progression Factor					1.00	1.00		0.97			1.00	
Incremental Delay, d2					0.2	0.3		0.5			0.4	
Delay (s)					10.5	10.2		11.5			11.7	
Level of Service					B	B		B			B	
Approach Delay (s)		0.0			10.4			11.5			11.7	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	10.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.14		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	45.0%	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												
Volume (vph)	0	0	0	30	120	10	20	10	0	0	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.98		1.00	1.00			0.92	
Flpb, ped/bikes				1.00	1.00		0.85	1.00			1.00	
Frt				1.00	0.99		1.00	1.00			0.93	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	3007		1314	1637			1397	
Flt Permitted				0.95	1.00		0.74	1.00			1.00	
Satd. Flow (perm)				1555	3007		1024	1637			1397	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	0	0	0	39	156	13	26	13	0	0	13	13
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	39	165	0	26	13	0	0	26	0
Confl. Peds. (#/hr)						369	74					74
Confl. Bikes (#/hr)						16			1			
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				42.4	42.4		8.3	8.3			8.3	
Effective Green, g (s)				42.4	42.4		8.3	8.3			8.3	
Actuated g/C Ratio				0.71	0.71		0.14	0.14			0.14	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				1099	2125		142	226			193	
v/s Ratio Prot				0.03	c0.05			0.01			0.02	
v/s Ratio Perm							c0.03					
v/c Ratio				0.04	0.08		0.18	0.06			0.13	
Uniform Delay, d1				2.6	2.7		22.9	22.5			22.7	
Progression Factor				1.00	1.00		0.83	0.82			1.00	
Incremental Delay, d2				0.1	0.1		2.8	0.5			1.4	
Delay (s)				2.7	2.8		21.7	18.9			24.1	
Level of Service				A	A		C	B			C	
Approach Delay (s)		0.0			2.8			20.8			24.1	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	7.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.10		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	130	40	10	70	40	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	135	42	10	73	42	10
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	291					
pX, platoon unblocked						
vC, conflicting volume			577		1050	889
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			577		1050	889
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		61	93
cM capacity (veh/h)			694		106	139

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	90	87	83	52
Volume Left	0	0	10	42
Volume Right	0	42	0	10
cSH	1700	1700	694	112
Volume to Capacity	0.05	0.05	0.02	0.47
Queue Length 95th (ft)	0	0	1	51
Control Delay (s)	0.0	0.0	1.4	62.7
Lane LOS			A	F
Approach Delay (s)	0.0		1.4	62.7
Approach LOS				F

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												
Volume (vph)	20	140	20	10	100	10	10	30	20	20	50	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	
Lane Util. Factor		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.57		0.97			0.82			0.88	
Flpb, ped/bikes		0.96	1.00		0.97			0.93			0.90	
Frt		1.00	0.85		0.99			0.95			0.97	
Flt Protected		0.99	1.00		1.00			0.99			0.99	
Satd. Flow (prot)		1557	793		1327			1036			1087	
Flt Permitted		0.96	1.00		0.98			0.96			0.94	
Satd. Flow (perm)		1510	793		1304			1006			1038	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	23	161	23	11	115	11	11	34	23	23	57	23
RTOR Reduction (vph)	0	0	12	0	5	0	0	15	0	0	15	0
Lane Group Flow (vph)	0	184	11	0	132	0	0	53	0	0	88	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4			4		
Actuated Green, G (s)		29.0	29.0		29.0			22.0			22.0	
Effective Green, g (s)		29.0	29.0		29.0			22.0			22.0	
Actuated g/C Ratio		0.48	0.48		0.48			0.37			0.37	
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)		730	383		630			369			381	
v/s Ratio Prot												
v/s Ratio Perm		c0.12	0.01		0.10			0.05			c0.09	
v/c Ratio		0.25	0.03		0.21			0.14			0.23	
Uniform Delay, d1		9.1	8.1		8.9			12.7			13.2	
Progression Factor		1.00	1.00		1.00			1.00			0.84	
Incremental Delay, d2		0.8	0.1		0.8			0.8			1.4	
Delay (s)		9.9	8.3		9.7			13.5			12.5	
Level of Service		A	A		A			B			B	
Approach Delay (s)		9.8			9.7			13.5			12.5	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	10.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	77.9%	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												
Volume (vph)	0	170	20	20	170	0	10	0	20	10	10	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
Lane Util. Factor		1.00	1.00		0.95			1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.42		1.00			0.63			1.00	0.67
Flpb, ped/bikes		1.00	1.00		0.96			0.90			0.74	1.00
Frt		1.00	0.85		1.00			0.91			1.00	0.85
Flt Protected		1.00	1.00		0.99			0.98			0.98	1.00
Satd. Flow (prot)		1637	571		2957			832			1189	933
Flt Permitted		1.00	1.00		0.91			0.95			0.93	1.00
Satd. Flow (perm)		1637	571		2709			806			1134	933
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	0	200	24	24	200	0	12	0	24	12	12	12
RTOR Reduction (vph)	0	0	18	0	0	0	0	1	0	0	0	5
Lane Group Flow (vph)	0	200	6	0	224	0	0	35	0	0	24	7
Confl. Peds. (#/hr)			400	400			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	36.5
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	36.5
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	0.61
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)		396	138		655			490			690	568
v/s Ratio Prot		c0.12										
v/s Ratio Perm			0.01		0.08			c0.04			0.02	0.01
v/c Ratio		0.51	0.04		0.34			0.07			0.03	0.01
Uniform Delay, d1		19.7	17.4		18.8			4.8			4.7	4.6
Progression Factor		0.83	0.70		1.00			1.00			1.00	1.00
Incremental Delay, d2		4.5	0.6		1.4			0.3			0.0	0.0
Delay (s)		20.9	12.8		20.2			5.1			4.7	4.6
Level of Service		C	B		C			A			A	A
Approach Delay (s)		20.0			20.2			5.1			4.7	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	18.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.19		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	160	10	10	20	20	0	190	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		0.83		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		0.93		1.00			1.00
Flt Protected		1.00		0.98		1.00			0.97
Satd. Flow (prot)		942		1079		1637			3014
Flt Permitted		1.00		0.98		1.00			0.95
Satd. Flow (perm)		942		1079		1637			2970
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	184	11	11	23	23	0	218	126
RTOR Reduction (vph)	0	0	0	16	0	0	0	0	0
Lane Group Flow (vph)	0	184	0	29	0	23	0	0	344
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		306		314			891
v/s Ratio Prot						0.01			
v/s Ratio Perm		c0.20		0.03					c0.12
v/c Ratio		0.35		0.09		0.07			0.39
Uniform Delay, d1		7.3		15.8		19.9			16.6
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		1.8		0.6		0.1			1.3
Delay (s)		9.1		16.4		20.0			17.9
Level of Service		A		B		B			B
Approach Delay (s)	9.1			16.4		20.0			17.9
Approach LOS	A			B		B			B

Intersection Summary			
HCM Average Control Delay	15.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	55.9%	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												
Volume (vph)	30	240	40	40	130	40	30	80	20	20	60	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.97			1.00	0.59	1.00	0.88			0.88	
Flpb, ped/bikes		0.97			1.00	1.00	0.52	1.00			0.91	
Frt		0.98			1.00	0.85	1.00	0.97			0.97	
Flt Protected		1.00			0.99	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1317			1415	722	815	1225			2385	
Flt Permitted		0.96			0.87	1.00	0.68	1.00			0.88	
Satd. Flow (perm)		1273			1249	722	585	1225			2119	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	34	270	45	45	146	45	34	90	22	22	67	22
RTOR Reduction (vph)	0	4	0	0	0	3	0	12	0	0	0	0
Lane Group Flow (vph)	0	345	0	0	191	42	34	100	0	0	111	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		68.6			68.6	68.6	11.3	11.3			11.3	
Effective Green, g (s)		68.6			68.6	68.6	11.3	11.3			11.3	
Actuated g/C Ratio		0.76			0.76	0.76	0.13	0.13			0.13	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		970			952	550	73	154			266	
v/s Ratio Prot								c0.08				
v/s Ratio Perm		c0.27			0.15	0.06	0.06				0.05	
v/c Ratio		0.36			0.20	0.08	0.47	0.65			0.42	
Uniform Delay, d1		3.5			3.0	2.7	36.5	37.5			36.3	
Progression Factor		1.00			1.00	1.00	0.63	0.67			1.00	
Incremental Delay, d2		1.0			0.5	0.3	4.6	9.0			1.1	
Delay (s)		4.5			3.5	3.0	27.5	34.1			37.4	
Level of Service		A			A	A	C	C			D	
Approach Delay (s)		4.5			3.4			32.6			37.4	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM Average Control Delay	13.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	110.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Volume (vph)	20	230	40	10	130	10	10	40	30	30	30	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.96			0.98			0.77			0.84	
Flpb, ped/bikes		0.98			0.99			0.94			0.82	
Frt		0.98			0.99			0.95			0.97	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		1319			1368			981			942	
Flt Permitted		0.98			0.98			0.96			0.87	
Satd. Flow (perm)		1293			1339			952			838	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	24	271	47	12	153	12	12	47	35	35	35	24
RTOR Reduction (vph)	0	1	0	0	1	0	0	24	0	0	13	0
Lane Group Flow (vph)	0	341	0	0	176	0	0	70	0	0	81	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.6			62.6			18.6			18.6	
Effective Green, g (s)		62.6			62.6			18.6			18.6	
Actuated g/C Ratio		0.70			0.70			0.21			0.21	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		899			931			197			173	
v/s Ratio Prot												
v/s Ratio Perm		c0.26			0.13			0.07			c0.10	
v/c Ratio		0.38			0.19			0.36			0.47	
Uniform Delay, d1		5.7			4.8			30.6			31.3	
Progression Factor		1.00			1.00			0.74			1.00	
Incremental Delay, d2		1.2			0.4			4.1			8.7	
Delay (s)		6.9			5.3			26.8			40.1	
Level of Service		A			A			C			D	
Approach Delay (s)		6.9			5.3			26.8			40.1	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM Average Control Delay	13.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	20	230	60	20	100	10	20	30	90	10	30	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.93			1.00	0.66		0.64			0.89	
Flpb, ped/bikes		0.98			0.97	1.00		0.93			0.92	
Frt		0.97			1.00	0.85		0.91			0.97	
Flt Protected		1.00			0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1276			1375	802		774			1130	
Flt Permitted		0.98			0.93	1.00		0.96			0.95	
Satd. Flow (perm)		1256			1288	802		750			1081	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	250	65	22	109	11	22	33	98	11	33	11
RTOR Reduction (vph)	0	7	0	0	0	4	0	71	0	0	8	0
Lane Group Flow (vph)	0	330	0	0	131	7	0	82	0	0	47	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		57.0			57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0			57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63			0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		795			816	508		208			300	
v/s Ratio Prot												
v/s Ratio Perm		c0.26			0.10	0.01		c0.11			0.04	
v/c Ratio		0.42			0.16	0.01		0.40			0.16	
Uniform Delay, d1		8.2			6.7	6.1		26.4			24.5	
Progression Factor		1.00			0.77	0.60		0.90			1.00	
Incremental Delay, d2		1.6			0.4	0.0		4.6			1.1	
Delay (s)		9.8			5.6	3.7		28.3			25.7	
Level of Service		A			A	A		C			C	
Approach Delay (s)		9.8			5.5			28.3			25.7	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	14.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	230	70	10	110	10	40	70	40	10	30	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.66		1.00	0.66		0.85			0.81	
Flpb, ped/bikes		0.97	1.00		0.98	1.00		0.87			0.94	
Frt		1.00	0.85		1.00	0.85		0.96			0.95	
Flt Protected		0.99	1.00		1.00	1.00		0.99			0.99	
Satd. Flow (prot)		1381	786		1402	786		1011			1182	
Flt Permitted		0.96	1.00		0.97	1.00		0.92			0.95	
Satd. Flow (perm)		1337	786		1371	786		938			1137	
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)	33	256	78	11	122	11	44	78	44	11	33	22
RTOR Reduction (vph)	0	0	7	0	0	4	0	14	0	0	16	0
Lane Group Flow (vph)	0	289	71	0	133	7	0	152	0	0	50	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63	0.63		0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		847	498		868	498		261			316	
v/s Ratio Prot												
v/s Ratio Perm		c0.22	0.09		0.10	0.01		c0.16			0.04	
v/c Ratio		0.34	0.14		0.15	0.01		0.58			0.16	
Uniform Delay, d1		7.7	6.7		6.7	6.1		28.0			24.6	
Progression Factor		0.70	0.65		1.00	1.00		0.66			1.00	
Incremental Delay, d2		1.0	0.6		0.4	0.1		5.7			1.1	
Delay (s)		6.4	4.9		7.1	6.2		24.1			25.6	
Level of Service		A	A		A	A		C			C	
Approach Delay (s)		6.1			7.0			24.1			25.6	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	12.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations										
Volume (vph)	10	250	30	30	10	20	170	20	180	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				5.0		5.0		5.0	5.0
Lane Util. Factor	1.00				1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.88				0.88		0.93		1.00	1.00
Flpb, ped/bikes	1.00				0.70		1.00		1.00	1.00
Frt	0.87				0.95		0.98		1.00	1.00
Flt Protected	1.00				0.97		1.00		0.95	1.00
Satd. Flow (prot)	1256				927		2854		1555	3110
Flt Permitted	1.00				0.97		1.00		0.95	1.00
Satd. Flow (perm)	1256				927		2854		1555	3110
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	250	30	30	10	20	170	20	180	290
RTOR Reduction (vph)	5	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	285	0	0	0	60	0	190	0	180	290
Confl. Peds. (#/hr)				400	400	400		400		
Confl. Bikes (#/hr)		30	30			10		30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0
Turn Type				Perm					Split	
Protected Phases	4				3		6		2	2
Permitted Phases				3						
Actuated Green, G (s)	20.0				20.0		17.0		13.0	13.0
Effective Green, g (s)	20.0				20.0		17.0		13.0	13.0
Actuated g/C Ratio	0.22				0.22		0.19		0.14	0.14
Clearance Time (s)	5.0				5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	279				206		539		225	449
v/s Ratio Prot	c0.23						c0.07		c0.12	0.09
v/s Ratio Perm					0.06					
v/c Ratio	1.02				0.29		0.35		0.80	0.65
Uniform Delay, d1	35.0				29.1		31.7		37.2	36.3
Progression Factor	1.00				0.83		1.00		0.84	0.85
Incremental Delay, d2	59.8				0.7		1.8		24.6	6.9
Delay (s)	94.8				24.8		33.5		56.0	37.6
Level of Service	F				C		C		E	D
Approach Delay (s)	94.8				24.8		33.5			44.6
Approach LOS	F				C		C			D

Intersection Summary			
HCM Average Control Delay	55.8	HCM Level of Service	E
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	78.4%	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												
Volume (vph)	0	1810	40	0	850	10	0	20	50	0	50	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			1.00			0.73			0.94	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.90			0.98	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2887			2900			943			1309	
Flt Permitted		1.00			1.00			1.00			1.00	
Satd. Flow (perm)		2887			2900			943			1309	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1967	43	0	924	11	0	22	54	0	54	11
RTOR Reduction (vph)	0	0	0	0	0	0	0	4	0	0	9	0
Lane Group Flow (vph)	0	2010	0	0	935	0	0	72	0	0	56	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type												
Protected Phases		2			6			8			4	
Permitted Phases												
Actuated Green, G (s)		70.6			70.6			10.6			10.6	
Effective Green, g (s)		70.6			70.6			10.6			10.6	
Actuated g/C Ratio		0.78			0.78			0.12			0.12	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2265			2275			111			154	
v/s Ratio Prot		c0.70			0.32			c0.08			0.04	
v/s Ratio Perm												
v/c Ratio		0.89			0.41			0.64			0.36	
Uniform Delay, d1		6.9			3.1			37.9			36.6	
Progression Factor		0.31			1.00			1.00			1.00	
Incremental Delay, d2		3.6			0.1			12.2			1.5	
Delay (s)		5.7			3.2			50.1			38.1	
Level of Service		A			A			D			D	
Approach Delay (s)		5.7			3.2			50.1			38.1	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	6.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	78.4%	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												
Volume (vph)	10	1530	390	40	560	30	120	80	70	0	120	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.77		1.00	0.77	1.00	1.00	0.67		0.97	
Flpb, ped/bikes		1.00	1.00		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	0.85		0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3109	1077		3099	1077	3016	1637	933		2800	
Flt Permitted		0.95	1.00		0.77	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		2958	1077		2393	1077	3016	1637	933		2800	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	10	1577	402	41	577	31	124	82	72	0	124	10
RTOR Reduction (vph)	0	0	61	0	0	9	0	0	2	0	7	0
Lane Group Flow (vph)	0	1587	341	0	618	22	124	82	70	0	127	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type	Perm		Perm	Perm		Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		60.0	60.0		60.0	60.0	7.1	21.0	21.0		9.4	
Effective Green, g (s)		60.0	60.0		60.0	60.0	7.1	21.0	21.0		9.4	
Actuated g/C Ratio		0.67	0.67		0.67	0.67	0.08	0.23	0.23		0.10	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		1972	718		1595	718	238	382	218		292	
v/s Ratio Prot							c0.04	0.05			c0.05	
v/s Ratio Perm		c0.54	0.32		0.26	0.02			0.07			
v/c Ratio		0.80	0.48		0.39	0.03	0.52	0.21	0.32		0.43	
Uniform Delay, d1		10.8	7.3		6.7	5.1	39.8	27.8	28.6		37.8	
Progression Factor		1.00	1.00		0.79	0.77	1.00	1.00	1.00		0.72	
Incremental Delay, d2		3.6	2.3		0.7	0.1	2.1	0.3	0.9		1.0	
Delay (s)		14.4	9.6		6.0	4.0	41.9	28.1	29.4		28.3	
Level of Service		B	A		A	A	D	C	C		C	
Approach Delay (s)		13.4			5.9			34.6			28.3	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM Average Control Delay	14.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	125.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	50	1410	540	40	40	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	0.98		0.83	
Flpb, ped/bikes		1.00	1.00		1.00	
Frt		1.00	0.99		0.94	
Flt Protected		1.00	1.00		0.97	
Satd. Flow (prot)		2899	3015		1092	
Flt Permitted		0.91	1.00		0.97	
Satd. Flow (perm)		2635	3015		1092	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	1533	587	43	43	33
RTOR Reduction (vph)	0	0	6	0	27	0
Lane Group Flow (vph)	0	1587	624	0	49	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		66.4	66.4		16.6	
Effective Green, g (s)		66.4	66.4		16.6	
Actuated g/C Ratio		0.74	0.74		0.18	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1944	2224		201	
v/s Ratio Prot			0.21		c0.04	
v/s Ratio Perm		c0.60				
v/c Ratio		0.82	0.28		0.24	
Uniform Delay, d1		7.8	3.9		31.3	
Progression Factor		0.31	1.00		0.67	
Incremental Delay, d2		1.7	0.1		2.7	
Delay (s)		4.1	4.0		23.6	
Level of Service		A	A		C	
Approach Delay (s)		4.1	4.0		23.6	
Approach LOS		A	A		C	

Intersection Summary			
HCM Average Control Delay	4.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	103.7%	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												
Volume (vph)	50	1410	40	20	380	60	30	30	60	40	50	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.96			0.82			0.91	
Flpb, ped/bikes		1.00			1.00			0.94			0.91	
Frt		1.00			0.98			0.93			0.97	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2860			2731			1016			1134	
Flt Permitted		0.92			0.85			0.91			0.88	
Satd. Flow (perm)		2630			2340			933			1019	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	53	1500	43	21	404	64	32	32	64	43	53	32
RTOR Reduction (vph)	0	2	0	0	2	0	0	8	0	0	13	0
Lane Group Flow (vph)	0	1594	0	0	487	0	0	120	0	0	115	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		60.6			60.6			20.6			20.6	
Effective Green, g (s)		60.6			60.6			20.6			20.6	
Actuated g/C Ratio		0.67			0.67			0.23			0.23	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1771			1576			214			233	
v/s Ratio Prot												
v/s Ratio Perm		c0.61			0.21			c0.13			0.11	
v/c Ratio		0.90			0.31			0.56			0.49	
Uniform Delay, d1		12.2			6.1			30.7			30.2	
Progression Factor		1.00			0.18			1.00			0.80	
Incremental Delay, d2		7.8			0.4			10.3			7.1	
Delay (s)		20.0			1.5			41.0			31.2	
Level of Service		B			A			D			C	
Approach Delay (s)		20.0			1.5			41.0			31.2	
Approach LOS		B			A			D			C	

Intersection Summary			
HCM Average Control Delay	17.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	110.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	1460	20	40	660	80	40	30	110	40	20	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			0.97			0.78			0.83	
Flpb, ped/bikes		1.00			1.00			0.94			0.92	
Frt		1.00			0.98			0.92			0.94	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2888			2769			953			1018	
Flt Permitted		0.91			0.76			0.92			0.81	
Satd. Flow (perm)		2617			2121			885			837	
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)	44	1622	22	44	733	89	44	33	122	44	22	56
RTOR Reduction (vph)	0	1	0	0	2	0	0	6	0	0	34	0
Lane Group Flow (vph)	0	1687	0	0	864	0	0	193	0	0	88	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		61.7			61.7			19.4			19.4	
Effective Green, g (s)		61.7			61.7			19.4			19.4	
Actuated g/C Ratio		0.69			0.69			0.22			0.22	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1794			1454			191			180	
v/s Ratio Prot												
v/s Ratio Perm		c0.64			0.41			c0.22			0.11	
v/c Ratio		0.94			0.59			1.01			0.49	
Uniform Delay, d1		12.5			7.5			35.3			31.0	
Progression Factor		0.28			3.17			1.00			0.70	
Incremental Delay, d2		6.6			0.6			67.5			2.1	
Delay (s)		10.1			24.4			102.8			23.7	
Level of Service		B			C			F			C	
Approach Delay (s)		10.1			24.4			102.8			23.7	
Approach LOS		B			C			F			C	

Intersection Summary			
HCM Average Control Delay	21.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	104.2%	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												
Volume (vph)	10	1400	190	50	710	30	40	10	20	10	20	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.96			0.99			0.89			0.85	
Flpb, ped/bikes		1.00			1.00			0.81			0.94	
Frt		0.98			0.99			0.96			0.95	
Flt Protected		1.00			1.00			0.97			0.99	
Satd. Flow (prot)		2756			3041			1113			1232	
Flt Permitted		0.95			0.73			0.83			0.95	
Satd. Flow (perm)		2619			2235			950			1186	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	10	1443	196	52	732	31	41	10	21	10	21	21
RTOR Reduction (vph)	0	2	0	0	2	0	0	10	0	0	16	0
Lane Group Flow (vph)	0	1647	0	0	813	0	0	62	0	0	36	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1807			1542			204			254	
v/s Ratio Prot												
v/s Ratio Perm		c0.63			0.36			c0.07			0.03	
v/c Ratio		0.91			0.53			0.30			0.14	
Uniform Delay, d1		11.7			6.8			29.7			28.6	
Progression Factor		0.27			0.75			1.00			0.67	
Incremental Delay, d2		3.3			0.3			3.8			0.8	
Delay (s)		6.5			5.5			33.5			20.0	
Level of Service		A			A			C			C	
Approach Delay (s)		6.5			5.5			33.5			20.0	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	7.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	88.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	30	1400	730	440	450	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3037	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3037	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	1522	793	478	489	33
RTOR Reduction (vph)	0	44	0	0	6	0
Lane Group Flow (vph)	33	1478	793	478	516	0
Confl. Peds. (#/hr)						63
Confl. Bikes (#/hr)		22				160
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	27.0	54.8	23.8	53.0	25.2	
Effective Green, g (s)	27.0	54.8	23.8	53.0	25.2	
Actuated g/C Ratio	0.30	0.61	0.26	0.59	0.28	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	467	1491	798	1717	850	
v/s Ratio Prot	0.02	c0.60	0.26	0.16	c0.17	
v/s Ratio Perm						
v/c Ratio	0.07	0.99	0.99	0.28	0.61	
Uniform Delay, d1	22.5	17.4	33.0	9.1	28.1	
Progression Factor	0.65	0.34	0.89	0.59	0.69	
Incremental Delay, d2	0.0	14.4	27.9	0.3	1.0	
Delay (s)	14.8	20.3	57.2	5.7	20.5	
Level of Service	B	C	E	A	C	
Approach Delay (s)	20.2			37.8	20.5	
Approach LOS	C			D	C	

Intersection Summary			
HCM Average Control Delay	26.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	83.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	150	140	40	0	1830	0	20	160	1030
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			1.00			1.00	1.00
Flpb, ped/bikes				0.73			1.00			1.00	1.00
Frt				0.98			1.00			1.00	1.00
Flt Protected				0.96			1.00			0.95	1.00
Satd. Flow (prot)				2053			4454			1555	3110
Flt Permitted				0.96			1.00			0.95	1.00
Satd. Flow (perm)				2053			4454			1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	163	152	43	0	1989	0	22	174	1120
RTOR Reduction (vph)	0	0	0	13	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	0	0	345	0	0	2010	0	0	174	1120
Confl. Peds. (#/hr)			96	119					96		
Confl. Bikes (#/hr)					4				178		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				18.9			48.1			10.0	62.1
Effective Green, g (s)				18.9			48.1			10.0	62.1
Actuated g/C Ratio				0.21			0.53			0.11	0.69
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				431			2380			173	2146
v/s Ratio Prot							c0.45			c0.11	0.36
v/s Ratio Perm				0.17							
v/c Ratio				0.80			0.84			1.01	0.52
Uniform Delay, d1				33.8			17.8			40.0	6.8
Progression Factor				1.00			0.80			1.00	1.00
Incremental Delay, d2				10.0			1.2			69.9	0.9
Delay (s)				43.7			15.5			109.9	7.7
Level of Service				D			B			F	A
Approach Delay (s)	0.0			43.7			15.5				21.4
Approach LOS	A			D			B				C

Intersection Summary			
HCM Average Control Delay	20.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	71.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBR	EBR2	SEL	SET	SER2	NWL2	NWT	NWR	SWR2
Lane Configurations										
Volume (vph)	20	20	220	30	1240	610	120	1160	80	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		7.0	7.0	7.0	7.0	7.0		
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00	1.00	0.95		
Frpb, ped/bikes	1.00	0.93		1.00	1.00	0.96	1.00	0.96		
Flpb, ped/bikes	1.00	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	0.99		
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1555	1137		1555	3110	1336	1555	2961		
Flt Permitted	0.95	1.00		0.13	1.00	1.00	0.13	1.00		
Satd. Flow (perm)	1555	1137		212	3110	1336	212	2961		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	22	239	33	1348	663	130	1261	87	0
RTOR Reduction (vph)	0	171	0	0	0	294	0	6	0	0
Lane Group Flow (vph)	22	90	0	33	1348	369	130	1342	0	0
Confl. Peds. (#/hr)			38						1000	100
Confl. Bikes (#/hr)		10	10			30			30	10
Parking (#/hr)		5	5							
Turn Type	custom	custom		Perm		Perm	Perm			custom
Protected Phases					6			2		
Permitted Phases	4	4		6		6	2			8
Actuated Green, G (s)	22.5	22.5		44.0	44.0	44.0	44.0	44.0		
Effective Green, g (s)	22.5	22.5		44.0	44.0	44.0	44.0	44.0		
Actuated g/C Ratio	0.28	0.28		0.56	0.56	0.56	0.56	0.56		
Clearance Time (s)	5.5	5.5		7.0	7.0	7.0	7.0	7.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	443	324		118	1732	744	118	1649		
v/s Ratio Prot					0.43			0.45		
v/s Ratio Perm	0.01	c0.08		0.16		0.28	c0.61			
v/c Ratio	0.05	0.28		0.28	0.78	0.50	1.10	0.81		
Uniform Delay, d1	20.5	21.9		9.2	13.7	10.7	17.5	14.2		
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.0	0.5		5.8	3.5	2.4	112.8	4.5		
Delay (s)	20.5	22.4		15.0	17.2	13.1	130.3	18.7		
Level of Service	C	C		B	B	B	F	B		
Approach Delay (s)					15.8			28.5		
Approach LOS					B			C		

Intersection Summary			
HCM Average Control Delay	21.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	106.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	30	0	80	0	0	0	180	1250	0	0	20	1270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.76					1.00	1.00				0.98
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.90					1.00	1.00				0.99
Flt Protected		0.99					0.95	1.00				1.00
Satd. Flow (prot)		965					1555	3110				3007
Flt Permitted		0.99					0.95	1.00				0.92
Satd. Flow (perm)		965					1555	3110				2755
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)	33	0	89	0	0	0	200	1389	0	0	22	1411
RTOR Reduction (vph)	0	79	0	0	0	0	0	0	0	0	0	3
Lane Group Flow (vph)	0	43	0	0	0	0	200	1389	0	0	0	1508
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		10.0					5.0	71.0				61.0
Effective Green, g (s)		10.0					5.0	71.0				61.0
Actuated g/C Ratio		0.11					0.06	0.79				0.68
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		107					86	2453				1867
v/s Ratio Prot		c0.04					c0.13	0.45				
v/s Ratio Perm												c0.55
v/c Ratio		0.40					2.33	0.57				0.81
Uniform Delay, d1		37.2					42.5	3.6				10.3
Progression Factor		1.00					0.80	0.24				1.00
Incremental Delay, d2		2.5					624.7	0.8				3.9
Delay (s)		39.7					658.5	1.6				14.2
Level of Service		D					F	A				B
Approach Delay (s)		39.7			0.0			84.3				14.2
Approach LOS		D			A			F				B

Intersection Summary			
HCM Average Control Delay	49.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	116.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	70
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.90
Adj. Flow (vph)	78
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	270	1190	0	0	610	160	120	230	70	0	0	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				
Lane Util. Factor		0.95			0.95			0.95				
Frpb, ped/bikes		1.00			0.94			0.95				
Flpb, ped/bikes		0.99			1.00			0.91				
Frt		1.00			0.97			0.98				
Flt Protected		0.99			1.00			0.99				
Satd. Flow (prot)		2808			2629			2386				
Flt Permitted		0.63			1.00			0.99				
Satd. Flow (perm)		1778			2629			2386				
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)	276	1214	0	0	622	163	122	235	71	0	0	0
RTOR Reduction (vph)	0	0	0	0	8	0	0	21	0	0	0	0
Lane Group Flow (vph)	0	1490	0	0	777	0	0	407	0	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm					
Protected Phases		2			6			8				
Permitted Phases	2						8					
Actuated Green, G (s)		44.0			44.0			27.0				
Effective Green, g (s)		44.0			44.0			27.0				
Actuated g/C Ratio		0.55			0.55			0.34				
Clearance Time (s)		4.5			4.5			4.5				
Vehicle Extension (s)		3.0			3.0			3.0				
Lane Grp Cap (vph)		978			1446			805				
v/s Ratio Prot					0.30							
v/s Ratio Perm		c0.84						0.17				
v/c Ratio		1.52			0.54			0.51				
Uniform Delay, d1		18.0			11.5			21.2				
Progression Factor		1.00			0.37			1.00				
Incremental Delay, d2		240.8			0.9			2.3				
Delay (s)		258.8			5.2			23.4				
Level of Service		F			A			C				
Approach Delay (s)		258.8			5.2			23.4			0.0	
Approach LOS		F			A			C			A	

Intersection Summary			
HCM Average Control Delay	147.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	109.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	780	480	30	670	0	0	0	0	70	630	110
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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.88			1.00						0.96	
Flpb, ped/bikes		1.00			1.00						0.98	
Frt		0.94			1.00						0.98	
Flt Protected		1.00			1.00						1.00	
Satd. Flow (prot)		2569			3099						2679	
Flt Permitted		1.00			0.74						1.00	
Satd. Flow (perm)		2569			2286						2679	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	804	495	31	691	0	0	0	0	72	649	113
RTOR Reduction (vph)	0	9	0	0	0	0	0	0	0	0	15	0
Lane Group Flow (vph)	0	1290	0	0	722	0	0	0	0	0	819	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		33.5			33.5						37.5	
Effective Green, g (s)		33.5			33.5						37.5	
Actuated g/C Ratio		0.42			0.42						0.47	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		1076			957						1256	
v/s Ratio Prot		c0.50										
v/s Ratio Perm					0.32						0.31	
v/c Ratio		1.20			0.75						0.65	
Uniform Delay, d1		23.2			19.8						16.3	
Progression Factor		0.68			1.00						1.00	
Incremental Delay, d2		90.3			3.4						2.6	
Delay (s)		106.0			23.2						18.9	
Level of Service		F			C						B	
Approach Delay (s)		106.0			23.2			0.0			18.9	
Approach LOS		F			C			A			B	

Intersection Summary			
HCM Average Control Delay	59.6	HCM Level of Service	E
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	83.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	120	490	720	1310	0	1290	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.67	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		0.99	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	930	3016	3110		3043	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	930	3016	3110		3043	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	120	490	720	1310	0	1290	60
RTOR Reduction (vph)	0	248	0	0	0	4	0
Lane Group Flow (vph)	120	242	720	1310	0	1346	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	25.3	25.3	15.7	53.7		32.0	
Effective Green, g (s)	25.3	25.3	15.7	53.7		32.0	
Actuated g/C Ratio	0.28	0.28	0.17	0.60		0.36	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	437	261	526	1856		1082	
v/s Ratio Prot	0.08		c0.24	0.42		c0.44	
v/s Ratio Perm		c0.26					
v/c Ratio	0.27	0.93	1.37	0.71		1.24	
Uniform Delay, d1	25.2	31.5	37.1	12.6		29.0	
Progression Factor	1.00	1.00	1.00	1.00		0.79	
Incremental Delay, d2	0.3	36.3	177.8	2.3		114.7	
Delay (s)	25.5	67.8	215.0	14.9		137.7	
Level of Service	C	E	F	B		F	
Approach Delay (s)	59.5			85.9		137.7	
Approach LOS	E			F		F	

Intersection Summary			
HCM Average Control Delay	99.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	122.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	170	10	20	100	10	20	10	30	10	10	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
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.59		1.00	0.75		0.84			1.00	0.45
Flpb, ped/bikes		0.99	1.00		0.95	1.00		0.84			0.86	1.00
Frt		1.00	0.85		1.00	0.85		0.93			1.00	0.85
Flt Protected		1.00	1.00		0.99	1.00		0.98			0.98	1.00
Satd. Flow (prot)		1613	823		1542	1050		1049			1371	633
Flt Permitted		0.99	1.00		0.95	1.00		0.88			0.84	1.00
Satd. Flow (perm)		1600	823		1483	1050		941			1176	633
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	181	11	21	106	11	21	11	32	11	11	11
RTOR Reduction (vph)	0	0	3	0	0	3	0	29	0	0	0	10
Lane Group Flow (vph)	0	192	8	0	127	8	0	35	0	0	22	1
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		45.2	45.2		45.2	45.2		5.8			5.8	5.8
Effective Green, g (s)		45.2	45.2		45.2	45.2		5.8			5.8	5.8
Actuated g/C Ratio		0.75	0.75		0.75	0.75		0.10			0.10	0.10
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)		1205	620		1117	791		91			114	61
v/s Ratio Prot												
v/s Ratio Perm		c0.12	0.01		0.09	0.01		c0.04			0.02	0.00
v/c Ratio		0.16	0.01		0.11	0.01		0.39			0.19	0.02
Uniform Delay, d1		2.1	1.8		2.0	1.8		25.4			24.9	24.5
Progression Factor		1.00	1.00		0.12	0.00		1.00			0.81	0.72
Incremental Delay, d2		0.1	0.0		0.2	0.0		2.7			0.8	0.1
Delay (s)		2.1	1.9		0.4	0.0		28.1			21.1	17.7
Level of Service		A	A		A	A		C			C	B
Approach Delay (s)		2.1			0.4			28.1			20.0	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM Average Control Delay	6.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.19		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	480	10	880	410	60	60	60	20	20	20	300	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.34		0.66	1.00	0.95			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.81	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	559	3110	479		936	1555	1325			1257	1174
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (perm)	3110	559	3110	479		936	1555	1325			1259	1174
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)	505	11	926	432	63	63	63	21	21	21	316	42
RTOR Reduction (vph)	0	5	0	171	0	37	0	15	0	0	0	31
Lane Group Flow (vph)	505	6	926	324	0	26	63	27	0	0	337	11
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	43.0	43.0	43.0	43.0		20.0	20.0	20.0			20.0	20.0
Effective Green, g (s)	43.0	43.0	43.0	43.0		20.0	20.0	20.0			20.0	20.0
Actuated g/C Ratio	0.57	0.57	0.57	0.57		0.27	0.27	0.27			0.27	0.27
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1783	320	1783	275		250	415	353			336	313
v/s Ratio Prot	0.16		0.30									
v/s Ratio Perm		0.01		c0.68		0.03	0.04	0.02			c0.27	0.01
v/c Ratio	0.28	0.02	0.52	1.18		0.10	0.15	0.08			1.00	0.04
Uniform Delay, d1	8.2	6.9	9.7	16.0		20.7	21.0	20.6			27.5	20.4
Progression Factor	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	1.1	111.8		0.8	0.8	0.4			49.8	0.2
Delay (s)	8.5	7.0	10.8	127.8		21.6	21.8	21.0			77.3	20.6
Level of Service	A	A	B	F		C	C	C			E	C
Approach Delay (s)	8.5		51.6								71.1	
Approach LOS	A		D								E	

Intersection Summary			
HCM Average Control Delay	43.6	HCM Level of Service	D
HCM Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	510	70	40	1140	80	40
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	548	75	43	1226	86	43

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	366	258	452	817	129
Volume Left (vph)	0	0	43	0	86
Volume Right (vph)	0	75	0	0	43
Hadj (s)	0.02	-0.19	0.06	0.02	-0.05
Departure Headway (s)	6.3	6.1	5.9	5.8	6.6
Degree Utilization, x	0.64	0.44	0.73	1.32	0.24
Capacity (veh/h)	558	577	607	632	527
Control Delay (s)	18.7	12.6	22.1	171.8	11.7
Approach Delay (s)	16.2		118.5		11.7
Approach LOS	C		F		B

Intersection Summary			
Delay	80.1		
HCM Level of Service	F		
Intersection Capacity Utilization	78.9%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT
Lane Configurations												
Volume (vph)	10	410	110	30	10	10	1020	20	20	20	10	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4					5.4		4.0			5.0
Lane Util. Factor		0.95					0.95		1.00			1.00
Frpb, ped/bikes		0.86					0.99		0.78			1.00
Flpb, ped/bikes		1.00					1.00		1.00			1.00
Frt		0.96					1.00		0.86			1.00
Flt Protected		1.00					1.00		1.00			0.97
Satd. Flow (prot)		2398					3062		1106			1589
Flt Permitted		0.93					0.94		1.00			0.97
Satd. Flow (perm)		2233					2873		1106			1589
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	446	120	33	11	11	1109	22	22	22	11	22
RTOR Reduction (vph)	0	5	0	0	0	0	2	0	0	0	0	0
Lane Group Flow (vph)	0	605	0	0	0	0	1151	0	22	0	0	55
Confl. Peds. (#/hr)	400		400	400	400	400		400	400	400	400	
Confl. Bikes (#/hr)			30	30				30	10			
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm	Perm			Free	Split	Split	
Protected Phases		2					6			4	4	4
Permitted Phases	2				6	6			Free			
Actuated Green, G (s)		41.6					41.6		75.0			9.0
Effective Green, g (s)		41.6					41.6		75.0			9.0
Actuated g/C Ratio		0.55					0.55		1.00			0.12
Clearance Time (s)		5.4					5.4					5.0
Lane Grp Cap (vph)		1239					1594		1106			191
v/s Ratio Prot												0.03
v/s Ratio Perm		0.27					c0.40		0.02			
v/c Ratio		0.49					0.72		0.02			0.29
Uniform Delay, d1		10.2					12.4		0.0			30.1
Progression Factor		1.00					0.25		1.00			1.00
Incremental Delay, d2		1.4					2.1		0.0			3.8
Delay (s)		11.6					5.3		0.0			33.8
Level of Service		B					A		A			C
Approach Delay (s)		11.6					5.3					41.7
Approach LOS		B					A					D

Intersection Summary			
HCM Average Control Delay	11.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	87.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR	NWL	NWR	NWR2
Lane Configurations				
Volume (vph)	50	110	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0
Lane Util. Factor	1.00	0.97		1.00
Frpb, ped/bikes	0.55	0.94		0.55
Flpb, ped/bikes	1.00	1.00		1.00
Frt	0.85	0.99		0.85
Flt Protected	1.00	0.96		1.00
Satd. Flow (prot)	768	2810		768
Flt Permitted	1.00	0.96		1.00
Satd. Flow (perm)	768	2810		768
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	120	11	11
RTOR Reduction (vph)	7	0	0	10
Lane Group Flow (vph)	47	131	0	1
Confl. Peds. (#/hr)	400	400	400	400
Confl. Bikes (#/hr)	10		10	10
Parking (#/hr)				
Turn Type	Perm			Perm
Protected Phases		8		
Permitted Phases	4			8
Actuated Green, G (s)	9.0	9.0		9.0
Effective Green, g (s)	9.0	9.0		9.0
Actuated g/C Ratio	0.12	0.12		0.12
Clearance Time (s)	5.0	5.0		5.0
Lane Grp Cap (vph)	92	337		92
v/s Ratio Prot		c0.05		
v/s Ratio Perm	c0.06			0.00
v/c Ratio	0.51	0.39		0.01
Uniform Delay, d1	30.9	30.5		29.1
Progression Factor	1.00	1.00		1.00
Incremental Delay, d2	18.8	3.4		0.3
Delay (s)	49.7	33.8		29.4
Level of Service	D	C		C
Approach Delay (s)		33.5		
Approach LOS		C		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	400	40	30	1040	40	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.97			1.00	0.86	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.99			1.00	0.94	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2782			3091	1288	
Flt Permitted	1.00			0.93	0.97	
Satd. Flow (perm)	2782			2885	1288	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	440	44	33	1143	44	33
RTOR Reduction (vph)	10	0	0	0	23	0
Lane Group Flow (vph)	474	0	0	1176	54	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1669			1731	386	
v/s Ratio Prot	0.17				c0.04	
v/s Ratio Perm				c0.41		
v/c Ratio	0.28			0.68	0.14	
Uniform Delay, d1	7.2			10.1	19.2	
Progression Factor	0.47			1.00	1.00	
Incremental Delay, d2	0.4			2.2	0.8	
Delay (s)	3.8			12.3	19.9	
Level of Service	A			B	B	
Approach Delay (s)	3.8			12.3	19.9	
Approach LOS	A			B	B	

Intersection Summary			
HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	81.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	400	20	10	1040	10	10
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	440	22	11	1143	11	11

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	293	168	392	762	22
Volume Left (vph)	0	0	11	0	11
Volume Right (vph)	0	22	0	0	11
Hadj (s)	0.02	-0.07	0.03	0.02	-0.18
Departure Headway (s)	5.7	5.6	5.1	5.0	6.3
Degree Utilization, x	0.47	0.26	0.55	1.07	0.04
Capacity (veh/h)	613	624	697	720	550
Control Delay (s)	12.4	9.4	12.9	73.9	9.5
Approach Delay (s)	11.3		53.2		9.5
Approach LOS	B		F		A

Intersection Summary			
Delay	40.8		
HCM Level of Service	E		
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL2	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	20	430	40	10	10	1010	70	50	30	30	80	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5				5.5	5.5		5.5		5.5	5.5
Lane Util. Factor		0.95				0.95	1.00		1.00		0.95	0.95
Frpb, ped/bikes		0.95				1.00	0.66		0.91		1.00	0.92
Flpb, ped/bikes		1.00				1.00	1.00		0.86		0.73	0.93
Frt		0.99				1.00	0.85		0.96		1.00	0.98
Flt Protected		1.00				1.00	1.00		0.98		0.95	0.99
Satd. Flow (prot)		2703				3104	808		1052		1078	1286
Flt Permitted		0.89				0.95	1.00		0.84		0.70	0.92
Satd. Flow (perm)		2416				2949	808		904		795	1202
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	21	448	42	10	10	1052	73	52	31	31	83	42
RTOR Reduction (vph)	0	1	0	0	0	0	4	0	15	0	0	0
Lane Group Flow (vph)	0	520	0	0	0	1062	69	0	99	0	66	69
Confl. Peds. (#/hr)	400		400	400	400		400	400		400	400	
Confl. Bikes (#/hr)			10	10			10			10		
Parking (#/hr)		5	5	5			5	5	5	5		
Turn Type	Perm				Perm		Perm	Perm			Perm	
Protected Phases		2				6			8			4
Permitted Phases	2				6	6	6	8			4	
Actuated Green, G (s)		56.5				56.5	56.5		22.5		22.5	22.5
Effective Green, g (s)		56.5				56.5	56.5		22.5		22.5	22.5
Actuated g/C Ratio		0.63				0.63	0.63		0.25		0.25	0.25
Clearance Time (s)		5.5				5.5	5.5		5.5		5.5	5.5
Vehicle Extension (s)		3.0				3.0	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)		1517				1851	507		226		199	301
v/s Ratio Prot												
v/s Ratio Perm		0.22				c0.36	0.09		c0.11		0.08	0.06
v/c Ratio		0.34				0.57	0.14		0.44		0.33	0.23
Uniform Delay, d1		7.9				9.7	6.8		28.4		27.6	26.9
Progression Factor		1.00				0.26	0.16		1.00		1.00	1.00
Incremental Delay, d2		0.6				1.2	0.5		6.1		1.0	0.4
Delay (s)		8.6				3.7	1.6		34.5		28.6	27.2
Level of Service		A				A	A		C		C	C
Approach Delay (s)		8.6				3.6			34.5			27.5
Approach LOS		A				A			C			C

Intersection Summary			
HCM Average Control Delay	8.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR	SBR2	NER2
Lane Configurations			
Volume (vph)	10	30	60
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)		5.5	4.0
Lane Util. Factor		1.00	1.00
Frpb, ped/bikes		0.65	0.78
Flpb, ped/bikes		1.00	1.00
Frt		0.85	0.86
Flt Protected		1.00	1.00
Satd. Flow (prot)		911	967
Flt Permitted		1.00	1.00
Satd. Flow (perm)		911	967
Peak-hour factor, PHF	0.96	0.96	0.96
Adj. Flow (vph)	10	31	62
RTOR Reduction (vph)	0	15	0
Lane Group Flow (vph)	0	16	62
Confl. Peds. (#/hr)	400	400	400
Confl. Bikes (#/hr)	10	10	10
Parking (#/hr)			5
Turn Type		Perm	Free
Protected Phases			
Permitted Phases		4	Free
Actuated Green, G (s)		22.5	90.0
Effective Green, g (s)		22.5	90.0
Actuated g/C Ratio		0.25	1.00
Clearance Time (s)		5.5	
Vehicle Extension (s)		3.0	
Lane Grp Cap (vph)		228	967
v/s Ratio Prot			
v/s Ratio Perm		0.02	0.06
v/c Ratio		0.07	0.06
Uniform Delay, d1		25.8	0.0
Progression Factor		1.00	1.00
Incremental Delay, d2		0.1	0.1
Delay (s)		25.9	0.1
Level of Service		C	A
Approach Delay (s)			
Approach LOS			

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	540	0	0	1070	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	600	0	0	1189	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	600	0	0	1189	0
Confl. Peds. (#/hr)						
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		76.0			76.0	
Effective Green, g (s)		76.0			76.0	
Actuated g/C Ratio		0.84			0.84	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		2067			2547	
v/s Ratio Prot		0.25			c0.39	
v/s Ratio Perm						
v/c Ratio		0.29			0.47	
Uniform Delay, d1		1.4			1.8	
Progression Factor		0.70			0.18	
Incremental Delay, d2		0.3			0.4	
Delay (s)		1.4			0.7	
Level of Service		A			A	
Approach Delay (s)	1.4			0.0	0.7	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	0.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	54.2%	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												
Volume (vph)	10	190	90	180	400	30	100	270	190	20	90	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.80		1.00	0.96			1.00	0.62		1.00	0.36
Flpb, ped/bikes		0.99		0.60	1.00			0.86	1.00		0.97	1.00
Frt		0.95		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.99	1.00		0.99	1.00
Satd. Flow (prot)		2354		936	1354			1177	844		1577	507
Flt Permitted		0.94		0.55	1.00			0.88	1.00		0.91	1.00
Satd. Flow (perm)		2207		547	1354			1050	844		1447	507
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)	11	211	100	200	444	33	111	300	211	22	100	56
RTOR Reduction (vph)	0	49	0	0	3	0	0	0	23	0	0	11
Lane Group Flow (vph)	0	273	0	200	474	0	0	411	188	0	122	45
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		35.6		35.6	35.6			44.4	44.4		44.4	44.4
Effective Green, g (s)		35.6		35.6	35.6			44.4	44.4		44.4	44.4
Actuated g/C Ratio		0.40		0.40	0.40			0.49	0.49		0.49	0.49
Clearance Time (s)		5.5		5.5	5.5			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)		873		216	536			518	416		714	250
v/s Ratio Prot					0.35							
v/s Ratio Perm		0.12		c0.37				c0.39	0.22		0.08	0.09
v/c Ratio		0.31		0.93	0.88			0.79	0.45		0.17	0.18
Uniform Delay, d1		18.8		25.9	25.3			19.0	14.9		12.6	12.7
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		0.2		40.8	15.9			11.8	3.5		0.5	1.6
Delay (s)		19.0		66.8	41.2			30.8	18.4		13.1	14.3
Level of Service		B		E	D			C	B		B	B
Approach Delay (s)		19.0			48.7			26.6			13.5	
Approach LOS		B			D			C			B	

Intersection Summary			
HCM Average Control Delay	32.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	80.9%	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												
Volume (vph)	0	280	110	90	450	1220	180	0	130	540	160	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.96			1.00	0.96		0.99		1.00	1.00	
Flpb, ped/bikes		1.00			0.99	1.00		0.99		1.00	1.00	
Frt		0.96			1.00	0.85		0.94		1.00	0.99	
Flt Protected		1.00			0.99	1.00		0.97		0.95	0.98	
Satd. Flow (prot)		2688			1612	2362		1287		1477	1499	
Flt Permitted		1.00			0.80	1.00		0.18		0.57	0.68	
Satd. Flow (perm)		2688			1297	2362		239		878	1048	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	292	115	94	469	1271	188	0	135	562	167	21
RTOR Reduction (vph)	0	46	0	0	0	0	0	29	0	0	2	0
Lane Group Flow (vph)	0	361	0	0	563	1271	0	294	0	371	377	0
Confl. Peds. (#/hr)			50	50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		28.0			28.0	65.5		17.5		34.0	34.0	
Effective Green, g (s)		28.0			28.0	65.5		17.5		34.0	34.0	
Actuated g/C Ratio		0.31			0.31	0.73		0.19		0.38	0.38	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		836			404	1719		46		332	396	
v/s Ratio Prot		0.13										
v/s Ratio Perm					c0.43	0.54		c1.23		c0.42	0.36	
v/c Ratio		0.43			1.39	0.74		6.39		1.12	0.95	
Uniform Delay, d1		24.7			31.0	7.2		36.2		28.0	27.2	
Progression Factor		1.00			1.00	1.00		1.00		1.11	1.12	
Incremental Delay, d2		1.6			191.7	2.9		2471.6		84.7	34.1	
Delay (s)		26.3			222.7	10.1		2507.9		115.7	64.7	
Level of Service		C			F	B		F		F	E	
Approach Delay (s)		26.3			75.4			2507.9			89.9	
Approach LOS		C			E			F			F	

Intersection Summary			
HCM Average Control Delay	309.7	HCM Level of Service	F
HCM Volume to Capacity ratio	2.36		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	116.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	570	20	110	1590	20	180	30	170	30	40	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5			3.5			3.5	3.5
Lane Util. Factor		0.95			0.91			0.95			1.00	1.00
Frpb, ped/bikes		0.99			1.00			0.83			1.00	0.62
Flpb, ped/bikes		1.00			0.99			0.84			0.92	1.00
Frt		1.00			1.00			0.93			1.00	0.85
Flt Protected		1.00			1.00			0.98			0.98	1.00
Satd. Flow (prot)		3050			4393			1850			1481	860
Flt Permitted		0.78			0.81			0.78			0.78	1.00
Satd. Flow (perm)		2396			3588			1484			1183	860
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)	33	633	22	122	1767	22	200	33	189	33	44	56
RTOR Reduction (vph)	0	2	0	0	1	0	0	29	0	0	0	2
Lane Group Flow (vph)	0	686	0	0	1910	0	0	393	0	0	77	54
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		53.3			53.3			29.7			29.7	29.7
Effective Green, g (s)		53.3			53.3			29.7			29.7	29.7
Actuated g/C Ratio		0.59			0.59			0.33			0.33	0.33
Clearance Time (s)		3.5			3.5			3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		1419			2125			490			390	284
v/s Ratio Prot												
v/s Ratio Perm		0.29			c0.53			c0.26			0.07	0.06
v/c Ratio		0.48			0.90			0.80			0.20	0.19
Uniform Delay, d1		10.5			16.0			27.5			21.6	21.6
Progression Factor		1.00			0.42			1.00			1.00	1.00
Incremental Delay, d2		0.3			5.1			13.0			1.1	1.5
Delay (s)		10.7			11.9			40.5			22.7	23.0
Level of Service		B			B			D			C	C
Approach Delay (s)		10.7			11.9			40.5			22.9	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM Average Control Delay	15.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
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												
Volume (vph)	20	590	160	10	1310	30	80	180	130	10	340	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.91		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.80		1.00		1.00	0.86			0.88	
Flpb, ped/bikes		1.00	1.00		1.00		0.85	1.00			1.00	
Frt		1.00	0.85		1.00		1.00	0.94			0.95	
Flt Protected		1.00	1.00		1.00		0.95	1.00			1.00	
Satd. Flow (prot)		3102	973		4429		1327	3587			3682	
Flt Permitted		0.88	1.00		0.93		0.41	1.00			0.93	
Satd. Flow (perm)		2728	973		4142		568	3587			3437	
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)	20	602	163	10	1337	31	82	184	133	10	347	204
RTOR Reduction (vph)	0	0	1	0	3	0	0	34	0	0	7	0
Lane Group Flow (vph)	0	622	162	0	1375	0	82	283	0	0	554	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		44.5	44.5		44.5		35.5	35.5			35.5	
Effective Green, g (s)		44.5	44.5		44.5		35.5	35.5			35.5	
Actuated g/C Ratio		0.49	0.49		0.49		0.39	0.39			0.39	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1349	481		2048		224	1415			1356	
v/s Ratio Prot								0.08				
v/s Ratio Perm		0.23	0.17		c0.33		0.14				c0.16	
v/c Ratio		0.46	0.34		0.67		0.37	0.20			0.41	
Uniform Delay, d1		14.9	13.8		17.2		19.3	17.9			19.7	
Progression Factor		0.69	0.70		0.94		1.00	1.00			1.00	
Incremental Delay, d2		0.2	0.4		0.7		4.6	0.3			0.9	
Delay (s)		10.5	10.0		16.9		23.9	18.2			20.6	
Level of Service		B	A		B		C	B			C	
Approach Delay (s)		10.4			16.9			19.4			20.6	
Approach LOS		B			B			B			C	

Intersection Summary			
HCM Average Control Delay	16.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1470	260	0	2480	120	290	160	30	70	140	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.95			0.98		1.00	0.95		1.00	0.93	
Flpb, ped/bikes		1.00			1.00		0.76	1.00		0.77	1.00	
Frt		0.98			0.99		1.00	0.98		1.00	0.97	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4129			4181		1182	1514		1191	1283	
Flt Permitted		1.00			1.00		0.60	1.00		0.59	1.00	
Satd. Flow (perm)		4129			4181		752	1514		737	1283	
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)	0	1500	265	0	2531	122	296	163	31	71	143	41
RTOR Reduction (vph)	0	7	0	0	6	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	1758	0	0	2647	0	296	191	0	71	184	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2386			2416		230	463		225	392	
v/s Ratio Prot		0.43			c0.63			0.13			0.14	
v/s Ratio Perm							c0.39			0.10		
v/c Ratio		0.74			1.10		1.29	0.41		0.32	0.47	
Uniform Delay, d1		14.0			19.0		31.2	24.8		24.0	25.3	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.1			50.3		157.8	2.7		3.6	4.0	
Delay (s)		16.0			69.3		189.1	27.5		27.7	29.3	
Level of Service		B			E		F	C		C	C	
Approach Delay (s)		16.0			69.3			125.1			28.9	
Approach LOS		B			E			F			C	

Intersection Summary			
HCM Average Control Delay	54.4	HCM Level of Service	D
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	110.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1250	130	0	2190	120	100	160	40	70	200	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			0.95	
Frpb, ped/bikes		0.98			0.98		1.00	0.93			0.94	
Flpb, ped/bikes		1.00			1.00		0.81	1.00			0.95	
Frt		0.99			0.99		1.00	0.97			0.97	
Flt Protected		1.00			1.00		0.95	1.00			0.99	
Satd. Flow (prot)		4316			4352		1259	1483			2680	
Flt Permitted		1.00			1.00		0.50	1.00			0.81	
Satd. Flow (perm)		4316			4352		665	1483			2196	
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	1316	137	0	2305	126	105	168	42	74	211	63
RTOR Reduction (vph)	0	4	0	0	5	0	0	6	0	0	1	0
Lane Group Flow (vph)	0	1449	0	0	2426	0	105	204	0	0	347	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2556			2577		199	443			656	
v/s Ratio Prot		0.34			c0.56			0.14				
v/s Ratio Perm							0.16				c0.16	
v/c Ratio		0.57			0.94		0.53	0.46			0.53	
Uniform Delay, d1		11.3			16.9		26.3	25.7			26.3	
Progression Factor		1.00			0.22		1.00	1.00			1.00	
Incremental Delay, d2		0.9			4.1		9.7	3.4			3.0	
Delay (s)		12.2			7.8		35.9	29.1			29.3	
Level of Service		B			A		D	C			C	
Approach Delay (s)		12.2			7.8			31.4			29.3	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM Average Control Delay	12.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	107.7%	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												
Volume (vph)	0	1320	100	0	2090	60	60	100	30	30	170	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.98			0.99			0.95			0.93	
Flpb, ped/bikes		1.00			1.00			0.94			0.97	
Frt		0.99			1.00			0.98			0.97	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		4132			4222			1233			1262	
Flt Permitted		1.00			1.00			0.79			0.94	
Satd. Flow (perm)		4132			4222			985			1197	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1435	109	0	2272	65	65	109	33	33	185	54
RTOR Reduction (vph)	0	5	0	0	3	0	0	4	0	0	1	0
Lane Group Flow (vph)	0	1539	0	0	2334	0	0	203	0	0	271	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2479			2533			296			359	
v/s Ratio Prot		0.37			c0.55							
v/s Ratio Perm								0.21			c0.23	
v/c Ratio		0.62			0.92			0.69			0.76	
Uniform Delay, d1		11.5			16.1			27.8			28.5	
Progression Factor		1.51			1.00			1.00			1.00	
Incremental Delay, d2		1.0			7.0			12.2			13.8	
Delay (s)		18.4			23.1			39.9			42.3	
Level of Service		B			C			D			D	
Approach Delay (s)		18.4			23.1			39.9			42.3	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM Average Control Delay	23.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.6%	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		↑↑↑			↑↑↑		↰	↕				↱
Volume (vph)	0	1100	0	0	1300	60	820	430	40	0	0	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.99		1.00	0.99				0.95
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.98				1.00
Satd. Flow (prot)		4282			4373		1415	2678				1352
Flt Permitted		1.00			1.00		0.95	0.98				1.00
Satd. Flow (perm)		4282			4373		1415	2678				1352
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1183	0	0	1398	65	882	462	43	0	0	86
RTOR Reduction (vph)	0	0	0	0	5	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	1183	0	0	1458	0	459	924	0	0	0	86
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		38.0			29.0		42.0	42.0				6.0
Effective Green, g (s)		38.0			29.0		42.0	42.0				6.0
Actuated g/C Ratio		0.42			0.32		0.47	0.47				0.07
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		1808			1409		660	1250				90
v/s Ratio Prot		0.28			c0.33							
v/s Ratio Perm							0.32	0.35				c0.06
v/c Ratio		0.65			1.03		0.70	0.74				0.96
Uniform Delay, d1		20.8			30.5		19.0	19.5				41.9
Progression Factor		1.00			0.37		1.00	1.00				1.00
Incremental Delay, d2		1.9			27.3		6.0	4.0				83.3
Delay (s)		22.6			38.7		24.9	23.5				125.1
Level of Service		C			D		C	C				F
Approach Delay (s)		22.6			38.7			24.0			125.1	
Approach LOS		C			D			C			F	

Intersection Summary			
HCM Average Control Delay	30.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	82.0%	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												
Volume (vph)	150	200	860	0	190	20	1030	240	40	0	450	150
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		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.97		1.00	0.95			1.00	0.67
Flpb, ped/bikes		0.91	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.99		1.00	0.98			1.00	0.85
Flt Protected		0.98	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1455	2448		1329		4385	1333			3110	815
Flt Permitted		0.63	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		931	2448		1329		4385	1333			3110	815
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	161	215	925	0	204	22	1108	258	43	0	484	161
RTOR Reduction (vph)	0	0	2	0	4	0	0	7	0	0	0	4
Lane Group Flow (vph)	0	376	923	0	222	0	1108	294	0	0	484	157
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		26.5	55.5		26.5		25.5	55.5			26.5	26.5
Effective Green, g (s)		26.5	52.0		26.5		25.5	55.5			26.5	26.5
Actuated g/C Ratio		0.29	0.58		0.29		0.28	0.62			0.29	0.29
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		274	1414		391		1242	822			916	240
v/s Ratio Prot			0.38		0.17		c0.25	0.22			0.16	
v/s Ratio Perm		c0.40										c0.19
v/c Ratio		1.37	0.65		0.57		0.89	0.36			0.53	0.65
Uniform Delay, d1		31.8	12.9		26.9		30.9	8.5			26.5	27.7
Progression Factor		0.46	0.33		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		184.8	0.9		1.9		9.9	1.2			2.2	13.0
Delay (s)		199.2	5.1		28.8		40.9	9.7			28.7	40.8
Level of Service		F	A		C		D	A			C	D
Approach Delay (s)		61.2			28.8			34.2			31.7	
Approach LOS		E			C			C			C	

Intersection Summary			
HCM Average Control Delay	43.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	102.2%	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												
Volume (vph)	0	0	0	70	230	50	40	50	0	0	60	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.29		1.00			0.92	
Flpb, ped/bikes					0.85	1.00		0.87			1.00	
Frt					1.00	0.85		1.00			0.97	
Flt Protected					0.99	1.00		0.98			1.00	
Satd. Flow (prot)					2450	400		1396			1450	
Flt Permitted					0.99	1.00		0.86			1.00	
Satd. Flow (perm)					2450	400		1232			1450	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	0	80	264	57	46	57	0	0	69	23
RTOR Reduction (vph)	0	0	0	0	0	31	0	0	0	0	1	0
Lane Group Flow (vph)	0	0	0	0	344	26	0	103	0	0	91	0
Confl. Peds. (#/hr)				945		1084	569					569
Confl. Bikes (#/hr)						76			2			4
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					34.0	34.0		31.0			31.0	
Effective Green, g (s)					34.0	34.0		31.0			31.0	
Actuated g/C Ratio					0.45	0.45		0.41			0.41	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1111	181		509			599	
v/s Ratio Prot											0.06	
v/s Ratio Perm					0.14	0.06		c0.08				
v/c Ratio					0.31	0.14		0.20			0.15	
Uniform Delay, d1					13.0	12.0		14.1			13.8	
Progression Factor					1.00	1.00		0.97			1.00	
Incremental Delay, d2					0.7	1.6		0.9			0.5	
Delay (s)					13.8	13.6		14.5			14.3	
Level of Service					B	B		B			B	
Approach Delay (s)		0.0			13.7			14.5			14.3	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	57.5%	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												
Volume (vph)	0	0	0	210	250	30	170	40	0	0	80	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.92		1.00	1.00			0.96	
Flpb, ped/bikes				1.00	1.00		0.71	1.00			1.00	
Frt				1.00	0.98		1.00	1.00			0.99	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	2816		1101	1637			1552	
Flt Permitted				0.95	1.00		0.69	1.00			1.00	
Satd. Flow (perm)				1555	2816		802	1637			1552	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	0	236	281	34	191	45	0	0	90	11
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	236	308	0	191	45	0	0	101	0
Confl. Peds. (#/hr)						1700	537					569
Confl. Bikes (#/hr)						76			2			4
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				40.4	40.4		25.3	25.3			25.3	
Effective Green, g (s)				40.4	40.4		25.3	25.3			25.3	
Actuated g/C Ratio				0.54	0.54		0.34	0.34			0.34	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				838	1517		271	552			524	
v/s Ratio Prot				c0.15	0.11			0.03			0.07	
v/s Ratio Perm							c0.24					
v/c Ratio				0.28	0.20		0.70	0.08			0.19	
Uniform Delay, d1				9.4	9.0		21.6	16.9			17.6	
Progression Factor				1.00	1.00		1.03	1.04			1.00	
Incremental Delay, d2				0.8	0.3		14.3	0.3			0.8	
Delay (s)				10.2	9.3		36.6	17.8			18.4	
Level of Service				B	A		D	B			B	
Approach Delay (s)		0.0			9.7			33.1			18.4	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM Average Control Delay	16.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	38.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	190	110	10	500	20	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	202	117	11	532	21	11
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	306					
pX, platoon unblocked						
vC, conflicting volume			719		1614	960
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			719		1614	960
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		53	91
cM capacity (veh/h)			614		45	125

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	135	184	543	32
Volume Left	0	0	11	21
Volume Right	0	117	0	11
cSH	1700	1700	614	58
Volume to Capacity	0.08	0.11	0.02	0.55
Queue Length 95th (ft)	0	0	1	55
Control Delay (s)	0.0	0.0	0.5	127.4
Lane LOS			A	F
Approach Delay (s)	0.0		0.5	127.4
Approach LOS				F

Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	54.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	160	20	30	500	10	20	50	10	30	60	30
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		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.44		0.99			0.93			0.87	
Flpb, ped/bikes		0.96	1.00		0.98			0.90			0.89	
Frt		1.00	0.85		1.00			0.98			0.97	
Flt Protected		0.99	1.00		1.00			0.99			0.99	
Satd. Flow (prot)		1557	609		1379			1165			1056	
Flt Permitted		0.83	1.00		0.98			0.92			0.92	
Satd. Flow (perm)		1308	609		1348			1087			986	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	47	188	24	35	588	12	24	59	12	35	71	35
RTOR Reduction (vph)	0	0	11	0	1	0	0	7	0	0	3	0
Lane Group Flow (vph)	0	235	13	0	634	0	0	88	0	0	138	0
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4			4		
Actuated Green, G (s)		40.0	40.0		40.0			26.0			26.0	
Effective Green, g (s)		40.0	40.0		40.0			26.0			26.0	
Actuated g/C Ratio		0.53	0.53		0.53			0.35			0.35	
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)		698	325		719			377			342	
v/s Ratio Prot												
v/s Ratio Perm		0.18	0.02		c0.47			0.08			c0.14	
v/c Ratio		0.34	0.04		0.88			0.23			0.40	
Uniform Delay, d1		10.0	8.3		15.4			17.4			18.6	
Progression Factor		1.00	1.00		1.00			1.00			0.72	
Incremental Delay, d2		1.3	0.2		14.7			1.4			3.5	
Delay (s)		11.3	8.6		30.1			18.9			16.9	
Level of Service		B	A		C			B			B	
Approach Delay (s)		11.0			30.1			18.9			16.9	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	23.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	99.6%	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												
Volume (vph)	0	240	20	20	490	0	20	0	50	20	30	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
Lane Util. Factor		1.00	1.00		0.95			1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.26		1.00			0.61			1.00	0.67
Flpb, ped/bikes		1.00	1.00		0.98			0.92			0.81	1.00
Frt		1.00	0.85		1.00			0.90			1.00	0.85
Flt Protected		1.00	1.00		1.00			0.99			0.98	1.00
Satd. Flow (prot)		1637	354		3048			809			1297	933
Flt Permitted		1.00	1.00		0.94			0.94			0.92	1.00
Satd. Flow (perm)		1637	354		2859			775			1219	933
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	255	21	21	521	0	21	0	53	21	32	21
RTOR Reduction (vph)	0	0	16	0	0	0	0	0	0	0	0	8
Lane Group Flow (vph)	0	255	5	0	542	0	0	74	0	0	53	13
Confl. Peds. (#/hr)			800	800			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	36.5
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	36.5
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	0.61
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)		396	86		691			471			742	568
v/s Ratio Prot		0.16										
v/s Ratio Perm			0.01		c0.19			c0.10			0.04	0.01
v/c Ratio		0.64	0.06		0.78			0.16			0.07	0.02
Uniform Delay, d1		20.4	17.5		21.3			5.1			4.8	4.7
Progression Factor		1.00	1.00		1.00			1.00			1.00	1.00
Incremental Delay, d2		7.8	1.3		8.7			0.7			0.0	0.0
Delay (s)		28.3	18.8		30.0			5.8			4.9	4.7
Level of Service		C	B		C			A			A	A
Approach Delay (s)		27.5			30.0			5.8			4.8	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	25.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	360	20	80	10	190	10	380	340
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		0.97		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		0.99		0.99			1.00
Flt Protected		1.00		0.96		1.00			0.97
Satd. Flow (prot)		942		1311		1619			3030
Flt Permitted		1.00		0.96		1.00			0.95
Satd. Flow (perm)		942		1311		1619			2970
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	391	22	87	11	207	11	413	370
RTOR Reduction (vph)	0	0	0	6	0	0	0	0	0
Lane Group Flow (vph)	0	391	0	114	0	218	0	0	783
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		371		310			891
v/s Ratio Prot						0.13			
v/s Ratio Perm		c0.42		0.09					c0.26
v/c Ratio		0.74		0.31		0.70			0.88
Uniform Delay, d1		10.0		16.9		22.7			20.0
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		9.2		2.1		7.1			12.0
Delay (s)		19.2		19.0		29.7			32.0
Level of Service		B		B		C			C
Approach Delay (s)	19.2			19.0		29.7			32.0
Approach LOS	B			B		C			C

Intersection Summary			
HCM Average Control Delay	27.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	77.3%	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												
Volume (vph)	30	150	50	30	310	30	70	40	30	30	80	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.95			1.00	0.59	1.00	0.77			0.81	
Flpb, ped/bikes		0.97			1.00	1.00	0.61	1.00			0.92	
Frt		0.97			1.00	0.85	1.00	0.94			0.95	
Flt Protected		0.99			1.00	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1271			1426	721	952	1029			2168	
Flt Permitted		0.92			0.96	1.00	0.63	1.00			0.89	
Satd. Flow (perm)		1183			1373	721	630	1029			1954	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	34	172	57	34	356	34	80	46	34	34	92	69
RTOR Reduction (vph)	0	7	0	0	0	7	0	27	0	0	0	0
Lane Group Flow (vph)	0	256	0	0	390	27	80	53	0	0	195	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		62.5			62.5	62.5	17.4	17.4			17.4	
Effective Green, g (s)		62.5			62.5	62.5	17.4	17.4			17.4	
Actuated g/C Ratio		0.69			0.69	0.69	0.19	0.19			0.19	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		822			953	501	122	199			378	
v/s Ratio Prot								0.05				
v/s Ratio Perm		0.22			c0.28	0.04	c0.13				0.10	
v/c Ratio		0.31			0.41	0.05	0.66	0.26			0.52	
Uniform Delay, d1		5.4			5.9	4.4	33.5	30.9			32.5	
Progression Factor		1.00			1.00	1.00	0.65	0.42			1.00	
Incremental Delay, d2		1.0			1.3	0.2	12.0	0.7			1.2	
Delay (s)		6.3			7.2	4.6	33.8	13.5			33.7	
Level of Service		A			A	A	C	B			C	
Approach Delay (s)		6.3			7.0			23.7			33.7	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	14.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	118.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Volume (vph)	30	210	30	30	320	20	20	40	70	20	50	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.95			0.98			0.67			0.78	
Flpb, ped/bikes		0.97			0.98			0.93			0.93	
Frt		0.98			0.99			0.93			0.95	
Flt Protected		0.99			1.00			0.99			0.99	
Satd. Flow (prot)		1296			1350			828			969	
Flt Permitted		0.94			0.96			0.95			0.94	
Satd. Flow (perm)		1221			1302			790			914	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	32	223	32	32	340	21	21	43	74	21	53	43
RTOR Reduction (vph)	0	1	0	0	1	0	0	46	0	0	23	0
Lane Group Flow (vph)	0	286	0	0	392	0	0	92	0	0	94	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.6			62.6			18.6			18.6	
Effective Green, g (s)		62.6			62.6			18.6			18.6	
Actuated g/C Ratio		0.70			0.70			0.21			0.21	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		849			906			163			189	
v/s Ratio Prot												
v/s Ratio Perm		0.23			c0.30			c0.12			0.10	
v/c Ratio		0.34			0.43			0.56			0.50	
Uniform Delay, d1		5.4			6.0			32.1			31.6	
Progression Factor		1.00			1.00			0.63			1.00	
Incremental Delay, d2		1.1			1.5			11.8			9.1	
Delay (s)		6.5			7.5			32.0			40.6	
Level of Service		A			A			C			D	
Approach Delay (s)		6.5			7.5			32.0			40.6	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM Average Control Delay	14.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.2%	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												
Volume (vph)	20	260	120	50	210	20	40	30	70	20	60	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.85			1.00	0.51		0.72			0.78	
Flpb, ped/bikes		0.98			0.95	1.00		0.89			0.94	
Frt		0.96			1.00	0.85		0.93			0.95	
Flt Protected		1.00			0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1150			1353	617		841			995	
Flt Permitted		0.98			0.87	1.00		0.89			0.95	
Satd. Flow (perm)		1128			1183	617		758			949	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	22	292	135	56	236	22	45	34	79	22	67	56
RTOR Reduction (vph)	0	6	0	0	0	7	0	33	0	0	25	0
Lane Group Flow (vph)	0	444	0	0	292	15	0	125	0	0	120	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		57.0			57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0			57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63			0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		714			749	391		211			264	
v/s Ratio Prot												
v/s Ratio Perm		c0.39			0.25	0.02		c0.16			0.13	
v/c Ratio		0.62			0.39	0.04		0.59			0.45	
Uniform Delay, d1		10.0			8.0	6.2		28.1			26.9	
Progression Factor		1.00			0.81	0.69		0.91			1.00	
Incremental Delay, d2		4.0			1.5	0.2		10.3			5.5	
Delay (s)		14.0			8.0	4.5		35.9			32.4	
Level of Service		B			A	A		D			C	
Approach Delay (s)		14.0			7.8			35.9			32.4	
Approach LOS		B			A			D			C	

Intersection Summary			
HCM Average Control Delay	17.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	260	70	10	170	10	30	30	40	20	40	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.51		1.00	0.51		0.78			0.81	
Flpb, ped/bikes		0.97	1.00		0.98	1.00		0.87			0.91	
Frt		1.00	0.85		1.00	0.85		0.95			0.95	
Flt Protected		1.00	1.00		1.00	1.00		0.99			0.99	
Satd. Flow (prot)		1391	604		1405	604		899			1137	
Flt Permitted		0.98	1.00		0.98	1.00		0.90			0.94	
Satd. Flow (perm)		1362	604		1383	604		825			1075	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	22	292	79	11	191	11	34	34	45	22	45	34
RTOR Reduction (vph)	0	0	6	0	0	4	0	27	0	0	20	0
Lane Group Flow (vph)	0	314	73	0	202	7	0	86	0	0	81	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63	0.63		0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		863	383		876	383		229			299	
v/s Ratio Prot												
v/s Ratio Perm		c0.23	0.12		0.15	0.01		c0.10			0.08	
v/c Ratio		0.36	0.19		0.23	0.02		0.38			0.27	
Uniform Delay, d1		7.9	6.9		7.1	6.1		26.2			25.4	
Progression Factor		0.85	0.76		1.00	1.00		0.88			1.00	
Incremental Delay, d2		0.9	0.9		0.6	0.1		3.8			2.2	
Delay (s)		7.7	6.1		7.7	6.2		27.0			27.6	
Level of Service		A	A		A	A		C			C	
Approach Delay (s)		7.3			7.6			27.0			27.6	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	12.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	30	270	20	30	30	20	500	70	10	200	580
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				5.0		5.0			5.0	5.0
Lane Util. Factor	1.00				1.00		0.95			1.00	0.95
Frpb, ped/bikes	0.89				0.91		0.88			1.00	1.00
Flpb, ped/bikes	1.00				0.66		1.00			1.00	1.00
Frt	0.88				0.97		0.98			1.00	1.00
Flt Protected	1.00				0.96		1.00			0.95	1.00
Satd. Flow (prot)	1275				913		2686			1555	3110
Flt Permitted	1.00				0.96		1.00			0.95	1.00
Satd. Flow (perm)	1275				913		2686			1555	3110
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
Adj. Flow (vph)	32	284	21	32	32	21	526	74	11	211	611
RTOR Reduction (vph)	2	0	0	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	335	0	0	0	85	0	609	0	0	211	611
Confl. Peds. (#/hr)				400	400	400		400	400		
Confl. Bikes (#/hr)		30	30			10		30	30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0
Turn Type				Perm						Split	
Protected Phases	4				3		6			2	2
Permitted Phases				3							
Actuated Green, G (s)	20.0				20.0		17.0			13.0	13.0
Effective Green, g (s)	20.0				20.0		17.0			13.0	13.0
Actuated g/C Ratio	0.22				0.22		0.19			0.14	0.14
Clearance Time (s)	5.0				5.0		5.0			5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	283				203		507			225	449
v/s Ratio Prot	c0.26						c0.23			0.14	c0.20
v/s Ratio Perm					0.09						
v/c Ratio	1.18				0.42		1.20			0.94	1.36
Uniform Delay, d1	35.0				30.0		36.5			38.1	38.5
Progression Factor	1.00				1.01		1.00			0.81	0.81
Incremental Delay, d2	112.3				1.3		108.6			44.5	175.7
Delay (s)	147.3				31.7		145.1			75.3	206.7
Level of Service	F				C		F			E	F
Approach Delay (s)	147.3				31.7		145.1				173.0
Approach LOS	F				C		F				F

Intersection Summary			
HCM Average Control Delay	152.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	86.9%	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												
Volume (vph)	0	920	40	10	1540	30	0	40	20	0	80	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.91			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.87			0.92	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.95			0.97	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2862			4245			1194			1288	
Flt Permitted		1.00			0.93			1.00			1.00	
Satd. Flow (perm)		2862			3958			1194			1288	
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)	0	1022	44	11	1711	33	0	44	22	0	89	22
RTOR Reduction (vph)	0	0	0	0	0	0	0	19	0	0	8	0
Lane Group Flow (vph)	0	1066	0	0	1755	0	0	47	0	0	103	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type				Perm								
Protected Phases		2			6			8			4	
Permitted Phases				6								
Actuated Green, G (s)		70.4			70.4			10.8			10.8	
Effective Green, g (s)		70.4			70.4			10.8			10.8	
Actuated g/C Ratio		0.78			0.78			0.12			0.12	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2239			3096			143			155	
v/s Ratio Prot		0.37						0.04			c0.08	
v/s Ratio Perm					c0.44							
v/c Ratio		0.48			0.57			0.33			0.67	
Uniform Delay, d1		3.4			3.8			36.3			37.9	
Progression Factor		0.54			1.00			1.00			1.00	
Incremental Delay, d2		0.7			0.2			1.3			10.3	
Delay (s)		2.5			4.1			37.6			48.1	
Level of Service		A			A			D			D	
Approach Delay (s)		2.5			4.1			37.6			48.1	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	5.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	0	790	220	0	1170	40	350	90	70	0	150	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.70		1.00	0.70	1.00	1.00	0.74		0.98	
Flpb, ped/bikes		1.00	1.00		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	0.85		0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3110	974		3110	974	3016	1637	1024		2816	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		3110	974		3110	974	3016	1637	1024		2816	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	840	234	0	1245	43	372	96	74	0	160	11
RTOR Reduction (vph)	0	0	67	0	0	19	0	0	3	0	6	0
Lane Group Flow (vph)	0	840	167	0	1245	24	372	96	71	0	165	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type			Perm			Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases			2			6			8			
Actuated Green, G (s)		50.3	50.3		50.3	50.3	15.6	30.7	30.7		10.6	
Effective Green, g (s)		50.3	50.3		50.3	50.3	15.6	30.7	30.7		10.6	
Actuated g/C Ratio		0.56	0.56		0.56	0.56	0.17	0.34	0.34		0.12	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		1738	544		1738	544	523	558	349		332	
v/s Ratio Prot		0.27			c0.40		c0.12	0.06			c0.06	
v/s Ratio Perm			0.17			0.02			0.07			
v/c Ratio		0.48	0.31		0.72	0.04	0.71	0.17	0.20		0.50	
Uniform Delay, d1		12.0	10.6		14.6	9.0	35.1	20.8	21.0		37.2	
Progression Factor		1.00	1.00		0.77	0.68	1.00	1.00	1.00		0.79	
Incremental Delay, d2		1.0	1.5		2.4	0.1	4.5	0.1	0.3		1.1	
Delay (s)		13.0	12.0		13.7	6.3	39.6	20.9	21.3		30.6	
Level of Service		B	B		B	A	D	C	C		C	
Approach Delay (s)		12.8			13.4			33.8			30.6	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM Average Control Delay	17.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	80.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	80	770	1130	40	90	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.91		1.00	
Frpb, ped/bikes		1.00	0.99		0.83	
Flpb, ped/bikes		1.00	1.00		1.00	
Frt		1.00	0.99		0.94	
Flt Protected		1.00	1.00		0.97	
Satd. Flow (prot)		2889	4399		1084	
Flt Permitted		0.71	1.00		0.97	
Satd. Flow (perm)		2057	4399		1084	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	85	819	1202	43	96	85
RTOR Reduction (vph)	0	0	4	0	19	0
Lane Group Flow (vph)	0	904	1241	0	162	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		64.0	64.0		19.0	
Effective Green, g (s)		64.0	64.0		19.0	
Actuated g/C Ratio		0.71	0.71		0.21	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1463	3128		229	
v/s Ratio Prot			0.28		c0.15	
v/s Ratio Perm		c0.44				
v/c Ratio		0.62	0.40		0.71	
Uniform Delay, d1		6.7	5.2		32.9	
Progression Factor		0.56	1.00		0.84	
Incremental Delay, d2		0.7	0.1		16.4	
Delay (s)		4.4	5.3		44.1	
Level of Service		A	A		D	
Approach Delay (s)		4.4	5.3		44.1	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	8.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	115.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	420	50	50	1200	40	30	50	60	70	90	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			0.99			0.85			0.90	
Flpb, ped/bikes		1.00			0.99			0.96			0.92	
Frt		0.98			1.00			0.94			0.96	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2766			2852			1086			1133	
Flt Permitted		0.82			0.91			0.89			0.83	
Satd. Flow (perm)		2284			2595			980			957	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	32	452	54	54	1290	43	32	54	65	75	97	65
RTOR Reduction (vph)	0	2	0	0	2	0	0	30	0	0	12	0
Lane Group Flow (vph)	0	536	0	0	1385	0	0	121	0	0	225	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		60.6			60.6			20.6			20.6	
Effective Green, g (s)		60.6			60.6			20.6			20.6	
Actuated g/C Ratio		0.67			0.67			0.23			0.23	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1538			1747			224			219	
v/s Ratio Prot												
v/s Ratio Perm		0.23			c0.53			0.12			c0.23	
v/c Ratio		0.35			0.79			0.54			1.03	
Uniform Delay, d1		6.3			10.3			30.5			34.7	
Progression Factor		1.00			0.11			1.00			0.86	
Incremental Delay, d2		0.6			2.6			9.0			62.9	
Delay (s)		6.9			3.7			39.6			92.6	
Level of Service		A			A			D			F	
Approach Delay (s)		6.9			3.7			39.6			92.6	
Approach LOS		A			A			D			F	

Intersection Summary			
HCM Average Control Delay	15.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	109.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	710	30	30	1220	40	30	30	60	50	40	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.82			0.89	
Flpb, ped/bikes		1.00			1.00			0.94			0.90	
Frt		0.99			1.00			0.93			0.96	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2853			2865			1016			1081	
Flt Permitted		0.85			0.92			0.90			0.81	
Satd. Flow (perm)		2432			2633			927			893	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	772	33	33	1326	43	33	33	65	54	43	43
RTOR Reduction (vph)	0	1	0	0	1	0	0	41	0	0	13	0
Lane Group Flow (vph)	0	837	0	0	1401	0	0	90	0	0	127	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		65.3			65.3			15.8			15.8	
Effective Green, g (s)		65.3			65.3			15.8			15.8	
Actuated g/C Ratio		0.73			0.73			0.18			0.18	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1765			1910			163			157	
v/s Ratio Prot												
v/s Ratio Perm		0.34			c0.53			0.10			c0.14	
v/c Ratio		0.47			0.73			0.55			0.81	
Uniform Delay, d1		5.2			7.2			33.9			35.6	
Progression Factor		0.76			0.28			1.00			0.74	
Incremental Delay, d2		0.9			1.0			4.0			25.0	
Delay (s)		4.8			3.0			37.8			51.5	
Level of Service		A			A			D			D	
Approach Delay (s)		4.8			3.0			37.8			51.5	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	8.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	86.7%	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												
Volume (vph)	20	740	70	40	1130	20	140	10	30	10	10	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			0.99			0.94			0.82	
Flpb, ped/bikes		1.00			1.00			0.74			0.95	
Frt		0.99			1.00			0.98			0.93	
Flt Protected		1.00			1.00			0.96			0.99	
Satd. Flow (prot)		2797			3073			1074			1171	
Flt Permitted		0.90			0.89			0.74			0.92	
Satd. Flow (perm)		2528			2740			830			1086	
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)	22	822	78	44	1256	22	156	11	33	11	11	22
RTOR Reduction (vph)	0	2	0	0	1	0	0	8	0	0	15	0
Lane Group Flow (vph)	0	920	0	0	1321	0	0	192	0	0	29	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1744			1891			178			233	
v/s Ratio Prot												
v/s Ratio Perm		0.36			c0.48			c0.23			0.03	
v/c Ratio		0.53			0.70			1.08			0.12	
Uniform Delay, d1		6.8			8.3			35.4			28.5	
Progression Factor		1.35			0.37			1.00			0.62	
Incremental Delay, d2		1.0			0.9			90.2			0.1	
Delay (s)		10.2			3.9			125.6			17.7	
Level of Service		B			A			F			B	
Approach Delay (s)		10.2			3.9			125.6			17.7	
Approach LOS		B			A			F			B	

Intersection Summary			
HCM Average Control Delay	16.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	94.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	20	760	1150	760	770	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3055	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3055	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	826	1250	826	837	43
RTOR Reduction (vph)	0	11	0	0	4	0
Lane Group Flow (vph)	22	815	1250	826	876	0
Confl. Peds. (#/hr)						95
Confl. Bikes (#/hr)		10				81
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	7.0	50.7	39.7	73.0	29.3	
Effective Green, g (s)	7.0	50.7	39.7	73.0	29.3	
Actuated g/C Ratio	0.08	0.56	0.44	0.81	0.33	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	121	1379	1330	2364	995	
v/s Ratio Prot	0.01	c0.33	c0.41	0.28	c0.29	
v/s Ratio Perm						
v/c Ratio	0.18	0.59	0.94	0.35	0.88	
Uniform Delay, d1	38.8	12.9	24.0	2.2	28.7	
Progression Factor	1.07	0.81	0.72	1.15	0.40	
Incremental Delay, d2	0.6	0.6	7.2	0.2	1.0	
Delay (s)	42.1	11.0	24.6	2.8	12.5	
Level of Service	D	B	C	A	B	
Approach Delay (s)	11.8			15.9	12.5	
Approach LOS	B			B	B	

Intersection Summary			
HCM Average Control Delay	14.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	79.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	90	340	40	0	1500	0	50	50	1570
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			1.00			1.00	1.00
Flpb, ped/bikes				0.81			1.00			1.00	1.00
Frt				0.99			1.00			1.00	1.00
Flt Protected				0.96			1.00			0.95	1.00
Satd. Flow (prot)				2258			4428			1555	3110
Flt Permitted				0.96			1.00			0.95	1.00
Satd. Flow (perm)				2258			4428			1555	3110
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
Adj. Flow (vph)	0	0	100	378	44	0	1667	0	56	56	1744
RTOR Reduction (vph)	0	0	0	8	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	0	0	514	0	0	1720	0	0	56	1744
Confl. Peds. (#/hr)			125	64					125		
Confl. Bikes (#/hr)					34				86		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				24.1			47.2			5.7	56.9
Effective Green, g (s)				24.1			47.2			5.7	56.9
Actuated g/C Ratio				0.27			0.52			0.06	0.63
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				605			2322			98	1966
v/s Ratio Prot							0.39			0.04	c0.56
v/s Ratio Perm				0.23							
v/c Ratio				0.85			0.74			0.57	0.89
Uniform Delay, d1				31.2			16.6			41.0	13.9
Progression Factor				1.00			0.79			1.00	1.00
Incremental Delay, d2				10.8			0.8			4.9	6.4
Delay (s)				42.0			14.0			45.9	20.2
Level of Service				D			B			D	C
Approach Delay (s)	0.0			42.0			14.0				21.0
Approach LOS	A			D			B				C

Intersection Summary			
HCM Average Control Delay	20.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	70.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBR	EBR2	SEL	SET	SER2	NWL2	NWL	NWT	NWR	SWR2
Lane Configurations											
Volume (vph)	40	10	300	20	1110	430	180	0	1580	20	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		7.0	7.0	7.0		4.0	7.0		
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00		1.00	0.95		
Frpb, ped/bikes	1.00	0.91		1.00	1.00	0.95		1.00	0.99		
Flpb, ped/bikes	1.00	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	1.00		
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95	1.00		
Satd. Flow (prot)	1555	1105		1555	3110	1323		1555	3080		
Flt Permitted	0.95	1.00		0.13	1.00	1.00		0.40	1.00		
Satd. Flow (perm)	1555	1105		218	3110	1323		655	3080		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	11	326	22	1207	467	196	0	1717	22	0
RTOR Reduction (vph)	0	233	0	0	0	290	0	0	1	0	0
Lane Group Flow (vph)	43	104	0	22	1207	177	0	196	1738	0	0
Confl. Peds. (#/hr)			64							1000	100
Confl. Bikes (#/hr)		10	10			30				30	10
Parking (#/hr)		5	5								
Turn Type	custom	custom		Perm		Perm	custom	Prot			custom
Protected Phases					6			5	2		
Permitted Phases	4	4		6		6	5				8
Actuated Green, G (s)	22.5	22.5		30.0	30.0	30.0		10.0	44.0		
Effective Green, g (s)	22.5	22.5		30.0	30.0	30.0		10.0	44.0		
Actuated g/C Ratio	0.28	0.28		0.38	0.38	0.38		0.13	0.56		
Clearance Time (s)	5.5	5.5		7.0	7.0	7.0		4.0	7.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	443	315		83	1181	502		83	1715		
v/s Ratio Prot					0.39				c0.56		
v/s Ratio Perm	0.03	c0.09		0.10		0.13		c0.30			
v/c Ratio	0.10	0.33		0.27	1.02	0.35		2.36	1.01		
Uniform Delay, d1	20.8	22.3		16.9	24.5	17.6		34.5	17.5		
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2	0.1	0.6		7.6	31.9	1.9		648.2	25.1		
Delay (s)	20.9	22.9		24.5	56.4	19.5		682.7	42.6		
Level of Service	C	C		C	E	B		F	D		
Approach Delay (s)					45.8				107.4		
Approach LOS					D				F		

Intersection Summary			
HCM Average Control Delay	73.3	HCM Level of Service	E
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	117.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	40	0	130	0	0	0	90	1710	0	0	20	1280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.75					1.00	1.00				0.99
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.90					1.00	1.00				1.00
Flt Protected		0.99					0.95	1.00				1.00
Satd. Flow (prot)		953					1555	3110				3078
Flt Permitted		0.99					0.95	1.00				0.85
Satd. Flow (perm)		953					1555	3110				2630
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	43	0	138	0	0	0	96	1819	0	0	21	1362
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	0	179	0	0	0	0	96	1819	0	0	0	1403
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		21.2					4.0	59.8				50.8
Effective Green, g (s)		21.2					4.0	59.8				50.8
Actuated g/C Ratio		0.24					0.04	0.66				0.56
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		224					69	2066				1484
v/s Ratio Prot		c0.19					0.06	c0.58				
v/s Ratio Perm												c0.53
v/c Ratio		0.80					1.39	0.88				0.95
Uniform Delay, d1		32.4					43.0	12.2				18.3
Progression Factor		1.00					0.69	0.18				1.00
Incremental Delay, d2		18.3					218.2	3.4				13.6
Delay (s)		50.7					247.8	5.5				31.9
Level of Service		D					F	A				C
Approach Delay (s)		50.7			0.0			17.7				31.9
Approach LOS		D			A			B				C

Intersection Summary			
HCM Average Control Delay	25.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	113.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	20
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	21
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	730	0	0	960	110	280	310	40	0	0	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			
Lane Util. Factor		0.95			0.95			0.95	1.00			
Frpb, ped/bikes		1.00			0.97			1.00	0.71			
Flpb, ped/bikes		0.99			1.00			0.87	1.00			
Frt		1.00			0.98			1.00	0.85			
Flt Protected		0.99			1.00			0.98	1.00			
Satd. Flow (prot)		2842			2752			2433	986			
Flt Permitted		0.57			1.00			0.98	1.00			
Satd. Flow (perm)		1641			2752			2433	986			
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)	116	768	0	0	1011	116	295	326	42	0	0	0
RTOR Reduction (vph)	0	0	0	0	11	0	0	0	24	0	0	0
Lane Group Flow (vph)	0	884	0	0	1116	0	0	621	18	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm		Perm			
Protected Phases		2			6			8				
Permitted Phases	2						8		8			
Actuated Green, G (s)		37.0			37.0			34.0	34.0			
Effective Green, g (s)		37.0			37.0			34.0	34.0			
Actuated g/C Ratio		0.46			0.46			0.42	0.42			
Clearance Time (s)		4.5			4.5			4.5	4.5			
Vehicle Extension (s)		3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)		759			1273			1034	419			
v/s Ratio Prot					0.41							
v/s Ratio Perm		c0.54						0.26	0.02			
v/c Ratio		1.30dl			0.88			0.60	0.04			
Uniform Delay, d1		21.5			19.4			17.8	13.5			
Progression Factor		1.00			0.35			1.00	1.00			
Incremental Delay, d2		88.2			0.9			2.6	0.2			
Delay (s)		109.7			7.7			20.3	13.7			
Level of Service		F			A			C	B			
Approach Delay (s)		109.7			7.7			19.9			0.0	
Approach LOS		F			A			B			A	

Intersection Summary			
HCM Average Control Delay	44.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	104.8%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	490	280	50	860	0	0	0	0	70	730	220
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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.88			1.00						0.95	
Flpb, ped/bikes		1.00			1.00						0.99	
Frt		0.95			1.00						0.97	
Flt Protected		1.00			1.00						1.00	
Satd. Flow (prot)		2591			3087						2633	
Flt Permitted		1.00			0.78						1.00	
Satd. Flow (perm)		2591			2415						2633	
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)	0	500	286	51	878	0	0	0	0	71	745	224
RTOR Reduction (vph)	0	16	0	0	0	0	0	0	0	0	14	0
Lane Group Flow (vph)	0	770	0	0	929	0	0	0	0	0	1026	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		27.0			27.0						44.0	
Effective Green, g (s)		27.0			27.0						44.0	
Actuated g/C Ratio		0.34			0.34						0.55	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		874			815						1448	
v/s Ratio Prot		0.30										
v/s Ratio Perm					c0.38						0.39	
v/c Ratio		0.88			1.14						0.71	
Uniform Delay, d1		25.0			26.5						13.3	
Progression Factor		0.85			1.00						1.00	
Incremental Delay, d2		1.1			77.6						3.0	
Delay (s)		22.2			104.1						16.2	
Level of Service		C			F						B	
Approach Delay (s)		22.2			104.1			0.0			16.2	
Approach LOS		C			F			A			B	

Intersection Summary			
HCM Average Control Delay	47.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	104.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	100	430	580	1710	0	1300	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.67	1.00	1.00		0.97	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		0.99	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	929	3016	3110		2994	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	929	3016	3110		2994	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	100	430	580	1710	0	1300	110
RTOR Reduction (vph)	0	212	0	0	0	7	0
Lane Group Flow (vph)	100	218	580	1710	0	1403	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	23.6	23.6	15.4	55.4		34.0	
Effective Green, g (s)	23.6	23.6	15.4	55.4		34.0	
Actuated g/C Ratio	0.26	0.26	0.17	0.62		0.38	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	408	244	516	1914		1131	
v/s Ratio Prot	0.06		c0.19	0.55		c0.47	
v/s Ratio Perm		c0.23					
v/c Ratio	0.25	0.89	1.12	0.89		1.24	
Uniform Delay, d1	26.2	32.0	37.3	14.8		28.0	
Progression Factor	1.00	1.00	1.00	1.00		0.84	
Incremental Delay, d2	0.3	31.1	78.3	6.9		111.4	
Delay (s)	26.5	63.1	115.6	21.7		134.9	
Level of Service	C	E	F	C		F	
Approach Delay (s)	56.2			45.5		134.9	
Approach LOS	E			D		F	

Intersection Summary			
HCM Average Control Delay	76.6	HCM Level of Service	E
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	116.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	170	30	20	90	10	20	20	30	50	80	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
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.46		1.00	0.67		0.85			1.00	0.43
Flpb, ped/bikes		0.98	1.00		0.93	1.00		0.87			0.89	1.00
Frt		1.00	0.85		1.00	0.85		0.94			1.00	0.85
Flt Protected		1.00	1.00		0.99	1.00		0.99			0.98	1.00
Satd. Flow (prot)		1607	635		1503	937		1133			1429	604
Flt Permitted		0.99	1.00		0.95	1.00		0.89			0.88	1.00
Satd. Flow (perm)		1593	635		1437	937		1021			1276	604
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	181	32	21	96	11	21	21	32	53	85	21
RTOR Reduction (vph)	0	0	4	0	0	3	0	17	0	0	0	18
Lane Group Flow (vph)	0	192	28	0	117	8	0	57	0	0	138	3
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		54.1	54.1		54.1	54.1		11.9			11.9	11.9
Effective Green, g (s)		54.1	54.1		54.1	54.1		11.9			11.9	11.9
Actuated g/C Ratio		0.72	0.72		0.72	0.72		0.16			0.16	0.16
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)		1149	458		1037	676		162			202	96
v/s Ratio Prot												
v/s Ratio Perm		c0.12	0.04		0.08	0.01		0.06			c0.11	0.01
v/c Ratio		0.17	0.06		0.11	0.01		0.35			0.68	0.03
Uniform Delay, d1		3.3	3.0		3.2	2.9		28.1			29.8	26.7
Progression Factor		1.00	1.00		1.00	1.00		1.00			0.74	0.60
Incremental Delay, d2		0.1	0.1		0.2	0.0		1.3			9.0	0.1
Delay (s)		3.4	3.1		3.4	3.0		29.4			30.9	16.2
Level of Service		A	A		A	A		C			C	B
Approach Delay (s)		3.3			3.4			29.4			29.0	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	13.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	104.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	500	40	550	400	90	70	50	20	40	20	390	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.34		0.67	1.00	0.96			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.81	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	558	3110	477		952	1555	1330			1264	1175
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.96	1.00
Satd. Flow (perm)	3110	558	3110	477		952	1555	1330			1280	1175
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	521	42	573	417	94	73	52	21	42	21	406	104
RTOR Reduction (vph)	0	20	0	187	0	27	0	29	0	0	0	72
Lane Group Flow (vph)	521	22	573	324	0	46	52	34	0	0	427	32
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	40.0	40.0	40.0	40.0		23.0	23.0	23.0			23.0	23.0
Effective Green, g (s)	40.0	40.0	40.0	40.0		23.0	23.0	23.0			23.0	23.0
Actuated g/C Ratio	0.53	0.53	0.53	0.53		0.31	0.31	0.31			0.31	0.31
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1659	298	1659	254		292	477	408			393	360
v/s Ratio Prot	0.17		0.18									
v/s Ratio Perm		0.04		c0.68		0.05	0.03	0.03			c0.33	0.03
v/c Ratio	0.31	0.08	0.35	1.28		0.16	0.11	0.08			1.09	0.09
Uniform Delay, d1	9.8	8.5	10.0	17.5		18.9	18.7	18.5			26.0	18.5
Progression Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	0.5	0.5	0.6	151.5		1.1	0.5	0.4			70.6	0.5
Delay (s)	10.3	9.0	10.6	169.0		20.1	19.1	18.9			96.6	19.0
Level of Service	B	A	B	F		C	B	B			F	B
Approach Delay (s)	10.2		85.3								81.4	
Approach LOS	B		F								F	

Intersection Summary			
HCM Average Control Delay	61.3	HCM Level of Service	E
HCM Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	59.6%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	740	110	40	790	140	100
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	763	113	41	814	144	103

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	509	368	313	543	247
Volume Left (vph)	0	0	41	0	144
Volume Right (vph)	0	113	0	0	103
Hadj (s)	0.02	-0.20	0.08	0.02	-0.12
Departure Headway (s)	6.7	6.5	6.8	6.8	6.8
Degree Utilization, x	0.94	0.66	0.59	1.02	0.47
Capacity (veh/h)	536	545	518	531	523
Control Delay (s)	50.2	19.8	18.1	69.3	15.6
Approach Delay (s)	37.4		50.6		15.6
Approach LOS	E		F		C

Intersection Summary			
Delay	40.4		
HCM Level of Service	E		
Intersection Capacity Utilization	82.7%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT
Lane Configurations												
Volume (vph)	100	630	90	20	10	30	650	50	40	30	20	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4					5.4		4.0			5.0
Lane Util. Factor		0.95					0.95		1.00			1.00
Frpb, ped/bikes		0.93					0.97		0.78			1.00
Flpb, ped/bikes		0.99					0.99		1.00			1.00
Frt		0.98					0.99		0.86			1.00
Flt Protected		0.99					1.00		1.00			0.98
Satd. Flow (prot)		2593					2966		1106			1600
Flt Permitted		0.74					0.86		1.00			0.98
Satd. Flow (perm)		1933					2568		1106			1600
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	106	670	96	21	11	32	691	53	43	32	21	64
RTOR Reduction (vph)	0	0	0	0	0	0	7	0	0	0	0	0
Lane Group Flow (vph)	0	893	0	0	0	0	780	0	43	0	0	117
Confl. Peds. (#/hr)	400		400	400	400	400		400	400	400	400	
Confl. Bikes (#/hr)			30	30				30	10			
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm	Perm			Free	Split	Split	
Protected Phases		2					6			4	4	4
Permitted Phases	2				6	6			Free			
Actuated Green, G (s)		41.6					41.6		75.0			9.0
Effective Green, g (s)		41.6					41.6		75.0			9.0
Actuated g/C Ratio		0.55					0.55		1.00			0.12
Clearance Time (s)		5.4					5.4					5.0
Lane Grp Cap (vph)		1072					1424		1106			192
v/s Ratio Prot												c0.07
v/s Ratio Perm		c0.46					0.30		0.04			
v/c Ratio		0.83					0.55		0.04			0.61
Uniform Delay, d1		13.8					10.7		0.0			31.3
Progression Factor		1.00					0.48		1.00			1.00
Incremental Delay, d2		7.6					1.4		0.1			13.6
Delay (s)		21.4					6.5		0.1			44.9
Level of Service		C					A		A			D
Approach Delay (s)		21.4					6.5					45.6
Approach LOS		C					A					D

Intersection Summary			
HCM Average Control Delay	19.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	113.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR	NWL	NWR	NWR2
Lane Configurations				
Volume (vph)	60	120	40	20
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0
Lane Util. Factor	1.00	0.97		1.00
Frpb, ped/bikes	0.55	0.81		0.55
Flpb, ped/bikes	1.00	1.00		1.00
Frt	0.85	0.96		0.85
Flt Protected	1.00	0.96		1.00
Satd. Flow (prot)	768	2392		768
Flt Permitted	1.00	0.96		1.00
Satd. Flow (perm)	768	2392		768
Peak-hour factor, PHF	0.94	0.94	0.94	0.94
Adj. Flow (vph)	64	128	43	21
RTOR Reduction (vph)	21	0	0	18
Lane Group Flow (vph)	43	171	0	3
Confl. Peds. (#/hr)	400	400	400	400
Confl. Bikes (#/hr)	10		10	10
Parking (#/hr)				
Turn Type	Perm			Perm
Protected Phases		8		
Permitted Phases	4			8
Actuated Green, G (s)	9.0	9.0		9.0
Effective Green, g (s)	9.0	9.0		9.0
Actuated g/C Ratio	0.12	0.12		0.12
Clearance Time (s)	5.0	5.0		5.0
Lane Grp Cap (vph)	92	287		92
v/s Ratio Prot		c0.07		
v/s Ratio Perm	0.06			0.00
v/c Ratio	0.47	0.60		0.03
Uniform Delay, d1	30.8	31.3		29.1
Progression Factor	1.00	1.00		1.00
Incremental Delay, d2	16.0	8.8		0.6
Delay (s)	46.8	40.1		29.7
Level of Service	D	D		C
Approach Delay (s)		39.0		
Approach LOS		D		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	660	60	40	660	90	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.97			1.00	0.86	
Flpb, ped/bikes	1.00			0.99	1.00	
Frt	0.99			1.00	0.94	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2793			3083	1281	
Flt Permitted	1.00			0.87	0.97	
Satd. Flow (perm)	2793			2701	1281	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	742	67	45	742	101	79
RTOR Reduction (vph)	9	0	0	0	24	0
Lane Group Flow (vph)	800	0	0	787	156	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1676			1621	384	
v/s Ratio Prot	0.29				c0.12	
v/s Ratio Perm				c0.29		
v/c Ratio	0.48			0.49	0.41	
Uniform Delay, d1	8.4			8.5	20.9	
Progression Factor	0.39			1.00	1.00	
Incremental Delay, d2	0.7			1.0	3.2	
Delay (s)	3.9			9.5	24.1	
Level of Service	A			A	C	
Approach Delay (s)	3.9			9.5	24.1	
Approach LOS	A			A	C	

Intersection Summary			
HCM Average Control Delay	8.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	79.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	660	50	30	700	20	40
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	710	54	32	753	22	43

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	473	290	283	502	65
Volume Left (vph)	0	0	32	0	22
Volume Right (vph)	0	54	0	0	43
Hadj (s)	0.02	-0.11	0.07	0.02	-0.32
Departure Headway (s)	5.6	5.5	5.7	5.6	6.3
Degree Utilization, x	0.74	0.44	0.44	0.78	0.11
Capacity (veh/h)	473	631	619	630	537
Control Delay (s)	21.7	11.6	11.9	24.3	10.2
Approach Delay (s)	17.8		19.8		10.2
Approach LOS	C		C		B

Intersection Summary			
Delay	18.5		
HCM Level of Service	C		
Intersection Capacity Utilization	66.0%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	560	40	20	600	170	70	60	30	100	80	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frpb, ped/bikes		0.95			1.00	0.54		0.94		1.00	0.95	
Flpb, ped/bikes		0.98			1.00	1.00		0.88		0.77	0.98	
Frt		0.99			1.00	0.85		0.97		1.00	0.98	
Flt Protected		0.99			1.00	1.00		0.98		0.95	1.00	
Satd. Flow (prot)		2660			3110	657		1137		1134	1410	
Flt Permitted		0.82			1.00	1.00		0.83		0.69	0.97	
Satd. Flow (perm)		2186			3110	657		960		822	1373	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	77	615	44	22	659	187	77	66	33	110	88	11
RTOR Reduction (vph)	0	3	0	0	0	23	0	10	0	0	0	0
Lane Group Flow (vph)	0	755	0	0	659	164	0	166	0	99	110	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10	10		10			10			10
Parking (#/hr)		5	5	5		5	5	5	5			
Turn Type	Perm					Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2				6	6	8			4		
Actuated Green, G (s)		27.5			27.5	27.5		21.5		21.5	21.5	
Effective Green, g (s)		27.5			27.5	27.5		21.5		21.5	21.5	
Actuated g/C Ratio		0.46			0.46	0.46		0.36		0.36	0.36	
Clearance Time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		1002			1425	301		344		295	492	
v/s Ratio Prot					0.21							
v/s Ratio Perm		c0.35				0.25		c0.17		0.12	0.08	
v/c Ratio		0.75			0.46	0.55		0.48		0.34	0.22	
Uniform Delay, d1		13.4			11.2	11.7		14.9		14.0	13.4	
Progression Factor		1.00			0.39	0.34		1.00		1.00	1.00	
Incremental Delay, d2		5.2			1.0	6.7		4.8		0.7	0.2	
Delay (s)		18.7			5.4	10.8		19.7		14.7	13.7	
Level of Service		B			A	B		B		B	B	
Approach Delay (s)		18.7			6.6			19.7			14.0	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM Average Control Delay	12.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	93.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR2	NER2
Lane Configurations		
Volume (vph)	60	100
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.5	4.0
Lane Util. Factor	1.00	1.00
Frpb, ped/bikes	0.68	0.78
Flpb, ped/bikes	1.00	1.00
Frt	0.85	0.86
Flt Protected	1.00	1.00
Satd. Flow (prot)	952	967
Flt Permitted	1.00	1.00
Satd. Flow (perm)	952	967
Peak-hour factor, PHF	0.91	0.91
Adj. Flow (vph)	66	110
RTOR Reduction (vph)	9	0
Lane Group Flow (vph)	57	110
Confl. Peds. (#/hr)	400	400
Confl. Bikes (#/hr)	10	10
Parking (#/hr)		5
Turn Type	Perm	Free
Protected Phases		
Permitted Phases	4	Free
Actuated Green, G (s)	21.5	60.0
Effective Green, g (s)	21.5	60.0
Actuated g/C Ratio	0.36	1.00
Clearance Time (s)	5.5	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	341	967
v/s Ratio Prot		
v/s Ratio Perm	0.06	0.11
v/c Ratio	0.17	0.11
Uniform Delay, d1	13.1	0.0
Progression Factor	1.00	1.00
Incremental Delay, d2	0.2	0.2
Delay (s)	13.4	0.2
Level of Service	B	A
Approach Delay (s)		
Approach LOS		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	810	0	0	770	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	890	0	0	846	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	890	0	0	846	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)		30				30
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		46.0			46.0	
Effective Green, g (s)		46.0			46.0	
Actuated g/C Ratio		0.77			0.77	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1877			2312	
v/s Ratio Prot		c0.36			0.28	
v/s Ratio Perm						
v/c Ratio		0.47			0.37	
Uniform Delay, d1		2.6			2.3	
Progression Factor		1.29			0.45	
Incremental Delay, d2		0.7			0.4	
Delay (s)		4.0			1.4	
Level of Service		A			A	
Approach Delay (s)	4.0			0.0	1.4	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	2.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	35.7%	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												
Volume (vph)	20	190	140	200	200	30	90	380	260	40	160	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.77		1.00	0.93			1.00	0.66		1.00	0.44
Flpb, ped/bikes		0.98		0.67	1.00			0.92	1.00		0.98	1.00
Frt		0.94		1.00	0.98			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.99	1.00		0.99	1.00
Satd. Flow (prot)		2195		1048	1300			1270	903		1581	609
Flt Permitted		0.93		0.53	1.00			0.90	1.00		0.86	1.00
Satd. Flow (perm)		2045		583	1300			1150	903		1377	609
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	204	151	215	215	32	97	409	280	43	172	32
RTOR Reduction (vph)	0	45	0	0	9	0	0	0	13	0	0	13
Lane Group Flow (vph)	0	332	0	215	238	0	0	506	267	0	215	19
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		21.7		21.7	21.7			28.3	28.3		28.3	28.3
Effective Green, g (s)		21.7		21.7	21.7			28.3	28.3		28.3	28.3
Actuated g/C Ratio		0.36		0.36	0.36			0.47	0.47		0.47	0.47
Clearance Time (s)		5.5		5.5	5.5			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)		740		211	470			542	426		649	287
v/s Ratio Prot					0.18							
v/s Ratio Perm		0.16		c0.37				c0.44	0.30		0.16	0.03
v/c Ratio		0.45		1.02	0.51			0.93	0.63		0.33	0.07
Uniform Delay, d1		14.6		19.1	15.0			15.0	11.9		9.9	8.6
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		0.4		67.0	0.9			25.3	6.8		1.4	0.5
Delay (s)		15.0		86.1	15.8			40.2	18.7		11.3	9.1
Level of Service		B		F	B			D	B		B	A
Approach Delay (s)		15.0			48.5			32.6			11.0	
Approach LOS		B			D			C			B	

Intersection Summary			
HCM Average Control Delay	30.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
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												
Volume (vph)	0	290	120	70	310	760	170	0	110	630	150	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.94			1.00	0.96		0.99		1.00	1.00	
Flpb, ped/bikes		1.00			0.99	1.00		0.99		1.00	1.00	
Frt		0.96			1.00	0.85		0.95		1.00	0.99	
Flt Protected		1.00			0.99	1.00		0.97		0.95	0.97	
Satd. Flow (prot)		2619			1603	2357		1294		1477	1490	
Flt Permitted		1.00			0.62	1.00		0.22		0.58	0.67	
Satd. Flow (perm)		2619			1003	2357		295		904	1033	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	302	125	73	323	792	177	0	115	656	156	31
RTOR Reduction (vph)	0	75	0	0	0	0	0	39	0	0	5	0
Lane Group Flow (vph)	0	352	0	0	396	792	0	253	0	420	418	0
Confl. Peds. (#/hr)	50		50	50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		11.0			11.0	38.5		14.5		24.0	24.0	
Effective Green, g (s)		11.0			11.0	38.5		14.5		24.0	24.0	
Actuated g/C Ratio		0.18			0.18	0.64		0.24		0.40	0.40	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		480			184	1512		71		362	413	
v/s Ratio Prot		0.13										
v/s Ratio Perm					c0.39	0.34		c0.86		c0.46	0.41	
v/c Ratio		0.73			2.15	0.52		3.57		1.16	1.01	
Uniform Delay, d1		23.1			24.5	5.8		22.8		18.0	18.0	
Progression Factor		1.00			1.00	1.00		1.00		0.77	0.77	
Incremental Delay, d2		9.5			536.1	1.3		1189.8		97.0	45.9	
Delay (s)		32.7			560.6	7.1		1212.5		110.9	59.8	
Level of Service		C			F	A		F		F	E	
Approach Delay (s)		32.7			191.6			1212.5			85.2	
Approach LOS		C			F			F			F	

Intersection Summary			
HCM Average Control Delay	242.7	HCM Level of Service	F
HCM Volume to Capacity ratio	2.08		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	93.0%	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												
Volume (vph)	50	750	30	50	800	40	260	60	260	30	40	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Lane Util. Factor		0.95			0.95	1.00		0.95			1.00	1.00
Frpb, ped/bikes		0.98			1.00	0.66		0.85			1.00	0.66
Flpb, ped/bikes		1.00			0.99	1.00		0.87			0.95	1.00
Frt		0.99			1.00	0.85		0.93			1.00	0.85
Flt Protected		1.00			1.00	1.00		0.98			0.98	1.00
Satd. Flow (prot)		3009			3079	806		1955			1515	922
Flt Permitted		0.83			0.84	1.00		0.79			0.77	1.00
Satd. Flow (perm)		2497			2586	806		1582			1198	922
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	52	781	31	52	833	42	271	62	271	31	42	52
RTOR Reduction (vph)	0	4	0	0	0	23	0	3	0	0	0	2
Lane Group Flow (vph)	0	860	0	0	885	19	0	601	0	0	73	50
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Actuated Green, G (s)		23.6			23.6	23.6		29.4			29.4	29.4
Effective Green, g (s)		23.6			23.6	23.6		29.4			29.4	29.4
Actuated g/C Ratio		0.39			0.39	0.39		0.49			0.49	0.49
Clearance Time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)		982			1017	317		775			587	452
v/s Ratio Prot												
v/s Ratio Perm		c0.34			0.34	0.02		c0.38			0.06	0.05
v/c Ratio		0.88			0.87	0.06		0.78			0.12	0.11
Uniform Delay, d1		16.8			16.8	11.3		12.6			8.3	8.2
Progression Factor		1.00			0.88	1.22		1.00			1.00	1.00
Incremental Delay, d2		8.8			6.8	0.1		7.5			0.4	0.5
Delay (s)		25.7			21.6	13.9		20.1			8.7	8.7
Level of Service		C			C	B		C			A	A
Approach Delay (s)		25.7			21.3			20.1			8.7	
Approach LOS		C			C			C			A	

Intersection Summary			
HCM Average Control Delay	21.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	94.3%	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												
Volume (vph)	80	750	190	110	560	20	70	230	150	10	240	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.95		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.76		0.99		1.00	0.87			0.86	
Flpb, ped/bikes		0.99	1.00		0.99		0.84	1.00			1.00	
Frt		1.00	0.85		1.00		1.00	0.94			0.94	
Flt Protected		1.00	1.00		0.99		0.95	1.00			1.00	
Satd. Flow (prot)		3072	922		3021		1298	3665			3599	
Flt Permitted		0.80	1.00		0.65		0.47	1.00			0.93	
Satd. Flow (perm)		2479	922		1972		648	3665			3343	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	815	207	120	609	22	76	250	163	11	261	196
RTOR Reduction (vph)	0	0	6	0	4	0	0	10	0	0	17	0
Lane Group Flow (vph)	0	902	201	0	747	0	76	403	0	0	451	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		28.3	28.3		28.3		21.7	21.7			21.7	
Effective Green, g (s)		28.3	28.3		28.3		21.7	21.7			21.7	
Actuated g/C Ratio		0.47	0.47		0.47		0.36	0.36			0.36	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1169	435		930		234	1326			1209	
v/s Ratio Prot								0.11				
v/s Ratio Perm		0.36	0.22		c0.38		0.12				c0.13	
v/c Ratio		0.77	0.46		0.80		0.32	0.30			0.37	
Uniform Delay, d1		13.2	10.7		13.5		13.9	13.7			14.1	
Progression Factor		0.61	0.66		0.67		1.00	1.00			1.00	
Incremental Delay, d2		1.9	0.5		4.8		3.7	0.6			0.9	
Delay (s)		9.9	7.5		13.9		17.5	14.3			15.0	
Level of Service		A	A		B		B	B			B	
Approach Delay (s)		9.5			13.9			14.8			15.0	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	12.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	100.0%	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												
Volume (vph)	0	1480	300	0	2050	90	340	190	50	90	140	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.94			0.98		1.00	0.93		1.00	0.91	
Flpb, ped/bikes		1.00			1.00		0.77	1.00		0.79	1.00	
Frt		0.97			0.99		1.00	0.97		1.00	0.96	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4088			4190		1191	1477		1230	1257	
Flt Permitted		1.00			1.00		0.59	1.00		0.51	1.00	
Satd. Flow (perm)		4088			4190		737	1477		662	1257	
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)	0	1510	306	0	2092	92	347	194	51	92	143	51
RTOR Reduction (vph)	0	7	0	0	5	0	0	3	0	0	1	0
Lane Group Flow (vph)	0	1809	0	0	2179	0	347	242	0	92	193	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2362			2421		225	451		202	384	
v/s Ratio Prot		0.44			c0.52			0.16			0.15	
v/s Ratio Perm							c0.47			0.14		
v/c Ratio		0.77			0.90		1.54	0.54		0.46	0.50	
Uniform Delay, d1		14.4			16.7		31.2	26.0		25.2	25.6	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.4			5.9		265.0	4.5		7.2	4.7	
Delay (s)		16.8			22.6		296.2	30.5		32.4	30.3	
Level of Service		B			C		F	C		C	C	
Approach Delay (s)		16.8			22.6			186.2			31.0	
Approach LOS		B			C			F			C	

Intersection Summary			
HCM Average Control Delay	40.8	HCM Level of Service	D
HCM Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	103.8%	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												
Volume (vph)	0	1490	130	0	1690	120	140	200	30	160	180	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			1.00	
Frpb, ped/bikes		0.97			0.98		1.00	0.96			0.94	
Flpb, ped/bikes		1.00			1.00		0.88	1.00			0.92	
Frt		0.99			0.99		1.00	0.98			0.98	
Flt Protected		1.00			1.00		0.95	1.00			0.98	
Satd. Flow (prot)		4288			4320		1361	1535			1359	
Flt Permitted		1.00			1.00		0.45	1.00			0.63	
Satd. Flow (perm)		4288			4320		638	1535			876	
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	1568	137	0	1779	126	147	211	32	168	189	74
RTOR Reduction (vph)	0	5	0	0	4	0	0	3	0	0	1	0
Lane Group Flow (vph)	0	1700	0	0	1901	0	147	240	0	0	430	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2539			2558		191	459			262	
v/s Ratio Prot		0.40			c0.44			0.16				
v/s Ratio Perm							0.23				c0.49	
v/c Ratio		0.67			0.74		0.77	0.52			1.64	
Uniform Delay, d1		12.4			13.4		28.7	26.2			31.6	
Progression Factor		1.00			0.25		1.00	1.00			1.00	
Incremental Delay, d2		1.4			1.3		25.3	4.2			304.5	
Delay (s)		13.8			4.6		54.0	30.4			336.1	
Level of Service		B			A		D	C			F	
Approach Delay (s)		13.8			4.6			39.3			336.1	
Approach LOS		B			A			D			F	

Intersection Summary			
HCM Average Control Delay	43.5	HCM Level of Service	D
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	105.9%	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												
Volume (vph)	0	1470	90	0	1730	70	80	100	30	40	160	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.98			0.99			0.95			0.93	
Flpb, ped/bikes		1.00			1.00			0.93			0.97	
Frt		0.99			0.99			0.98			0.97	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		4159			4199			1221			1250	
Flt Permitted		1.00			1.00			0.72			0.92	
Satd. Flow (perm)		4159			4199			900			1165	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	1564	96	0	1840	74	85	106	32	43	170	53
RTOR Reduction (vph)	0	5	0	0	5	0	0	4	0	0	1	0
Lane Group Flow (vph)	0	1655	0	0	1909	0	0	220	0	0	265	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2495			2519			270			350	
v/s Ratio Prot		0.40			c0.45							
v/s Ratio Perm								c0.24			0.23	
v/c Ratio		0.66			0.76			0.81			0.76	
Uniform Delay, d1		12.0			13.2			29.2			28.5	
Progression Factor		1.50			1.00			1.00			1.00	
Incremental Delay, d2		0.9			2.2			22.8			14.1	
Delay (s)		18.8			15.4			52.0			42.6	
Level of Service		B			B			D			D	
Approach Delay (s)		18.8			15.4			52.0			42.6	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	20.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.8%	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		↑↑↑			↑↑↑		↰	↕				↱
Volume (vph)	0	1330	0	0	1140	70	680	600	50	0	0	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.98		1.00	0.98				0.96
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.99				1.00
Satd. Flow (prot)		4282			4345		1415	2682				1358
Flt Permitted		1.00			1.00		0.95	0.99				1.00
Satd. Flow (perm)		4282			4345		1415	2682				1358
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	1529	0	0	1310	80	782	690	57	0	0	69
RTOR Reduction (vph)	0	0	0	0	7	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	1529	0	0	1383	0	500	1024	0	0	0	69
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		41.0			31.0		39.0	39.0				7.0
Effective Green, g (s)		41.0			31.0		39.0	39.0				7.0
Actuated g/C Ratio		0.46			0.34		0.43	0.43				0.08
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		1951			1497		613	1162				106
v/s Ratio Prot		c0.36			c0.32							
v/s Ratio Perm							0.35	0.38				0.05
v/c Ratio		0.78			0.92		0.82	0.88				0.65
Uniform Delay, d1		20.7			28.4		22.3	23.4				40.3
Progression Factor		1.00			0.46		1.00	1.00				1.00
Incremental Delay, d2		3.2			8.9		11.4	9.8				27.0
Delay (s)		24.0			21.8		33.8	33.1				67.3
Level of Service		C			C		C	C				E
Approach Delay (s)		24.0			21.8			33.3			67.3	
Approach LOS		C			C			C			E	

Intersection Summary			
HCM Average Control Delay	27.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	71.0%	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												
Volume (vph)	210	250	830	0	190	10	790	260	50	0	450	160
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		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.98		1.00	0.94			1.00	0.67
Flpb, ped/bikes		0.90	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.99		1.00	0.98			1.00	0.85
Flt Protected		0.98	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1434	2448		1360		4385	1311			3110	815
Flt Permitted		0.69	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		1008	2448		1360		4385	1311			3110	815
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	216	258	856	0	196	10	814	268	52	0	464	165
RTOR Reduction (vph)	0	0	2	0	2	0	0	8	0	0	0	12
Lane Group Flow (vph)	0	474	854	0	204	0	814	312	0	0	464	153
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		32.5	55.5		32.5		19.5	49.5			26.5	26.5
Effective Green, g (s)		32.5	52.0		32.5		19.5	49.5			26.5	26.5
Actuated g/C Ratio		0.36	0.58		0.36		0.22	0.55			0.29	0.29
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		364	1414		491		950	721			916	240
v/s Ratio Prot			0.35		0.15		c0.19	0.24			0.15	
v/s Ratio Perm		c0.47										c0.19
v/c Ratio		1.30	0.60		0.42		0.86	0.43			0.51	0.64
Uniform Delay, d1		28.8	12.3		21.6		33.9	12.0			26.3	27.6
Progression Factor		0.50	0.06		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		147.6	0.4		0.6		9.8	1.9			2.0	12.3
Delay (s)		161.9	1.1		22.2		43.7	13.9			28.3	39.8
Level of Service		F	A		C		D	B			C	D
Approach Delay (s)		58.4			22.2			35.3			31.3	
Approach LOS		E			C			D			C	

Intersection Summary			
HCM Average Control Delay	43.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	102.6%	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												
Volume (vph)	0	0	0	70	290	70	50	70	0	0	60	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.12		1.00			0.91	
Flpb, ped/bikes					0.86	1.00		0.86			1.00	
Frt					1.00	0.85		1.00			0.97	
Flt Protected					0.99	1.00		0.98			1.00	
Satd. Flow (prot)					2471	159		1381			1432	
Flt Permitted					0.99	1.00		0.86			1.00	
Satd. Flow (perm)					2471	159		1213			1432	
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)	0	0	0	78	322	78	56	78	0	0	67	22
RTOR Reduction (vph)	0	0	0	0	0	42	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	400	36	0	134	0	0	89	0
Confl. Peds. (#/hr)				1245		1700	831					831
Confl. Bikes (#/hr)						158			9			17
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					28.0	28.0		22.0			22.0	
Effective Green, g (s)					28.0	28.0		22.0			22.0	
Actuated g/C Ratio					0.47	0.47		0.37			0.37	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1153	74		445			525	
v/s Ratio Prot											0.06	
v/s Ratio Perm					0.16	c0.23		c0.11				
v/c Ratio					0.35	0.49		0.30			0.17	
Uniform Delay, d1					10.2	11.1		13.5			12.8	
Progression Factor					1.00	1.00		0.15			1.00	
Incremental Delay, d2					0.8	21.5		1.1			0.7	
Delay (s)					11.0	32.6		3.2			13.5	
Level of Service					B	C		A			B	
Approach Delay (s)		0.0			14.5			3.2			13.5	
Approach LOS		A			B			A			B	

Intersection Summary			
HCM Average Control Delay	12.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	45.0%	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												
Volume (vph)	0	0	0	290	310	40	180	50	0	0	80	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.92		1.00	1.00			0.92	
Flpb, ped/bikes				1.00	1.00		0.65	1.00			1.00	
Frt				1.00	0.98		1.00	1.00			0.97	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	2813		1008	1637			1463	
Flt Permitted				0.95	1.00		0.68	1.00			1.00	
Satd. Flow (perm)				1555	2813		726	1637			1463	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	0	326	348	45	202	56	0	0	90	22
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	326	385	0	202	56	0	0	112	0
Confl. Peds. (#/hr)						1700	585					585
Confl. Bikes (#/hr)						113			6			3
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				38.4	38.4		12.3	12.3			12.3	
Effective Green, g (s)				38.4	38.4		12.3	12.3			12.3	
Actuated g/C Ratio				0.64	0.64		0.21	0.21			0.21	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				995	1800		149	336			300	
v/s Ratio Prot				c0.21	0.14			0.03			0.08	
v/s Ratio Perm							c0.28					
v/c Ratio				0.33	0.21		1.36	0.17			0.37	
Uniform Delay, d1				4.9	4.5		23.9	19.6			20.5	
Progression Factor				1.00	1.00		0.83	0.79			1.00	
Incremental Delay, d2				0.9	0.3		197.3	1.1			3.5	
Delay (s)				5.8	4.8		217.2	16.7			24.1	
Level of Service				A	A		F	B			C	
Approach Delay (s)		0.0			5.2			173.7			24.1	
Approach LOS		A			A			F			C	

Intersection Summary			
HCM Average Control Delay	47.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	320	110	20	530	40	30
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	348	120	22	576	43	33
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	306					
pX, platoon unblocked						
vC, conflicting volume			867		1827	1034
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			867		1827	1034
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		0	71
cM capacity (veh/h)			541		32	111

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	232	236	598	76
Volume Left	0	0	22	43
Volume Right	0	120	0	33
cSH	1700	1700	541	46
Volume to Capacity	0.14	0.14	0.04	1.65
Queue Length 95th (ft)	0	0	3	189
Control Delay (s)	0.0	0.0	1.1	513.6
Lane LOS			A	F
Approach Delay (s)	0.0		1.1	513.6
Approach LOS				F

Intersection Summary			
Average Delay	34.8		
Intersection Capacity Utilization	64.1%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	200	30	10	680	10	40	100	50	20	70	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	
Lane Util. Factor		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.42		0.99			0.86			0.84	
Flpb, ped/bikes		1.00	1.00		0.99			0.92			0.95	
Frt		1.00	0.85		1.00			0.96			0.96	
Flt Protected		1.00	1.00		1.00			0.99			0.99	
Satd. Flow (prot)		1637	588		1409			1083			1086	
Flt Permitted		1.00	1.00		1.00			0.91			0.93	
Satd. Flow (perm)		1637	588		1403			996			1021	
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	0	267	40	13	907	13	53	133	67	27	93	53
RTOR Reduction (vph)	0	0	21	0	1	0	0	3	0	0	1	0
Lane Group Flow (vph)	0	267	19	0	932	0	0	250	0	0	172	0
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type			Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases			2	2			4			4		
Actuated Green, G (s)		29.0	29.0		29.0			22.0			22.0	
Effective Green, g (s)		29.0	29.0		29.0			22.0			22.0	
Actuated g/C Ratio		0.48	0.48		0.48			0.37			0.37	
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)		791	284		678			365			374	
v/s Ratio Prot		0.16										
v/s Ratio Perm			0.03		c0.66			c0.25			0.17	
v/c Ratio		0.34	0.07		1.37			0.68			0.46	
Uniform Delay, d1		9.6	8.3		15.5			16.1			14.5	
Progression Factor		1.00	1.00		1.00			0.85			0.77	
Incremental Delay, d2		1.2	0.5		177.8			8.1			4.0	
Delay (s)		10.7	8.7		193.3			21.8			15.1	
Level of Service		B	A		F			C			B	
Approach Delay (s)		10.5			193.3			21.8			15.1	
Approach LOS		B			F			C			B	

Intersection Summary			
HCM Average Control Delay	115.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	95.0%	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												
Volume (vph)	0	250	40	20	560	0	60	0	70	20	40	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
Lane Util. Factor		1.00	1.00		0.95			1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.26		1.00			0.71			1.00	0.67
Flpb, ped/bikes		1.00	1.00		0.99			0.86			0.85	1.00
Frt		1.00	0.85		1.00			0.93			1.00	0.85
Flt Protected		1.00	1.00		1.00			0.98			0.98	1.00
Satd. Flow (prot)		1637	354		3059			904			1375	933
Flt Permitted		1.00	1.00		0.94			0.87			0.92	1.00
Satd. Flow (perm)		1637	354		2869			802			1280	933
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	287	46	23	644	0	69	0	80	23	46	46
RTOR Reduction (vph)	0	0	35	0	0	0	0	0	0	0	0	12
Lane Group Flow (vph)	0	287	11	0	667	0	0	149	0	0	69	34
Confl. Peds. (#/hr)			800	800			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	36.5
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	36.5
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	0.61
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)		396	86		693			488			779	568
v/s Ratio Prot		0.18										
v/s Ratio Perm			0.03		c0.23			c0.19			0.05	0.04
v/c Ratio		0.72	0.13		0.96			0.31			0.09	0.06
Uniform Delay, d1		20.9	17.8		22.5			5.7			4.9	4.8
Progression Factor		0.83	0.55		1.00			1.00			1.00	1.00
Incremental Delay, d2		10.8	3.0		26.1			1.5			0.0	0.0
Delay (s)		28.3	12.8		48.6			7.2			4.9	4.8
Level of Service		C	B		D			A			A	A
Approach Delay (s)		26.1			48.6			7.2			4.9	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM Average Control Delay	33.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	74.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	370	10	70	0	210	0	560	490
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		1.00		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		1.00		1.00			1.00
Flt Protected		1.00		0.95		1.00			0.97
Satd. Flow (prot)		942		1360		1637			3029
Flt Permitted		1.00		0.95		1.00			0.95
Satd. Flow (perm)		942		1360		1637			2970
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	389	11	74	0	221	0	589	516
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	389	0	85	0	221	0	0	1105
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		385		314			891
v/s Ratio Prot						0.14			
v/s Ratio Perm		c0.41		0.06					c0.37
v/c Ratio		0.74		0.22		0.70			1.24
Uniform Delay, d1		10.0		16.4		22.7			21.0
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		9.0		1.3		7.0			117.7
Delay (s)		19.0		17.8		29.6			138.7
Level of Service		B		B		C			F
Approach Delay (s)	19.0			17.8		29.6			138.7
Approach LOS	B			B		C			F

Intersection Summary			
HCM Average Control Delay	93.7	HCM Level of Service	F
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	88.8%	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												
Volume (vph)	40	190	60	50	200	50	50	110	40	40	80	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.95			1.00	0.56	1.00	0.86			0.74	
Flpb, ped/bikes		0.96			1.00	1.00	0.64	1.00			0.93	
Frt		0.97			1.00	0.85	1.00	0.96			0.93	
Flt Protected		0.99			0.99	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1257			1418	681	999	1176			1966	
Flt Permitted		0.93			0.89	1.00	0.59	1.00			0.88	
Satd. Flow (perm)		1178			1270	681	621	1176			1737	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	45	216	68	57	227	57	57	125	45	45	91	125
RTOR Reduction (vph)	0	12	0	0	0	13	0	25	0	0	0	0
Lane Group Flow (vph)	0	317	0	0	284	44	57	145	0	0	261	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		35.8			35.8	35.8	14.1	14.1			14.1	
Effective Green, g (s)		35.8			35.8	35.8	14.1	14.1			14.1	
Actuated g/C Ratio		0.60			0.60	0.60	0.23	0.23			0.23	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		703			758	406	146	276			408	
v/s Ratio Prot								0.12				
v/s Ratio Perm		c0.27			0.22	0.06	0.09				c0.15	
v/c Ratio		0.45			0.37	0.11	0.39	0.52			0.64	
Uniform Delay, d1		6.7			6.3	5.2	19.3	20.0			20.7	
Progression Factor		1.00			1.00	1.00	0.60	0.52			1.00	
Incremental Delay, d2		2.1			1.4	0.5	1.7	1.8			3.3	
Delay (s)		8.8			7.7	5.8	13.3	12.2			23.9	
Level of Service		A			A	A	B	B			C	
Approach Delay (s)		8.8			7.4			12.5			23.9	
Approach LOS		A			A			B			C	

Intersection Summary			
HCM Average Control Delay	12.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	100.0%	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		✣			✣			✣			✣	
Volume (vph)	60	240	50	50	190	30	20	110	100	40	50	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.92			0.94			0.76			0.83	
Flpb, ped/bikes		0.94			0.95			0.96			0.90	
Frt		0.98			0.98			0.94			0.96	
Flt Protected		0.99			0.99			1.00			0.98	
Satd. Flow (prot)		1216			1247			988			1016	
Flt Permitted		0.90			0.89			0.97			0.87	
Satd. Flow (perm)		1109			1117			963			900	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	66	264	55	55	209	33	22	121	110	44	55	44
RTOR Reduction (vph)	0	10	0	0	7	0	0	19	0	0	23	0
Lane Group Flow (vph)	0	375	0	0	290	0	0	234	0	0	120	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		32.6			32.6			18.6			18.6	
Effective Green, g (s)		32.6			32.6			18.6			18.6	
Actuated g/C Ratio		0.54			0.54			0.31			0.31	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		603			607			299			279	
v/s Ratio Prot												
v/s Ratio Perm		c0.34			0.26			c0.24			0.13	
v/c Ratio		0.62			0.48			0.78			0.43	
Uniform Delay, d1		9.4			8.4			18.8			16.5	
Progression Factor		1.00			1.00			0.66			0.81	
Incremental Delay, d2		4.8			2.7			16.3			4.4	
Delay (s)		14.2			11.1			28.8			17.7	
Level of Service		B			B			C			B	
Approach Delay (s)		14.2			11.1			28.8			17.7	
Approach LOS		B			B			C			B	

Intersection Summary			
HCM Average Control Delay	17.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	58.6%	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												
Volume (vph)	30	210	100	40	130	40	50	70	170	40	70	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.84			1.00	0.46		0.69			0.86	
Flpb, ped/bikes		0.97			0.93	1.00		0.93			0.93	
Frt		0.96			1.00	0.85		0.92			0.96	
Flt Protected		1.00			0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1112			1321	565		841			1083	
Flt Permitted		0.97			0.88	1.00		0.93			0.88	
Satd. Flow (perm)		1082			1174	565		787			962	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	32	226	108	43	140	43	54	75	183	43	75	43
RTOR Reduction (vph)	0	18	0	0	0	18	0	17	0	0	21	0
Lane Group Flow (vph)	0	348	0	0	183	25	0	295	0	0	140	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		31.0			31.0	31.0		21.0			21.0	
Effective Green, g (s)		31.0			31.0	31.0		21.0			21.0	
Actuated g/C Ratio		0.52			0.52	0.52		0.35			0.35	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		559			607	292		275			337	
v/s Ratio Prot												
v/s Ratio Perm		c0.32			0.16	0.04		c0.38			0.15	
v/c Ratio		0.62			0.30	0.09		1.07			0.41	
Uniform Delay, d1		10.3			8.3	7.3		19.5			14.8	
Progression Factor		1.00			0.87	0.75		0.73			0.18	
Incremental Delay, d2		5.2			1.3	0.6		71.4			3.7	
Delay (s)		15.5			8.5	6.0		85.7			6.3	
Level of Service		B			A	A		F			A	
Approach Delay (s)		15.5			8.0			85.7			6.3	
Approach LOS		B			A			F			A	

Intersection Summary			
HCM Average Control Delay	33.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	85.9%	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												
Volume (vph)	30	230	70	20	90	20	20	60	60	20	30	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.48		1.00	0.48		0.76			0.84	
Flpb, ped/bikes		0.95	1.00		0.94	1.00		0.93			0.89	
Frt		1.00	0.85		1.00	0.85		0.94			0.96	
Flt Protected		0.99	1.00		0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1356	573		1334	573		945			1153	
Flt Permitted		0.97	1.00		0.93	1.00		0.96			0.90	
Satd. Flow (perm)		1316	573		1256	573		912			1057	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	34	264	80	23	103	23	23	69	69	23	34	23
RTOR Reduction (vph)	0	0	6	0	0	5	0	30	0	0	17	0
Lane Group Flow (vph)	0	298	74	0	126	18	0	131	0	0	63	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		36.0	36.0		36.0	36.0		16.0			16.0	
Effective Green, g (s)		36.0	36.0		36.0	36.0		16.0			16.0	
Actuated g/C Ratio		0.60	0.60		0.60	0.60		0.27			0.27	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		790	344		754	344		243			282	
v/s Ratio Prot												
v/s Ratio Perm		c0.23	0.13		0.10	0.03		c0.14			0.06	
v/c Ratio		0.38	0.22		0.17	0.05		0.54			0.22	
Uniform Delay, d1		6.2	5.5		5.3	5.0		18.8			17.2	
Progression Factor		0.71	0.68		1.00	1.00		0.93			0.81	
Incremental Delay, d2		0.8	0.8		0.5	0.3		7.2			1.7	
Delay (s)		5.2	4.6		5.8	5.2		24.8			15.6	
Level of Service		A	A		A	A		C			B	
Approach Delay (s)		5.1			5.7			24.8			15.6	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM Average Control Delay	10.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations										
Volume (vph)	30	170	60	30	40	20	390	200	150	860
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				4.0		5.0		5.0	5.0
Lane Util. Factor	1.00				1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.89				0.91		0.78		1.00	1.00
Flpb, ped/bikes	1.00				0.60		1.00		1.00	1.00
Frt	0.88				0.97		0.95		1.00	1.00
Flt Protected	0.99				0.96		1.00		0.95	1.00
Satd. Flow (prot)	1281				845		2310		1555	3110
Flt Permitted	0.99				0.96		1.00		0.95	1.00
Satd. Flow (perm)	1281				845		2310		1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	185	65	33	43	22	424	217	163	935
RTOR Reduction (vph)	12	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	271	0	0	0	98	0	641	0	163	935
Confl. Peds. (#/hr)				400	400	400		400		
Confl. Bikes (#/hr)		30	30			10		30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0
Turn Type				custom					Split	
Protected Phases	4!				8!		6		2	2
Permitted Phases				3						
Actuated Green, G (s)	20.0				46.0		17.0		13.0	13.0
Effective Green, g (s)	20.0				46.0		17.0		13.0	13.0
Actuated g/C Ratio	0.22				0.51		0.19		0.14	0.14
Clearance Time (s)	5.0				4.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	285				432		436		225	449
v/s Ratio Prot	c0.21						c0.28		0.10	c0.30
v/s Ratio Perm					0.12					
v/c Ratio	0.95				0.23		1.47		0.72	2.08
Uniform Delay, d1	34.5				12.2		36.5		36.8	38.5
Progression Factor	1.00				1.16		1.00		0.88	0.90
Incremental Delay, d2	40.3				0.2		223.8		16.6	493.9
Delay (s)	74.8				14.4		260.3		49.1	528.6
Level of Service	E				B		F		D	F
Approach Delay (s)	74.8				14.4		260.3			457.4
Approach LOS	E				B		F			F

Intersection Summary			
HCM Average Control Delay	326.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1040	30	10	700	20	0	60	30	0	100	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.89			0.90	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.95			0.96	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2874			2871			1213			1242	
Flt Permitted		1.00			0.94			1.00			1.00	
Satd. Flow (perm)		2874			2703			1213			1242	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	1083	31	10	729	21	0	62	31	0	104	42
RTOR Reduction (vph)	0	2	0	0	2	0	0	10	0	0	25	0
Lane Group Flow (vph)	0	1112	0	0	758	0	0	83	0	0	121	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type				Perm								
Protected Phases		2			6			8			4	
Permitted Phases				6								
Actuated Green, G (s)		41.3			41.3			9.9			9.9	
Effective Green, g (s)		41.3			41.3			9.9			9.9	
Actuated g/C Ratio		0.69			0.69			0.17			0.17	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1978			1861			200			205	
v/s Ratio Prot		c0.39						0.07			c0.10	
v/s Ratio Perm					0.28							
v/c Ratio		0.56			0.41			0.41			0.59	
Uniform Delay, d1		4.8			4.0			22.5			23.2	
Progression Factor		0.41			1.00			1.00			1.00	
Incremental Delay, d2		1.0			0.1			1.4			4.3	
Delay (s)		2.9			4.2			23.9			27.5	
Level of Service		A			A			C			C	
Approach Delay (s)		2.9			4.2			23.9			27.5	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	6.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
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												
Volume (vph)	0	810	160	0	540	40	180	130	80	0	170	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.69		1.00	0.69	1.00	1.00	0.72		0.98	
Flpb, ped/bikes		1.00	1.00		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	0.85		0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3110	959		3110	959	3016	1637	1006		2837	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		3110	959		3110	959	3016	1637	1006		2837	
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)	0	827	163	0	551	41	184	133	82	0	173	10
RTOR Reduction (vph)	0	0	69	0	0	18	0	0	2	0	6	0
Lane Group Flow (vph)	0	827	94	0	551	23	184	133	80	0	177	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type	Perm		Perm	Perm		Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		33.0	33.0		33.0	33.0	4.5	18.0	18.0		9.0	
Effective Green, g (s)		33.0	33.0		33.0	33.0	4.5	18.0	18.0		9.0	
Actuated g/C Ratio		0.55	0.55		0.55	0.55	0.08	0.30	0.30		0.15	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		1711	527		1711	527	226	491	302		426	
v/s Ratio Prot		c0.27			0.18		c0.06	0.08			c0.06	
v/s Ratio Perm			0.10			0.02			0.08			
v/c Ratio		0.48	0.18		0.32	0.04	0.81	0.27	0.26		0.42	
Uniform Delay, d1		8.3	6.7		7.4	6.2	27.3	16.0	16.0		23.1	
Progression Factor		1.00	1.00		0.78	0.66	1.00	1.00	1.00		1.05	
Incremental Delay, d2		1.0	0.7		0.5	0.1	19.7	0.3	0.5		0.6	
Delay (s)		9.3	7.5		6.2	4.3	47.0	16.3	16.4		24.9	
Level of Service		A	A		A	A	D	B	B		C	
Approach Delay (s)		9.0			6.1			30.5			24.9	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	13.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	78.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	130	770	560	70	90	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	0.96		0.81	
Flpb, ped/bikes		0.98	1.00		1.00	
Frt		1.00	0.98		0.93	
Flt Protected		0.99	1.00		0.98	
Satd. Flow (prot)		2843	2943		1055	
Flt Permitted		0.76	1.00		0.98	
Satd. Flow (perm)		2186	2943		1055	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	138	819	596	74	96	117
RTOR Reduction (vph)	0	0	17	0	37	0
Lane Group Flow (vph)	0	957	653	0	176	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		35.3	35.3		17.7	
Effective Green, g (s)		35.3	35.3		17.7	
Actuated g/C Ratio		0.59	0.59		0.29	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1286	1731		311	
v/s Ratio Prot			0.22		c0.17	
v/s Ratio Perm		c0.44				
v/c Ratio		0.74	0.38		0.57	
Uniform Delay, d1		9.0	6.5		17.9	
Progression Factor		0.44	1.00		0.85	
Incremental Delay, d2		2.2	0.1		6.8	
Delay (s)		6.2	6.7		21.9	
Level of Service		A	A		C	
Approach Delay (s)		6.2	6.7		21.9	
Approach LOS		A	A		C	

Intersection Summary			
HCM Average Control Delay	8.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	86.8%	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												
Volume (vph)	50	360	50	30	580	150	40	70	50	60	80	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.96			0.92			0.90			0.89	
Flpb, ped/bikes		0.99			0.99			0.95			0.93	
Frt		0.98			0.97			0.96			0.96	
Flt Protected		0.99			1.00			0.99			0.99	
Satd. Flow (prot)		2691			2575			1157			1127	
Flt Permitted		0.82			0.92			0.89			0.87	
Satd. Flow (perm)		2226			2386			1040			999	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	53	383	53	32	617	160	43	74	53	64	85	74
RTOR Reduction (vph)	0	16	0	0	17	0	0	27	0	0	16	0
Lane Group Flow (vph)	0	473	0	0	792	0	0	143	0	0	207	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		30.6			30.6			20.6			20.6	
Effective Green, g (s)		30.6			30.6			20.6			20.6	
Actuated g/C Ratio		0.51			0.51			0.34			0.34	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1135			1217			357			343	
v/s Ratio Prot												
v/s Ratio Perm		0.21			c0.33			0.14			c0.21	
v/c Ratio		0.42			0.65			0.40			0.60	
Uniform Delay, d1		9.1			10.8			15.0			16.3	
Progression Factor		1.00			0.65			1.00			0.72	
Incremental Delay, d2		1.1			2.6			3.3			6.7	
Delay (s)		10.3			9.5			18.3			18.4	
Level of Service		B			A			B			B	
Approach Delay (s)		10.3			9.5			18.3			18.4	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM Average Control Delay	11.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	83.9%	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												
Volume (vph)	50	800	40	40	510	50	60	50	70	30	50	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.98			0.97			0.87			0.89	
Flpb, ped/bikes		0.99			0.99			0.92			0.95	
Frt		0.99			0.99			0.95			0.96	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		2810			2753			1069			1141	
Flt Permitted		0.89			0.86			0.86			0.90	
Satd. Flow (perm)		2516			2386			935			1034	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	52	825	41	41	526	52	62	52	72	31	52	41
RTOR Reduction (vph)	0	5	0	0	10	0	0	12	0	0	28	0
Lane Group Flow (vph)	0	913	0	0	609	0	0	174	0	0	96	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		36.0			36.0			15.1			15.1	
Effective Green, g (s)		36.0			36.0			15.1			15.1	
Actuated g/C Ratio		0.60			0.60			0.25			0.25	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1510			1432			235			260	
v/s Ratio Prot												
v/s Ratio Perm		c0.36			0.26			c0.19			0.09	
v/c Ratio		0.60			0.43			0.74			0.37	
Uniform Delay, d1		7.5			6.4			20.6			18.5	
Progression Factor		0.75			1.00			1.00			0.91	
Incremental Delay, d2		1.8			0.2			11.8			0.9	
Delay (s)		7.5			6.7			32.5			17.7	
Level of Service		A			A			C			B	
Approach Delay (s)		7.5			6.7			32.5			17.7	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM Average Control Delay	10.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	85.2%	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												
Volume (vph)	30	780	80	40	500	90	70	10	20	20	20	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			0.96			0.93			0.82	
Flpb, ped/bikes		1.00			1.00			0.79			0.93	
Frt		0.99			0.98			0.97			0.93	
Flt Protected		1.00			1.00			0.97			0.99	
Satd. Flow (prot)		2781			2888			1135			1148	
Flt Permitted		0.91			0.84			0.77			0.92	
Satd. Flow (perm)		2542			2431			905			1067	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	34	876	90	45	562	101	79	11	22	22	22	45
RTOR Reduction (vph)	0	2	0	0	2	0	0	9	0	0	35	0
Lane Group Flow (vph)	0	998	0	0	706	0	0	103	0	0	54	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1754			1677			194			229	
v/s Ratio Prot												
v/s Ratio Perm		c0.39			0.29			c0.11			0.05	
v/c Ratio		0.57			0.42			0.53			0.23	
Uniform Delay, d1		7.1			6.1			31.3			29.2	
Progression Factor		1.00			0.37			1.00			0.26	
Incremental Delay, d2		1.3			0.7			9.9			0.2	
Delay (s)		8.5			2.9			41.3			7.7	
Level of Service		A			A			D			A	
Approach Delay (s)		8.5			2.9			41.3			7.7	
Approach LOS		A			A			D			A	

Intersection Summary			
HCM Average Control Delay	8.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	77.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	50	770	560	960	540	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3011	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3011	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	52	794	577	990	557	52
RTOR Reduction (vph)	0	31	0	0	8	0
Lane Group Flow (vph)	52	763	577	990	601	0
Confl. Peds. (#/hr)						109
Confl. Bikes (#/hr)		10				64
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	21.0	53.8	28.8	59.0	26.2	
Effective Green, g (s)	21.0	53.8	28.8	59.0	26.2	
Actuated g/C Ratio	0.23	0.60	0.32	0.66	0.29	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	363	1463	965	1911	877	
v/s Ratio Prot	0.03	c0.31	c0.19	0.34	c0.20	
v/s Ratio Perm						
v/c Ratio	0.14	0.52	0.60	0.52	0.69	
Uniform Delay, d1	27.4	10.6	25.7	8.1	28.3	
Progression Factor	0.78	0.38	0.81	0.90	0.34	
Incremental Delay, d2	0.2	0.3	0.8	0.8	0.2	
Delay (s)	21.4	4.3	21.5	8.1	9.9	
Level of Service	C	A	C	A	A	
Approach Delay (s)	5.3			13.1	9.9	
Approach LOS	A			B	A	

Intersection Summary			
HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	59.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	90	240	40	0	1510	30	70	50	1210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			0.99			1.00	1.00
Flpb, ped/bikes				0.73			1.00			1.00	1.00
Frt				0.98			0.99			1.00	1.00
Flt Protected				0.96			1.00			0.95	1.00
Satd. Flow (prot)				2041			4393			1555	3110
Flt Permitted				0.96			1.00			0.95	1.00
Satd. Flow (perm)				2041			4393			1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	98	261	43	0	1641	33	76	54	1315
RTOR Reduction (vph)	0	0	0	11	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	0	0	391	0	0	1745	0	0	54	1315
Confl. Peds. (#/hr)			107	139					107		
Confl. Bikes (#/hr)					8				106		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				21.1			50.1			5.8	59.9
Effective Green, g (s)				21.1			50.1			5.8	59.9
Actuated g/C Ratio				0.23			0.56			0.06	0.67
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				479			2445			100	2070
v/s Ratio Prot							c0.40			0.03	c0.42
v/s Ratio Perm				0.19							
v/c Ratio				0.82			0.71			0.54	0.64
Uniform Delay, d1				32.6			14.7			40.8	8.7
Progression Factor				1.00			0.77			1.00	1.00
Incremental Delay, d2				10.3			0.8			3.2	1.5
Delay (s)				42.9			12.1			44.0	10.2
Level of Service				D			B			D	B
Approach Delay (s)	0.0			42.9			12.1				11.6
Approach LOS	A			D			B				B

Intersection Summary			
HCM Average Control Delay	15.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	64.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBL	EBR	EBR2	SEL	SET	SER2	NWL2	NWL	NWT	NWR	SWR2
Lane Configurations												
Volume (vph)	40	0	10	160	20	1020	240	50	0	1160	30	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5		7.0	7.0	7.0		7.0	7.0		
Lane Util. Factor		1.00	1.00		1.00	0.95	1.00		1.00	0.95		
Frpb, ped/bikes		1.00	0.86		1.00	1.00	0.96		1.00	0.98		
Flpb, ped/bikes		1.00	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	1.00		
Flt Protected		0.95	1.00		0.95	1.00	1.00		0.95	1.00		
Satd. Flow (prot)		1555	1052		1555	3110	1334		1555	3050		
Flt Permitted		0.95	1.00		0.14	1.00	1.00		0.20	1.00		
Satd. Flow (perm)		1555	1052		232	3110	1334		328	3050		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	0	11	174	22	1109	261	54	0	1261	33	0
RTOR Reduction (vph)	0	0	126	0	0	0	122	0	0	2	0	0
Lane Group Flow (vph)	0	43	59	0	22	1109	139	0	54	1292	0	0
Confl. Peds. (#/hr)				130							1000	100
Confl. Bikes (#/hr)			10	10			30				30	10
Parking (#/hr)			5	5								
Turn Type	Perm		Perm		Perm		Perm	Perm	Perm			custom
Protected Phases		4				6				2		
Permitted Phases	4		4		6		6	2	2			8
Actuated Green, G (s)		18.0	18.0		34.5	34.5	34.5		34.5	34.5		
Effective Green, g (s)		18.0	18.0		34.5	34.5	34.5		34.5	34.5		
Actuated g/C Ratio		0.28	0.28		0.53	0.53	0.53		0.53	0.53		
Clearance Time (s)		5.5	5.5		7.0	7.0	7.0		7.0	7.0		
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)		431	291		123	1651	708		174	1619		
v/s Ratio Prot						0.36				c0.42		
v/s Ratio Perm		0.03	c0.06		0.09		0.10		0.16			
v/c Ratio		0.10	0.20		0.18	0.67	0.20		0.31	0.80		
Uniform Delay, d1		17.5	18.0		7.9	11.1	8.0		8.6	12.4		
Progression Factor		1.00	1.00		1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2		0.1	0.3		3.2	2.2	0.6		4.6	4.2		
Delay (s)		17.6	18.4		11.1	13.3	8.6		13.2	16.6		
Level of Service		B	B		B	B	A		B	B		
Approach Delay (s)		18.2				12.4				16.5		
Approach LOS		B				B				B		

Intersection Summary			
HCM Average Control Delay	14.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	91.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	30	0	20	0	0	0	60	1210	0	0	30	1160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.87					1.00	1.00				0.99
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.95					1.00	1.00				1.00
Flt Protected		0.97					0.95	1.00				1.00
Satd. Flow (prot)		1140					1555	3110				3058
Flt Permitted		0.97					0.95	1.00				0.89
Satd. Flow (perm)		1140					1555	3110				2718
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	32	0	21	0	0	0	64	1287	0	0	32	1234
RTOR Reduction (vph)	0	3	0	0	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	0	50	0	0	0	0	64	1287	0	0	0	1297
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		6.9					4.0	74.1				65.1
Effective Green, g (s)		6.9					4.0	74.1				65.1
Actuated g/C Ratio		0.08					0.04	0.82				0.72
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		87					69	2561				1966
v/s Ratio Prot		c0.04					c0.04	0.41				
v/s Ratio Perm												c0.48
v/c Ratio		0.58					0.93	0.50				0.66
Uniform Delay, d1		40.1					42.9	2.4				6.6
Progression Factor		1.00					0.87	0.48				1.00
Incremental Delay, d2		9.0					77.1	0.6				1.8
Delay (s)		49.1					114.5	1.8				8.3
Level of Service		D					F	A				A
Approach Delay (s)		49.1			0.0			7.1				8.3
Approach LOS		D			A			A				A

Intersection Summary			
HCM Average Control Delay	8.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	94.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	30
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	32
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	560	0	0	530	40	150	170	20	0	0	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				
Lane Util. Factor		0.95			0.95			0.95				
Frpb, ped/bikes		1.00			0.98			0.98				
Flpb, ped/bikes		0.98			1.00			0.86				
Frt		1.00			0.99			0.99				
Flt Protected		0.99			1.00			0.98				
Satd. Flow (prot)		2803			2791			2361				
Flt Permitted		0.75			1.00			0.98				
Satd. Flow (perm)		2115			2791			2361				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	117	596	0	0	564	43	160	181	21	0	0	0
RTOR Reduction (vph)	0	0	0	0	7	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	713	0	0	600	0	0	357	0	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm					
Protected Phases		2			6			8				
Permitted Phases	2						8					
Actuated Green, G (s)		43.5			43.5			27.5				
Effective Green, g (s)		43.5			43.5			27.5				
Actuated g/C Ratio		0.54			0.54			0.34				
Clearance Time (s)		4.5			4.5			4.5				
Vehicle Extension (s)		3.0			3.0			3.0				
Lane Grp Cap (vph)		1150			1518			812				
v/s Ratio Prot					0.22							
v/s Ratio Perm		c0.34						0.15				
v/c Ratio		0.62			0.40			0.44				
Uniform Delay, d1		12.6			10.6			20.3				
Progression Factor		1.00			0.35			1.00				
Incremental Delay, d2		2.5			0.6			1.7				
Delay (s)		15.1			4.3			22.0				
Level of Service		B			A			C				
Approach Delay (s)		15.1			4.3			22.0			0.0	
Approach LOS		B			A			C			A	

Intersection Summary			
HCM Average Control Delay	12.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	95.4%	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												
Volume (vph)	0	420	180	50	450	0	0	0	0	20	320	120
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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.90			1.00						0.94	
Flpb, ped/bikes		1.00			0.99						0.99	
Frt		0.95			1.00						0.96	
Flt Protected		1.00			1.00						1.00	
Satd. Flow (prot)		2678			3061						2603	
Flt Permitted		1.00			0.77						1.00	
Satd. Flow (perm)		2678			2371						2603	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	452	194	54	484	0	0	0	0	22	344	129
RTOR Reduction (vph)	0	47	0	0	0	0	0	0	0	0	41	0
Lane Group Flow (vph)	0	599	0	0	538	0	0	0	0	0	454	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		24.6			24.6						46.4	
Effective Green, g (s)		24.6			24.6						46.4	
Actuated g/C Ratio		0.31			0.31						0.58	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		823			729						1510	
v/s Ratio Prot		0.22										
v/s Ratio Perm					c0.23						0.17	
v/c Ratio		0.73			0.74						0.30	
Uniform Delay, d1		24.7			24.8						8.5	
Progression Factor		0.47			1.00						1.00	
Incremental Delay, d2		2.6			3.9						0.5	
Delay (s)		14.2			28.7						9.1	
Level of Service		B			C						A	
Approach Delay (s)		14.2			28.7			0.0			9.1	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM Average Control Delay	17.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	85.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	70	330	490	1210	0	1010	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.66	1.00	1.00		0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		0.99	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	915	3016	3110		3001	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	915	3016	3110		3001	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	70	330	490	1210	0	1010	80
RTOR Reduction (vph)	0	283	0	0	0	6	0
Lane Group Flow (vph)	70	47	490	1210	0	1084	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	12.8	12.8	21.0	66.2		39.2	
Effective Green, g (s)	12.8	12.8	21.0	66.2		39.2	
Actuated g/C Ratio	0.14	0.14	0.23	0.74		0.44	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	221	130	704	2288		1307	
v/s Ratio Prot	0.05		c0.16	0.39		c0.36	
v/s Ratio Perm		c0.05					
v/c Ratio	0.32	0.36	0.70	0.53		0.83	
Uniform Delay, d1	34.7	34.9	31.6	5.2		22.4	
Progression Factor	1.00	1.00	1.00	1.00		0.69	
Incremental Delay, d2	0.8	1.7	3.0	0.9		4.9	
Delay (s)	35.5	36.6	34.6	6.0		20.3	
Level of Service	D	D	C	A		C	
Approach Delay (s)	36.4			14.3		20.3	
Approach LOS	D			B		C	

Intersection Summary			
HCM Average Control Delay	19.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	96.2%	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												
Volume (vph)	20	230	10	20	130	20	10	80	30	30	110	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
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.43		1.00	0.66		0.92			1.00	0.46
Flpb, ped/bikes		0.98	1.00		0.95	1.00		0.96			0.95	1.00
Frt		1.00	0.85		1.00	0.85		0.97			1.00	0.85
Flt Protected		1.00	1.00		0.99	1.00		1.00			0.99	1.00
Satd. Flow (prot)		1596	600		1543	917		1395			1535	644
Flt Permitted		0.98	1.00		0.95	1.00		0.97			0.93	1.00
Satd. Flow (perm)		1567	600		1482	917		1353			1439	644
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	21	245	11	21	138	21	11	85	32	32	117	11
RTOR Reduction (vph)	0	0	4	0	0	7	0	6	0	0	0	8
Lane Group Flow (vph)	0	266	7	0	159	14	0	122	0	0	149	3
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		40.8	40.8		40.8	40.8		10.2			10.2	10.2
Effective Green, g (s)		40.8	40.8		40.8	40.8		10.2			10.2	10.2
Actuated g/C Ratio		0.68	0.68		0.68	0.68		0.17			0.17	0.17
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)		1066	408		1008	624		230			245	109
v/s Ratio Prot												
v/s Ratio Perm		c0.17	0.01		0.11	0.02		0.09			c0.10	0.00
v/c Ratio		0.25	0.02		0.16	0.02		0.53			0.61	0.02
Uniform Delay, d1		3.7	3.1		3.4	3.1		22.7			23.1	20.8
Progression Factor		1.00	1.00		0.22	0.05		1.23			0.99	1.07
Incremental Delay, d2		0.1	0.0		0.2	0.0		1.6			4.1	0.1
Delay (s)		3.8	3.1		0.9	0.2		29.5			26.9	22.2
Level of Service		A	A		A	A		C			C	C
Approach Delay (s)		3.8			0.8			29.5			26.6	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	12.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	1811	30	290	200	40	60	20	10	10	10	190	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.35		0.64	1.00	0.95			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.74	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	559	3110	480		904	1555	1315			1148	1172
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.98	1.00
Satd. Flow (perm)	3110	559	3110	480		904	1555	1315			1180	1172
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	2035	34	326	225	45	67	22	11	11	11	213	22
RTOR Reduction (vph)	0	4	0	101	0	2	0	9	0	0	0	17
Lane Group Flow (vph)	2035	30	326	169	0	65	22	13	0	0	224	5
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	47.0	47.0	47.0	47.0		16.0	16.0	16.0			16.0	16.0
Effective Green, g (s)	47.0	47.0	47.0	47.0		16.0	16.0	16.0			16.0	16.0
Actuated g/C Ratio	0.63	0.63	0.63	0.63		0.21	0.21	0.21			0.21	0.21
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1949	350	1949	301		193	332	281			252	250
v/s Ratio Prot	c0.65		0.10									
v/s Ratio Perm		0.05		0.35		0.07	0.01	0.01			c0.19	0.00
v/c Ratio	1.04	0.08	0.17	0.56		0.34	0.07	0.05			0.89	0.02
Uniform Delay, d1	14.0	5.5	5.8	8.1		25.0	23.5	23.4			28.6	23.3
Progression Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	33.0	0.5	0.2	7.4		4.7	0.4	0.3			34.0	0.1
Delay (s)	47.0	6.0	6.0	15.5		29.7	23.9	23.8			62.6	23.4
Level of Service	D	A	A	B		C	C	C			E	C
Approach Delay (s)	46.3		10.3								59.1	
Approach LOS	D		B								E	

Intersection Summary			
HCM Average Control Delay	39.6	HCM Level of Service	D
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	86.5%	ICU Level of Service	E
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	1841	60	20	440	90	40
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1959	64	21	468	96	43

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	1306	717	177	312	138
Volume Left (vph)	0	0	21	0	96
Volume Right (vph)	0	64	0	0	43
Hadj (s)	0.02	-0.05	0.08	0.02	-0.03
Departure Headway (s)	5.7	5.6	6.7	6.6	6.6
Degree Utilization, x	2.06	1.12	0.33	0.57	0.25
Capacity (veh/h)	644	644	532	539	532
Control Delay (s)	496.4	93.9	11.7	16.9	11.8
Approach Delay (s)	353.8		15.0		11.8
Approach LOS	F		C		B

Intersection Summary			
Delay	273.4		
HCM Level of Service	F		
Intersection Capacity Utilization	79.0%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	1611	230	20	10	360	20	10	10	10	20	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4				5.4		4.0			5.0	5.0
Lane Util. Factor		0.95				0.95		1.00			1.00	1.00
Frpb, ped/bikes		0.92				0.98		0.78			1.00	0.55
Flpb, ped/bikes		1.00				1.00		1.00			1.00	1.00
Frt		0.98				0.99		0.86			1.00	0.85
Flt Protected		1.00				1.00		1.00			0.98	1.00
Satd. Flow (prot)		2631				3019		1106			1597	768
Flt Permitted		0.94				0.76		1.00			0.98	1.00
Satd. Flow (perm)		2480				2291		1106			1597	768
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	1751	250	22	11	391	22	11	11	11	22	22
RTOR Reduction (vph)	0	1	0	0	0	5	0	0	0	0	0	19
Lane Group Flow (vph)	0	2055	0	0	0	419	0	11	0	0	44	3
Confl. Peds. (#/hr)	400		400	400	400		400	400	400	400		400
Confl. Bikes (#/hr)			30	30			30	10				10
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm			Free	Split	Split		Perm
Protected Phases		2				6			4	4	4	
Permitted Phases	2				6			Free				4
Actuated Green, G (s)		41.6				41.6		75.0			9.0	9.0
Effective Green, g (s)		41.6				41.6		75.0			9.0	9.0
Actuated g/C Ratio		0.55				0.55		1.00			0.12	0.12
Clearance Time (s)		5.4				5.4					5.0	5.0
Lane Grp Cap (vph)		1376				1271		1106			192	92
v/s Ratio Prot											c0.03	
v/s Ratio Perm		c0.83				0.18		0.01				0.00
v/c Ratio		1.49				0.33		0.01			0.23	0.03
Uniform Delay, d1		16.7				9.1		0.0			29.9	29.1
Progression Factor		1.00				0.84		1.00			1.00	1.00
Incremental Delay, d2		226.0				0.7		0.0			2.8	0.6
Delay (s)		242.7				8.4		0.0			32.6	29.7
Level of Service		F				A		A			C	C
Approach Delay (s)		242.7				8.4					31.7	
Approach LOS		F				A					C	

Intersection Summary			
HCM Average Control Delay	189.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	123.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	NWL	NWR	NWR2
Lane Configurations			
Volume (vph)	90	20	10
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	5.0		5.0
Lane Util. Factor	0.97		1.00
Frpb, ped/bikes	0.86		0.55
Flpb, ped/bikes	1.00		1.00
Frt	0.97		0.85
Flt Protected	0.96		1.00
Satd. Flow (prot)	2560		768
Flt Permitted	0.96		1.00
Satd. Flow (perm)	2560		768
Peak-hour factor, PHF	0.92	0.92	0.92
Adj. Flow (vph)	98	22	11
RTOR Reduction (vph)	0	0	1
Lane Group Flow (vph)	120	0	10
Confl. Peds. (#/hr)	400	400	400
Confl. Bikes (#/hr)		10	10
Parking (#/hr)			
Turn Type			Perm
Protected Phases	8		
Permitted Phases			8
Actuated Green, G (s)	9.0		9.0
Effective Green, g (s)	9.0		9.0
Actuated g/C Ratio	0.12		0.12
Clearance Time (s)	5.0		5.0
Lane Grp Cap (vph)	307		92
v/s Ratio Prot	c0.05		
v/s Ratio Perm			0.01
v/c Ratio	0.39		0.11
Uniform Delay, d1	30.5		29.4
Progression Factor	1.00		1.00
Incremental Delay, d2	3.7		2.4
Delay (s)	34.2		31.8
Level of Service	C		C
Approach Delay (s)	34.0		
Approach LOS	C		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1601	30	10	340	60	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.99			1.00	0.89	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	1.00			1.00	0.95	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2888			3103	1344	
Flt Permitted	1.00			0.90	0.97	
Satd. Flow (perm)	2888			2791	1344	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1685	32	11	358	63	32
RTOR Reduction (vph)	2	0	0	0	2	0
Lane Group Flow (vph)	1715	0	0	369	93	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1733			1675	403	
v/s Ratio Prot	c0.59				c0.07	
v/s Ratio Perm				0.13		
v/c Ratio	0.99			0.22	0.23	
Uniform Delay, d1	14.8			6.9	19.7	
Progression Factor	0.09			1.00	1.00	
Incremental Delay, d2	4.6			0.3	1.3	
Delay (s)	5.9			7.2	21.1	
Level of Service	A			A	C	
Approach Delay (s)	5.9			7.2	21.1	
Approach LOS	A			A	C	

Intersection Summary			
HCM Average Control Delay	6.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	75.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	1591	10	10	330	10	10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1693	11	11	351	11	11

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	1128	575	128	234	21
Volume Left (vph)	0	0	11	0	11
Volume Right (vph)	0	11	0	0	11
Hadj (s)	0.02	0.00	0.06	0.02	-0.18
Departure Headway (s)	5.0	4.9	6.0	6.0	6.2
Degree Utilization, x	1.55	0.79	0.21	0.39	0.04
Capacity (veh/h)	722	718	580	588	559
Control Delay (s)	268.8	22.6	9.5	11.6	9.4
Approach Delay (s)	185.7		10.8		9.4
Approach LOS	F		B		A

Intersection Summary			
Delay	153.6		
HCM Level of Service	F		
Intersection Capacity Utilization	69.3%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR2
Lane Configurations												
Volume (vph)	10	1501	30	10	330	50	50	30	50	20	20	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5	5.5		5.5		5.5	5.5	5.5
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	1.00
Frpb, ped/bikes		0.99			1.00	0.66		0.87		1.00	1.00	0.65
Flpb, ped/bikes		1.00			1.00	1.00		0.88		0.74	0.98	1.00
Frt		1.00			1.00	0.85		0.95		1.00	1.00	0.85
Flt Protected		1.00			1.00	1.00		0.98		0.95	1.00	1.00
Satd. Flow (prot)		2859			3110	808		1012		1097	1512	911
Flt Permitted		0.95			1.00	1.00		0.88		0.67	0.98	1.00
Satd. Flow (perm)		2724			3110	808		908		774	1490	911
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)	10	1532	31	10	337	51	51	31	51	20	20	10
RTOR Reduction (vph)	0	0	0	0	0	4	0	5	0	0	0	8
Lane Group Flow (vph)	0	1583	0	0	337	47	0	129	0	18	22	3
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10	10		10			10			10
Parking (#/hr)		5	5	5		5	5	5	5			
Turn Type	Perm					Perm	Perm			Perm		Perm
Protected Phases		2			6			8			4	
Permitted Phases	2				6	6	8			4		4
Actuated Green, G (s)		56.5			56.5	56.5		22.5		22.5	22.5	22.5
Effective Green, g (s)		56.5			56.5	56.5		22.5		22.5	22.5	22.5
Actuated g/C Ratio		0.63			0.63	0.63		0.25		0.25	0.25	0.25
Clearance Time (s)		5.5			5.5	5.5		5.5		5.5	5.5	5.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		1710			1952	507		227		194	373	228
v/s Ratio Prot					0.11							
v/s Ratio Perm		c0.58				0.06		c0.14		0.02	0.01	0.00
v/c Ratio		0.93			0.17	0.09		0.57		0.09	0.06	0.01
Uniform Delay, d1		14.9			7.0	6.6		29.5		25.9	25.7	25.4
Progression Factor		1.00			0.58	0.51		1.00		1.00	1.00	1.00
Incremental Delay, d2		10.1			0.2	0.4		9.8		0.2	0.1	0.0
Delay (s)		24.9			4.2	3.7		39.3		26.1	25.8	25.4
Level of Service		C			A	A		D		C	C	C
Approach Delay (s)		24.9			4.2			39.3			25.8	
Approach LOS		C			A			D			C	

Intersection Summary			
HCM Average Control Delay	21.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	127.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	NER2
Lane Configurations	
Volume (vph)	30
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.78
Flpb, ped/bikes	1.00
Frt	0.86
Flt Protected	1.00
Satd. Flow (prot)	967
Flt Permitted	1.00
Satd. Flow (perm)	967
Peak-hour factor, PHF	0.98
Adj. Flow (vph)	31
RTOR Reduction (vph)	0
Lane Group Flow (vph)	31
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	10
Parking (#/hr)	5
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Actuated Green, G (s)	90.0
Effective Green, g (s)	90.0
Actuated g/C Ratio	1.00
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	967
v/s Ratio Prot	
v/s Ratio Perm	0.03
v/c Ratio	0.03
Uniform Delay, d1	0.0
Progression Factor	1.00
Incremental Delay, d2	0.1
Delay (s)	0.1
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	1561	0	0	390	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1678	0	0	419	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	1678	0	0	419	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)		30				30
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		76.0			76.0	
Effective Green, g (s)		76.0			76.0	
Actuated g/C Ratio		0.84			0.84	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		2067			2547	
v/s Ratio Prot		c0.69			0.14	
v/s Ratio Perm						
v/c Ratio		0.81			0.16	
Uniform Delay, d1		3.5			1.3	
Progression Factor		1.22			1.12	
Incremental Delay, d2		1.8			0.1	
Delay (s)		6.0			1.6	
Level of Service		A			A	
Approach Delay (s)	6.0			0.0	1.6	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	5.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
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												
Volume (vph)	10	370	90	80	200	10	80	90	230	30	100	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.88		1.00	0.97			1.00	0.62		1.00	0.37
Flpb, ped/bikes		0.99		0.74	1.00			0.76	1.00		0.93	1.00
Frt		0.97		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.99	1.00
Satd. Flow (prot)		2618		1153	1376			1030	844		1507	508
Flt Permitted		0.95		0.36	1.00			0.82	1.00		0.92	1.00
Satd. Flow (perm)		2480		435	1376			865	844		1401	508
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)	11	389	95	84	211	11	84	95	242	32	105	21
RTOR Reduction (vph)	0	27	0	0	2	0	0	0	6	0	0	8
Lane Group Flow (vph)	0	468	0	84	220	0	0	179	236	0	137	13
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		23.8		23.8	23.8			56.2	56.2		56.2	56.2
Effective Green, g (s)		23.8		23.8	23.8			56.2	56.2		56.2	56.2
Actuated g/C Ratio		0.26		0.26	0.26			0.62	0.62		0.62	0.62
Clearance Time (s)		5.5		5.5	5.5			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)		656		115	364			540	527		875	317
v/s Ratio Prot					0.16							
v/s Ratio Perm		0.19		c0.19				0.21	c0.28		0.10	0.03
v/c Ratio		0.71		0.73	0.60			0.33	0.45		0.16	0.04
Uniform Delay, d1		30.0		30.2	29.0			8.0	8.8		7.0	6.5
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		3.7		21.0	2.8			1.6	2.7		0.4	0.2
Delay (s)		33.7		51.2	31.8			9.6	11.6		7.4	6.8
Level of Service		C		D	C			A	B		A	A
Approach Delay (s)		33.7			37.1			10.7			7.3	
Approach LOS		C			D			B			A	

Intersection Summary			
HCM Average Control Delay	24.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	67.2%	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												
Volume (vph)	0	450	110	20	180	430	90	0	40	1391	110	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.98			1.00	0.96		0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		0.99		1.00	1.00	
Frt		0.97			1.00	0.85		0.96		1.00	1.00	
Flt Protected		1.00			0.99	1.00		0.97		0.95	0.96	
Satd. Flow (prot)		2786			1622	2362		1308		1477	1488	
Flt Permitted		1.00			0.65	1.00		0.19		0.67	0.67	
Satd. Flow (perm)		2786			1054	2362		262		1044	1038	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	464	113	21	186	443	93	0	41	1434	113	10
RTOR Reduction (vph)	0	24	0	0	0	0	0	16	0	0	1	0
Lane Group Flow (vph)	0	553	0	0	207	443	0	118	0	774	783	0
Confl. Peds. (#/hr)	50			50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		17.0			17.0	65.5		17.5		45.0	45.0	
Effective Green, g (s)		17.0			17.0	65.5		17.5		45.0	45.0	
Actuated g/C Ratio		0.19			0.19	0.73		0.19		0.50	0.50	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		526			199	1719		51		522	519	
v/s Ratio Prot		c0.20										
v/s Ratio Perm					0.20	0.19		c0.45		0.74	c0.75	
v/c Ratio		1.05			1.04	0.26		2.31		1.48	1.51	
Uniform Delay, d1		36.5			36.5	4.1		36.2		22.5	22.5	
Progression Factor		1.00			1.00	1.00		1.00		0.89	0.89	
Incremental Delay, d2		53.7			74.7	0.4		646.9		224.0	235.1	
Delay (s)		90.2			111.2	4.5		683.2		244.1	255.1	
Level of Service		F			F	A		F		F	F	
Approach Delay (s)		90.2			38.5			683.2			249.6	
Approach LOS		F			D			F			F	

Intersection Summary			
HCM Average Control Delay	191.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	88.8%	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												
Volume (vph)	20	1461	30	60	520	20	110	60	281	30	30	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Lane Util. Factor		0.95			0.95	1.00		0.95			1.00	1.00
Frpb, ped/bikes		0.99			1.00	0.62		0.76			1.00	0.62
Flpb, ped/bikes		1.00			1.00	1.00		0.92			0.92	1.00
Frt		1.00			1.00	0.85		0.91			1.00	0.85
Flt Protected		1.00			0.99	1.00		0.99			0.98	1.00
Satd. Flow (prot)		3069			3094	754		1822			1470	860
Flt Permitted		0.94			0.64	1.00		0.86			0.75	1.00
Satd. Flow (perm)		2897			1994	754		1582			1133	860
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	21	1522	31	62	542	21	115	62	293	31	31	31
RTOR Reduction (vph)	0	2	0	0	0	9	0	3	0	0	0	20
Lane Group Flow (vph)	0	1572	0	0	604	12	0	467	0	0	62	11
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Actuated Green, G (s)		52.3			52.3	52.3		30.7			30.7	30.7
Effective Green, g (s)		52.3			52.3	52.3		30.7			30.7	30.7
Actuated g/C Ratio		0.58			0.58	0.58		0.34			0.34	0.34
Clearance Time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)		1683			1159	438		540			386	293
v/s Ratio Prot												
v/s Ratio Perm		c0.54			0.30	0.02		c0.30			0.05	0.01
v/c Ratio		0.93			0.86dl	0.03		0.99dr			0.16	0.04
Uniform Delay, d1		17.3			11.3	8.0		27.7			20.7	19.8
Progression Factor		1.00			0.47	0.26		1.00			1.00	1.00
Incremental Delay, d2		10.1			0.4	0.0		16.8			0.9	0.2
Delay (s)		27.3			5.8	2.2		44.5			21.6	20.0
Level of Service		C			A	A		D			C	C
Approach Delay (s)		27.3			5.7			44.5			21.0	
Approach LOS		C			A			D			C	

Intersection Summary			
HCM Average Control Delay	25.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	106.1%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	1592	150	0	470	30	70	280	212	10	140	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.95		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.80		0.99		1.00	0.84			0.88	
Flpb, ped/bikes		1.00	1.00		1.00		0.74	1.00			0.99	
Frt		1.00	0.85		0.99		1.00	0.94			0.95	
Flt Protected		1.00	1.00		1.00		0.95	1.00			1.00	
Satd. Flow (prot)		3104	974		3045		1155	3526			3728	
Flt Permitted		0.95	1.00		1.00		0.60	1.00			0.91	
Satd. Flow (perm)		2935	974		3045		733	3526			3402	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	21	1658	156	0	490	31	73	292	221	10	146	73
RTOR Reduction (vph)	0	0	1	0	0	0	0	5	0	0	56	0
Lane Group Flow (vph)	0	1679	155	0	521	0	73	508	0	0	173	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm				Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4				2			6		
Actuated Green, G (s)		59.5	59.5		59.5		20.5	20.5			20.5	
Effective Green, g (s)		59.5	59.5		59.5		20.5	20.5			20.5	
Actuated g/C Ratio		0.66	0.66		0.66		0.23	0.23			0.23	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1940	644		2013		167	803			775	
v/s Ratio Prot					0.17			c0.14				
v/s Ratio Perm		c0.57	0.16				0.10				0.05	
v/c Ratio		0.87	0.24		0.26		0.44	0.63			0.22	
Uniform Delay, d1		12.1	6.1		6.2		29.8	31.3			28.3	
Progression Factor		0.32	0.44		1.89		1.00	1.00			1.00	
Incremental Delay, d2		1.8	0.1		0.1		8.1	3.8			0.7	
Delay (s)		5.6	2.8		11.8		37.9	35.1			28.9	
Level of Service		A	A		B		D	D			C	
Approach Delay (s)		5.4			11.8			35.5			28.9	
Approach LOS		A			B			D			C	

Intersection Summary			
HCM Average Control Delay	13.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	108.7%	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												
Volume (vph)	0	2512	220	0	1490	60	140	130	40	90	110	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.97			0.99		1.00	0.92		1.00	0.91	
Flpb, ped/bikes		1.00			1.00		0.74	1.00		0.76	1.00	
Frt		0.99			0.99		1.00	0.96		1.00	0.96	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4285			4197		1157	1458		1175	1255	
Flt Permitted		1.00			1.00		0.65	1.00		0.62	1.00	
Satd. Flow (perm)		4285			4197		793	1458		764	1255	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	2590	227	0	1536	62	144	134	41	93	113	41
RTOR Reduction (vph)	0	8	0	0	5	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	2809	0	0	1593	0	144	175	0	93	151	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2476			2425		242	446		233	383	
v/s Ratio Prot		c0.66			0.38			0.12			0.12	
v/s Ratio Perm							c0.18			0.12		
v/c Ratio		1.13			0.66		0.60	0.39		0.40	0.39	
Uniform Delay, d1		19.0			12.9		26.5	24.7		24.7	24.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		66.1			1.4		10.3	2.6		5.0	3.0	
Delay (s)		85.1			14.3		36.9	27.2		29.8	27.7	
Level of Service		F			B		D	C		C	C	
Approach Delay (s)		85.1			14.3			31.6			28.5	
Approach LOS		F			B			C			C	

Intersection Summary			
HCM Average Control Delay	56.2	HCM Level of Service	E
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	105.0%	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												
Volume (vph)	0	2452	110	0	1320	70	90	130	60	90	130	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			1.00	
Frpb, ped/bikes		0.98			0.98		1.00	0.90			0.95	
Flpb, ped/bikes		1.00			1.00		0.82	1.00			0.92	
Frt		0.99			0.99		1.00	0.95			0.98	
Flt Protected		1.00			1.00		0.95	1.00			0.98	
Satd. Flow (prot)		4371			4355		1280	1397			1378	
Flt Permitted		1.00			1.00		0.52	1.00			0.74	
Satd. Flow (perm)		4371			4355		695	1397			1041	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	2665	120	0	1435	76	98	141	65	98	141	43
RTOR Reduction (vph)	0	5	0	0	6	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	2780	0	0	1505	0	98	206	0	0	278	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2589			2579		208	418			311	
v/s Ratio Prot		c0.64			0.35			0.15				
v/s Ratio Perm							0.14				c0.27	
v/c Ratio		1.07			0.58		0.47	0.49			0.89	
Uniform Delay, d1		18.4			11.4		25.7	25.9			30.2	
Progression Factor		1.00			1.62		1.00	1.00			1.00	
Incremental Delay, d2		41.3			0.8		7.5	4.1			29.9	
Delay (s)		59.6			19.4		33.2	30.1			60.0	
Level of Service		E			B		C	C			E	
Approach Delay (s)		59.6			19.4			31.1			60.0	
Approach LOS		E			B			C			E	

Intersection Summary			
HCM Average Control Delay	45.4	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	113.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	2152	200	0	1350	50	80	80	30	50	150	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.97			0.99			0.95			0.96	
Flpb, ped/bikes		1.00			1.00			0.92			0.95	
Frt		0.99			0.99			0.98			0.98	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		4101			4206			1196			1271	
Flt Permitted		1.00			1.00			0.73			0.90	
Satd. Flow (perm)		4101			4206			894			1157	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	2289	213	0	1436	53	85	85	32	53	160	32
RTOR Reduction (vph)	0	6	0	0	4	0	0	1	0	0	4	0
Lane Group Flow (vph)	0	2496	0	0	1485	0	0	201	0	0	241	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2461			2524			268			347	
v/s Ratio Prot		c0.61			0.35							
v/s Ratio Perm								c0.23			0.21	
v/c Ratio		1.01			0.59			0.75			0.69	
Uniform Delay, d1		18.0			11.1			28.5			27.8	
Progression Factor		0.13			1.00			1.00			1.00	
Incremental Delay, d2		9.6			1.0			17.5			10.9	
Delay (s)		11.9			12.1			46.0			38.7	
Level of Service		B			B			D			D	
Approach Delay (s)		11.9			12.1			46.0			38.7	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	15.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	82.1%	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		↑↑↑			↑↑↑		↰	↕				↱
Volume (vph)	0	1752	0	0	570	30	870	451	50	0	0	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.98		1.00	0.98				0.97
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.98				1.00
Satd. Flow (prot)		4282			4360		1415	2659				1373
Flt Permitted		1.00			1.00		0.95	0.98				1.00
Satd. Flow (perm)		4282			4360		1415	2659				1373
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	1844	0	0	600	32	916	475	53	0	0	63
RTOR Reduction (vph)	0	0	0	0	7	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	1844	0	0	625	0	476	964	0	0	0	63
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		44.0			30.0		36.0	36.0				11.0
Effective Green, g (s)		44.0			30.0		36.0	36.0				11.0
Actuated g/C Ratio		0.49			0.33		0.40	0.40				0.12
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		2093			1453		566	1064				168
v/s Ratio Prot		c0.43			0.14							
v/s Ratio Perm							0.34	0.36				0.05
v/c Ratio		0.88			0.43		0.84	0.91				0.38
Uniform Delay, d1		20.7			23.3		24.4	25.4				36.3
Progression Factor		1.00			0.30		1.00	1.00				1.00
Incremental Delay, d2		5.8			0.8		14.1	12.6				6.3
Delay (s)		26.4			7.8		38.5	38.0				42.6
Level of Service		C			A		D	D				D
Approach Delay (s)		26.4			7.8			38.2			42.6	
Approach LOS		C			A			D			D	

Intersection Summary			
HCM Average Control Delay	28.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	75.4%	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												
Volume (vph)	282	240	1391	0	120	30	400	281	40	0	430	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		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.93		1.00	0.94			1.00	0.67
Flpb, ped/bikes		0.86	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.97		1.00	0.98			1.00	0.85
Flt Protected		0.97	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1371	2448		1265		4385	1319			3110	815
Flt Permitted		0.74	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		1049	2448		1265		4385	1319			3110	815
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	294	250	1449	0	125	31	417	293	42	0	448	52
RTOR Reduction (vph)	0	0	2	0	10	0	0	6	0	0	0	37
Lane Group Flow (vph)	0	544	1447	0	146	0	417	329	0	0	448	15
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		40.5	55.5		40.5		11.5	41.5			26.5	26.5
Effective Green, g (s)		40.5	52.0		40.5		11.5	41.5			26.5	26.5
Actuated g/C Ratio		0.45	0.58		0.45		0.13	0.46			0.29	0.29
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		472	1414		569		560	608			916	240
v/s Ratio Prot			c0.59		0.12		0.10	c0.25			0.14	
v/s Ratio Perm		c0.52										0.02
v/c Ratio		1.15	1.02		0.26		0.74	0.54			0.49	0.06
Uniform Delay, d1		24.8	19.0		15.4		37.8	17.4			26.2	22.8
Progression Factor		0.23	0.60		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		81.2	23.4		0.2		8.7	3.4			1.9	0.5
Delay (s)		86.9	34.7		15.6		46.5	20.8			28.0	23.3
Level of Service		F	C		B		D	C			C	C
Approach Delay (s)		49.0			15.6			35.1			27.5	
Approach LOS		D			B			D			C	

Intersection Summary			
HCM Average Control Delay	41.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	99.3%	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												
Volume (vph)	0	0	0	30	100	50	20	40	0	0	50	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.70		1.00			0.98	
Flpb, ped/bikes					0.95	1.00		0.99			1.00	
Frt					1.00	0.85		1.00			0.96	
Flt Protected					0.99	1.00		0.98			1.00	
Satd. Flow (prot)					2744	954		1589			1548	
Flt Permitted					0.99	1.00		0.91			1.00	
Satd. Flow (perm)					2744	954		1471			1548	
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	0	0	0	38	128	64	26	51	0	0	64	26
RTOR Reduction (vph)	0	0	0	0	0	36	0	0	0	0	16	0
Lane Group Flow (vph)	0	0	0	0	166	28	0	77	0	0	74	0
Confl. Peds. (#/hr)				154		203	51					51
Confl. Bikes (#/hr)						14						3
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					26.0	26.0		24.0			24.0	
Effective Green, g (s)					26.0	26.0		24.0			24.0	
Actuated g/C Ratio					0.43	0.43		0.40			0.40	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1189	413		588			619	
v/s Ratio Prot											0.05	
v/s Ratio Perm					0.06	0.03		c0.05				
v/c Ratio					0.14	0.07		0.13			0.12	
Uniform Delay, d1					10.3	9.9		11.4			11.3	
Progression Factor					1.00	1.00		0.97			1.00	
Incremental Delay, d2					0.2	0.3		0.5			0.4	
Delay (s)					10.5	10.2		11.5			11.7	
Level of Service					B	B		B			B	
Approach Delay (s)		0.0			10.4			11.5			11.7	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	10.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.14		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	45.0%	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												
Volume (vph)	0	0	0	30	120	10	20	10	0	0	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.98		1.00	1.00			0.92	
Flpb, ped/bikes				1.00	1.00		0.85	1.00			1.00	
Frt				1.00	0.99		1.00	1.00			0.93	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	3007		1314	1637			1397	
Flt Permitted				0.95	1.00		0.74	1.00			1.00	
Satd. Flow (perm)				1555	3007		1024	1637			1397	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	0	0	0	39	156	13	26	13	0	0	13	13
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	39	165	0	26	13	0	0	26	0
Confl. Peds. (#/hr)						369	74					74
Confl. Bikes (#/hr)						16			1			
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				42.4	42.4		8.3	8.3			8.3	
Effective Green, g (s)				42.4	42.4		8.3	8.3			8.3	
Actuated g/C Ratio				0.71	0.71		0.14	0.14			0.14	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				1099	2125		142	226			193	
v/s Ratio Prot				0.03	c0.05			0.01			0.02	
v/s Ratio Perm							c0.03					
v/c Ratio				0.04	0.08		0.18	0.06			0.13	
Uniform Delay, d1				2.6	2.7		22.9	22.5			22.7	
Progression Factor				1.00	1.00		0.82	0.82			1.00	
Incremental Delay, d2				0.1	0.1		2.8	0.5			1.4	
Delay (s)				2.7	2.8		21.6	18.9			24.1	
Level of Service				A	A		C	B			C	
Approach Delay (s)		0.0			2.8			20.7			24.1	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	7.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.10		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	130	40	10	70	40	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	135	42	10	73	42	10
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	291					
pX, platoon unblocked						
vC, conflicting volume			577		1050	889
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			577		1050	889
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		61	93
cM capacity (veh/h)			694		106	139

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	90	87	83	52
Volume Left	0	0	10	42
Volume Right	0	42	0	10
cSH	1700	1700	694	112
Volume to Capacity	0.05	0.05	0.02	0.47
Queue Length 95th (ft)	0	0	1	51
Control Delay (s)	0.0	0.0	1.4	62.7
Lane LOS			A	F
Approach Delay (s)	0.0		1.4	62.7
Approach LOS				F

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												
Volume (vph)	20	140	20	10	100	10	10	30	21	20	50	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	
Lane Util. Factor		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.57		0.97			0.82			0.88	
Flpb, ped/bikes		0.96	1.00		0.97			0.93			0.90	
Frt		1.00	0.85		0.99			0.95			0.97	
Flt Protected		0.99	1.00		1.00			0.99			0.99	
Satd. Flow (prot)		1557	793		1327			1030			1088	
Flt Permitted		0.96	1.00		0.98			0.96			0.94	
Satd. Flow (perm)		1510	793		1304			1000			1038	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	23	161	23	11	115	11	11	34	24	23	57	23
RTOR Reduction (vph)	0	0	12	0	5	0	0	15	0	0	15	0
Lane Group Flow (vph)	0	184	11	0	132	0	0	54	0	0	88	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4			4		
Actuated Green, G (s)		29.0	29.0		29.0			22.0			22.0	
Effective Green, g (s)		29.0	29.0		29.0			22.0			22.0	
Actuated g/C Ratio		0.48	0.48		0.48			0.37			0.37	
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)		730	383		630			367			381	
v/s Ratio Prot												
v/s Ratio Perm		c0.12	0.01		0.10			0.05			c0.09	
v/c Ratio		0.25	0.03		0.21			0.15			0.23	
Uniform Delay, d1		9.1	8.1		8.9			12.7			13.2	
Progression Factor		1.00	1.00		1.00			1.00			0.84	
Incremental Delay, d2		0.8	0.1		0.8			0.8			1.4	
Delay (s)		9.9	8.3		9.7			13.6			12.5	
Level of Service		A	A		A			B			B	
Approach Delay (s)		9.8			9.7			13.6			12.5	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	10.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	77.9%	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												
Volume (vph)	0	172	20	20	170	0	10	0	21	10	10	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
Lane Util. Factor		1.00	1.00		0.95			1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.42		1.00			0.63			1.00	0.67
Flpb, ped/bikes		1.00	1.00		0.96			0.90			0.74	1.00
Frt		1.00	0.85		1.00			0.91			1.00	0.85
Flt Protected		1.00	1.00		0.99			0.98			0.98	1.00
Satd. Flow (prot)		1637	571		2958			827			1189	933
Flt Permitted		1.00	1.00		0.91			0.95			0.93	1.00
Satd. Flow (perm)		1637	571		2709			802			1134	933
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	0	202	24	24	200	0	12	0	25	12	12	12
RTOR Reduction (vph)	0	0	18	0	0	0	0	1	0	0	0	5
Lane Group Flow (vph)	0	202	6	0	224	0	0	36	0	0	24	7
Confl. Peds. (#/hr)			400	400			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	36.5
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	36.5
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	0.61
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)		396	138		655			488			690	568
v/s Ratio Prot		c0.12										
v/s Ratio Perm			0.01		0.08			c0.04			0.02	0.01
v/c Ratio		0.51	0.04		0.34			0.07			0.03	0.01
Uniform Delay, d1		19.7	17.4		18.8			4.8			4.7	4.6
Progression Factor		0.83	0.71		1.00			1.00			1.00	1.00
Incremental Delay, d2		4.6	0.6		1.4			0.3			0.0	0.0
Delay (s)		21.0	12.9		20.2			5.1			4.7	4.6
Level of Service		C	B		C			A			A	A
Approach Delay (s)		20.2			20.2			5.1			4.7	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	18.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.20		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	160	10	10	20	20	0	191	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		0.83		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		0.93		1.00			1.00
Flt Protected		1.00		0.98		1.00			0.97
Satd. Flow (prot)		942		1079		1637			3014
Flt Permitted		1.00		0.98		1.00			0.95
Satd. Flow (perm)		942		1079		1637			2970
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	184	11	11	23	23	0	220	126
RTOR Reduction (vph)	0	0	0	16	0	0	0	0	0
Lane Group Flow (vph)	0	184	0	29	0	23	0	0	346
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		306		314			891
v/s Ratio Prot						0.01			
v/s Ratio Perm		c0.20		0.03					c0.12
v/c Ratio		0.35		0.09		0.07			0.39
Uniform Delay, d1		7.3		15.8		19.9			16.6
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		1.8		0.6		0.1			1.3
Delay (s)		9.1		16.4		20.0			17.9
Level of Service		A		B		B			B
Approach Delay (s)	9.1			16.4		20.0			17.9
Approach LOS	A			B		B			B

Intersection Summary			
HCM Average Control Delay	15.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	55.9%	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												
Volume (vph)	30	240	40	40	130	40	30	80	20	20	60	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.97			1.00	0.59	1.00	0.88			0.88	
Flpb, ped/bikes		0.97			1.00	1.00	0.52	1.00			0.91	
Frt		0.98			1.00	0.85	1.00	0.97			0.97	
Flt Protected		1.00			0.99	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1317			1415	722	815	1225			2385	
Flt Permitted		0.96			0.87	1.00	0.68	1.00			0.88	
Satd. Flow (perm)		1273			1249	722	585	1225			2119	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	34	270	45	45	146	45	34	90	22	22	67	22
RTOR Reduction (vph)	0	4	0	0	0	3	0	12	0	0	0	0
Lane Group Flow (vph)	0	345	0	0	191	42	34	100	0	0	111	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		68.6			68.6	68.6	11.3	11.3			11.3	
Effective Green, g (s)		68.6			68.6	68.6	11.3	11.3			11.3	
Actuated g/C Ratio		0.76			0.76	0.76	0.13	0.13			0.13	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		970			952	550	73	154			266	
v/s Ratio Prot								c0.08				
v/s Ratio Perm		c0.27			0.15	0.06	0.06				0.05	
v/c Ratio		0.36			0.20	0.08	0.47	0.65			0.42	
Uniform Delay, d1		3.5			3.0	2.7	36.5	37.5			36.3	
Progression Factor		1.00			1.00	1.00	0.63	0.67			1.00	
Incremental Delay, d2		1.0			0.5	0.3	4.6	9.0			1.1	
Delay (s)		4.5			3.5	3.0	27.5	34.1			37.4	
Level of Service		A			A	A	C	C			D	
Approach Delay (s)		4.5			3.4			32.6			37.4	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM Average Control Delay	13.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	110.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Volume (vph)	20	230	40	10	130	10	10	41	30	30	30	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.96			0.98			0.78			0.84	
Flpb, ped/bikes		0.98			0.99			0.94			0.82	
Frt		0.98			0.99			0.95			0.97	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		1319			1368			985			943	
Flt Permitted		0.98			0.98			0.96			0.87	
Satd. Flow (perm)		1293			1339			957			838	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	24	271	47	12	153	12	12	48	35	35	35	24
RTOR Reduction (vph)	0	1	0	0	1	0	0	23	0	0	13	0
Lane Group Flow (vph)	0	341	0	0	176	0	0	72	0	0	81	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.6			62.6			18.6			18.6	
Effective Green, g (s)		62.6			62.6			18.6			18.6	
Actuated g/C Ratio		0.70			0.70			0.21			0.21	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		899			931			198			173	
v/s Ratio Prot												
v/s Ratio Perm		c0.26			0.13			0.08			c0.10	
v/c Ratio		0.38			0.19			0.36			0.47	
Uniform Delay, d1		5.7			4.8			30.6			31.3	
Progression Factor		1.00			1.00			0.74			1.00	
Incremental Delay, d2		1.2			0.4			4.2			8.7	
Delay (s)		6.9			5.3			26.9			40.1	
Level of Service		A			A			C			D	
Approach Delay (s)		6.9			5.3			26.9			40.1	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM Average Control Delay	13.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	20	230	60	20	100	10	20	32	90	10	30	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.93			1.00	0.66		0.65			0.89	
Flpb, ped/bikes		0.98			0.97	1.00		0.93			0.92	
Frt		0.97			1.00	0.85		0.91			0.97	
Flt Protected		1.00			0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1276			1375	802		781			1130	
Flt Permitted		0.98			0.93	1.00		0.96			0.95	
Satd. Flow (perm)		1256			1288	802		758			1081	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	250	65	22	109	11	22	35	98	11	33	11
RTOR Reduction (vph)	0	7	0	0	0	4	0	69	0	0	8	0
Lane Group Flow (vph)	0	330	0	0	131	7	0	86	0	0	47	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		57.0			57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0			57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63			0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		795			816	508		211			300	
v/s Ratio Prot												
v/s Ratio Perm		c0.26			0.10	0.01		c0.11			0.04	
v/c Ratio		0.42			0.16	0.01		0.41			0.16	
Uniform Delay, d1		8.2			6.7	6.1		26.5			24.5	
Progression Factor		1.00			0.77	0.60		0.90			1.00	
Incremental Delay, d2		1.6			0.4	0.0		4.8			1.1	
Delay (s)		9.8			5.6	3.7		28.6			25.7	
Level of Service		A			A	A		C			C	
Approach Delay (s)		9.8			5.5			28.6			25.7	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	14.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	230	70	10	110	10	40	71	40	10	30	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.66		1.00	0.66		0.85			0.81	
Flpb, ped/bikes		0.97	1.00		0.98	1.00		0.87			0.94	
Frt		1.00	0.85		1.00	0.85		0.96			0.95	
Flt Protected		0.99	1.00		1.00	1.00		0.99			0.99	
Satd. Flow (prot)		1381	786		1402	786		1014			1182	
Flt Permitted		0.96	1.00		0.97	1.00		0.92			0.95	
Satd. Flow (perm)		1337	786		1371	786		940			1137	
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)	33	256	78	11	122	11	44	79	44	11	33	22
RTOR Reduction (vph)	0	0	7	0	0	4	0	14	0	0	16	0
Lane Group Flow (vph)	0	289	71	0	133	7	0	153	0	0	50	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63	0.63		0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		847	498		868	498		261			316	
v/s Ratio Prot												
v/s Ratio Perm		c0.22	0.09		0.10	0.01		c0.16			0.04	
v/c Ratio		0.34	0.14		0.15	0.01		0.58			0.16	
Uniform Delay, d1		7.7	6.7		6.7	6.1		28.0			24.6	
Progression Factor		0.71	0.65		1.00	1.00		0.66			1.00	
Incremental Delay, d2		1.0	0.6		0.4	0.1		5.7			1.1	
Delay (s)		6.4	4.9		7.1	6.2		24.2			25.6	
Level of Service		A	A		A	A		C			C	
Approach Delay (s)		6.1			7.0			24.2			25.6	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	12.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations										
Volume (vph)	10	250	30	30	10	20	170	20	180	291
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				5.0		5.0		5.0	5.0
Lane Util. Factor	1.00				1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.88				0.88		0.93		1.00	1.00
Flpb, ped/bikes	1.00				0.70		1.00		1.00	1.00
Frt	0.87				0.95		0.98		1.00	1.00
Flt Protected	1.00				0.97		1.00		0.95	1.00
Satd. Flow (prot)	1256				927		2854		1555	3110
Flt Permitted	1.00				0.97		1.00		0.95	1.00
Satd. Flow (perm)	1256				927		2854		1555	3110
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	250	30	30	10	20	170	20	180	291
RTOR Reduction (vph)	5	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	285	0	0	0	60	0	190	0	180	291
Confl. Peds. (#/hr)				400	400	400		400		
Confl. Bikes (#/hr)		30	30			10		30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0
Turn Type				Perm					Split	
Protected Phases	4				3		6		2	2
Permitted Phases				3						
Actuated Green, G (s)	20.0				20.0		17.0		13.0	13.0
Effective Green, g (s)	20.0				20.0		17.0		13.0	13.0
Actuated g/C Ratio	0.22				0.22		0.19		0.14	0.14
Clearance Time (s)	5.0				5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	279				206		539		225	449
v/s Ratio Prot	c0.23						c0.07		c0.12	0.09
v/s Ratio Perm					0.06					
v/c Ratio	1.02				0.29		0.35		0.80	0.65
Uniform Delay, d1	35.0				29.1		31.7		37.2	36.3
Progression Factor	1.00				0.79		1.00		0.81	0.82
Incremental Delay, d2	59.8				0.7		1.8		24.6	6.9
Delay (s)	94.8				23.8		33.5		54.9	36.7
Level of Service	F				C		C		D	D
Approach Delay (s)	94.8				23.8		33.5			43.6
Approach LOS	F				C		C			D

Intersection Summary			
HCM Average Control Delay	55.2	HCM Level of Service	E
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	78.4%	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												
Volume (vph)	0	1813	40	0	850	10	0	20	51	0	50	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			1.00			0.73			0.94	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.90			0.98	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2888			2900			941			1309	
Flt Permitted		1.00			1.00			1.00			1.00	
Satd. Flow (perm)		2888			2900			941			1309	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1971	43	0	924	11	0	22	55	0	54	11
RTOR Reduction (vph)	0	0	0	0	0	0	0	4	0	0	9	0
Lane Group Flow (vph)	0	2014	0	0	935	0	0	73	0	0	56	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type												
Protected Phases		2			6			8			4	
Permitted Phases												
Actuated Green, G (s)		70.6			70.6			10.6			10.6	
Effective Green, g (s)		70.6			70.6			10.6			10.6	
Actuated g/C Ratio		0.78			0.78			0.12			0.12	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2265			2275			111			154	
v/s Ratio Prot		c0.70			0.32			c0.08			0.04	
v/s Ratio Perm												
v/c Ratio		0.89			0.41			0.65			0.36	
Uniform Delay, d1		6.9			3.1			37.9			36.6	
Progression Factor		0.31			1.00			1.00			1.00	
Incremental Delay, d2		3.6			0.1			13.0			1.5	
Delay (s)		5.7			3.2			51.0			38.1	
Level of Service		A			A			D			D	
Approach Delay (s)		5.7			3.2			51.0			38.1	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	6.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	78.5%	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												
Volume (vph)	10	1533	390	40	560	30	120	80	70	0	120	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.77		1.00	0.77	1.00	1.00	0.67		0.97	
Flpb, ped/bikes		1.00	1.00		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	0.85		0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3109	1077		3099	1077	3016	1637	933		2800	
Flt Permitted		0.95	1.00		0.77	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		2958	1077		2391	1077	3016	1637	933		2800	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	10	1580	402	41	577	31	124	82	72	0	124	10
RTOR Reduction (vph)	0	0	61	0	0	9	0	0	2	0	7	0
Lane Group Flow (vph)	0	1590	341	0	618	22	124	82	70	0	127	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type	Perm		Perm	Perm		Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		60.0	60.0		60.0	60.0	7.1	21.0	21.0		9.4	
Effective Green, g (s)		60.0	60.0		60.0	60.0	7.1	21.0	21.0		9.4	
Actuated g/C Ratio		0.67	0.67		0.67	0.67	0.08	0.23	0.23		0.10	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		1972	718		1594	718	238	382	218		292	
v/s Ratio Prot							c0.04	0.05			c0.05	
v/s Ratio Perm		c0.54	0.32		0.26	0.02			0.07			
v/c Ratio		0.81	0.48		0.39	0.03	0.52	0.21	0.32		0.43	
Uniform Delay, d1		10.8	7.3		6.7	5.1	39.8	27.8	28.6		37.8	
Progression Factor		1.00	1.00		0.79	0.77	1.00	1.00	1.00		0.72	
Incremental Delay, d2		3.6	2.3		0.7	0.1	2.1	0.3	0.9		1.0	
Delay (s)		14.5	9.6		6.0	4.0	41.9	28.1	29.4		28.3	
Level of Service		B	A		A	A	D	C	C		C	
Approach Delay (s)		13.5			5.9			34.6			28.3	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM Average Control Delay	14.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	125.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	51	1413	540	40	40	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	0.98		0.83	
Flpb, ped/bikes		1.00	1.00		1.00	
Frt		1.00	0.99		0.94	
Flt Protected		1.00	1.00		0.97	
Satd. Flow (prot)		2899	3015		1092	
Flt Permitted		0.91	1.00		0.97	
Satd. Flow (perm)		2632	3015		1092	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	55	1536	587	43	43	33
RTOR Reduction (vph)	0	0	6	0	27	0
Lane Group Flow (vph)	0	1591	624	0	49	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		66.4	66.4		16.6	
Effective Green, g (s)		66.4	66.4		16.6	
Actuated g/C Ratio		0.74	0.74		0.18	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1942	2224		201	
v/s Ratio Prot			0.21		c0.04	
v/s Ratio Perm		c0.60				
v/c Ratio		0.82	0.28		0.24	
Uniform Delay, d1		7.8	3.9		31.3	
Progression Factor		0.32	1.00		0.67	
Incremental Delay, d2		1.7	0.1		2.7	
Delay (s)		4.2	4.0		23.6	
Level of Service		A	A		C	
Approach Delay (s)		4.2	4.0		23.6	
Approach LOS		A	A		C	

Intersection Summary			
HCM Average Control Delay	4.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	104.6%	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												
Volume (vph)	51	1412	40	20	380	60	30	31	60	40	50	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.96			0.82			0.91	
Flpb, ped/bikes		0.99			1.00			0.94			0.91	
Frt		1.00			0.98			0.93			0.97	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2859			2731			1019			1134	
Flt Permitted		0.92			0.85			0.91			0.88	
Satd. Flow (perm)		2627			2339			936			1020	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	54	1502	43	21	404	64	32	33	64	43	53	32
RTOR Reduction (vph)	0	2	0	0	2	0	0	8	0	0	13	0
Lane Group Flow (vph)	0	1597	0	0	487	0	0	121	0	0	115	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		60.6			60.6			20.6			20.6	
Effective Green, g (s)		60.6			60.6			20.6			20.6	
Actuated g/C Ratio		0.67			0.67			0.23			0.23	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1769			1575			214			233	
v/s Ratio Prot												
v/s Ratio Perm		c0.61			0.21			c0.13			0.11	
v/c Ratio		0.90			0.31			0.57			0.49	
Uniform Delay, d1		12.2			6.1			30.7			30.2	
Progression Factor		1.00			0.17			1.00			0.81	
Incremental Delay, d2		8.0			0.4			10.4			7.1	
Delay (s)		20.2			1.4			41.2			31.4	
Level of Service		C			A			D			C	
Approach Delay (s)		20.2			1.4			41.2			31.4	
Approach LOS		C			A			D			C	

Intersection Summary			
HCM Average Control Delay	18.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	110.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	41	1462	20	40	660	80	40	30	110	40	20	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			0.97			0.78			0.83	
Flpb, ped/bikes		1.00			1.00			0.94			0.92	
Frt		1.00			0.98			0.92			0.94	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2887			2769			953			1018	
Flt Permitted		0.90			0.76			0.92			0.81	
Satd. Flow (perm)		2608			2119			885			837	
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)	46	1624	22	44	733	89	44	33	122	44	22	56
RTOR Reduction (vph)	0	1	0	0	2	0	0	6	0	0	34	0
Lane Group Flow (vph)	0	1691	0	0	864	0	0	193	0	0	88	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		61.7			61.7			19.4			19.4	
Effective Green, g (s)		61.7			61.7			19.4			19.4	
Actuated g/C Ratio		0.69			0.69			0.22			0.22	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1788			1453			191			180	
v/s Ratio Prot												
v/s Ratio Perm		c0.65			0.41			c0.22			0.11	
v/c Ratio		0.95			0.59			1.01			0.49	
Uniform Delay, d1		12.7			7.5			35.3			31.0	
Progression Factor		0.30			3.17			1.00			0.70	
Incremental Delay, d2		7.1			0.6			67.5			2.1	
Delay (s)		10.9			24.4			102.8			23.6	
Level of Service		B			C			F			C	
Approach Delay (s)		10.9			24.4			102.8			23.6	
Approach LOS		B			C			F			C	

Intersection Summary			
HCM Average Control Delay	21.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	105.1%	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												
Volume (vph)	10	1401	190	50	712	30	40	10	20	10	20	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.96			0.99			0.89			0.85	
Flpb, ped/bikes		1.00			1.00			0.81			0.94	
Frt		0.98			0.99			0.96			0.95	
Flt Protected		1.00			1.00			0.97			0.99	
Satd. Flow (prot)		2756			3041			1113			1232	
Flt Permitted		0.95			0.73			0.83			0.95	
Satd. Flow (perm)		2619			2235			950			1186	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	10	1444	196	52	734	31	41	10	21	10	21	21
RTOR Reduction (vph)	0	2	0	0	2	0	0	10	0	0	16	0
Lane Group Flow (vph)	0	1648	0	0	815	0	0	62	0	0	36	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1807			1542			204			254	
v/s Ratio Prot												
v/s Ratio Perm		c0.63			0.36			c0.07			0.03	
v/c Ratio		0.91			0.53			0.30			0.14	
Uniform Delay, d1		11.7			6.8			29.7			28.6	
Progression Factor		0.26			0.76			1.00			0.77	
Incremental Delay, d2		3.3			0.3			3.8			0.8	
Delay (s)		6.3			5.5			33.5			22.9	
Level of Service		A			A			C			C	
Approach Delay (s)		6.3			5.5			33.5			22.9	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	7.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	88.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	30	1401	732	441	450	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3037	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3037	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	1523	796	479	489	33
RTOR Reduction (vph)	0	44	0	0	6	0
Lane Group Flow (vph)	33	1479	796	479	516	0
Confl. Peds. (#/hr)						63
Confl. Bikes (#/hr)		22				160
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	27.0	54.8	23.8	53.0	25.2	
Effective Green, g (s)	27.0	54.8	23.8	53.0	25.2	
Actuated g/C Ratio	0.30	0.61	0.26	0.59	0.28	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	467	1491	798	1717	850	
v/s Ratio Prot	0.02	c0.60	0.26	0.16	c0.17	
v/s Ratio Perm						
v/c Ratio	0.07	0.99	1.00	0.28	0.61	
Uniform Delay, d1	22.5	17.4	33.1	9.1	28.1	
Progression Factor	0.66	0.34	0.89	0.59	0.68	
Incremental Delay, d2	0.0	14.5	28.8	0.3	1.0	
Delay (s)	14.8	20.4	58.1	5.7	20.1	
Level of Service	B	C	E	A	C	
Approach Delay (s)	20.3			38.4	20.1	
Approach LOS	C			D	C	

Intersection Summary			
HCM Average Control Delay	27.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	83.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	150	141	40	0	1831	0	20	162	1032
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			1.00			1.00	1.00
Flpb, ped/bikes				0.73			1.00			1.00	1.00
Frt				0.98			1.00			1.00	1.00
Flt Protected				0.96			1.00			0.95	1.00
Satd. Flow (prot)				2053			4454			1555	3110
Flt Permitted				0.96			1.00			0.95	1.00
Satd. Flow (perm)				2053			4454			1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	163	153	43	0	1990	0	22	176	1122
RTOR Reduction (vph)	0	0	0	13	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	0	0	346	0	0	2011	0	0	176	1122
Confl. Peds. (#/hr)			96	119					96		
Confl. Bikes (#/hr)					4				178		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				18.9			48.1			10.0	62.1
Effective Green, g (s)				18.9			48.1			10.0	62.1
Actuated g/C Ratio				0.21			0.53			0.11	0.69
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				431			2380			173	2146
v/s Ratio Prot							c0.45			c0.11	0.36
v/s Ratio Perm				0.17							
v/c Ratio				0.80			0.84			1.02	0.52
Uniform Delay, d1				33.8			17.8			40.0	6.8
Progression Factor				1.00			0.82			1.00	1.00
Incremental Delay, d2				10.3			1.2			73.0	0.9
Delay (s)				44.1			15.7			113.0	7.7
Level of Service				D			B			F	A
Approach Delay (s)	0.0			44.1			15.7				22.0
Approach LOS	A			D			B				C

Intersection Summary			
HCM Average Control Delay	20.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	71.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBR	EBR2	SEL	SET	SER2	NWL2	NWT	NWR	SWR2
Lane Configurations										
Volume (vph)	20	20	220	30	1240	611	121	1162	80	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		7.0	7.0	7.0	7.0	7.0		
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00	1.00	0.95		
Frpb, ped/bikes	1.00	0.93		1.00	1.00	0.96	1.00	0.96		
Flpb, ped/bikes	1.00	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	0.99		
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1555	1137		1555	3110	1336	1555	2961		
Flt Permitted	0.95	1.00		0.13	1.00	1.00	0.13	1.00		
Satd. Flow (perm)	1555	1137		212	3110	1336	212	2961		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	22	239	33	1348	664	132	1263	87	0
RTOR Reduction (vph)	0	171	0	0	0	294	0	6	0	0
Lane Group Flow (vph)	22	90	0	33	1348	370	132	1344	0	0
Confl. Peds. (#/hr)			38						1000	100
Confl. Bikes (#/hr)		10	10			30			30	10
Parking (#/hr)		5	5							
Turn Type	custom	custom		Perm		Perm	Perm			custom
Protected Phases					6			2		
Permitted Phases	4	4		6		6	2			8
Actuated Green, G (s)	22.5	22.5		44.0	44.0	44.0	44.0	44.0		
Effective Green, g (s)	22.5	22.5		44.0	44.0	44.0	44.0	44.0		
Actuated g/C Ratio	0.28	0.28		0.56	0.56	0.56	0.56	0.56		
Clearance Time (s)	5.5	5.5		7.0	7.0	7.0	7.0	7.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	443	324		118	1732	744	118	1649		
v/s Ratio Prot					0.43			0.45		
v/s Ratio Perm	0.01	c0.08		0.16		0.28	c0.62			
v/c Ratio	0.05	0.28		0.28	0.78	0.50	1.12	0.81		
Uniform Delay, d1	20.5	21.9		9.2	13.7	10.7	17.5	14.2		
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.0	0.5		5.8	3.5	2.4	118.3	4.6		
Delay (s)	20.5	22.4		15.0	17.2	13.1	135.8	18.8		
Level of Service	C	C		B	B	B	F	B		
Approach Delay (s)					15.8			29.2		
Approach LOS					B			C		

Intersection Summary			
HCM Average Control Delay	21.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	106.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	30	0	80	0	0	0	180	1252	0	0	20	1270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.76					1.00	1.00				0.98
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.90					1.00	1.00				0.99
Flt Protected		0.99					0.95	1.00				1.00
Satd. Flow (prot)		965					1555	3110				3007
Flt Permitted		0.99					0.95	1.00				0.92
Satd. Flow (perm)		965					1555	3110				2755
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)	33	0	89	0	0	0	200	1391	0	0	22	1411
RTOR Reduction (vph)	0	79	0	0	0	0	0	0	0	0	0	3
Lane Group Flow (vph)	0	43	0	0	0	0	200	1391	0	0	0	1508
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		10.0					5.0	71.0				61.0
Effective Green, g (s)		10.0					5.0	71.0				61.0
Actuated g/C Ratio		0.11					0.06	0.79				0.68
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		107					86	2453				1867
v/s Ratio Prot		c0.04					c0.13	0.45				
v/s Ratio Perm												c0.55
v/c Ratio		0.40					2.33	0.57				0.81
Uniform Delay, d1		37.2					42.5	3.6				10.3
Progression Factor		1.00					0.80	0.24				1.00
Incremental Delay, d2		2.5					624.6	0.8				3.9
Delay (s)		39.7					658.4	1.6				14.2
Level of Service		D					F	A				B
Approach Delay (s)		39.7			0.0			84.2				14.2
Approach LOS		D			A			F				B

Intersection Summary			
HCM Average Control Delay	49.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	116.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	70
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.90
Adj. Flow (vph)	78
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	271	1191	0	0	610	160	120	232	70	0	0	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				
Lane Util. Factor		0.95			0.95			0.95				
Frpb, ped/bikes		1.00			0.94			0.95				
Flpb, ped/bikes		0.99			1.00			0.91				
Frt		1.00			0.97			0.98				
Flt Protected		0.99			1.00			0.99				
Satd. Flow (prot)		2808			2629			2388				
Flt Permitted		0.63			1.00			0.99				
Satd. Flow (perm)		1778			2629			2388				
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)	277	1215	0	0	622	163	122	237	71	0	0	0
RTOR Reduction (vph)	0	0	0	0	7	0	0	21	0	0	0	0
Lane Group Flow (vph)	0	1492	0	0	778	0	0	409	0	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm					
Protected Phases		2			6			8				
Permitted Phases	2						8					
Actuated Green, G (s)		44.0			44.0			27.0				
Effective Green, g (s)		44.0			44.0			27.0				
Actuated g/C Ratio		0.55			0.55			0.34				
Clearance Time (s)		4.5			4.5			4.5				
Vehicle Extension (s)		3.0			3.0			3.0				
Lane Grp Cap (vph)		978			1446			806				
v/s Ratio Prot					0.30							
v/s Ratio Perm		c0.84						0.17				
v/c Ratio		1.53			0.54			0.51				
Uniform Delay, d1		18.0			11.5			21.2				
Progression Factor		1.00			0.37			1.00				
Incremental Delay, d2		241.7			0.9			2.3				
Delay (s)		259.7			5.2			23.5				
Level of Service		F			A			C				
Approach Delay (s)		259.7			5.2			23.5			0.0	
Approach LOS		F			A			C			A	

Intersection Summary			
HCM Average Control Delay	148.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	109.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	781	480	30	670	0	0	0	0	70	630	110
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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.88			1.00						0.96	
Flpb, ped/bikes		1.00			1.00						0.98	
Frt		0.94			1.00						0.98	
Flt Protected		1.00			1.00						1.00	
Satd. Flow (prot)		2570			3099						2679	
Flt Permitted		1.00			0.74						1.00	
Satd. Flow (perm)		2570			2285						2679	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	805	495	31	691	0	0	0	0	72	649	113
RTOR Reduction (vph)	0	9	0	0	0	0	0	0	0	0	15	0
Lane Group Flow (vph)	0	1291	0	0	722	0	0	0	0	0	819	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		33.5			33.5						37.5	
Effective Green, g (s)		33.5			33.5						37.5	
Actuated g/C Ratio		0.42			0.42						0.47	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		1076			957						1256	
v/s Ratio Prot		c0.50										
v/s Ratio Perm					0.32						0.31	
v/c Ratio		1.20			0.75						0.65	
Uniform Delay, d1		23.2			19.8						16.3	
Progression Factor		0.67			1.00						1.00	
Incremental Delay, d2		90.7			3.4						2.6	
Delay (s)		106.4			23.2						18.9	
Level of Service		F			C						B	
Approach Delay (s)		106.4			23.2			0.0			18.9	
Approach LOS		F			C			A			B	

Intersection Summary			
HCM Average Control Delay	59.8	HCM Level of Service	E
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	83.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	121	490	720	1312	0	1290	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.67	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		0.99	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	930	3016	3110		3043	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	930	3016	3110		3043	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	121	490	720	1312	0	1290	60
RTOR Reduction (vph)	0	248	0	0	0	4	0
Lane Group Flow (vph)	121	242	720	1312	0	1346	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	25.3	25.3	15.7	53.7		32.0	
Effective Green, g (s)	25.3	25.3	15.7	53.7		32.0	
Actuated g/C Ratio	0.28	0.28	0.17	0.60		0.36	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	437	261	526	1856		1082	
v/s Ratio Prot	0.08		c0.24	0.42		c0.44	
v/s Ratio Perm		c0.26					
v/c Ratio	0.28	0.93	1.37	0.71		1.24	
Uniform Delay, d1	25.2	31.5	37.1	12.7		29.0	
Progression Factor	1.00	1.00	1.00	1.00		0.79	
Incremental Delay, d2	0.3	36.3	177.8	2.3		114.7	
Delay (s)	25.6	67.8	215.0	15.0		137.7	
Level of Service	C	E	F	B		F	
Approach Delay (s)	59.4			85.8		137.7	
Approach LOS	E			F		F	

Intersection Summary			
HCM Average Control Delay	99.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	122.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	171	10	20	100	10	20	10	32	10	10	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
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.59		1.00	0.75		0.83			1.00	0.45
Flpb, ped/bikes		0.99	1.00		0.95	1.00		0.84			0.86	1.00
Frt		1.00	0.85		1.00	0.85		0.93			1.00	0.85
Flt Protected		1.00	1.00		0.99	1.00		0.98			0.98	1.00
Satd. Flow (prot)		1614	823		1542	1050		1047			1372	633
Flt Permitted		0.99	1.00		0.95	1.00		0.89			0.85	1.00
Satd. Flow (perm)		1600	823		1483	1050		942			1197	633
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	182	11	21	106	11	21	11	34	11	11	11
RTOR Reduction (vph)	0	0	3	0	0	3	0	31	0	0	0	10
Lane Group Flow (vph)	0	193	8	0	127	8	0	35	0	0	22	1
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		45.2	45.2		45.2	45.2		5.8			5.8	5.8
Effective Green, g (s)		45.2	45.2		45.2	45.2		5.8			5.8	5.8
Actuated g/C Ratio		0.75	0.75		0.75	0.75		0.10			0.10	0.10
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)		1205	620		1117	791		91			116	61
v/s Ratio Prot												
v/s Ratio Perm		c0.12	0.01		0.09	0.01		c0.04			0.02	0.00
v/c Ratio		0.16	0.01		0.11	0.01		0.39			0.19	0.02
Uniform Delay, d1		2.1	1.8		2.0	1.8		25.4			24.9	24.5
Progression Factor		1.00	1.00		0.12	0.00		1.00			0.81	0.72
Incremental Delay, d2		0.1	0.0		0.2	0.0		2.7			0.8	0.1
Delay (s)		2.1	1.9		0.4	0.0		28.2			21.1	17.8
Level of Service		A	A		A	A		C			C	B
Approach Delay (s)		2.1			0.4			28.2			20.0	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM Average Control Delay	6.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.19		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	481	10	881	410	60	60	60	20	20	20	300	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.34		0.66	1.00	0.95			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.81	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	559	3110	479		936	1555	1325			1257	1174
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (perm)	3110	559	3110	479		936	1555	1325			1259	1174
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)	506	11	927	432	63	63	63	21	21	21	316	42
RTOR Reduction (vph)	0	5	0	171	0	37	0	15	0	0	0	31
Lane Group Flow (vph)	506	6	927	324	0	26	63	27	0	0	337	11
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	43.0	43.0	43.0	43.0		20.0	20.0	20.0			20.0	20.0
Effective Green, g (s)	43.0	43.0	43.0	43.0		20.0	20.0	20.0			20.0	20.0
Actuated g/C Ratio	0.57	0.57	0.57	0.57		0.27	0.27	0.27			0.27	0.27
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1783	320	1783	275		250	415	353			336	313
v/s Ratio Prot	0.16		0.30									
v/s Ratio Perm		0.01		c0.68		0.03	0.04	0.02			c0.27	0.01
v/c Ratio	0.28	0.02	0.52	1.18		0.10	0.15	0.08			1.00	0.04
Uniform Delay, d1	8.2	6.9	9.7	16.0		20.7	21.0	20.6			27.5	20.4
Progression Factor	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	1.1	111.8		0.8	0.8	0.4			49.8	0.2
Delay (s)	8.6	7.0	10.8	127.8		21.6	21.8	21.0			77.3	20.6
Level of Service	A	A	B	F		C	C	C			E	C
Approach Delay (s)	8.5		51.5								71.1	
Approach LOS	A		D								E	

Intersection Summary			
HCM Average Control Delay	43.5	HCM Level of Service	D
HCM Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	511	70	40	1141	80	40
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	549	75	43	1227	86	43

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	366	258	452	818	129
Volume Left (vph)	0	0	43	0	86
Volume Right (vph)	0	75	0	0	43
Hadj (s)	0.02	-0.19	0.06	0.02	-0.05
Departure Headway (s)	6.3	6.1	5.9	5.8	6.6
Degree Utilization, x	0.64	0.44	0.74	1.32	0.24
Capacity (veh/h)	558	577	607	631	527
Control Delay (s)	18.8	12.6	22.2	172.4	11.7
Approach Delay (s)	16.2		118.9		11.7
Approach LOS	C		F		B

Intersection Summary			
Delay	80.4		
HCM Level of Service	F		
Intersection Capacity Utilization	79.0%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT
Lane Configurations												
Volume (vph)	10	411	110	30	10	10	1021	20	20	20	10	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4					5.4		4.0			5.0
Lane Util. Factor		0.95					0.95		1.00			1.00
Frpb, ped/bikes		0.86					0.99		0.78			1.00
Flpb, ped/bikes		1.00					1.00		1.00			1.00
Frt		0.96					1.00		0.86			1.00
Flt Protected		1.00					1.00		1.00			0.97
Satd. Flow (prot)		2399					3062		1106			1589
Flt Permitted		0.93					0.94		1.00			0.97
Satd. Flow (perm)		2233					2873		1106			1589
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	447	120	33	11	11	1110	22	22	22	11	22
RTOR Reduction (vph)	0	5	0	0	0	0	2	0	0	0	0	0
Lane Group Flow (vph)	0	606	0	0	0	0	1152	0	22	0	0	55
Confl. Peds. (#/hr)	400		400	400	400	400		400	400	400	400	
Confl. Bikes (#/hr)			30	30				30	10			
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm	Perm			Free	Split	Split	
Protected Phases		2					6			4	4	4
Permitted Phases	2				6	6			Free			
Actuated Green, G (s)		41.6					41.6		75.0			9.0
Effective Green, g (s)		41.6					41.6		75.0			9.0
Actuated g/C Ratio		0.55					0.55		1.00			0.12
Clearance Time (s)		5.4					5.4					5.0
Lane Grp Cap (vph)		1239					1594		1106			191
v/s Ratio Prot												0.03
v/s Ratio Perm		0.27					c0.40		0.02			
v/c Ratio		0.49					0.72		0.02			0.29
Uniform Delay, d1		10.2					12.4		0.0			30.1
Progression Factor		1.00					0.25		1.00			1.00
Incremental Delay, d2		1.4					2.2		0.0			3.8
Delay (s)		11.6					5.3		0.0			33.8
Level of Service		B					A		A			C
Approach Delay (s)		11.6					5.3					41.7
Approach LOS		B					A					D

Intersection Summary			
HCM Average Control Delay	11.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	87.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR	NWL	NWR	NWR2
Lane Configurations				
Volume (vph)	50	110	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0
Lane Util. Factor	1.00	0.97		1.00
Frpb, ped/bikes	0.55	0.94		0.55
Flpb, ped/bikes	1.00	1.00		1.00
Frt	0.85	0.99		0.85
Flt Protected	1.00	0.96		1.00
Satd. Flow (prot)	768	2810		768
Flt Permitted	1.00	0.96		1.00
Satd. Flow (perm)	768	2810		768
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	120	11	11
RTOR Reduction (vph)	7	0	0	10
Lane Group Flow (vph)	47	131	0	1
Confl. Peds. (#/hr)	400	400	400	400
Confl. Bikes (#/hr)	10		10	10
Parking (#/hr)				
Turn Type	Perm			Perm
Protected Phases		8		
Permitted Phases	4			8
Actuated Green, G (s)	9.0	9.0		9.0
Effective Green, g (s)	9.0	9.0		9.0
Actuated g/C Ratio	0.12	0.12		0.12
Clearance Time (s)	5.0	5.0		5.0
Lane Grp Cap (vph)	92	337		92
v/s Ratio Prot		c0.05		
v/s Ratio Perm	c0.06			0.00
v/c Ratio	0.51	0.39		0.01
Uniform Delay, d1	30.9	30.5		29.1
Progression Factor	1.00	1.00		1.00
Incremental Delay, d2	18.8	3.4		0.3
Delay (s)	49.7	33.8		29.4
Level of Service	D	C		C
Approach Delay (s)		33.5		
Approach LOS		C		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	401	40	30	1041	40	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.97			1.00	0.86	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.99			1.00	0.94	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2782			3091	1288	
Flt Permitted	1.00			0.93	0.97	
Satd. Flow (perm)	2782			2885	1288	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	441	44	33	1144	44	33
RTOR Reduction (vph)	10	0	0	0	23	0
Lane Group Flow (vph)	475	0	0	1177	54	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1669			1731	386	
v/s Ratio Prot	0.17				c0.04	
v/s Ratio Perm				c0.41		
v/c Ratio	0.28			0.68	0.14	
Uniform Delay, d1	7.2			10.1	19.2	
Progression Factor	0.47			1.00	1.00	
Incremental Delay, d2	0.4			2.2	0.8	
Delay (s)	3.8			12.3	19.9	
Level of Service	A			B	B	
Approach Delay (s)	3.8			12.3	19.9	
Approach LOS	A			B	B	

Intersection Summary			
HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	81.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	401	20	10	1041	10	10
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	441	22	11	1144	11	11

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	294	169	392	763	22
Volume Left (vph)	0	0	11	0	11
Volume Right (vph)	0	22	0	0	11
Hadj (s)	0.02	-0.07	0.03	0.02	-0.18
Departure Headway (s)	5.7	5.6	5.1	5.1	6.3
Degree Utilization, x	0.47	0.26	0.55	1.07	0.04
Capacity (veh/h)	613	624	697	720	550
Control Delay (s)	12.4	9.4	12.9	74.3	9.5
Approach Delay (s)	11.3		53.5		9.5
Approach LOS	B		F		A

Intersection Summary			
Delay	41.0		
HCM Level of Service	E		
Intersection Capacity Utilization	59.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL2	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	20	431	40	10	10	1011	70	50	30	30	80	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5				5.5	5.5		5.5		5.5	5.5
Lane Util. Factor		0.95				0.95	1.00		1.00		0.95	0.95
Frpb, ped/bikes		0.95				1.00	0.66		0.91		1.00	0.92
Flpb, ped/bikes		1.00				1.00	1.00		0.86		0.73	0.93
Frt		0.99				1.00	0.85		0.96		1.00	0.98
Flt Protected		1.00				1.00	1.00		0.98		0.95	0.99
Satd. Flow (prot)		2704				3104	808		1052		1078	1286
Flt Permitted		0.89				0.95	1.00		0.84		0.70	0.92
Satd. Flow (perm)		2417				2949	808		904		795	1202
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	21	449	42	10	10	1053	73	52	31	31	83	42
RTOR Reduction (vph)	0	1	0	0	0	0	4	0	15	0	0	0
Lane Group Flow (vph)	0	521	0	0	0	1063	69	0	99	0	66	69
Confl. Peds. (#/hr)	400		400	400	400		400	400		400	400	
Confl. Bikes (#/hr)			10	10			10			10		
Parking (#/hr)		5	5	5			5	5	5	5		
Turn Type	Perm				Perm		Perm	Perm			Perm	
Protected Phases		2				6			8			4
Permitted Phases	2				6	6	6	8			4	
Actuated Green, G (s)		56.5				56.5	56.5		22.5		22.5	22.5
Effective Green, g (s)		56.5				56.5	56.5		22.5		22.5	22.5
Actuated g/C Ratio		0.63				0.63	0.63		0.25		0.25	0.25
Clearance Time (s)		5.5				5.5	5.5		5.5		5.5	5.5
Vehicle Extension (s)		3.0				3.0	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)		1517				1851	507		226		199	301
v/s Ratio Prot												
v/s Ratio Perm		0.22				c0.36	0.09		c0.11		0.08	0.06
v/c Ratio		0.34				0.57	0.14		0.44		0.33	0.23
Uniform Delay, d1		7.9				9.7	6.8		28.4		27.6	26.9
Progression Factor		1.00				0.26	0.16		1.00		1.00	1.00
Incremental Delay, d2		0.6				1.2	0.5		6.1		1.0	0.4
Delay (s)		8.6				3.7	1.6		34.5		28.6	27.2
Level of Service		A				A	A		C		C	C
Approach Delay (s)		8.6				3.6			34.5			27.5
Approach LOS		A				A			C			C

Intersection Summary			
HCM Average Control Delay	8.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR	SBR2	NER2
Lane Configurations			
Volume (vph)	10	30	60
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)		5.5	4.0
Lane Util. Factor		1.00	1.00
Frpb, ped/bikes		0.65	0.78
Flpb, ped/bikes		1.00	1.00
Frt		0.85	0.86
Flt Protected		1.00	1.00
Satd. Flow (prot)		911	967
Flt Permitted		1.00	1.00
Satd. Flow (perm)		911	967
Peak-hour factor, PHF	0.96	0.96	0.96
Adj. Flow (vph)	10	31	62
RTOR Reduction (vph)	0	15	0
Lane Group Flow (vph)	0	16	62
Confl. Peds. (#/hr)	400	400	400
Confl. Bikes (#/hr)	10	10	10
Parking (#/hr)			5
Turn Type		Perm	Free
Protected Phases			
Permitted Phases		4	Free
Actuated Green, G (s)		22.5	90.0
Effective Green, g (s)		22.5	90.0
Actuated g/C Ratio		0.25	1.00
Clearance Time (s)		5.5	
Vehicle Extension (s)		3.0	
Lane Grp Cap (vph)		228	967
v/s Ratio Prot			
v/s Ratio Perm		0.02	0.06
v/c Ratio		0.07	0.06
Uniform Delay, d1		25.8	0.0
Progression Factor		1.00	1.00
Incremental Delay, d2		0.1	0.1
Delay (s)		25.9	0.1
Level of Service		C	A
Approach Delay (s)			
Approach LOS			

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	541	0	0	1071	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	601	0	0	1190	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	601	0	0	1190	0
Confl. Peds. (#/hr)						
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		76.0			76.0	
Effective Green, g (s)		76.0			76.0	
Actuated g/C Ratio		0.84			0.84	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		2067			2547	
v/s Ratio Prot		0.25			c0.39	
v/s Ratio Perm						
v/c Ratio		0.29			0.47	
Uniform Delay, d1		1.4			1.8	
Progression Factor		0.70			0.18	
Incremental Delay, d2		0.3			0.4	
Delay (s)		1.4			0.7	
Level of Service		A			A	
Approach Delay (s)	1.4			0.0	0.7	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	0.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	54.2%	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												
Volume (vph)	10	190	90	180	400	30	100	270	190	20	90	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.80		1.00	0.96			1.00	0.62		1.00	0.36
Flpb, ped/bikes		0.99		0.60	1.00			0.86	1.00		0.97	1.00
Frt		0.95		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.99	1.00		0.99	1.00
Satd. Flow (prot)		2354		936	1354			1177	844		1577	507
Flt Permitted		0.94		0.55	1.00			0.88	1.00		0.91	1.00
Satd. Flow (perm)		2207		547	1354			1050	844		1447	507
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)	11	211	100	200	444	33	111	300	211	22	100	56
RTOR Reduction (vph)	0	49	0	0	3	0	0	0	23	0	0	11
Lane Group Flow (vph)	0	273	0	200	474	0	0	411	188	0	122	45
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		35.6		35.6	35.6			44.4	44.4		44.4	44.4
Effective Green, g (s)		35.6		35.6	35.6			44.4	44.4		44.4	44.4
Actuated g/C Ratio		0.40		0.40	0.40			0.49	0.49		0.49	0.49
Clearance Time (s)		5.5		5.5	5.5			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)		873		216	536			518	416		714	250
v/s Ratio Prot					0.35							
v/s Ratio Perm		0.12		c0.37				c0.39	0.22		0.08	0.09
v/c Ratio		0.31		0.93	0.88			0.79	0.45		0.17	0.18
Uniform Delay, d1		18.8		25.9	25.3			19.0	14.9		12.6	12.7
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		0.2		40.8	15.9			11.8	3.5		0.5	1.6
Delay (s)		19.0		66.8	41.2			30.8	18.4		13.1	14.3
Level of Service		B		E	D			C	B		B	B
Approach Delay (s)		19.0			48.7			26.6			13.5	
Approach LOS		B			D			C			B	

Intersection Summary			
HCM Average Control Delay	32.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	80.9%	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												
Volume (vph)	0	280	110	90	450	1221	180	0	130	541	160	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.96			1.00	0.96		0.99		1.00	1.00	
Flpb, ped/bikes		1.00			0.99	1.00		0.99		1.00	1.00	
Frt		0.96			1.00	0.85		0.94		1.00	0.99	
Flt Protected		1.00			0.99	1.00		0.97		0.95	0.98	
Satd. Flow (prot)		2688			1612	2362		1287		1477	1499	
Flt Permitted		1.00			0.80	1.00		0.18		0.57	0.68	
Satd. Flow (perm)		2688			1297	2362		239		878	1047	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	292	115	94	469	1272	188	0	135	564	167	21
RTOR Reduction (vph)	0	46	0	0	0	0	0	29	0	0	2	0
Lane Group Flow (vph)	0	361	0	0	563	1272	0	294	0	372	378	0
Confl. Peds. (#/hr)			50	50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		28.0			28.0	65.5		17.5		34.0	34.0	
Effective Green, g (s)		28.0			28.0	65.5		17.5		34.0	34.0	
Actuated g/C Ratio		0.31			0.31	0.73		0.19		0.38	0.38	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		836			404	1719		46		332	396	
v/s Ratio Prot		0.13										
v/s Ratio Perm					c0.43	0.54		c1.23		c0.42	0.36	
v/c Ratio		0.43			1.39	0.74		6.39		1.12	0.95	
Uniform Delay, d1		24.7			31.0	7.2		36.2		28.0	27.2	
Progression Factor		1.00			1.00	1.00		1.00		1.11	1.12	
Incremental Delay, d2		1.6			191.7	2.9		2471.6		85.7	34.6	
Delay (s)		26.3			222.7	10.1		2507.9		116.8	65.2	
Level of Service		C			F	B		F		F	E	
Approach Delay (s)		26.3			75.3			2507.9			90.7	
Approach LOS		C			E			F			F	

Intersection Summary			
HCM Average Control Delay	309.7	HCM Level of Service	F
HCM Volume to Capacity ratio	2.36		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	116.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	571	20	110	1592	20	180	30	171	30	40	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5			3.5			3.5	3.5
Lane Util. Factor		0.95			0.91			0.95			1.00	1.00
Frpb, ped/bikes		0.99			1.00			0.83			1.00	0.62
Flpb, ped/bikes		1.00			0.99			0.84			0.92	1.00
Frt		1.00			1.00			0.93			1.00	0.85
Flt Protected		1.00			1.00			0.98			0.98	1.00
Satd. Flow (prot)		3050			4393			1850			1482	860
Flt Permitted		0.78			0.81			0.78			0.78	1.00
Satd. Flow (perm)		2396			3588			1484			1183	860
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)	33	634	22	122	1769	22	200	33	190	33	44	56
RTOR Reduction (vph)	0	2	0	0	1	0	0	28	0	0	0	2
Lane Group Flow (vph)	0	687	0	0	1912	0	0	395	0	0	77	54
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		53.3			53.3			29.7			29.7	29.7
Effective Green, g (s)		53.3			53.3			29.7			29.7	29.7
Actuated g/C Ratio		0.59			0.59			0.33			0.33	0.33
Clearance Time (s)		3.5			3.5			3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		1419			2125			490			390	284
v/s Ratio Prot												
v/s Ratio Perm		0.29			c0.53			c0.27			0.07	0.06
v/c Ratio		0.48			0.90			0.81			0.20	0.19
Uniform Delay, d1		10.5			16.0			27.5			21.6	21.6
Progression Factor		1.00			0.42			1.00			1.00	1.00
Incremental Delay, d2		0.3			5.2			13.2			1.1	1.5
Delay (s)		10.7			11.9			40.8			22.7	23.0
Level of Service		B			B			D			C	C
Approach Delay (s)		10.7			11.9			40.8			22.9	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM Average Control Delay	16.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	98.8%	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												
Volume (vph)	20	591	160	11	1312	30	80	180	131	10	341	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.91		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.80		1.00		1.00	0.86			0.88	
Flpb, ped/bikes		1.00	1.00		1.00		0.85	1.00			1.00	
Frt		1.00	0.85		1.00		1.00	0.94			0.95	
Flt Protected		1.00	1.00		1.00		0.95	1.00			1.00	
Satd. Flow (prot)		3102	973		4428		1328	3583			3683	
Flt Permitted		0.88	1.00		0.93		0.41	1.00			0.93	
Satd. Flow (perm)		2728	973		4138		567	3583			3438	
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)	20	603	163	11	1339	31	82	184	134	10	348	204
RTOR Reduction (vph)	0	0	1	0	3	0	0	34	0	0	7	0
Lane Group Flow (vph)	0	623	162	0	1378	0	82	284	0	0	555	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		44.6	44.6		44.6		35.4	35.4			35.4	
Effective Green, g (s)		44.6	44.6		44.6		35.4	35.4			35.4	
Actuated g/C Ratio		0.50	0.50		0.50		0.39	0.39			0.39	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1352	482		2051		223	1409			1352	
v/s Ratio Prot								0.08				
v/s Ratio Perm		0.23	0.17		c0.33		0.14				c0.16	
v/c Ratio		0.46	0.34		0.67		0.37	0.20			0.41	
Uniform Delay, d1		14.8	13.7		17.2		19.4	18.0			19.8	
Progression Factor		0.69	0.70		0.94		1.00	1.00			1.00	
Incremental Delay, d2		0.2	0.4		0.7		4.6	0.3			0.9	
Delay (s)		10.5	9.9		16.9		24.0	18.3			20.7	
Level of Service		B	A		B		C	B			C	
Approach Delay (s)		10.4			16.9			19.5			20.7	
Approach LOS		B			B			B			C	

Intersection Summary			
HCM Average Control Delay	16.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1471	260	0	2482	120	290	160	30	70	140	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.95			0.98		1.00	0.95		1.00	0.93	
Flpb, ped/bikes		1.00			1.00		0.76	1.00		0.77	1.00	
Frt		0.98			0.99		1.00	0.98		1.00	0.97	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4129			4181		1182	1514		1191	1283	
Flt Permitted		1.00			1.00		0.60	1.00		0.59	1.00	
Satd. Flow (perm)		4129			4181		752	1514		737	1283	
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)	0	1501	265	0	2533	122	296	163	31	71	143	41
RTOR Reduction (vph)	0	7	0	0	6	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	1759	0	0	2649	0	296	191	0	71	184	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2386			2416		230	463		225	392	
v/s Ratio Prot		0.43			c0.63			0.13			0.14	
v/s Ratio Perm							c0.39			0.10		
v/c Ratio		0.74			1.10		1.29	0.41		0.32	0.47	
Uniform Delay, d1		14.0			19.0		31.2	24.8		24.0	25.3	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.1			50.7		157.8	2.7		3.6	4.0	
Delay (s)		16.1			69.7		189.1	27.5		27.7	29.3	
Level of Service		B			E		F	C		C	C	
Approach Delay (s)		16.1			69.7			125.1			28.9	
Approach LOS		B			E			F			C	

Intersection Summary			
HCM Average Control Delay	54.6	HCM Level of Service	D
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	110.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1251	130	0	2192	120	100	160	40	70	200	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			0.95	
Frpb, ped/bikes		0.98			0.98		1.00	0.93			0.94	
Flpb, ped/bikes		1.00			1.00		0.81	1.00			0.95	
Frt		0.99			0.99		1.00	0.97			0.97	
Flt Protected		1.00			1.00		0.95	1.00			0.99	
Satd. Flow (prot)		4316			4352		1259	1483			2680	
Flt Permitted		1.00			1.00		0.50	1.00			0.81	
Satd. Flow (perm)		4316			4352		665	1483			2196	
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	1317	137	0	2307	126	105	168	42	74	211	63
RTOR Reduction (vph)	0	4	0	0	5	0	0	6	0	0	1	0
Lane Group Flow (vph)	0	1450	0	0	2428	0	105	204	0	0	347	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2556			2577		199	443			656	
v/s Ratio Prot		0.34			c0.56			0.14				
v/s Ratio Perm							0.16				c0.16	
v/c Ratio		0.57			0.94		0.53	0.46			0.53	
Uniform Delay, d1		11.3			16.9		26.3	25.7			26.3	
Progression Factor		1.00			0.22		1.00	1.00			1.00	
Incremental Delay, d2		0.9			4.1		9.7	3.4			3.0	
Delay (s)		12.2			7.8		35.9	29.1			29.3	
Level of Service		B			A		D	C			C	
Approach Delay (s)		12.2			7.8			31.4			29.3	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM Average Control Delay	12.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	107.8%	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												
Volume (vph)	0	1321	100	0	2092	60	60	100	30	30	170	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.98			0.99			0.95			0.93	
Flpb, ped/bikes		1.00			1.00			0.94			0.97	
Frt		0.99			1.00			0.98			0.97	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		4132			4222			1233			1262	
Flt Permitted		1.00			1.00			0.79			0.94	
Satd. Flow (perm)		4132			4222			985			1197	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1436	109	0	2274	65	65	109	33	33	185	54
RTOR Reduction (vph)	0	5	0	0	3	0	0	4	0	0	1	0
Lane Group Flow (vph)	0	1540	0	0	2336	0	0	203	0	0	271	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2479			2533			296			359	
v/s Ratio Prot		0.37			c0.55							
v/s Ratio Perm								0.21			c0.23	
v/c Ratio		0.62			0.92			0.69			0.76	
Uniform Delay, d1		11.5			16.1			27.8			28.5	
Progression Factor		1.51			1.00			1.00			1.00	
Incremental Delay, d2		1.0			7.0			12.2			13.8	
Delay (s)		18.4			23.1			39.9			42.3	
Level of Service		B			C			D			D	
Approach Delay (s)		18.4			23.1			39.9			42.3	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM Average Control Delay	23.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.6%	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		↑↑↑			↑↑↑↱		↰	↰↑↑↱				↱
Volume (vph)	0	1101	0	0	1302	60	820	431	40	0	0	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.99		1.00	0.99				0.95
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.98				1.00
Satd. Flow (prot)		4282			4373		1415	2678				1352
Flt Permitted		1.00			1.00		0.95	0.98				1.00
Satd. Flow (perm)		4282			4373		1415	2678				1352
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1184	0	0	1400	65	882	463	43	0	0	86
RTOR Reduction (vph)	0	0	0	0	5	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	1184	0	0	1460	0	459	925	0	0	0	86
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		38.0			29.0		42.0	42.0				6.0
Effective Green, g (s)		38.0			29.0		42.0	42.0				6.0
Actuated g/C Ratio		0.42			0.32		0.47	0.47				0.07
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		1808			1409		660	1250				90
v/s Ratio Prot		0.28			c0.33							
v/s Ratio Perm							0.32	0.35				c0.06
v/c Ratio		0.65			1.04		0.70	0.74				0.96
Uniform Delay, d1		20.8			30.5		19.0	19.6				41.9
Progression Factor		1.00			0.37		1.00	1.00				1.00
Incremental Delay, d2		1.9			27.7		6.0	4.0				83.3
Delay (s)		22.6			39.2		24.9	23.5				125.1
Level of Service		C			D		C	C				F
Approach Delay (s)		22.6			39.2			24.0			125.1	
Approach LOS		C			D			C			F	

Intersection Summary			
HCM Average Control Delay	31.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	82.0%	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												
Volume (vph)	151	200	861	0	190	20	1031	241	40	0	451	151
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		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.97		1.00	0.95			1.00	0.67
Flpb, ped/bikes		0.91	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.99		1.00	0.98			1.00	0.85
Flt Protected		0.98	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1455	2448		1329		4385	1333			3110	815
Flt Permitted		0.63	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		930	2448		1329		4385	1333			3110	815
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	162	215	926	0	204	22	1109	259	43	0	485	162
RTOR Reduction (vph)	0	0	2	0	4	0	0	7	0	0	0	4
Lane Group Flow (vph)	0	377	924	0	222	0	1109	295	0	0	485	158
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		26.5	55.5		26.5		25.5	55.5			26.5	26.5
Effective Green, g (s)		26.5	52.0		26.5		25.5	55.5			26.5	26.5
Actuated g/C Ratio		0.29	0.58		0.29		0.28	0.62			0.29	0.29
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		274	1414		391		1242	822			916	240
v/s Ratio Prot			0.38		0.17		c0.25	0.22			0.16	
v/s Ratio Perm		c0.41										c0.19
v/c Ratio		1.38	0.65		0.57		0.89	0.36			0.53	0.66
Uniform Delay, d1		31.8	12.9		26.9		30.9	8.5			26.5	27.8
Progression Factor		0.46	0.33		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		186.3	0.9		1.9		10.0	1.2			2.2	13.3
Delay (s)		200.8	5.1		28.8		40.9	9.7			28.7	41.0
Level of Service		F	A		C		D	A			C	D
Approach Delay (s)		61.7			28.8			34.3			31.8	
Approach LOS		E			C			C			C	

Intersection Summary			
HCM Average Control Delay	43.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	102.2%	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												
Volume (vph)	0	0	0	70	230	50	40	50	0	0	60	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.29		1.00			0.92	
Flpb, ped/bikes					0.85	1.00		0.87			1.00	
Frt					1.00	0.85		1.00			0.97	
Flt Protected					0.99	1.00		0.98			1.00	
Satd. Flow (prot)					2450	400		1396			1450	
Flt Permitted					0.99	1.00		0.86			1.00	
Satd. Flow (perm)					2450	400		1232			1450	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	0	80	264	57	46	57	0	0	69	23
RTOR Reduction (vph)	0	0	0	0	0	31	0	0	0	0	1	0
Lane Group Flow (vph)	0	0	0	0	344	26	0	103	0	0	91	0
Confl. Peds. (#/hr)				945		1084	569					569
Confl. Bikes (#/hr)						76			2			4
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					34.0	34.0		31.0			31.0	
Effective Green, g (s)					34.0	34.0		31.0			31.0	
Actuated g/C Ratio					0.45	0.45		0.41			0.41	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1111	181		509			599	
v/s Ratio Prot											0.06	
v/s Ratio Perm					0.14	0.06		c0.08				
v/c Ratio					0.31	0.14		0.20			0.15	
Uniform Delay, d1					13.0	12.0		14.1			13.8	
Progression Factor					1.00	1.00		0.97			1.00	
Incremental Delay, d2					0.7	1.6		0.9			0.5	
Delay (s)					13.8	13.6		14.5			14.3	
Level of Service					B	B		B			B	
Approach Delay (s)		0.0			13.7			14.5			14.3	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	57.5%	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												
Volume (vph)	0	0	0	210	250	30	170	40	0	0	80	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.92		1.00	1.00			0.96	
Flpb, ped/bikes				1.00	1.00		0.71	1.00			1.00	
Frt				1.00	0.98		1.00	1.00			0.99	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	2816		1101	1637			1552	
Flt Permitted				0.95	1.00		0.69	1.00			1.00	
Satd. Flow (perm)				1555	2816		802	1637			1552	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	0	236	281	34	191	45	0	0	90	11
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	236	308	0	191	45	0	0	101	0
Confl. Peds. (#/hr)						1700	537					569
Confl. Bikes (#/hr)						76			2			4
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				40.4	40.4		25.3	25.3			25.3	
Effective Green, g (s)				40.4	40.4		25.3	25.3			25.3	
Actuated g/C Ratio				0.54	0.54		0.34	0.34			0.34	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				838	1517		271	552			524	
v/s Ratio Prot				c0.15	0.11			0.03			0.07	
v/s Ratio Perm							c0.24					
v/c Ratio				0.28	0.20		0.70	0.08			0.19	
Uniform Delay, d1				9.4	9.0		21.6	16.9			17.6	
Progression Factor				1.00	1.00		1.03	1.04			1.00	
Incremental Delay, d2				0.8	0.3		14.3	0.3			0.8	
Delay (s)				10.2	9.3		36.6	17.8			18.4	
Level of Service				B	A		D	B			B	
Approach Delay (s)		0.0			9.7			33.1			18.4	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM Average Control Delay	16.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	38.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	190	110	10	501	20	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	202	117	11	533	21	11
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	306					
pX, platoon unblocked						
vC, conflicting volume			719		1615	960
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			719		1615	960
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		53	91
cM capacity (veh/h)			614		45	125

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	135	184	544	32
Volume Left	0	0	11	21
Volume Right	0	117	0	11
cSH	1700	1700	614	57
Volume to Capacity	0.08	0.11	0.02	0.56
Queue Length 95th (ft)	0	0	1	55
Control Delay (s)	0.0	0.0	0.5	127.7
Lane LOS			A	F
Approach Delay (s)	0.0		0.5	127.7
Approach LOS				F

Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	160	20	31	501	10	20	50	11	30	60	30
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		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.44		0.99			0.93			0.87	
Flpb, ped/bikes		0.96	1.00		0.98			0.90			0.89	
Frt		1.00	0.85		1.00			0.98			0.97	
Flt Protected		0.99	1.00		1.00			0.99			0.99	
Satd. Flow (prot)		1557	609		1378			1159			1056	
Flt Permitted		0.83	1.00		0.97			0.92			0.92	
Satd. Flow (perm)		1308	609		1346			1082			986	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	47	188	24	36	589	12	24	59	13	35	71	35
RTOR Reduction (vph)	0	0	11	0	1	0	0	7	0	0	3	0
Lane Group Flow (vph)	0	235	13	0	636	0	0	89	0	0	138	0
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4			4		
Actuated Green, G (s)		40.0	40.0		40.0			26.0			26.0	
Effective Green, g (s)		40.0	40.0		40.0			26.0			26.0	
Actuated g/C Ratio		0.53	0.53		0.53			0.35			0.35	
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)		698	325		718			375			342	
v/s Ratio Prot												
v/s Ratio Perm		0.18	0.02		c0.47			0.08			c0.14	
v/c Ratio		0.34	0.04		0.89			0.24			0.40	
Uniform Delay, d1		10.0	8.3		15.5			17.4			18.6	
Progression Factor		1.00	1.00		1.00			1.00			0.72	
Incremental Delay, d2		1.3	0.2		15.1			1.5			3.5	
Delay (s)		11.3	8.6		30.5			18.9			16.9	
Level of Service		B	A		C			B			B	
Approach Delay (s)		11.0			30.5			18.9			16.9	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	23.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	99.6%	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												
Volume (vph)	0	241	20	21	492	0	20	0	51	20	30	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
Lane Util. Factor		1.00	1.00		0.95			1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.26		1.00			0.60			1.00	0.67
Flpb, ped/bikes		1.00	1.00		0.98			0.92			0.81	1.00
Frt		1.00	0.85		1.00			0.90			1.00	0.85
Flt Protected		1.00	1.00		1.00			0.99			0.98	1.00
Satd. Flow (prot)		1637	354		3046			807			1297	933
Flt Permitted		1.00	1.00		0.94			0.95			0.92	1.00
Satd. Flow (perm)		1637	354		2854			774			1219	933
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	256	21	22	523	0	21	0	54	21	32	21
RTOR Reduction (vph)	0	0	16	0	0	0	0	0	0	0	0	8
Lane Group Flow (vph)	0	256	5	0	545	0	0	75	0	0	53	13
Confl. Peds. (#/hr)			800	800			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	36.5
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	36.5
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	0.61
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)		396	86		690			471			742	568
v/s Ratio Prot		0.16										
v/s Ratio Perm			0.01		c0.19			c0.10			0.04	0.01
v/c Ratio		0.65	0.06		0.79			0.16			0.07	0.02
Uniform Delay, d1		20.4	17.5		21.3			5.1			4.8	4.7
Progression Factor		1.00	1.00		1.00			1.00			1.00	1.00
Incremental Delay, d2		7.9	1.3		9.0			0.7			0.0	0.0
Delay (s)		28.4	18.8		30.3			5.8			4.9	4.7
Level of Service		C	B		C			A			A	A
Approach Delay (s)		27.6			30.3			5.8			4.8	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	25.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	72.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	361	20	80	10	190	10	381	340
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		0.97		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		0.99		0.99			1.00
Flt Protected		1.00		0.96		1.00			0.97
Satd. Flow (prot)		942		1311		1619			3030
Flt Permitted		1.00		0.96		1.00			0.95
Satd. Flow (perm)		942		1311		1619			2970
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	392	22	87	11	207	11	414	370
RTOR Reduction (vph)	0	0	0	6	0	0	0	0	0
Lane Group Flow (vph)	0	392	0	114	0	218	0	0	784
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		371		310			891
v/s Ratio Prot						0.13			
v/s Ratio Perm		c0.42		0.09					c0.26
v/c Ratio		0.75		0.31		0.70			0.88
Uniform Delay, d1		10.0		16.9		22.7			20.0
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		9.3		2.1		7.1			12.1
Delay (s)		19.3		19.0		29.7			32.1
Level of Service		B		B		C			C
Approach Delay (s)	19.3			19.0		29.7			32.1
Approach LOS	B			B		C			C

Intersection Summary			
HCM Average Control Delay	27.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	77.3%	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												
Volume (vph)	30	150	50	30	311	30	70	40	30	30	80	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.95			1.00	0.59	1.00	0.77			0.81	
Flpb, ped/bikes		0.97			1.00	1.00	0.61	1.00			0.92	
Frt		0.97			1.00	0.85	1.00	0.94			0.95	
Flt Protected		0.99			1.00	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1271			1426	721	952	1029			2168	
Flt Permitted		0.92			0.96	1.00	0.63	1.00			0.89	
Satd. Flow (perm)		1183			1373	721	630	1029			1954	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	34	172	57	34	357	34	80	46	34	34	92	69
RTOR Reduction (vph)	0	7	0	0	0	7	0	27	0	0	0	0
Lane Group Flow (vph)	0	256	0	0	391	27	80	53	0	0	195	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		62.5			62.5	62.5	17.4	17.4			17.4	
Effective Green, g (s)		62.5			62.5	62.5	17.4	17.4			17.4	
Actuated g/C Ratio		0.69			0.69	0.69	0.19	0.19			0.19	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		822			953	501	122	199			378	
v/s Ratio Prot								0.05				
v/s Ratio Perm		0.22			c0.28	0.04	c0.13				0.10	
v/c Ratio		0.31			0.41	0.05	0.66	0.26			0.52	
Uniform Delay, d1		5.4			5.9	4.4	33.5	30.9			32.5	
Progression Factor		1.00			1.00	1.00	0.65	0.42			1.00	
Incremental Delay, d2		1.0			1.3	0.2	12.0	0.7			1.2	
Delay (s)		6.3			7.2	4.6	33.9	13.7			33.7	
Level of Service		A			A	A	C	B			C	
Approach Delay (s)		6.3			7.0			23.8			33.7	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	14.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	118.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Volume (vph)	30	210	30	30	321	20	20	41	70	20	51	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.95			0.98			0.68			0.78	
Flpb, ped/bikes		0.97			0.98			0.93			0.93	
Frt		0.98			0.99			0.93			0.95	
Flt Protected		0.99			1.00			0.99			0.99	
Satd. Flow (prot)		1296			1350			832			972	
Flt Permitted		0.94			0.96			0.95			0.94	
Satd. Flow (perm)		1220			1303			794			918	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	32	223	32	32	341	21	21	44	74	21	54	43
RTOR Reduction (vph)	0	1	0	0	1	0	0	45	0	0	23	0
Lane Group Flow (vph)	0	286	0	0	393	0	0	94	0	0	95	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.6			62.6			18.6			18.6	
Effective Green, g (s)		62.6			62.6			18.6			18.6	
Actuated g/C Ratio		0.70			0.70			0.21			0.21	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		849			906			164			190	
v/s Ratio Prot												
v/s Ratio Perm		0.23			c0.30			c0.12			0.10	
v/c Ratio		0.34			0.43			0.57			0.50	
Uniform Delay, d1		5.4			6.0			32.1			31.6	
Progression Factor		1.00			1.00			0.63			1.00	
Incremental Delay, d2		1.1			1.5			12.0			9.1	
Delay (s)		6.5			7.5			32.4			40.7	
Level of Service		A			A			C			D	
Approach Delay (s)		6.5			7.5			32.4			40.7	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM Average Control Delay	15.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.2%	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												
Volume (vph)	20	260	120	50	210	20	40	31	70	20	61	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.85			1.00	0.51		0.72			0.78	
Flpb, ped/bikes		0.98			0.95	1.00		0.89			0.94	
Frt		0.96			1.00	0.85		0.93			0.95	
Flt Protected		1.00			0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1150			1353	617		845			997	
Flt Permitted		0.98			0.87	1.00		0.89			0.95	
Satd. Flow (perm)		1128			1183	617		761			953	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	22	292	135	56	236	22	45	35	79	22	69	57
RTOR Reduction (vph)	0	6	0	0	0	7	0	33	0	0	25	0
Lane Group Flow (vph)	0	444	0	0	292	15	0	126	0	0	123	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		57.0			57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0			57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63			0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		714			749	391		211			265	
v/s Ratio Prot												
v/s Ratio Perm		c0.39			0.25	0.02		c0.17			0.13	
v/c Ratio		0.62			0.39	0.04		0.60			0.46	
Uniform Delay, d1		10.0			8.0	6.2		28.1			26.9	
Progression Factor		1.00			0.82	0.69		0.92			1.00	
Incremental Delay, d2		4.0			1.5	0.2		10.5			5.7	
Delay (s)		14.0			8.1	4.4		36.3			32.7	
Level of Service		B			A	A		D			C	
Approach Delay (s)		14.0			7.9			36.3			32.7	
Approach LOS		B			A			D			C	

Intersection Summary			
HCM Average Control Delay	18.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	260	70	10	170	10	30	31	40	20	41	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.51		1.00	0.51		0.78			0.81	
Flpb, ped/bikes		0.97	1.00		0.98	1.00		0.87			0.91	
Frt		1.00	0.85		1.00	0.85		0.95			0.95	
Flt Protected		1.00	1.00		1.00	1.00		0.99			0.99	
Satd. Flow (prot)		1391	604		1405	604		904			1142	
Flt Permitted		0.98	1.00		0.98	1.00		0.90			0.94	
Satd. Flow (perm)		1362	604		1383	604		829			1079	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	22	292	79	11	191	11	34	35	45	22	46	34
RTOR Reduction (vph)	0	0	6	0	0	4	0	26	0	0	20	0
Lane Group Flow (vph)	0	314	73	0	202	7	0	88	0	0	82	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63	0.63		0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		863	383		876	383		230			300	
v/s Ratio Prot												
v/s Ratio Perm		c0.23	0.12		0.15	0.01		c0.11			0.08	
v/c Ratio		0.36	0.19		0.23	0.02		0.38			0.27	
Uniform Delay, d1		7.9	6.9		7.1	6.1		26.3			25.4	
Progression Factor		0.64	0.63		1.00	1.00		0.80			1.00	
Incremental Delay, d2		0.9	0.9		0.6	0.1		3.9			2.2	
Delay (s)		6.0	5.2		7.7	6.2		24.8			27.6	
Level of Service		A	A		A	A		C			C	
Approach Delay (s)		5.8			7.6			24.8			27.6	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	11.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	30	270	20	30	30	20	501	70	10	200	581
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				5.0		5.0			5.0	5.0
Lane Util. Factor	1.00				1.00		0.95			1.00	0.95
Frpb, ped/bikes	0.89				0.91		0.88			1.00	1.00
Flpb, ped/bikes	1.00				0.66		1.00			1.00	1.00
Frt	0.88				0.97		0.98			1.00	1.00
Flt Protected	1.00				0.96		1.00			0.95	1.00
Satd. Flow (prot)	1275				913		2686			1555	3110
Flt Permitted	1.00				0.96		1.00			0.95	1.00
Satd. Flow (perm)	1275				913		2686			1555	3110
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
Adj. Flow (vph)	32	284	21	32	32	21	527	74	11	211	612
RTOR Reduction (vph)	2	0	0	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	335	0	0	0	85	0	610	0	0	211	612
Confl. Peds. (#/hr)				400	400	400		400	400		
Confl. Bikes (#/hr)		30	30			10		30	30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0
Turn Type				Perm						Split	
Protected Phases	4				3		6			2	2
Permitted Phases				3							
Actuated Green, G (s)	20.0				20.0		17.0			13.0	13.0
Effective Green, g (s)	20.0				20.0		17.0			13.0	13.0
Actuated g/C Ratio	0.22				0.22		0.19			0.14	0.14
Clearance Time (s)	5.0				5.0		5.0			5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	283				203		507			225	449
v/s Ratio Prot	c0.26						c0.23			0.14	c0.20
v/s Ratio Perm					0.09						
v/c Ratio	1.18				0.42		1.20			0.94	1.36
Uniform Delay, d1	35.0				30.0		36.5			38.1	38.5
Progression Factor	1.00				1.02		1.00			0.81	0.80
Incremental Delay, d2	112.3				1.3		109.3			44.5	176.7
Delay (s)	147.3				31.8		145.8			75.2	207.6
Level of Service	F				C		F			E	F
Approach Delay (s)	147.3				31.8		145.8				173.7
Approach LOS	F				C		F				F

Intersection Summary			
HCM Average Control Delay	153.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	86.9%	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												
Volume (vph)	0	922	40	11	1543	30	0	40	21	0	80	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.91			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.87			0.92	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.95			0.97	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2862			4245			1187			1288	
Flt Permitted		1.00			0.93			1.00			1.00	
Satd. Flow (perm)		2862			3953			1187			1288	
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)	0	1024	44	12	1714	33	0	44	23	0	89	22
RTOR Reduction (vph)	0	0	0	0	0	0	0	20	0	0	8	0
Lane Group Flow (vph)	0	1068	0	0	1759	0	0	47	0	0	103	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type				Perm								
Protected Phases		2			6			8			4	
Permitted Phases				6								
Actuated Green, G (s)		70.4			70.4			10.8			10.8	
Effective Green, g (s)		70.4			70.4			10.8			10.8	
Actuated g/C Ratio		0.78			0.78			0.12			0.12	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2239			3092			142			155	
v/s Ratio Prot		0.37						0.04			c0.08	
v/s Ratio Perm					c0.44							
v/c Ratio		0.48			0.57			0.33			0.67	
Uniform Delay, d1		3.4			3.8			36.3			37.9	
Progression Factor		0.54			1.00			1.00			1.00	
Incremental Delay, d2		0.7			0.2			1.4			10.3	
Delay (s)		2.6			4.1			37.6			48.1	
Level of Service		A			A			D			D	
Approach Delay (s)		2.6			4.1			37.6			48.1	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	5.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	0	792	220	0	1173	40	350	90	70	0	150	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.70		1.00	0.70	1.00	1.00	0.74		0.98	
Flpb, ped/bikes		1.00	1.00		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	0.85		0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3110	974		3110	974	3016	1637	1024		2816	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		3110	974		3110	974	3016	1637	1024		2816	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	843	234	0	1248	43	372	96	74	0	160	11
RTOR Reduction (vph)	0	0	66	0	0	19	0	0	3	0	6	0
Lane Group Flow (vph)	0	843	168	0	1248	24	372	96	71	0	165	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type			Perm			Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases			2			6			8			
Actuated Green, G (s)		50.3	50.3		50.3	50.3	15.6	30.7	30.7		10.6	
Effective Green, g (s)		50.3	50.3		50.3	50.3	15.6	30.7	30.7		10.6	
Actuated g/C Ratio		0.56	0.56		0.56	0.56	0.17	0.34	0.34		0.12	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		1738	544		1738	544	523	558	349		332	
v/s Ratio Prot		0.27			c0.40		c0.12	0.06			c0.06	
v/s Ratio Perm			0.17			0.02			0.07			
v/c Ratio		0.49	0.31		0.72	0.04	0.71	0.17	0.20		0.50	
Uniform Delay, d1		12.0	10.6		14.6	9.0	35.1	20.8	21.0		37.2	
Progression Factor		1.00	1.00		0.77	0.69	1.00	1.00	1.00		0.79	
Incremental Delay, d2		1.0	1.5		2.4	0.1	4.5	0.1	0.3		1.1	
Delay (s)		13.0	12.0		13.7	6.3	39.6	20.9	21.3		30.6	
Level of Service		B	B		B	A	D	C	C		C	
Approach Delay (s)		12.8			13.5			33.8			30.6	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM Average Control Delay	17.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	80.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	81	772	1132	40	90	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.91		1.00	
Frpb, ped/bikes		1.00	0.99		0.83	
Flpb, ped/bikes		1.00	1.00		1.00	
Frt		1.00	0.99		0.94	
Flt Protected		1.00	1.00		0.97	
Satd. Flow (prot)		2888	4399		1082	
Flt Permitted		0.71	1.00		0.97	
Satd. Flow (perm)		2050	4399		1082	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	86	821	1204	43	96	86
RTOR Reduction (vph)	0	0	4	0	19	0
Lane Group Flow (vph)	0	907	1243	0	163	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		64.0	64.0		19.0	
Effective Green, g (s)		64.0	64.0		19.0	
Actuated g/C Ratio		0.71	0.71		0.21	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1458	3128		228	
v/s Ratio Prot			0.28		c0.15	
v/s Ratio Perm		c0.44				
v/c Ratio		0.62	0.40		0.72	
Uniform Delay, d1		6.7	5.2		33.0	
Progression Factor		0.56	1.00		0.84	
Incremental Delay, d2		0.8	0.1		17.0	
Delay (s)		4.5	5.3		44.7	
Level of Service		A	A		D	
Approach Delay (s)		4.5	5.3		44.7	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	8.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	116.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	31	422	50	50	1202	40	30	51	60	70	91	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			0.99			0.85			0.90	
Flpb, ped/bikes		1.00			0.99			0.96			0.93	
Frt		0.99			1.00			0.94			0.96	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2767			2852			1089			1133	
Flt Permitted		0.82			0.91			0.89			0.83	
Satd. Flow (perm)		2273			2594			981			957	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	33	454	54	54	1292	43	32	55	65	75	98	66
RTOR Reduction (vph)	0	2	0	0	2	0	0	30	0	0	12	0
Lane Group Flow (vph)	0	539	0	0	1387	0	0	122	0	0	227	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		60.6			60.6			20.6			20.6	
Effective Green, g (s)		60.6			60.6			20.6			20.6	
Actuated g/C Ratio		0.67			0.67			0.23			0.23	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1530			1747			225			219	
v/s Ratio Prot												
v/s Ratio Perm		0.24			c0.53			0.12			c0.24	
v/c Ratio		0.35			0.79			0.54			1.03	
Uniform Delay, d1		6.3			10.3			30.5			34.7	
Progression Factor		1.00			0.11			1.00			0.86	
Incremental Delay, d2		0.6			2.6			9.1			65.4	
Delay (s)		6.9			3.7			39.6			95.2	
Level of Service		A			A			D			F	
Approach Delay (s)		6.9			3.7			39.6			95.2	
Approach LOS		A			A			D			F	

Intersection Summary			
HCM Average Control Delay	16.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	109.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	31	711	30	30	1222	40	30	30	60	50	40	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.82			0.89	
Flpb, ped/bikes		1.00			1.00			0.94			0.90	
Frt		0.99			1.00			0.93			0.96	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2853			2865			1016			1077	
Flt Permitted		0.85			0.92			0.90			0.82	
Satd. Flow (perm)		2421			2633			927			895	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	34	773	33	33	1328	43	33	33	65	54	43	45
RTOR Reduction (vph)	0	1	0	0	1	0	0	41	0	0	13	0
Lane Group Flow (vph)	0	839	0	0	1403	0	0	90	0	0	129	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		65.1			65.1			16.0			16.0	
Effective Green, g (s)		65.1			65.1			16.0			16.0	
Actuated g/C Ratio		0.72			0.72			0.18			0.18	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1751			1905			165			159	
v/s Ratio Prot												
v/s Ratio Perm		0.35			c0.53			0.10			c0.14	
v/c Ratio		0.48			0.74			0.54			0.81	
Uniform Delay, d1		5.3			7.4			33.7			35.5	
Progression Factor		0.76			0.28			1.00			0.83	
Incremental Delay, d2		0.9			1.0			3.6			25.5	
Delay (s)		4.9			3.1			37.3			55.2	
Level of Service		A			A			D			E	
Approach Delay (s)		4.9			3.1			37.3			55.2	
Approach LOS		A			A			D			E	

Intersection Summary			
HCM Average Control Delay	8.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	86.8%	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												
Volume (vph)	20	742	70	40	1131	20	140	10	30	10	10	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			0.99			0.94			0.82	
Flpb, ped/bikes		1.00			1.00			0.74			0.95	
Frt		0.99			1.00			0.98			0.93	
Flt Protected		1.00			1.00			0.96			0.99	
Satd. Flow (prot)		2797			3073			1074			1171	
Flt Permitted		0.90			0.89			0.74			0.92	
Satd. Flow (perm)		2528			2740			830			1086	
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)	22	824	78	44	1257	22	156	11	33	11	11	22
RTOR Reduction (vph)	0	2	0	0	1	0	0	8	0	0	15	0
Lane Group Flow (vph)	0	922	0	0	1322	0	0	192	0	0	29	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1744			1891			178			233	
v/s Ratio Prot												
v/s Ratio Perm		0.36			c0.48			c0.23			0.03	
v/c Ratio		0.53			0.70			1.08			0.12	
Uniform Delay, d1		6.8			8.4			35.4			28.5	
Progression Factor		1.40			0.37			1.00			0.62	
Incremental Delay, d2		1.0			0.9			90.2			0.1	
Delay (s)		10.6			3.9			125.6			17.7	
Level of Service		B			A			F			B	
Approach Delay (s)		10.6			3.9			125.6			17.7	
Approach LOS		B			A			F			B	

Intersection Summary			
HCM Average Control Delay	16.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	94.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	20	762	1151	761	771	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3055	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3055	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	828	1251	827	838	43
RTOR Reduction (vph)	0	10	0	0	4	0
Lane Group Flow (vph)	22	818	1251	827	877	0
Confl. Peds. (#/hr)						95
Confl. Bikes (#/hr)		10				81
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	7.0	50.7	39.7	73.0	29.3	
Effective Green, g (s)	7.0	50.7	39.7	73.0	29.3	
Actuated g/C Ratio	0.08	0.56	0.44	0.81	0.33	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	121	1379	1330	2364	995	
v/s Ratio Prot	0.01	c0.33	c0.41	0.28	c0.29	
v/s Ratio Perm						
v/c Ratio	0.18	0.59	0.94	0.35	0.88	
Uniform Delay, d1	38.8	12.9	24.0	2.2	28.7	
Progression Factor	1.06	0.79	0.72	1.15	0.40	
Incremental Delay, d2	0.6	0.6	7.4	0.2	1.0	
Delay (s)	41.9	10.8	24.7	2.8	12.6	
Level of Service	D	B	C	A	B	
Approach Delay (s)	11.6			16.0	12.6	
Approach LOS	B			B	B	

Intersection Summary			
HCM Average Control Delay	14.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	90	341	40	0	1502	0	50	52	1572
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			1.00			1.00	1.00
Flpb, ped/bikes				0.81			1.00			1.00	1.00
Frt				0.99			1.00			1.00	1.00
Flt Protected				0.96			1.00			0.95	1.00
Satd. Flow (prot)				2258			4428			1555	3110
Flt Permitted				0.96			1.00			0.95	1.00
Satd. Flow (perm)				2258			4428			1555	3110
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
Adj. Flow (vph)	0	0	100	379	44	0	1669	0	56	58	1747
RTOR Reduction (vph)	0	0	0	8	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	0	0	515	0	0	1722	0	0	58	1747
Confl. Peds. (#/hr)			125	64					125		
Confl. Bikes (#/hr)					34				86		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				24.1			47.2			5.7	56.9
Effective Green, g (s)				24.1			47.2			5.7	56.9
Actuated g/C Ratio				0.27			0.52			0.06	0.63
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				605			2322			98	1966
v/s Ratio Prot							0.39			0.04	c0.56
v/s Ratio Perm				0.23							
v/c Ratio				0.85			0.74			0.59	0.89
Uniform Delay, d1				31.2			16.7			41.0	13.9
Progression Factor				1.00			0.80			1.00	1.00
Incremental Delay, d2				11.1			0.8			6.2	6.5
Delay (s)				42.3			14.1			47.3	20.4
Level of Service				D			B			D	C
Approach Delay (s)	0.0			42.3			14.1				21.2
Approach LOS	A			D			B				C

Intersection Summary			
HCM Average Control Delay	20.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	70.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBR	EBR2	SEL	SET	SER2	NWL2	NWL	NWT	NWR	SWR2
Lane Configurations											
Volume (vph)	41	11	300	20	1112	431	181	0	1581	20	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		7.0	7.0	7.0		4.0	7.0		
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00		1.00	0.95		
Frpb, ped/bikes	1.00	0.91		1.00	1.00	0.95		1.00	0.99		
Flpb, ped/bikes	1.00	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	1.00		
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95	1.00		
Satd. Flow (prot)	1555	1105		1555	3110	1323		1555	3080		
Flt Permitted	0.95	1.00		0.13	1.00	1.00		0.40	1.00		
Satd. Flow (perm)	1555	1105		218	3110	1323		655	3080		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	45	12	326	22	1209	468	197	0	1718	22	0
RTOR Reduction (vph)	0	233	0	0	0	290	0	0	1	0	0
Lane Group Flow (vph)	45	105	0	22	1209	178	0	197	1739	0	0
Confl. Peds. (#/hr)			64							1000	100
Confl. Bikes (#/hr)		10	10			30				30	10
Parking (#/hr)		5	5								
Turn Type	custom	custom		Perm		Perm	custom	Prot			custom
Protected Phases					6			5	2		
Permitted Phases	4	4		6		6	5				8
Actuated Green, G (s)	22.5	22.5		30.0	30.0	30.0		10.0	44.0		
Effective Green, g (s)	22.5	22.5		30.0	30.0	30.0		10.0	44.0		
Actuated g/C Ratio	0.28	0.28		0.38	0.38	0.38		0.13	0.56		
Clearance Time (s)	5.5	5.5		7.0	7.0	7.0		4.0	7.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	443	315		83	1181	502		83	1715		
v/s Ratio Prot					0.39				c0.56		
v/s Ratio Perm	0.03	c0.09		0.10		0.13		c0.30			
v/c Ratio	0.10	0.33		0.27	1.02	0.35		2.37	1.01		
Uniform Delay, d1	20.8	22.3		16.9	24.5	17.6		34.5	17.5		
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2	0.1	0.6		7.6	32.4	2.0		653.5	25.2		
Delay (s)	20.9	22.9		24.5	56.9	19.5		688.0	42.7		
Level of Service	C	C		C	E	B		F	D		
Approach Delay (s)					46.2				108.3		
Approach LOS					D				F		

Intersection Summary			
HCM Average Control Delay	73.9	HCM Level of Service	E
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	117.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	40	0	130	0	0	0	90	1711	0	0	20	1282
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.75					1.00	1.00				0.99
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.90					1.00	1.00				1.00
Flt Protected		0.99					0.95	1.00				1.00
Satd. Flow (prot)		953					1555	3110				3078
Flt Permitted		0.99					0.95	1.00				0.85
Satd. Flow (perm)		953					1555	3110				2629
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	43	0	138	0	0	0	96	1820	0	0	21	1364
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	0	179	0	0	0	0	96	1820	0	0	0	1405
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		21.2					4.0	59.8				50.8
Effective Green, g (s)		21.2					4.0	59.8				50.8
Actuated g/C Ratio		0.24					0.04	0.66				0.56
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		224					69	2066				1484
v/s Ratio Prot		c0.19					0.06	c0.59				
v/s Ratio Perm												c0.53
v/c Ratio		0.80					1.39	0.88				0.95
Uniform Delay, d1		32.4					43.0	12.2				18.3
Progression Factor		1.00					0.69	0.18				1.00
Incremental Delay, d2		18.3					218.1	3.4				13.7
Delay (s)		50.7					247.8	5.6				32.1
Level of Service		D					F	A				C
Approach Delay (s)		50.7			0.0			17.7				32.1
Approach LOS		D			A			B				C

Intersection Summary			
HCM Average Control Delay	25.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	113.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	20
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	21
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	111	731	0	0	961	110	280	311	40	0	0	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			
Lane Util. Factor		0.95			0.95			0.95	1.00			
Frpb, ped/bikes		1.00			0.97			1.00	0.71			
Flpb, ped/bikes		0.99			1.00			0.87	1.00			
Frt		1.00			0.98			1.00	0.85			
Flt Protected		0.99			1.00			0.98	1.00			
Satd. Flow (prot)		2842			2752			2433	986			
Flt Permitted		0.57			1.00			0.98	1.00			
Satd. Flow (perm)		1635			2752			2433	986			
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)	117	769	0	0	1012	116	295	327	42	0	0	0
RTOR Reduction (vph)	0	0	0	0	11	0	0	0	24	0	0	0
Lane Group Flow (vph)	0	886	0	0	1117	0	0	622	18	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm		Perm			
Protected Phases		2			6			8				
Permitted Phases	2						8		8			
Actuated Green, G (s)		37.0			37.0			34.0	34.0			
Effective Green, g (s)		37.0			37.0			34.0	34.0			
Actuated g/C Ratio		0.46			0.46			0.42	0.42			
Clearance Time (s)		4.5			4.5			4.5	4.5			
Vehicle Extension (s)		3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)		756			1273			1034	419			
v/s Ratio Prot					0.41							
v/s Ratio Perm		c0.54						0.26	0.02			
v/c Ratio		1.31dl			0.88			0.60	0.04			
Uniform Delay, d1		21.5			19.5			17.8	13.5			
Progression Factor		1.00			0.35			1.00	1.00			
Incremental Delay, d2		91.2			0.9			2.6	0.2			
Delay (s)		112.7			7.7			20.4	13.7			
Level of Service		F			A			C	B			
Approach Delay (s)		112.7			7.7			19.9			0.0	
Approach LOS		F			A			B			A	

Intersection Summary			
HCM Average Control Delay	45.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	104.8%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	491	280	50	861	0	0	0	0	70	731	221
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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.88			1.00						0.95	
Flpb, ped/bikes		1.00			1.00						0.99	
Frt		0.95			1.00						0.97	
Flt Protected		1.00			1.00						1.00	
Satd. Flow (prot)		2591			3087						2632	
Flt Permitted		1.00			0.78						1.00	
Satd. Flow (perm)		2591			2414						2632	
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)	0	501	286	51	879	0	0	0	0	71	746	226
RTOR Reduction (vph)	0	16	0	0	0	0	0	0	0	0	14	0
Lane Group Flow (vph)	0	771	0	0	930	0	0	0	0	0	1029	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		27.0			27.0						44.0	
Effective Green, g (s)		27.0			27.0						44.0	
Actuated g/C Ratio		0.34			0.34						0.55	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		874			815						1448	
v/s Ratio Prot		0.30										
v/s Ratio Perm					c0.39						0.39	
v/c Ratio		0.88			1.14						0.71	
Uniform Delay, d1		25.0			26.5						13.3	
Progression Factor		0.85			1.00						1.00	
Incremental Delay, d2		1.1			78.0						3.0	
Delay (s)		22.3			104.5						16.3	
Level of Service		C			F						B	
Approach Delay (s)		22.3			104.5			0.0			16.3	
Approach LOS		C			F			A			B	

Intersection Summary			
HCM Average Control Delay	47.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	104.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	101	430	580	1711	0	1302	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.67	1.00	1.00		0.97	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		0.99	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	929	3016	3110		2993	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	929	3016	3110		2993	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	101	430	580	1711	0	1302	111
RTOR Reduction (vph)	0	212	0	0	0	7	0
Lane Group Flow (vph)	101	218	580	1711	0	1406	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	23.6	23.6	15.4	55.4		34.0	
Effective Green, g (s)	23.6	23.6	15.4	55.4		34.0	
Actuated g/C Ratio	0.26	0.26	0.17	0.62		0.38	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	408	244	516	1914		1131	
v/s Ratio Prot	0.06		c0.19	0.55		c0.47	
v/s Ratio Perm		c0.23					
v/c Ratio	0.25	0.89	1.12	0.89		1.24	
Uniform Delay, d1	26.2	32.0	37.3	14.8		28.0	
Progression Factor	1.00	1.00	1.00	1.00		0.84	
Incremental Delay, d2	0.3	31.1	78.3	6.9		112.5	
Delay (s)	26.5	63.1	115.6	21.7		136.1	
Level of Service	C	E	F	C		F	
Approach Delay (s)	56.2			45.5		136.1	
Approach LOS	E			D		F	

Intersection Summary			
HCM Average Control Delay	77.0	HCM Level of Service	E
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	116.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	171	30	22	91	10	20	20	31	50	80	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
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.46		1.00	0.67		0.85			1.00	0.43
Flpb, ped/bikes		0.98	1.00		0.92	1.00		0.88			0.89	1.00
Frt		1.00	0.85		1.00	0.85		0.94			1.00	0.85
Flt Protected		1.00	1.00		0.99	1.00		0.99			0.98	1.00
Satd. Flow (prot)		1607	635		1495	937		1131			1429	604
Flt Permitted		0.99	1.00		0.94	1.00		0.89			0.88	1.00
Satd. Flow (perm)		1593	635		1421	937		1020			1277	604
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	182	32	23	97	11	21	21	33	53	85	21
RTOR Reduction (vph)	0	0	4	0	0	3	0	17	0	0	0	18
Lane Group Flow (vph)	0	193	28	0	120	8	0	58	0	0	138	3
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		54.1	54.1		54.1	54.1		11.9			11.9	11.9
Effective Green, g (s)		54.1	54.1		54.1	54.1		11.9			11.9	11.9
Actuated g/C Ratio		0.72	0.72		0.72	0.72		0.16			0.16	0.16
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)		1149	458		1025	676		162			203	96
v/s Ratio Prot												
v/s Ratio Perm		c0.12	0.04		0.08	0.01		0.06			c0.11	0.01
v/c Ratio		0.17	0.06		0.12	0.01		0.36			0.68	0.03
Uniform Delay, d1		3.3	3.0		3.2	2.9		28.1			29.8	26.7
Progression Factor		1.00	1.00		1.00	1.00		1.00			0.74	0.60
Incremental Delay, d2		0.1	0.1		0.2	0.0		1.4			8.6	0.1
Delay (s)		3.4	3.1		3.4	3.0		29.5			30.5	16.2
Level of Service		A	A		A	A		C			C	B
Approach Delay (s)		3.3			3.4			29.5			28.6	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	13.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	104.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	501	40	551	400	90	70	50	20	40	20	390	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.34		0.67	1.00	0.96			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.81	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	558	3110	477		952	1555	1330			1264	1175
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.96	1.00
Satd. Flow (perm)	3110	558	3110	477		952	1555	1330			1280	1175
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	522	42	574	417	94	73	52	21	42	21	406	104
RTOR Reduction (vph)	0	20	0	187	0	27	0	29	0	0	0	72
Lane Group Flow (vph)	522	22	574	324	0	46	52	34	0	0	427	32
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	40.0	40.0	40.0	40.0		23.0	23.0	23.0			23.0	23.0
Effective Green, g (s)	40.0	40.0	40.0	40.0		23.0	23.0	23.0			23.0	23.0
Actuated g/C Ratio	0.53	0.53	0.53	0.53		0.31	0.31	0.31			0.31	0.31
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1659	298	1659	254		292	477	408			393	360
v/s Ratio Prot	0.17		0.18									
v/s Ratio Perm		0.04		c0.68		0.05	0.03	0.03			c0.33	0.03
v/c Ratio	0.31	0.08	0.35	1.28		0.16	0.11	0.08			1.09	0.09
Uniform Delay, d1	9.8	8.5	10.0	17.5		18.9	18.7	18.5			26.0	18.5
Progression Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	0.5	0.5	0.6	151.5		1.1	0.5	0.4			70.6	0.5
Delay (s)	10.3	9.0	10.6	169.0		20.1	19.1	18.9			96.6	19.0
Level of Service	B	A	B	F		C	B	B			F	B
Approach Delay (s)	10.2		85.2								81.4	
Approach LOS	B		F								F	

Intersection Summary			
HCM Average Control Delay	61.3	HCM Level of Service	E
HCM Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	741	110	40	791	140	100
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	764	113	41	815	144	103

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	509	368	313	544	247
Volume Left (vph)	0	0	41	0	144
Volume Right (vph)	0	113	0	0	103
Hadj (s)	0.02	-0.20	0.08	0.02	-0.12
Departure Headway (s)	6.7	6.5	6.8	6.8	6.8
Degree Utilization, x	0.94	0.66	0.59	1.02	0.47
Capacity (veh/h)	536	545	518	531	523
Control Delay (s)	50.4	19.9	18.2	69.7	15.6
Approach Delay (s)	37.6		50.9		15.6
Approach LOS	E		F		C

Intersection Summary			
Delay	40.6		
HCM Level of Service	E		
Intersection Capacity Utilization	82.7%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT
Lane Configurations												
Volume (vph)	100	631	90	20	10	30	651	50	40	30	20	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4					5.4		4.0			5.0
Lane Util. Factor		0.95					0.95		1.00			1.00
Frpb, ped/bikes		0.93					0.97		0.78			1.00
Flpb, ped/bikes		0.99					0.99		1.00			1.00
Frt		0.98					0.99		0.86			1.00
Flt Protected		0.99					1.00		1.00			0.98
Satd. Flow (prot)		2593					2967		1106			1600
Flt Permitted		0.74					0.86		1.00			0.98
Satd. Flow (perm)		1932					2568		1106			1600
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	106	671	96	21	11	32	693	53	43	32	21	64
RTOR Reduction (vph)	0	0	0	0	0	0	7	0	0	0	0	0
Lane Group Flow (vph)	0	894	0	0	0	0	782	0	43	0	0	117
Confl. Peds. (#/hr)	400		400	400	400	400		400	400	400	400	
Confl. Bikes (#/hr)			30	30				30	10			
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm	Perm			Free	Split	Split	
Protected Phases		2					6			4	4	4
Permitted Phases	2				6	6			Free			
Actuated Green, G (s)		41.6					41.6		75.0			9.0
Effective Green, g (s)		41.6					41.6		75.0			9.0
Actuated g/C Ratio		0.55					0.55		1.00			0.12
Clearance Time (s)		5.4					5.4					5.0
Lane Grp Cap (vph)		1072					1424		1106			192
v/s Ratio Prot												c0.07
v/s Ratio Perm		c0.46					0.30		0.04			
v/c Ratio		0.83					0.55		0.04			0.61
Uniform Delay, d1		13.8					10.7		0.0			31.3
Progression Factor		1.00					0.48		1.00			1.00
Incremental Delay, d2		7.7					1.4		0.1			13.6
Delay (s)		21.5					6.5		0.1			44.9
Level of Service		C					A		A			D
Approach Delay (s)		21.5					6.5					45.8
Approach LOS		C					A					D

Intersection Summary			
HCM Average Control Delay	19.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	113.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR	NWL	NWR	NWR2
Lane Configurations				
Volume (vph)	60	120	40	20
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0
Lane Util. Factor	1.00	0.97		1.00
Frpb, ped/bikes	0.55	0.81		0.55
Flpb, ped/bikes	1.00	1.00		1.00
Frt	0.85	0.96		0.85
Flt Protected	1.00	0.96		1.00
Satd. Flow (prot)	768	2392		768
Flt Permitted	1.00	0.96		1.00
Satd. Flow (perm)	768	2392		768
Peak-hour factor, PHF	0.94	0.94	0.94	0.94
Adj. Flow (vph)	64	128	43	21
RTOR Reduction (vph)	20	0	0	18
Lane Group Flow (vph)	44	171	0	3
Confl. Peds. (#/hr)	400	400	400	400
Confl. Bikes (#/hr)	10		10	10
Parking (#/hr)				
Turn Type	Perm			Perm
Protected Phases		8		
Permitted Phases	4			8
Actuated Green, G (s)	9.0	9.0		9.0
Effective Green, g (s)	9.0	9.0		9.0
Actuated g/C Ratio	0.12	0.12		0.12
Clearance Time (s)	5.0	5.0		5.0
Lane Grp Cap (vph)	92	287		92
v/s Ratio Prot		c0.07		
v/s Ratio Perm	0.06			0.00
v/c Ratio	0.48	0.60		0.03
Uniform Delay, d1	30.8	31.3		29.1
Progression Factor	1.00	1.00		1.00
Incremental Delay, d2	16.6	8.8		0.6
Delay (s)	47.4	40.1		29.7
Level of Service	D	D		C
Approach Delay (s)		39.0		
Approach LOS		D		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	661	60	40	661	90	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.97			1.00	0.86	
Flpb, ped/bikes	1.00			0.99	1.00	
Frt	0.99			1.00	0.94	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2794			3083	1281	
Flt Permitted	1.00			0.87	0.97	
Satd. Flow (perm)	2794			2701	1281	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	743	67	45	743	101	79
RTOR Reduction (vph)	9	0	0	0	24	0
Lane Group Flow (vph)	801	0	0	788	156	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1676			1621	384	
v/s Ratio Prot	0.29				c0.12	
v/s Ratio Perm				c0.29		
v/c Ratio	0.48			0.49	0.41	
Uniform Delay, d1	8.4			8.5	20.9	
Progression Factor	0.39			1.00	1.00	
Incremental Delay, d2	0.7			1.0	3.2	
Delay (s)	3.9			9.5	24.1	
Level of Service	A			A	C	
Approach Delay (s)	3.9			9.5	24.1	
Approach LOS	A			A	C	

Intersection Summary			
HCM Average Control Delay	8.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	79.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	661	50	30	701	20	40
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	711	54	32	754	22	43

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	474	291	284	503	65
Volume Left (vph)	0	0	32	0	22
Volume Right (vph)	0	54	0	0	43
Hadj (s)	0.02	-0.11	0.07	0.02	-0.32
Departure Headway (s)	5.6	5.5	5.7	5.6	6.3
Degree Utilization, x	0.74	0.44	0.45	0.78	0.11
Capacity (veh/h)	474	631	619	630	537
Control Delay (s)	21.8	11.6	11.9	24.4	10.2
Approach Delay (s)	17.9		19.9		10.2
Approach LOS	C		C		B

Intersection Summary			
Delay	18.6		
HCM Level of Service	C		
Intersection Capacity Utilization	66.0%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	561	40	20	601	170	70	60	30	100	80	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frpb, ped/bikes		0.95			1.00	0.54		0.94		1.00	0.95	
Flpb, ped/bikes		0.98			1.00	1.00		0.88		0.77	0.98	
Frt		0.99			1.00	0.85		0.97		1.00	0.98	
Flt Protected		0.99			1.00	1.00		0.98		0.95	1.00	
Satd. Flow (prot)		2661			3110	657		1137		1134	1410	
Flt Permitted		0.82			1.00	1.00		0.83		0.69	0.97	
Satd. Flow (perm)		2186			3110	657		960		822	1373	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	77	616	44	22	660	187	77	66	33	110	88	11
RTOR Reduction (vph)	0	3	0	0	0	23	0	10	0	0	0	0
Lane Group Flow (vph)	0	756	0	0	660	164	0	166	0	99	110	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10	10		10			10			10
Parking (#/hr)		5	5	5		5	5	5	5			
Turn Type	Perm					Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2				6	6	8			4		
Actuated Green, G (s)		27.5			27.5	27.5		21.5		21.5	21.5	
Effective Green, g (s)		27.5			27.5	27.5		21.5		21.5	21.5	
Actuated g/C Ratio		0.46			0.46	0.46		0.36		0.36	0.36	
Clearance Time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		1002			1425	301		344		295	492	
v/s Ratio Prot					0.21							
v/s Ratio Perm		c0.35				0.25		c0.17		0.12	0.08	
v/c Ratio		0.75			0.46	0.55		0.48		0.34	0.22	
Uniform Delay, d1		13.5			11.2	11.7		14.9		14.0	13.4	
Progression Factor		1.00			0.39	0.35		1.00		1.00	1.00	
Incremental Delay, d2		5.3			1.0	6.7		4.8		0.7	0.2	
Delay (s)		18.7			5.4	10.8		19.7		14.7	13.7	
Level of Service		B			A	B		B		B	B	
Approach Delay (s)		18.7			6.6			19.7			14.0	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM Average Control Delay	12.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	93.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR2	NER2
Lane Configurations		
Volume (vph)	60	100
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.5	4.0
Lane Util. Factor	1.00	1.00
Frpb, ped/bikes	0.68	0.78
Flpb, ped/bikes	1.00	1.00
Frt	0.85	0.86
Flt Protected	1.00	1.00
Satd. Flow (prot)	952	967
Flt Permitted	1.00	1.00
Satd. Flow (perm)	952	967
Peak-hour factor, PHF	0.91	0.91
Adj. Flow (vph)	66	110
RTOR Reduction (vph)	9	0
Lane Group Flow (vph)	57	110
Confl. Peds. (#/hr)	400	400
Confl. Bikes (#/hr)	10	10
Parking (#/hr)		5
Turn Type	Perm	Free
Protected Phases		
Permitted Phases	4	Free
Actuated Green, G (s)	21.5	60.0
Effective Green, g (s)	21.5	60.0
Actuated g/C Ratio	0.36	1.00
Clearance Time (s)	5.5	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	341	967
v/s Ratio Prot		
v/s Ratio Perm	0.06	0.11
v/c Ratio	0.17	0.11
Uniform Delay, d1	13.1	0.0
Progression Factor	1.00	1.00
Incremental Delay, d2	0.2	0.2
Delay (s)	13.4	0.2
Level of Service	B	A
Approach Delay (s)		
Approach LOS		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	811	0	0	771	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	891	0	0	847	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	891	0	0	847	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)		30				30
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		46.0			46.0	
Effective Green, g (s)		46.0			46.0	
Actuated g/C Ratio		0.77			0.77	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1877			2312	
v/s Ratio Prot		c0.36			0.28	
v/s Ratio Perm						
v/c Ratio		0.47			0.37	
Uniform Delay, d1		2.6			2.3	
Progression Factor		1.29			0.45	
Incremental Delay, d2		0.7			0.4	
Delay (s)		4.0			1.4	
Level of Service		A			A	
Approach Delay (s)	4.0			0.0	1.4	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	2.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	35.7%	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												
Volume (vph)	20	190	140	200	200	30	90	380	260	40	160	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.77		1.00	0.93			1.00	0.66		1.00	0.44
Flpb, ped/bikes		0.98		0.67	1.00			0.92	1.00		0.98	1.00
Frt		0.94		1.00	0.98			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.99	1.00		0.99	1.00
Satd. Flow (prot)		2195		1048	1300			1270	903		1581	609
Flt Permitted		0.93		0.53	1.00			0.90	1.00		0.86	1.00
Satd. Flow (perm)		2045		583	1300			1150	903		1377	609
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	204	151	215	215	32	97	409	280	43	172	32
RTOR Reduction (vph)	0	45	0	0	9	0	0	0	13	0	0	13
Lane Group Flow (vph)	0	332	0	215	238	0	0	506	267	0	215	19
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		21.7		21.7	21.7			28.3	28.3		28.3	28.3
Effective Green, g (s)		21.7		21.7	21.7			28.3	28.3		28.3	28.3
Actuated g/C Ratio		0.36		0.36	0.36			0.47	0.47		0.47	0.47
Clearance Time (s)		5.5		5.5	5.5			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)		740		211	470			542	426		649	287
v/s Ratio Prot					0.18							
v/s Ratio Perm		0.16		c0.37				c0.44	0.30		0.16	0.03
v/c Ratio		0.45		1.02	0.51			0.93	0.63		0.33	0.07
Uniform Delay, d1		14.6		19.1	15.0			15.0	11.9		9.9	8.6
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		0.4		67.0	0.9			25.3	6.8		1.4	0.5
Delay (s)		15.0		86.1	15.8			40.2	18.7		11.3	9.1
Level of Service		B		F	B			D	B		B	A
Approach Delay (s)		15.0			48.5			32.6			11.0	
Approach LOS		B			D			C			B	

Intersection Summary			
HCM Average Control Delay	30.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
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												
Volume (vph)	0	290	120	70	310	761	170	0	110	631	150	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.94			1.00	0.96		0.99		1.00	1.00	
Flpb, ped/bikes		1.00			0.99	1.00		0.99		1.00	1.00	
Frt		0.96			1.00	0.85		0.95		1.00	0.99	
Flt Protected		1.00			0.99	1.00		0.97		0.95	0.97	
Satd. Flow (prot)		2619			1603	2357		1294		1477	1490	
Flt Permitted		1.00			0.62	1.00		0.22		0.58	0.67	
Satd. Flow (perm)		2619			1003	2357		295		904	1032	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	302	125	73	323	793	177	0	115	657	156	31
RTOR Reduction (vph)	0	75	0	0	0	0	0	39	0	0	5	0
Lane Group Flow (vph)	0	352	0	0	396	793	0	253	0	420	419	0
Confl. Peds. (#/hr)	50		50	50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		11.0			11.0	38.5		14.5		24.0	24.0	
Effective Green, g (s)		11.0			11.0	38.5		14.5		24.0	24.0	
Actuated g/C Ratio		0.18			0.18	0.64		0.24		0.40	0.40	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		480			184	1512		71		362	413	
v/s Ratio Prot		0.13										
v/s Ratio Perm					c0.39	0.34		c0.86		c0.46	0.41	
v/c Ratio		0.73			2.15	0.52		3.57		1.16	1.02	
Uniform Delay, d1		23.1			24.5	5.8		22.8		18.0	18.0	
Progression Factor		1.00			1.00	1.00		1.00		0.77	0.77	
Incremental Delay, d2		9.5			536.1	1.3		1189.8		97.0	46.6	
Delay (s)		32.7			560.6	7.1		1212.5		110.9	60.4	
Level of Service		C			F	A		F		F	E	
Approach Delay (s)		32.7			191.5			1212.5			85.5	
Approach LOS		C			F			F			F	

Intersection Summary			
HCM Average Control Delay	242.7	HCM Level of Service	F
HCM Volume to Capacity ratio	2.08		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	93.0%	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												
Volume (vph)	50	751	30	50	802	40	260	60	261	30	40	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Lane Util. Factor		0.95			0.95	1.00		0.95			1.00	1.00
Frpb, ped/bikes		0.98			1.00	0.66		0.85			1.00	0.66
Flpb, ped/bikes		1.00			0.99	1.00		0.87			0.95	1.00
Frt		0.99			1.00	0.85		0.93			1.00	0.85
Flt Protected		1.00			1.00	1.00		0.98			0.98	1.00
Satd. Flow (prot)		3009			3079	806		1954			1515	922
Flt Permitted		0.83			0.84	1.00		0.79			0.77	1.00
Satd. Flow (perm)		2495			2585	806		1582			1198	922
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	52	782	31	52	835	42	271	62	272	31	42	52
RTOR Reduction (vph)	0	4	0	0	0	23	0	3	0	0	0	2
Lane Group Flow (vph)	0	861	0	0	887	19	0	602	0	0	73	50
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Actuated Green, G (s)		23.6			23.6	23.6		29.4			29.4	29.4
Effective Green, g (s)		23.6			23.6	23.6		29.4			29.4	29.4
Actuated g/C Ratio		0.39			0.39	0.39		0.49			0.49	0.49
Clearance Time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)		981			1017	317		775			587	452
v/s Ratio Prot												
v/s Ratio Perm		c0.34			0.34	0.02		c0.38			0.06	0.05
v/c Ratio		0.88			0.87	0.06		0.78			0.12	0.11
Uniform Delay, d1		16.9			16.8	11.3		12.6			8.3	8.2
Progression Factor		1.00			0.89	1.23		1.00			1.00	1.00
Incremental Delay, d2		9.0			6.9	0.1		7.5			0.4	0.5
Delay (s)		25.8			21.9	14.0		20.1			8.7	8.7
Level of Service		C			C	B		C			A	A
Approach Delay (s)		25.8			21.5			20.1			8.7	
Approach LOS		C			C			C			A	

Intersection Summary			
HCM Average Control Delay	22.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	94.4%	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												
Volume (vph)	80	752	190	112	562	20	70	230	152	10	241	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.95		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.76		0.99		1.00	0.87			0.86	
Flpb, ped/bikes		0.99	1.00		0.99		0.84	1.00			1.00	
Frt		1.00	0.85		1.00		1.00	0.94			0.94	
Flt Protected		1.00	1.00		0.99		0.95	1.00			1.00	
Satd. Flow (prot)		3072	922		3020		1299	3660			3601	
Flt Permitted		0.80	1.00		0.64		0.47	1.00			0.93	
Satd. Flow (perm)		2477	922		1959		647	3660			3344	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	817	207	122	611	22	76	250	165	11	262	196
RTOR Reduction (vph)	0	0	6	0	4	0	0	10	0	0	17	0
Lane Group Flow (vph)	0	904	201	0	751	0	76	405	0	0	452	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		28.3	28.3		28.3		21.7	21.7			21.7	
Effective Green, g (s)		28.3	28.3		28.3		21.7	21.7			21.7	
Actuated g/C Ratio		0.47	0.47		0.47		0.36	0.36			0.36	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1168	435		924		234	1324			1209	
v/s Ratio Prot								0.11				
v/s Ratio Perm		0.36	0.22		c0.38		0.12				c0.14	
v/c Ratio		0.77	0.46		0.81		0.32	0.31			0.37	
Uniform Delay, d1		13.2	10.7		13.6		13.9	13.7			14.1	
Progression Factor		0.61	0.66		0.68		1.00	1.00			1.00	
Incremental Delay, d2		1.9	0.5		5.2		3.7	0.6			0.9	
Delay (s)		10.0	7.5		14.4		17.5	14.3			15.0	
Level of Service		A	A		B		B	B			B	
Approach Delay (s)		9.5			14.4			14.8			15.0	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	12.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	100.0%	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												
Volume (vph)	0	1482	300	0	2052	90	340	190	50	90	140	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.94			0.98		1.00	0.93		1.00	0.91	
Flpb, ped/bikes		1.00			1.00		0.77	1.00		0.79	1.00	
Frt		0.97			0.99		1.00	0.97		1.00	0.96	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4089			4190		1191	1477		1230	1257	
Flt Permitted		1.00			1.00		0.59	1.00		0.51	1.00	
Satd. Flow (perm)		4089			4190		737	1477		662	1257	
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)	0	1512	306	0	2094	92	347	194	51	92	143	51
RTOR Reduction (vph)	0	7	0	0	5	0	0	3	0	0	1	0
Lane Group Flow (vph)	0	1811	0	0	2181	0	347	242	0	92	193	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2363			2421		225	451		202	384	
v/s Ratio Prot		0.44			c0.52			0.16			0.15	
v/s Ratio Perm							c0.47			0.14		
v/c Ratio		0.77			0.90		1.54	0.54		0.46	0.50	
Uniform Delay, d1		14.4			16.7		31.2	26.0		25.2	25.6	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.4			6.0		265.0	4.5		7.2	4.7	
Delay (s)		16.8			22.7		296.2	30.5		32.4	30.3	
Level of Service		B			C		F	C		C	C	
Approach Delay (s)		16.8			22.7			186.2			31.0	
Approach LOS		B			C			F			C	

Intersection Summary			
HCM Average Control Delay	40.8	HCM Level of Service	D
HCM Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	103.8%	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												
Volume (vph)	0	1492	130	0	1692	120	140	200	30	160	180	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			1.00	
Frpb, ped/bikes		0.97			0.98		1.00	0.96			0.94	
Flpb, ped/bikes		1.00			1.00		0.88	1.00			0.92	
Frt		0.99			0.99		1.00	0.98			0.98	
Flt Protected		1.00			1.00		0.95	1.00			0.98	
Satd. Flow (prot)		4289			4320		1361	1535			1359	
Flt Permitted		1.00			1.00		0.45	1.00			0.63	
Satd. Flow (perm)		4289			4320		638	1535			876	
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	1571	137	0	1781	126	147	211	32	168	189	74
RTOR Reduction (vph)	0	5	0	0	4	0	0	3	0	0	1	0
Lane Group Flow (vph)	0	1703	0	0	1903	0	147	240	0	0	430	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2540			2558		191	459			262	
v/s Ratio Prot		0.40			c0.44			0.16				
v/s Ratio Perm							0.23				c0.49	
v/c Ratio		0.67			0.74		0.77	0.52			1.64	
Uniform Delay, d1		12.4			13.4		28.7	26.2			31.6	
Progression Factor		1.00			0.25		1.00	1.00			1.00	
Incremental Delay, d2		1.4			1.3		25.3	4.2			304.5	
Delay (s)		13.8			4.6		54.0	30.4			336.1	
Level of Service		B			A		D	C			F	
Approach Delay (s)		13.8			4.6			39.3			336.1	
Approach LOS		B			A			D			F	

Intersection Summary			
HCM Average Control Delay	43.4	HCM Level of Service	D
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	105.9%	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												
Volume (vph)	0	1472	90	0	1732	70	80	100	30	40	160	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.98			0.99			0.95			0.93	
Flpb, ped/bikes		1.00			1.00			0.93			0.97	
Frt		0.99			0.99			0.98			0.97	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		4159			4199			1221			1250	
Flt Permitted		1.00			1.00			0.72			0.92	
Satd. Flow (perm)		4159			4199			900			1165	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	1566	96	0	1843	74	85	106	32	43	170	53
RTOR Reduction (vph)	0	5	0	0	5	0	0	4	0	0	1	0
Lane Group Flow (vph)	0	1657	0	0	1912	0	0	220	0	0	265	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2495			2519			270			350	
v/s Ratio Prot		0.40			c0.46							
v/s Ratio Perm								c0.24			0.23	
v/c Ratio		0.66			0.76			0.81			0.76	
Uniform Delay, d1		12.0			13.2			29.2			28.5	
Progression Factor		1.50			1.00			1.00			1.00	
Incremental Delay, d2		0.9			2.2			22.8			14.1	
Delay (s)		18.9			15.4			52.0			42.6	
Level of Service		B			B			D			D	
Approach Delay (s)		18.9			15.4			52.0			42.6	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	20.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.8%	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		↑↑↑			↑↑↑		↰	↕				↱
Volume (vph)	0	1332	0	0	1142	70	680	601	50	0	0	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.98		1.00	0.98				0.96
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.99				1.00
Satd. Flow (prot)		4282			4345		1415	2682				1358
Flt Permitted		1.00			1.00		0.95	0.99				1.00
Satd. Flow (perm)		4282			4345		1415	2682				1358
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	1531	0	0	1313	80	782	691	57	0	0	69
RTOR Reduction (vph)	0	0	0	0	7	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	1531	0	0	1386	0	500	1025	0	0	0	69
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		41.0			31.0		39.0	39.0				7.0
Effective Green, g (s)		41.0			31.0		39.0	39.0				7.0
Actuated g/C Ratio		0.46			0.34		0.43	0.43				0.08
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		1951			1497		613	1162				106
v/s Ratio Prot		c0.36			c0.32							
v/s Ratio Perm							0.35	0.38				0.05
v/c Ratio		0.78			0.93		0.82	0.88				0.65
Uniform Delay, d1		20.8			28.4		22.3	23.4				40.3
Progression Factor		1.00			0.46		1.00	1.00				1.00
Incremental Delay, d2		3.3			9.0		11.4	9.8				27.0
Delay (s)		24.0			22.0		33.8	33.2				67.3
Level of Service		C			C		C	C				E
Approach Delay (s)		24.0			22.0			33.4			67.3	
Approach LOS		C			C			C			E	

Intersection Summary			
HCM Average Control Delay	27.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	71.1%	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												
Volume (vph)	212	250	831	0	190	10	791	261	50	0	451	162
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		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.98		1.00	0.94			1.00	0.67
Flpb, ped/bikes		0.90	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.99		1.00	0.98			1.00	0.85
Flt Protected		0.98	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1432	2448		1360		4385	1311			3110	815
Flt Permitted		0.69	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		1006	2448		1360		4385	1311			3110	815
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	219	258	857	0	196	10	815	269	52	0	465	167
RTOR Reduction (vph)	0	0	2	0	2	0	0	8	0	0	0	12
Lane Group Flow (vph)	0	477	855	0	204	0	815	313	0	0	465	155
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		32.5	55.5		32.5		19.5	49.5			26.5	26.5
Effective Green, g (s)		32.5	52.0		32.5		19.5	49.5			26.5	26.5
Actuated g/C Ratio		0.36	0.58		0.36		0.22	0.55			0.29	0.29
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		363	1414		491		950	721			916	240
v/s Ratio Prot			0.35		0.15		c0.19	0.24			0.15	
v/s Ratio Perm		c0.47										c0.19
v/c Ratio		1.31	0.60		0.42		0.86	0.43			0.51	0.65
Uniform Delay, d1		28.8	12.3		21.6		33.9	12.0			26.3	27.7
Progression Factor		0.50	0.06		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		152.6	0.4		0.6		9.9	1.9			2.0	12.7
Delay (s)		167.0	1.1		22.2		43.8	13.9			28.3	40.3
Level of Service		F	A		C		D	B			C	D
Approach Delay (s)		60.4			22.2			35.4			31.5	
Approach LOS		E			C			D			C	

Intersection Summary			
HCM Average Control Delay	43.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	102.7%	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												
Volume (vph)	0	0	0	70	290	70	50	70	0	0	60	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.12		1.00			0.91	
Flpb, ped/bikes					0.86	1.00		0.86			1.00	
Frt					1.00	0.85		1.00			0.97	
Flt Protected					0.99	1.00		0.98			1.00	
Satd. Flow (prot)					2471	159		1381			1432	
Flt Permitted					0.99	1.00		0.86			1.00	
Satd. Flow (perm)					2471	159		1213			1432	
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)	0	0	0	78	322	78	56	78	0	0	67	22
RTOR Reduction (vph)	0	0	0	0	0	42	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	400	36	0	134	0	0	89	0
Confl. Peds. (#/hr)				1245		1700	831					831
Confl. Bikes (#/hr)						158			9			17
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					28.0	28.0		22.0			22.0	
Effective Green, g (s)					28.0	28.0		22.0			22.0	
Actuated g/C Ratio					0.47	0.47		0.37			0.37	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1153	74		445			525	
v/s Ratio Prot											0.06	
v/s Ratio Perm					0.16	c0.23		c0.11				
v/c Ratio					0.35	0.49		0.30			0.17	
Uniform Delay, d1					10.2	11.1		13.5			12.8	
Progression Factor					1.00	1.00		0.15			1.00	
Incremental Delay, d2					0.8	21.5		1.1			0.7	
Delay (s)					11.0	32.6		3.1			13.5	
Level of Service					B	C		A			B	
Approach Delay (s)		0.0			14.5			3.1			13.5	
Approach LOS		A			B			A			B	

Intersection Summary			
HCM Average Control Delay	12.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	45.0%	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												
Volume (vph)	0	0	0	290	310	40	180	50	0	0	80	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.92		1.00	1.00			0.92	
Flpb, ped/bikes				1.00	1.00		0.65	1.00			1.00	
Frt				1.00	0.98		1.00	1.00			0.97	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	2813		1008	1637			1463	
Flt Permitted				0.95	1.00		0.68	1.00			1.00	
Satd. Flow (perm)				1555	2813		726	1637			1463	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	0	326	348	45	202	56	0	0	90	22
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	326	385	0	202	56	0	0	112	0
Confl. Peds. (#/hr)						1700	585					585
Confl. Bikes (#/hr)						113			6			3
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				38.4	38.4		12.3	12.3			12.3	
Effective Green, g (s)				38.4	38.4		12.3	12.3			12.3	
Actuated g/C Ratio				0.64	0.64		0.21	0.21			0.21	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				995	1800		149	336			300	
v/s Ratio Prot				c0.21	0.14			0.03			0.08	
v/s Ratio Perm							c0.28					
v/c Ratio				0.33	0.21		1.36	0.17			0.37	
Uniform Delay, d1				4.9	4.5		23.9	19.6			20.5	
Progression Factor				1.00	1.00		0.83	0.79			1.00	
Incremental Delay, d2				0.9	0.3		197.3	1.1			3.5	
Delay (s)				5.8	4.8		217.2	16.6			24.1	
Level of Service				A	A		F	B			C	
Approach Delay (s)		0.0			5.2			173.7			24.1	
Approach LOS		A			A			F			C	

Intersection Summary			
HCM Average Control Delay	47.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	320	110	20	531	40	30
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	348	120	22	577	43	33
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	306					
pX, platoon unblocked						
vC, conflicting volume			867		1828	1034
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			867		1828	1034
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		0	71
cM capacity (veh/h)			541		32	111

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	232	236	599	76
Volume Left	0	0	22	43
Volume Right	0	120	0	33
cSH	1700	1700	541	46
Volume to Capacity	0.14	0.14	0.04	1.66
Queue Length 95th (ft)	0	0	3	189
Control Delay (s)	0.0	0.0	1.1	514.7
Lane LOS			A	F
Approach Delay (s)	0.0		1.1	514.7
Approach LOS				F

Intersection Summary			
Average Delay	34.9		
Intersection Capacity Utilization	64.1%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	200	30	11	681	10	40	100	51	20	70	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	
Lane Util. Factor		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.42		0.99			0.86			0.84	
Flpb, ped/bikes		1.00	1.00		0.99			0.92			0.95	
Frt		1.00	0.85		1.00			0.96			0.96	
Flt Protected		1.00	1.00		1.00			0.99			0.99	
Satd. Flow (prot)		1637	588		1408			1082			1086	
Flt Permitted		1.00	1.00		0.99			0.91			0.93	
Satd. Flow (perm)		1637	588		1401			994			1021	
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	0	267	40	15	908	13	53	133	68	27	93	53
RTOR Reduction (vph)	0	0	21	0	1	0	0	3	0	0	1	0
Lane Group Flow (vph)	0	267	19	0	935	0	0	251	0	0	172	0
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type			Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases			2	2			4			4		
Actuated Green, G (s)		29.0	29.0		29.0			22.0			22.0	
Effective Green, g (s)		29.0	29.0		29.0			22.0			22.0	
Actuated g/C Ratio		0.48	0.48		0.48			0.37			0.37	
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)		791	284		677			364			374	
v/s Ratio Prot		0.16										
v/s Ratio Perm			0.03		c0.67			c0.25			0.17	
v/c Ratio		0.34	0.07		1.38			0.69			0.46	
Uniform Delay, d1		9.6	8.3		15.5			16.1			14.5	
Progression Factor		1.00	1.00		1.00			0.83			0.77	
Incremental Delay, d2		1.2	0.5		180.6			8.2			4.0	
Delay (s)		10.7	8.7		196.1			21.6			15.1	
Level of Service		B	A		F			C			B	
Approach Delay (s)		10.5			196.1			21.6			15.1	
Approach LOS		B			F			C			B	

Intersection Summary			
HCM Average Control Delay	116.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	95.1%	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												
Volume (vph)	0	252	40	21	562	0	60	0	71	20	40	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
Lane Util. Factor		1.00	1.00		0.95			1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.26		1.00			0.70			1.00	0.67
Flpb, ped/bikes		1.00	1.00		0.99			0.87			0.85	1.00
Frt		1.00	0.85		1.00			0.93			1.00	0.85
Flt Protected		1.00	1.00		1.00			0.98			0.98	1.00
Satd. Flow (prot)		1637	354		3058			901			1376	933
Flt Permitted		1.00	1.00		0.94			0.87			0.92	1.00
Satd. Flow (perm)		1637	354		2864			800			1281	933
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	290	46	24	646	0	69	0	82	23	46	46
RTOR Reduction (vph)	0	0	35	0	0	0	0	0	0	0	0	11
Lane Group Flow (vph)	0	290	11	0	670	0	0	151	0	0	69	35
Confl. Peds. (#/hr)			800	800			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	36.5
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	36.5
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	0.61
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)		396	86		692			487			779	568
v/s Ratio Prot		0.18										
v/s Ratio Perm			0.03		c0.23			c0.19			0.05	0.04
v/c Ratio		0.73	0.13		0.97			0.31			0.09	0.06
Uniform Delay, d1		21.0	17.8		22.5			5.7			4.9	4.8
Progression Factor		0.83	0.55		1.00			1.00			1.00	1.00
Incremental Delay, d2		11.2	3.0		27.3			1.6			0.0	0.0
Delay (s)		28.6	12.8		49.8			7.2			4.9	4.8
Level of Service		C	B		D			A			A	A
Approach Delay (s)		26.5			49.8			7.2			4.9	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM Average Control Delay	34.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	74.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	371	10	70	0	210	0	561	490
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		1.00		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		1.00		1.00			1.00
Flt Protected		1.00		0.95		1.00			0.97
Satd. Flow (prot)		942		1360		1637			3029
Flt Permitted		1.00		0.95		1.00			0.95
Satd. Flow (perm)		942		1360		1637			2970
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	391	11	74	0	221	0	591	516
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	391	0	85	0	221	0	0	1107
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		385		314			891
v/s Ratio Prot						0.14			
v/s Ratio Perm		c0.42		0.06					c0.37
v/c Ratio		0.74		0.22		0.70			1.24
Uniform Delay, d1		10.0		16.4		22.7			21.0
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		9.2		1.3		7.0			118.6
Delay (s)		19.2		17.8		29.6			139.6
Level of Service		B		B		C			F
Approach Delay (s)	19.2			17.8		29.6			139.6
Approach LOS	B			B		C			F

Intersection Summary			
HCM Average Control Delay	94.3	HCM Level of Service	F
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	88.9%	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												
Volume (vph)	40	190	60	50	201	50	50	110	40	40	80	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.95			1.00	0.56	1.00	0.86			0.74	
Flpb, ped/bikes		0.96			1.00	1.00	0.64	1.00			0.93	
Frt		0.97			1.00	0.85	1.00	0.96			0.93	
Flt Protected		0.99			0.99	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1257			1418	681	999	1176			1966	
Flt Permitted		0.93			0.89	1.00	0.59	1.00			0.88	
Satd. Flow (perm)		1178			1271	681	621	1176			1737	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	45	216	68	57	228	57	57	125	45	45	91	125
RTOR Reduction (vph)	0	12	0	0	0	13	0	25	0	0	0	0
Lane Group Flow (vph)	0	317	0	0	285	44	57	145	0	0	261	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		35.8			35.8	35.8	14.1	14.1			14.1	
Effective Green, g (s)		35.8			35.8	35.8	14.1	14.1			14.1	
Actuated g/C Ratio		0.60			0.60	0.60	0.23	0.23			0.23	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		703			758	406	146	276			408	
v/s Ratio Prot								0.12				
v/s Ratio Perm		c0.27			0.22	0.06	0.09				c0.15	
v/c Ratio		0.45			0.38	0.11	0.39	0.52			0.64	
Uniform Delay, d1		6.7			6.3	5.2	19.3	20.0			20.7	
Progression Factor		1.00			1.00	1.00	0.60	0.52			1.00	
Incremental Delay, d2		2.1			1.4	0.5	1.7	1.8			3.3	
Delay (s)		8.8			7.7	5.8	13.3	12.2			23.9	
Level of Service		A			A	A	B	B			C	
Approach Delay (s)		8.8			7.4			12.5			23.9	
Approach LOS		A			A			B			C	

Intersection Summary			
HCM Average Control Delay	12.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	100.0%	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		✣			✣			✣			✣	
Volume (vph)	60	240	50	50	191	30	20	111	100	40	51	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.92			0.94			0.76			0.83	
Flpb, ped/bikes		0.94			0.95			0.96			0.90	
Frt		0.98			0.99			0.94			0.96	
Flt Protected		0.99			0.99			1.00			0.98	
Satd. Flow (prot)		1216			1248			990			1019	
Flt Permitted		0.90			0.89			0.97			0.87	
Satd. Flow (perm)		1109			1118			964			903	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	66	264	55	55	210	33	22	122	110	44	56	44
RTOR Reduction (vph)	0	10	0	0	7	0	0	19	0	0	23	0
Lane Group Flow (vph)	0	375	0	0	291	0	0	235	0	0	121	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		32.6			32.6			18.6			18.6	
Effective Green, g (s)		32.6			32.6			18.6			18.6	
Actuated g/C Ratio		0.54			0.54			0.31			0.31	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		603			607			299			280	
v/s Ratio Prot												
v/s Ratio Perm		c0.34			0.26			c0.24			0.13	
v/c Ratio		0.62			0.48			0.78			0.43	
Uniform Delay, d1		9.4			8.5			18.9			16.5	
Progression Factor		1.00			1.00			0.68			0.84	
Incremental Delay, d2		4.8			2.7			16.5			4.3	
Delay (s)		14.2			11.2			29.3			18.2	
Level of Service		B			B			C			B	
Approach Delay (s)		14.2			11.2			29.3			18.2	
Approach LOS		B			B			C			B	

Intersection Summary			
HCM Average Control Delay	17.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	58.7%	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												
Volume (vph)	30	210	100	40	130	40	50	72	170	40	71	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.84			1.00	0.46		0.69			0.86	
Flpb, ped/bikes		0.97			0.93	1.00		0.93			0.93	
Frt		0.96			1.00	0.85		0.92			0.96	
Flt Protected		1.00			0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1112			1321	565		845			1082	
Flt Permitted		0.97			0.88	1.00		0.93			0.88	
Satd. Flow (perm)		1082			1174	565		790			962	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	32	226	108	43	140	43	54	77	183	43	76	44
RTOR Reduction (vph)	0	18	0	0	0	18	0	17	0	0	21	0
Lane Group Flow (vph)	0	348	0	0	183	25	0	297	0	0	142	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		31.0			31.0	31.0		21.0			21.0	
Effective Green, g (s)		31.0			31.0	31.0		21.0			21.0	
Actuated g/C Ratio		0.52			0.52	0.52		0.35			0.35	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		559			607	292		277			337	
v/s Ratio Prot												
v/s Ratio Perm		c0.32			0.16	0.04		c0.38			0.15	
v/c Ratio		0.62			0.30	0.09		1.07			0.42	
Uniform Delay, d1		10.3			8.3	7.3		19.5			14.9	
Progression Factor		1.00			0.87	0.75		0.74			0.18	
Incremental Delay, d2		5.2			1.3	0.6		71.0			3.7	
Delay (s)		15.5			8.5	6.0		85.3			6.5	
Level of Service		B			A	A		F			A	
Approach Delay (s)		15.5			8.0			85.3			6.5	
Approach LOS		B			A			F			A	

Intersection Summary			
HCM Average Control Delay	33.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	86.0%	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												
Volume (vph)	30	230	70	20	90	20	20	61	60	20	31	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.48		1.00	0.48		0.76			0.84	
Flpb, ped/bikes		0.95	1.00		0.94	1.00		0.93			0.89	
Frt		1.00	0.85		1.00	0.85		0.94			0.96	
Flt Protected		0.99	1.00		0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1356	573		1334	573		948			1164	
Flt Permitted		0.97	1.00		0.93	1.00		0.96			0.91	
Satd. Flow (perm)		1316	573		1256	573		915			1069	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	34	264	80	23	103	23	23	70	69	23	36	23
RTOR Reduction (vph)	0	0	6	0	0	5	0	30	0	0	17	0
Lane Group Flow (vph)	0	298	74	0	126	18	0	132	0	0	65	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		36.0	36.0		36.0	36.0		16.0			16.0	
Effective Green, g (s)		36.0	36.0		36.0	36.0		16.0			16.0	
Actuated g/C Ratio		0.60	0.60		0.60	0.60		0.27			0.27	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		790	344		754	344		244			285	
v/s Ratio Prot												
v/s Ratio Perm		c0.23	0.13		0.10	0.03		c0.14			0.06	
v/c Ratio		0.38	0.22		0.17	0.05		0.54			0.23	
Uniform Delay, d1		6.2	5.5		5.3	5.0		18.9			17.2	
Progression Factor		0.72	0.68		1.00	1.00		0.94			0.81	
Incremental Delay, d2		0.8	0.8		0.5	0.3		7.2			1.7	
Delay (s)		5.2	4.6		5.8	5.2		24.9			15.6	
Level of Service		A	A		A	A		C			B	
Approach Delay (s)		5.1			5.7			24.9			15.6	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM Average Control Delay	10.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations										
Volume (vph)	30	170	60	30	40	20	391	200	150	861
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				4.0		5.0		5.0	5.0
Lane Util. Factor	1.00				1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.89				0.91		0.78		1.00	1.00
Flpb, ped/bikes	1.00				0.60		1.00		1.00	1.00
Frt	0.88				0.97		0.95		1.00	1.00
Flt Protected	0.99				0.96		1.00		0.95	1.00
Satd. Flow (prot)	1281				845		2311		1555	3110
Flt Permitted	0.99				0.96		1.00		0.95	1.00
Satd. Flow (perm)	1281				845		2311		1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	185	65	33	43	22	425	217	163	936
RTOR Reduction (vph)	12	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	271	0	0	0	98	0	642	0	163	936
Confl. Peds. (#/hr)				400	400	400		400		
Confl. Bikes (#/hr)		30	30			10		30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0
Turn Type				custom					Split	
Protected Phases	4!				8!		6		2	2
Permitted Phases				3						
Actuated Green, G (s)	20.0				46.0		17.0		13.0	13.0
Effective Green, g (s)	20.0				46.0		17.0		13.0	13.0
Actuated g/C Ratio	0.22				0.51		0.19		0.14	0.14
Clearance Time (s)	5.0				4.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	285				432		437		225	449
v/s Ratio Prot	c0.21						c0.28		0.10	c0.30
v/s Ratio Perm					0.12					
v/c Ratio	0.95				0.23		1.47		0.72	2.08
Uniform Delay, d1	34.5				12.2		36.5		36.8	38.5
Progression Factor	1.00				1.17		1.00		0.88	0.90
Incremental Delay, d2	40.3				0.2		223.3		16.6	494.9
Delay (s)	74.8				14.4		259.8		49.1	529.6
Level of Service	E				B		F		D	F
Approach Delay (s)	74.8				14.4		259.8			458.3
Approach LOS	E				B		F			F

Intersection Summary			
HCM Average Control Delay	326.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1044	30	11	703	20	0	60	31	0	100	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.88			0.90	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.95			0.96	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2874			2871			1209			1242	
Flt Permitted		1.00			0.94			1.00			1.00	
Satd. Flow (perm)		2874			2697			1209			1242	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	1088	31	11	732	21	0	62	32	0	104	42
RTOR Reduction (vph)	0	2	0	0	2	0	0	10	0	0	25	0
Lane Group Flow (vph)	0	1117	0	0	762	0	0	84	0	0	121	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type				Perm								
Protected Phases		2			6			8			4	
Permitted Phases				6								
Actuated Green, G (s)		41.3			41.3			9.9			9.9	
Effective Green, g (s)		41.3			41.3			9.9			9.9	
Actuated g/C Ratio		0.69			0.69			0.17			0.17	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1978			1856			199			205	
v/s Ratio Prot		c0.39						0.07			c0.10	
v/s Ratio Perm					0.28							
v/c Ratio		0.56			0.41			0.42			0.59	
Uniform Delay, d1		4.8			4.1			22.5			23.2	
Progression Factor		0.41			1.00			1.00			1.00	
Incremental Delay, d2		1.0			0.1			1.4			4.3	
Delay (s)		3.0			4.2			23.9			27.5	
Level of Service		A			A			C			C	
Approach Delay (s)		3.0			4.2			23.9			27.5	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	6.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	54.6%	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												
Volume (vph)	0	814	160	0	543	40	180	130	80	0	170	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.69		1.00	0.69	1.00	1.00	0.72		0.98	
Flpb, ped/bikes		1.00	1.00		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	0.85		0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3110	959		3110	959	3016	1637	1006		2837	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		3110	959		3110	959	3016	1637	1006		2837	
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)	0	831	163	0	554	41	184	133	82	0	173	10
RTOR Reduction (vph)	0	0	68	0	0	18	0	0	2	0	6	0
Lane Group Flow (vph)	0	831	95	0	554	23	184	133	80	0	177	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type	Perm		Perm	Perm		Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		33.0	33.0		33.0	33.0	4.5	18.0	18.0		9.0	
Effective Green, g (s)		33.0	33.0		33.0	33.0	4.5	18.0	18.0		9.0	
Actuated g/C Ratio		0.55	0.55		0.55	0.55	0.08	0.30	0.30		0.15	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		1711	527		1711	527	226	491	302		426	
v/s Ratio Prot		c0.27			0.18		c0.06	0.08			c0.06	
v/s Ratio Perm			0.10			0.02			0.08			
v/c Ratio		0.49	0.18		0.32	0.04	0.81	0.27	0.26		0.42	
Uniform Delay, d1		8.3	6.7		7.4	6.2	27.3	16.0	16.0		23.1	
Progression Factor		1.00	1.00		0.78	0.66	1.00	1.00	1.00		1.05	
Incremental Delay, d2		1.0	0.7		0.5	0.1	19.7	0.3	0.5		0.6	
Delay (s)		9.3	7.5		6.3	4.3	47.0	16.3	16.4		24.9	
Level of Service		A	A		A	A	D	B	B		C	
Approach Delay (s)		9.0			6.1			30.5			24.9	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	13.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	131	773	563	70	90	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	0.96		0.81	
Flpb, ped/bikes		0.98	1.00		1.00	
Frt		1.00	0.98		0.93	
Flt Protected		0.99	1.00		0.98	
Satd. Flow (prot)		2843	2943		1054	
Flt Permitted		0.76	1.00		0.98	
Satd. Flow (perm)		2182	2943		1054	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	139	822	599	74	96	118
RTOR Reduction (vph)	0	0	17	0	37	0
Lane Group Flow (vph)	0	961	656	0	177	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		35.4	35.4		17.6	
Effective Green, g (s)		35.4	35.4		17.6	
Actuated g/C Ratio		0.59	0.59		0.29	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1287	1736		309	
v/s Ratio Prot			0.22		c0.17	
v/s Ratio Perm		c0.44				
v/c Ratio		0.75	0.38		0.57	
Uniform Delay, d1		9.0	6.5		18.0	
Progression Factor		0.44	1.00		0.82	
Incremental Delay, d2		2.2	0.1		7.0	
Delay (s)		6.2	6.6		21.9	
Level of Service		A	A		C	
Approach Delay (s)		6.2	6.6		21.9	
Approach LOS		A	A		C	

Intersection Summary			
HCM Average Control Delay	8.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	87.1%	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												
Volume (vph)	51	363	50	30	582	150	40	71	50	60	81	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.96			0.92			0.90			0.89	
Flpb, ped/bikes		0.99			0.99			0.95			0.94	
Frt		0.98			0.97			0.96			0.95	
Flt Protected		0.99			1.00			0.99			0.99	
Satd. Flow (prot)		2692			2576			1160			1126	
Flt Permitted		0.82			0.92			0.89			0.87	
Satd. Flow (perm)		2220			2386			1043			999	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	54	386	53	32	619	160	43	76	53	64	86	76
RTOR Reduction (vph)	0	16	0	0	17	0	0	27	0	0	16	0
Lane Group Flow (vph)	0	477	0	0	794	0	0	145	0	0	210	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		30.6			30.6			20.6			20.6	
Effective Green, g (s)		30.6			30.6			20.6			20.6	
Actuated g/C Ratio		0.51			0.51			0.34			0.34	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1132			1217			358			343	
v/s Ratio Prot												
v/s Ratio Perm		0.21			c0.33			0.14			c0.21	
v/c Ratio		0.42			0.65			0.41			0.61	
Uniform Delay, d1		9.2			10.8			15.0			16.4	
Progression Factor		1.00			0.65			1.00			0.72	
Incremental Delay, d2		1.2			2.6			3.4			6.9	
Delay (s)		10.3			9.6			18.4			18.7	
Level of Service		B			A			B			B	
Approach Delay (s)		10.3			9.6			18.4			18.7	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM Average Control Delay	11.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	84.1%	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												
Volume (vph)	51	802	40	40	512	50	60	50	70	30	50	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.98			0.97			0.87			0.89	
Flpb, ped/bikes		0.99			0.99			0.92			0.95	
Frt		0.99			0.99			0.95			0.95	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		2810			2754			1069			1138	
Flt Permitted		0.89			0.86			0.86			0.90	
Satd. Flow (perm)		2511			2386			936			1032	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	53	827	41	41	528	52	62	52	72	31	52	42
RTOR Reduction (vph)	0	5	0	0	10	0	0	12	0	0	28	0
Lane Group Flow (vph)	0	916	0	0	611	0	0	174	0	0	97	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		36.0			36.0			15.1			15.1	
Effective Green, g (s)		36.0			36.0			15.1			15.1	
Actuated g/C Ratio		0.60			0.60			0.25			0.25	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1507			1432			236			260	
v/s Ratio Prot												
v/s Ratio Perm		c0.36			0.26			c0.19			0.09	
v/c Ratio		0.61			0.43			0.74			0.37	
Uniform Delay, d1		7.6			6.5			20.6			18.5	
Progression Factor		0.75			1.00			1.00			0.92	
Incremental Delay, d2		1.8			0.2			11.4			0.9	
Delay (s)		7.5			6.7			32.0			17.9	
Level of Service		A			A			C			B	
Approach Delay (s)		7.5			6.7			32.0			17.9	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM Average Control Delay	10.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	85.4%	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												
Volume (vph)	30	782	80	40	502	90	70	10	20	20	20	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			0.96			0.93			0.82	
Flpb, ped/bikes		1.00			1.00			0.79			0.93	
Frt		0.99			0.98			0.97			0.93	
Flt Protected		1.00			1.00			0.97			0.99	
Satd. Flow (prot)		2782			2888			1135			1148	
Flt Permitted		0.91			0.84			0.77			0.92	
Satd. Flow (perm)		2543			2431			905			1067	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	34	879	90	45	564	101	79	11	22	22	22	45
RTOR Reduction (vph)	0	2	0	0	2	0	0	9	0	0	35	0
Lane Group Flow (vph)	0	1001	0	0	708	0	0	103	0	0	54	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1755			1677			194			229	
v/s Ratio Prot												
v/s Ratio Perm		c0.39			0.29			c0.11			0.05	
v/c Ratio		0.57			0.42			0.53			0.23	
Uniform Delay, d1		7.1			6.1			31.3			29.2	
Progression Factor		1.00			0.37			1.00			0.26	
Incremental Delay, d2		1.4			0.7			9.9			0.2	
Delay (s)		8.5			2.9			41.3			7.7	
Level of Service		A			A			D			A	
Approach Delay (s)		8.5			2.9			41.3			7.7	
Approach LOS		A			A			D			A	

Intersection Summary			
HCM Average Control Delay	8.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	77.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	50	772	562	961	541	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3011	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3011	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	52	796	579	991	558	52
RTOR Reduction (vph)	0	30	0	0	8	0
Lane Group Flow (vph)	52	766	579	991	602	0
Confl. Peds. (#/hr)						109
Confl. Bikes (#/hr)		10				64
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	21.0	53.8	28.8	59.0	26.2	
Effective Green, g (s)	21.0	53.8	28.8	59.0	26.2	
Actuated g/C Ratio	0.23	0.60	0.32	0.66	0.29	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	363	1463	965	1911	877	
v/s Ratio Prot	0.03	c0.31	c0.19	0.34	c0.20	
v/s Ratio Perm						
v/c Ratio	0.14	0.52	0.60	0.52	0.69	
Uniform Delay, d1	27.4	10.6	25.8	8.1	28.3	
Progression Factor	0.77	0.38	0.81	0.91	0.34	
Incremental Delay, d2	0.2	0.3	0.8	0.8	0.2	
Delay (s)	21.3	4.3	21.6	8.1	9.9	
Level of Service	C	A	C	A	A	
Approach Delay (s)	5.3			13.1	9.9	
Approach LOS	A			B	A	

Intersection Summary			
HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	59.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	90	241	40	0	1513	30	70	53	1213
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			0.99			1.00	1.00
Flpb, ped/bikes				0.73			1.00			1.00	1.00
Frt				0.98			0.99			1.00	1.00
Flt Protected				0.96			1.00			0.95	1.00
Satd. Flow (prot)				2041			4393			1555	3110
Flt Permitted				0.96			1.00			0.95	1.00
Satd. Flow (perm)				2041			4393			1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	98	262	43	0	1645	33	76	58	1318
RTOR Reduction (vph)	0	0	0	11	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	0	0	392	0	0	1749	0	0	58	1318
Confl. Peds. (#/hr)			107	139					107		
Confl. Bikes (#/hr)					8				106		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				21.1			50.0			5.9	59.9
Effective Green, g (s)				21.1			50.0			5.9	59.9
Actuated g/C Ratio				0.23			0.56			0.07	0.67
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				479			2441			102	2070
v/s Ratio Prot							c0.40			0.04	c0.42
v/s Ratio Perm				0.19							
v/c Ratio				0.82			0.72			0.57	0.64
Uniform Delay, d1				32.6			14.8			40.8	8.7
Progression Factor				1.00			0.77			1.00	1.00
Incremental Delay, d2				10.4			0.8			4.3	1.5
Delay (s)				43.0			12.2			45.1	10.2
Level of Service				D			B			D	B
Approach Delay (s)	0.0			43.0			12.2				11.7
Approach LOS	A			D			B				B

Intersection Summary			
HCM Average Control Delay	15.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	65.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBL	EBR	EBR2	SEL	SET	SER2	NWL2	NWL	NWT	NWR	SWR2
Lane Configurations												
Volume (vph)	41	0	11	160	20	1022	241	51	0	1162	30	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5		7.0	7.0	7.0		7.0	7.0		
Lane Util. Factor		1.00	1.00		1.00	0.95	1.00		1.00	0.95		
Frpb, ped/bikes		1.00	0.86		1.00	1.00	0.96		1.00	0.98		
Flpb, ped/bikes		1.00	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	1.00		
Flt Protected		0.95	1.00		0.95	1.00	1.00		0.95	1.00		
Satd. Flow (prot)		1555	1052		1555	3110	1334		1555	3050		
Flt Permitted		0.95	1.00		0.14	1.00	1.00		0.20	1.00		
Satd. Flow (perm)		1555	1052		231	3110	1334		327	3050		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	45	0	12	174	22	1111	262	55	0	1263	33	0
RTOR Reduction (vph)	0	0	126	0	0	0	123	0	0	2	0	0
Lane Group Flow (vph)	0	45	60	0	22	1111	139	0	55	1294	0	0
Confl. Peds. (#/hr)				130							1000	100
Confl. Bikes (#/hr)			10	10			30				30	10
Parking (#/hr)			5	5								
Turn Type	Perm		Perm		Perm		Perm	Perm	Perm			custom
Protected Phases		4				6				2		
Permitted Phases	4		4		6		6	2	2			8
Actuated Green, G (s)		18.0	18.0		34.5	34.5	34.5		34.5	34.5		
Effective Green, g (s)		18.0	18.0		34.5	34.5	34.5		34.5	34.5		
Actuated g/C Ratio		0.28	0.28		0.53	0.53	0.53		0.53	0.53		
Clearance Time (s)		5.5	5.5		7.0	7.0	7.0		7.0	7.0		
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)		431	291		123	1651	708		174	1619		
v/s Ratio Prot						0.36				c0.42		
v/s Ratio Perm		0.03	c0.06		0.10		0.10		0.17			
v/c Ratio		0.10	0.21		0.18	0.67	0.20		0.32	0.80		
Uniform Delay, d1		17.5	18.0		7.9	11.1	8.0		8.6	12.4		
Progression Factor		1.00	1.00		1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2		0.1	0.4		3.2	2.2	0.6		4.7	4.2		
Delay (s)		17.6	18.4		11.1	13.3	8.6		13.3	16.6		
Level of Service		B	B		B	B	A		B	B		
Approach Delay (s)		18.2				12.4				16.5		
Approach LOS		B				B				B		

Intersection Summary			
HCM Average Control Delay	14.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	92.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	30	0	20	0	0	0	60	1213	0	0	30	1163
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.87					1.00	1.00				0.99
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.95					1.00	1.00				1.00
Flt Protected		0.97					0.95	1.00				1.00
Satd. Flow (prot)		1140					1555	3110				3058
Flt Permitted		0.97					0.95	1.00				0.89
Satd. Flow (perm)		1140					1555	3110				2718
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	32	0	21	0	0	0	64	1290	0	0	32	1237
RTOR Reduction (vph)	0	3	0	0	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	0	50	0	0	0	0	64	1290	0	0	0	1300
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		6.9					4.0	74.1				65.1
Effective Green, g (s)		6.9					4.0	74.1				65.1
Actuated g/C Ratio		0.08					0.04	0.82				0.72
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		87					69	2561				1966
v/s Ratio Prot		c0.04					c0.04	0.41				
v/s Ratio Perm												c0.48
v/c Ratio		0.58					0.93	0.50				0.66
Uniform Delay, d1		40.1					42.9	2.4				6.6
Progression Factor		1.00					0.87	0.51				1.00
Incremental Delay, d2		9.0					77.0	0.6				1.8
Delay (s)		49.1					114.3	1.9				8.4
Level of Service		D					F	A				A
Approach Delay (s)		49.1			0.0			7.2				8.4
Approach LOS		D			A			A				A

Intersection Summary			
HCM Average Control Delay	8.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	94.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	30
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	32
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	111	561	0	0	532	40	150	172	20	0	0	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				
Lane Util. Factor		0.95			0.95			0.95				
Frpb, ped/bikes		1.00			0.98			0.98				
Flpb, ped/bikes		0.98			1.00			0.86				
Frt		1.00			0.99			0.99				
Flt Protected		0.99			1.00			0.98				
Satd. Flow (prot)		2803			2791			2364				
Flt Permitted		0.75			1.00			0.98				
Satd. Flow (perm)		2107			2791			2364				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	118	597	0	0	566	43	160	183	21	0	0	0
RTOR Reduction (vph)	0	0	0	0	7	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	715	0	0	602	0	0	359	0	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm					
Protected Phases		2			6			8				
Permitted Phases	2						8					
Actuated Green, G (s)		43.5			43.5			27.5				
Effective Green, g (s)		43.5			43.5			27.5				
Actuated g/C Ratio		0.54			0.54			0.34				
Clearance Time (s)		4.5			4.5			4.5				
Vehicle Extension (s)		3.0			3.0			3.0				
Lane Grp Cap (vph)		1146			1518			813				
v/s Ratio Prot					0.22							
v/s Ratio Perm		c0.34						0.15				
v/c Ratio		0.62			0.40			0.44				
Uniform Delay, d1		12.6			10.6			20.3				
Progression Factor		1.00			0.35			1.00				
Incremental Delay, d2		2.6			0.6			1.7				
Delay (s)		15.2			4.3			22.0				
Level of Service		B			A			C				
Approach Delay (s)		15.2			4.3			22.0			0.0	
Approach LOS		B			A			C			A	

Intersection Summary			
HCM Average Control Delay	12.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	95.4%	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												
Volume (vph)	0	421	180	50	451	0	0	0	0	20	322	121
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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.90			1.00						0.94	
Flpb, ped/bikes		1.00			0.99						0.99	
Frt		0.96			1.00						0.96	
Flt Protected		1.00			1.00						1.00	
Satd. Flow (prot)		2678			3061						2603	
Flt Permitted		1.00			0.77						1.00	
Satd. Flow (perm)		2678			2370						2603	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	453	194	54	485	0	0	0	0	22	346	130
RTOR Reduction (vph)	0	47	0	0	0	0	0	0	0	0	41	0
Lane Group Flow (vph)	0	600	0	0	539	0	0	0	0	0	457	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		24.6			24.6						46.4	
Effective Green, g (s)		24.6			24.6						46.4	
Actuated g/C Ratio		0.31			0.31						0.58	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		823			729						1510	
v/s Ratio Prot		0.22										
v/s Ratio Perm					c0.23						0.18	
v/c Ratio		0.73			0.74						0.30	
Uniform Delay, d1		24.7			24.8						8.6	
Progression Factor		0.47			1.00						1.00	
Incremental Delay, d2		2.7			3.9						0.5	
Delay (s)		14.2			28.8						9.1	
Level of Service		B			C						A	
Approach Delay (s)		14.2			28.8			0.0			9.1	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM Average Control Delay	17.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	85.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	71	330	490	1213	0	1012	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.66	1.00	1.00		0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		0.99	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	915	3016	3110		3000	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	915	3016	3110		3000	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	71	330	490	1213	0	1012	81
RTOR Reduction (vph)	0	283	0	0	0	6	0
Lane Group Flow (vph)	71	47	490	1213	0	1087	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	12.8	12.8	21.0	66.2		39.2	
Effective Green, g (s)	12.8	12.8	21.0	66.2		39.2	
Actuated g/C Ratio	0.14	0.14	0.23	0.74		0.44	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	221	130	704	2288		1307	
v/s Ratio Prot	0.05		c0.16	0.39		c0.36	
v/s Ratio Perm		c0.05					
v/c Ratio	0.32	0.36	0.70	0.53		0.83	
Uniform Delay, d1	34.7	34.9	31.6	5.2		22.5	
Progression Factor	1.00	1.00	1.00	1.00		0.69	
Incremental Delay, d2	0.8	1.7	3.0	0.9		4.9	
Delay (s)	35.5	36.6	34.6	6.0		20.4	
Level of Service	D	D	C	A		C	
Approach Delay (s)	36.4			14.3		20.4	
Approach LOS	D			B		C	

Intersection Summary			
HCM Average Control Delay	19.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	96.4%	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												
Volume (vph)	20	231	10	22	131	20	10	80	32	30	110	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
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.43		1.00	0.66		0.92			1.00	0.46
Flpb, ped/bikes		0.98	1.00		0.95	1.00		0.96			0.95	1.00
Frt		1.00	0.85		1.00	0.85		0.96			1.00	0.85
Flt Protected		1.00	1.00		0.99	1.00		1.00			0.99	1.00
Satd. Flow (prot)		1596	600		1536	917		1388			1535	644
Flt Permitted		0.98	1.00		0.95	1.00		0.97			0.93	1.00
Satd. Flow (perm)		1567	600		1469	917		1347			1438	644
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	21	246	11	23	139	21	11	85	34	32	117	11
RTOR Reduction (vph)	0	0	4	0	0	7	0	6	0	0	0	8
Lane Group Flow (vph)	0	267	7	0	162	14	0	124	0	0	149	3
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		40.8	40.8		40.8	40.8		10.2			10.2	10.2
Effective Green, g (s)		40.8	40.8		40.8	40.8		10.2			10.2	10.2
Actuated g/C Ratio		0.68	0.68		0.68	0.68		0.17			0.17	0.17
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)		1066	408		999	624		229			244	109
v/s Ratio Prot												
v/s Ratio Perm		c0.17	0.01		0.11	0.02		0.09			c0.10	0.00
v/c Ratio		0.25	0.02		0.16	0.02		0.54			0.61	0.02
Uniform Delay, d1		3.7	3.1		3.5	3.1		22.8			23.1	20.8
Progression Factor		1.00	1.00		0.22	0.05		1.23			0.99	1.07
Incremental Delay, d2		0.1	0.0		0.2	0.0		1.8			4.3	0.1
Delay (s)		3.8	3.1		0.9	0.2		29.8			27.1	22.2
Level of Service		A	A		A	A		C			C	C
Approach Delay (s)		3.8			0.8			29.8			26.8	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	12.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	1830	30	290	200	40	60	20	10	10	10	190	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.35		0.64	1.00	0.95			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.74	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	559	3110	480		904	1555	1315			1148	1172
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.98	1.00
Satd. Flow (perm)	3110	559	3110	480		904	1555	1315			1180	1172
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	2056	34	326	225	45	67	22	11	11	11	213	22
RTOR Reduction (vph)	0	4	0	101	0	2	0	9	0	0	0	17
Lane Group Flow (vph)	2056	30	326	169	0	65	22	13	0	0	224	5
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	47.0	47.0	47.0	47.0		16.0	16.0	16.0			16.0	16.0
Effective Green, g (s)	47.0	47.0	47.0	47.0		16.0	16.0	16.0			16.0	16.0
Actuated g/C Ratio	0.63	0.63	0.63	0.63		0.21	0.21	0.21			0.21	0.21
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1949	350	1949	301		193	332	281			252	250
v/s Ratio Prot	c0.66		0.10									
v/s Ratio Perm		0.05		0.35		0.07	0.01	0.01			c0.19	0.00
v/c Ratio	1.05	0.08	0.17	0.56		0.34	0.07	0.05			0.89	0.02
Uniform Delay, d1	14.0	5.5	5.8	8.1		25.0	23.5	23.4			28.6	23.3
Progression Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	36.7	0.5	0.2	7.4		4.7	0.4	0.3			34.0	0.1
Delay (s)	50.7	6.0	6.0	15.5		29.7	23.9	23.8			62.6	23.4
Level of Service	D	A	A	B		C	C	C			E	C
Approach Delay (s)	49.9		10.3								59.1	
Approach LOS	D		B								E	

Intersection Summary			
HCM Average Control Delay	42.1	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	87.0%	ICU Level of Service	E
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	1860	60	20	440	90	40
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1979	64	21	468	96	43

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	1319	723	177	312	138
Volume Left (vph)	0	0	21	0	96
Volume Right (vph)	0	64	0	0	43
Hadj (s)	0.02	-0.04	0.08	0.02	-0.03
Departure Headway (s)	5.7	5.6	6.7	6.6	6.6
Degree Utilization, x	2.09	1.13	0.33	0.57	0.25
Capacity (veh/h)	645	644	532	539	532
Control Delay (s)	506.7	98.1	11.7	16.9	11.8
Approach Delay (s)	362.0		15.0		11.8
Approach LOS	F		C		B

Intersection Summary			
Delay	280.2		
HCM Level of Service	F		
Intersection Capacity Utilization	79.5%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	1630	230	20	10	360	20	10	10	10	20	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4				5.4		4.0			5.0	5.0
Lane Util. Factor		0.95				0.95		1.00			1.00	1.00
Frpb, ped/bikes		0.93				0.98		0.78			1.00	0.55
Flpb, ped/bikes		1.00				1.00		1.00			1.00	1.00
Frt		0.98				0.99		0.86			1.00	0.85
Flt Protected		1.00				1.00		1.00			0.98	1.00
Satd. Flow (prot)		2634				3019		1106			1597	768
Flt Permitted		0.94				0.76		1.00			0.98	1.00
Satd. Flow (perm)		2483				2291		1106			1597	768
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	1772	250	22	11	391	22	11	11	11	22	22
RTOR Reduction (vph)	0	1	0	0	0	5	0	0	0	0	0	19
Lane Group Flow (vph)	0	2076	0	0	0	419	0	11	0	0	44	3
Confl. Peds. (#/hr)	400		400	400	400		400	400	400	400		400
Confl. Bikes (#/hr)			30	30			30	10				10
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm			Free	Split	Split		Perm
Protected Phases		2				6			4	4	4	
Permitted Phases	2				6			Free				4
Actuated Green, G (s)		41.6				41.6		75.0			9.0	9.0
Effective Green, g (s)		41.6				41.6		75.0			9.0	9.0
Actuated g/C Ratio		0.55				0.55		1.00			0.12	0.12
Clearance Time (s)		5.4				5.4					5.0	5.0
Lane Grp Cap (vph)		1377				1271		1106			192	92
v/s Ratio Prot											c0.03	
v/s Ratio Perm		c0.84				0.18		0.01				0.00
v/c Ratio		1.51				0.33		0.01			0.23	0.03
Uniform Delay, d1		16.7				9.1		0.0			29.9	29.1
Progression Factor		1.00				0.85		1.00			1.00	1.00
Incremental Delay, d2		232.3				0.7		0.0			2.8	0.6
Delay (s)		249.0				8.4		0.0			32.6	29.7
Level of Service		F				A		A			C	C
Approach Delay (s)		249.0				8.4					31.7	
Approach LOS		F				A					C	

Intersection Summary			
HCM Average Control Delay	194.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	123.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	NWL	NWR	NWR2
Lane Configurations			
Volume (vph)	90	20	10
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	5.0		5.0
Lane Util. Factor	0.97		1.00
Frpb, ped/bikes	0.86		0.55
Flpb, ped/bikes	1.00		1.00
Frt	0.97		0.85
Flt Protected	0.96		1.00
Satd. Flow (prot)	2560		768
Flt Permitted	0.96		1.00
Satd. Flow (perm)	2560		768
Peak-hour factor, PHF	0.92	0.92	0.92
Adj. Flow (vph)	98	22	11
RTOR Reduction (vph)	0	0	1
Lane Group Flow (vph)	120	0	10
Confl. Peds. (#/hr)	400	400	400
Confl. Bikes (#/hr)		10	10
Parking (#/hr)			
Turn Type			Perm
Protected Phases	8		
Permitted Phases			8
Actuated Green, G (s)	9.0		9.0
Effective Green, g (s)	9.0		9.0
Actuated g/C Ratio	0.12		0.12
Clearance Time (s)	5.0		5.0
Lane Grp Cap (vph)	307		92
v/s Ratio Prot	c0.05		
v/s Ratio Perm			0.01
v/c Ratio	0.39		0.11
Uniform Delay, d1	30.5		29.4
Progression Factor	1.00		1.00
Incremental Delay, d2	3.7		2.4
Delay (s)	34.2		31.8
Level of Service	C		C
Approach Delay (s)	34.0		
Approach LOS	C		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1620	30	10	340	60	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.99			1.00	0.89	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	1.00			1.00	0.95	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2888			3103	1344	
Flt Permitted	1.00			0.90	0.97	
Satd. Flow (perm)	2888			2788	1344	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1705	32	11	358	63	32
RTOR Reduction (vph)	2	0	0	0	2	0
Lane Group Flow (vph)	1735	0	0	369	93	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1733			1673	403	
v/s Ratio Prot	c0.60				c0.07	
v/s Ratio Perm				0.13		
v/c Ratio	1.00			0.22	0.23	
Uniform Delay, d1	15.0			6.9	19.7	
Progression Factor	0.09			1.00	1.00	
Incremental Delay, d2	6.8			0.3	1.3	
Delay (s)	8.2			7.2	21.1	
Level of Service	A			A	C	
Approach Delay (s)	8.2			7.2	21.1	
Approach LOS	A			A	C	

Intersection Summary			
HCM Average Control Delay	8.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	76.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	1610	10	10	330	10	10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1713	11	11	351	11	11

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	1142	582	128	234	21
Volume Left (vph)	0	0	11	0	11
Volume Right (vph)	0	11	0	0	11
Hadj (s)	0.02	0.00	0.06	0.02	-0.18
Departure Headway (s)	5.0	4.9	6.0	6.0	6.2
Degree Utilization, x	1.57	0.80	0.21	0.39	0.04
Capacity (veh/h)	722	718	579	587	559
Control Delay (s)	277.0	23.3	9.5	11.6	9.4
Approach Delay (s)	191.4		10.8		9.4
Approach LOS	F		B		A

Intersection Summary			
Delay	158.6		
HCM Level of Service	F		
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR2
Lane Configurations												
Volume (vph)	10	1520	30	10	330	50	50	30	50	20	20	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5	5.5		5.5		5.5	5.5	5.5
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	1.00
Frpb, ped/bikes		0.99			1.00	0.66		0.87		1.00	1.00	0.65
Flpb, ped/bikes		1.00			1.00	1.00		0.88		0.74	0.98	1.00
Frt		1.00			1.00	0.85		0.95		1.00	1.00	0.85
Flt Protected		1.00			1.00	1.00		0.98		0.95	1.00	1.00
Satd. Flow (prot)		2859			3110	808		1012		1097	1512	911
Flt Permitted		0.95			1.00	1.00		0.88		0.67	0.98	1.00
Satd. Flow (perm)		2725			3110	808		908		774	1490	911
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)	10	1551	31	10	337	51	51	31	51	20	20	10
RTOR Reduction (vph)	0	0	0	0	0	4	0	5	0	0	0	8
Lane Group Flow (vph)	0	1602	0	0	337	47	0	129	0	18	22	3
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10	10		10			10			10
Parking (#/hr)		5	5	5		5	5	5	5			
Turn Type	Perm					Perm	Perm			Perm		Perm
Protected Phases		2			6			8			4	
Permitted Phases	2				6	6	8			4		4
Actuated Green, G (s)		56.5			56.5	56.5		22.5		22.5	22.5	22.5
Effective Green, g (s)		56.5			56.5	56.5		22.5		22.5	22.5	22.5
Actuated g/C Ratio		0.63			0.63	0.63		0.25		0.25	0.25	0.25
Clearance Time (s)		5.5			5.5	5.5		5.5		5.5	5.5	5.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		1711			1952	507		227		194	373	228
v/s Ratio Prot					0.11							
v/s Ratio Perm		c0.59				0.06		c0.14		0.02	0.01	0.00
v/c Ratio		0.94			0.17	0.09		0.57		0.09	0.06	0.01
Uniform Delay, d1		15.1			7.0	6.6		29.5		25.9	25.7	25.4
Progression Factor		1.00			0.48	0.42		1.00		1.00	1.00	1.00
Incremental Delay, d2		11.1			0.2	0.4		9.8		0.2	0.1	0.0
Delay (s)		26.2			3.6	3.2		39.3		26.1	25.8	25.4
Level of Service		C			A	A		D		C	C	C
Approach Delay (s)		26.2			3.5			39.3			25.8	
Approach LOS		C			A			D			C	

Intersection Summary			
HCM Average Control Delay	22.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	128.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	NER2
Lane Configurations	
Volume (vph)	30
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.78
Flpb, ped/bikes	1.00
Frt	0.86
Flt Protected	1.00
Satd. Flow (prot)	967
Flt Permitted	1.00
Satd. Flow (perm)	967
Peak-hour factor, PHF	0.98
Adj. Flow (vph)	31
RTOR Reduction (vph)	0
Lane Group Flow (vph)	31
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	10
Parking (#/hr)	5
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Actuated Green, G (s)	90.0
Effective Green, g (s)	90.0
Actuated g/C Ratio	1.00
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	967
v/s Ratio Prot	
v/s Ratio Perm	0.03
v/c Ratio	0.03
Uniform Delay, d1	0.0
Progression Factor	1.00
Incremental Delay, d2	0.1
Delay (s)	0.1
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	1580	0	0	390	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1699	0	0	419	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	1699	0	0	419	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)		30				30
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		76.0			76.0	
Effective Green, g (s)		76.0			76.0	
Actuated g/C Ratio		0.84			0.84	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		2067			2547	
v/s Ratio Prot		c0.69			0.14	
v/s Ratio Perm						
v/c Ratio		0.82			0.16	
Uniform Delay, d1		3.6			1.3	
Progression Factor		1.31			0.86	
Incremental Delay, d2		1.8			0.1	
Delay (s)		6.5			1.2	
Level of Service		A			A	
Approach Delay (s)	6.5			0.0	1.2	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	5.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	65.6%	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												
Volume (vph)	10	370	90	80	200	10	80	90	230	30	100	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.88		1.00	0.97			1.00	0.62		1.00	0.37
Flpb, ped/bikes		0.99		0.74	1.00			0.76	1.00		0.93	1.00
Frt		0.97		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.99	1.00
Satd. Flow (prot)		2618		1153	1376			1030	844		1507	508
Flt Permitted		0.95		0.36	1.00			0.82	1.00		0.92	1.00
Satd. Flow (perm)		2480		435	1376			865	844		1401	508
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)	11	389	95	84	211	11	84	95	242	32	105	21
RTOR Reduction (vph)	0	27	0	0	2	0	0	0	6	0	0	8
Lane Group Flow (vph)	0	468	0	84	220	0	0	179	236	0	137	13
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		23.8		23.8	23.8			56.2	56.2		56.2	56.2
Effective Green, g (s)		23.8		23.8	23.8			56.2	56.2		56.2	56.2
Actuated g/C Ratio		0.26		0.26	0.26			0.62	0.62		0.62	0.62
Clearance Time (s)		5.5		5.5	5.5			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)		656		115	364			540	527		875	317
v/s Ratio Prot					0.16							
v/s Ratio Perm		0.19		c0.19				0.21	c0.28		0.10	0.03
v/c Ratio		0.71		0.73	0.60			0.33	0.45		0.16	0.04
Uniform Delay, d1		30.0		30.2	29.0			8.0	8.8		7.0	6.5
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		3.7		21.0	2.8			1.6	2.7		0.4	0.2
Delay (s)		33.7		51.2	31.8			9.6	11.6		7.4	6.8
Level of Service		C		D	C			A	B		A	A
Approach Delay (s)		33.7			37.1			10.7			7.3	
Approach LOS		C			D			B			A	

Intersection Summary			
HCM Average Control Delay	24.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	67.2%	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												
Volume (vph)	0	450	110	20	180	430	90	0	40	1410	110	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.98			1.00	0.96		0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		0.99		1.00	1.00	
Frt		0.97			1.00	0.85		0.96		1.00	1.00	
Flt Protected		1.00			0.99	1.00		0.97		0.95	0.96	
Satd. Flow (prot)		2786			1622	2362		1308		1477	1488	
Flt Permitted		1.00			0.65	1.00		0.19		0.67	0.67	
Satd. Flow (perm)		2786			1054	2362		262		1044	1038	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	464	113	21	186	443	93	0	41	1454	113	10
RTOR Reduction (vph)	0	24	0	0	0	0	0	15	0	0	1	0
Lane Group Flow (vph)	0	553	0	0	207	443	0	119	0	785	792	0
Confl. Peds. (#/hr)	50			50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		17.0			17.0	65.5		17.5		45.0	45.0	
Effective Green, g (s)		17.0			17.0	65.5		17.5		45.0	45.0	
Actuated g/C Ratio		0.19			0.19	0.73		0.19		0.50	0.50	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		526			199	1719		51		522	519	
v/s Ratio Prot		c0.20										
v/s Ratio Perm					0.20	0.19		c0.45		0.75	c0.76	
v/c Ratio		1.05			1.04	0.26		2.33		1.50	1.53	
Uniform Delay, d1		36.5			36.5	4.1		36.2		22.5	22.5	
Progression Factor		1.00			1.00	1.00		1.00		0.96	0.96	
Incremental Delay, d2		53.7			74.7	0.4		653.8		233.2	242.6	
Delay (s)		90.2			111.2	4.5		690.1		254.8	264.2	
Level of Service		F			F	A		F		F	F	
Approach Delay (s)		90.2			38.5			690.1			259.5	
Approach LOS		F			D			F			F	

Intersection Summary			
HCM Average Control Delay	197.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	89.4%	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												
Volume (vph)	20	1480	30	60	520	20	110	60	281	30	30	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Lane Util. Factor		0.95			0.95	1.00		0.95			1.00	1.00
Frpb, ped/bikes		0.99			1.00	0.62		0.76			1.00	0.62
Flpb, ped/bikes		1.00			1.00	1.00		0.92			0.92	1.00
Frt		1.00			1.00	0.85		0.91			1.00	0.85
Flt Protected		1.00			0.99	1.00		0.99			0.98	1.00
Satd. Flow (prot)		3070			3094	754		1822			1470	860
Flt Permitted		0.94			0.64	1.00		0.86			0.75	1.00
Satd. Flow (perm)		2898			1984	754		1582			1133	860
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	21	1542	31	62	542	21	115	62	293	31	31	31
RTOR Reduction (vph)	0	2	0	0	0	9	0	3	0	0	0	20
Lane Group Flow (vph)	0	1592	0	0	604	12	0	467	0	0	62	11
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Actuated Green, G (s)		52.4			52.4	52.4		30.6			30.6	30.6
Effective Green, g (s)		52.4			52.4	52.4		30.6			30.6	30.6
Actuated g/C Ratio		0.58			0.58	0.58		0.34			0.34	0.34
Clearance Time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)		1687			1155	439		538			385	292
v/s Ratio Prot												
v/s Ratio Perm		c0.55			0.30	0.02		c0.30			0.05	0.01
v/c Ratio		0.94			0.86dl	0.03		0.99dr			0.16	0.04
Uniform Delay, d1		17.4			11.3	8.0		27.8			20.7	19.8
Progression Factor		1.00			0.48	0.27		1.00			1.00	1.00
Incremental Delay, d2		11.2			0.4	0.0		17.2			0.9	0.2
Delay (s)		28.7			5.8	2.2		45.0			21.6	20.1
Level of Service		C			A	A		D			C	C
Approach Delay (s)		28.7			5.7			45.0			21.1	
Approach LOS		C			A			D			C	

Intersection Summary			
HCM Average Control Delay	26.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	106.1%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	1610	150	0	470	30	70	298	211	10	140	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.95		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.80		0.99		1.00	0.85			0.88	
Flpb, ped/bikes		1.00	1.00		1.00		0.74	1.00			0.99	
Frt		1.00	0.85		0.99		1.00	0.94			0.95	
Flt Protected		1.00	1.00		1.00		0.95	1.00			1.00	
Satd. Flow (prot)		3104	974		3045		1155	3559			3729	
Flt Permitted		0.95	1.00		1.00		0.60	1.00			0.91	
Satd. Flow (perm)		2936	974		3045		733	3559			3399	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	21	1677	156	0	490	31	73	310	220	10	146	73
RTOR Reduction (vph)	0	0	1	0	0	0	0	5	0	0	56	0
Lane Group Flow (vph)	0	1698	155	0	521	0	73	525	0	0	173	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm				Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4				2			6		
Actuated Green, G (s)		59.6	59.6		59.6		20.4	20.4			20.4	
Effective Green, g (s)		59.6	59.6		59.6		20.4	20.4			20.4	
Actuated g/C Ratio		0.66	0.66		0.66		0.23	0.23			0.23	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1944	645		2016		166	807			770	
v/s Ratio Prot					0.17			c0.15				
v/s Ratio Perm		c0.58	0.16				0.10				0.05	
v/c Ratio		0.87	0.24		0.26		0.44	0.65			0.22	
Uniform Delay, d1		12.2	6.1		6.2		29.9	31.6			28.4	
Progression Factor		0.31	0.44		1.89		1.00	1.00			1.00	
Incremental Delay, d2		1.9	0.1		0.1		8.2	4.1			0.7	
Delay (s)		5.7	2.8		11.8		38.1	35.6			29.0	
Level of Service		A	A		B		D	D			C	
Approach Delay (s)		5.4			11.8			35.9			29.0	
Approach LOS		A			B			D			C	

Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	109.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	2531	220	0	1490	60	140	130	40	90	110	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.97			0.99		1.00	0.92		1.00	0.91	
Flpb, ped/bikes		1.00			1.00		0.74	1.00		0.76	1.00	
Frt		0.99			0.99		1.00	0.96		1.00	0.96	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4286			4197		1157	1458		1175	1255	
Flt Permitted		1.00			1.00		0.65	1.00		0.62	1.00	
Satd. Flow (perm)		4286			4197		793	1458		764	1255	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	2609	227	0	1536	62	144	134	41	93	113	41
RTOR Reduction (vph)	0	8	0	0	5	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	2828	0	0	1593	0	144	175	0	93	151	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2476			2425		242	446		233	383	
v/s Ratio Prot		c0.66			0.38			0.12			0.12	
v/s Ratio Perm							c0.18			0.12		
v/c Ratio		1.14			0.66		0.60	0.39		0.40	0.39	
Uniform Delay, d1		19.0			12.9		26.5	24.7		24.7	24.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		69.4			1.4		10.3	2.6		5.0	3.0	
Delay (s)		88.4			14.3		36.9	27.2		29.8	27.7	
Level of Service		F			B		D	C		C	C	
Approach Delay (s)		88.4			14.3			31.6			28.5	
Approach LOS		F			B			C			C	

Intersection Summary			
HCM Average Control Delay	58.1	HCM Level of Service	E
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
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												
Volume (vph)	0	2471	110	0	1320	70	90	130	60	90	130	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			1.00	
Frpb, ped/bikes		0.98			0.98		1.00	0.90			0.95	
Flpb, ped/bikes		1.00			1.00		0.82	1.00			0.92	
Frt		0.99			0.99		1.00	0.95			0.98	
Flt Protected		1.00			1.00		0.95	1.00			0.98	
Satd. Flow (prot)		4372			4355		1280	1397			1378	
Flt Permitted		1.00			1.00		0.52	1.00			0.74	
Satd. Flow (perm)		4372			4355		695	1397			1041	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	2686	120	0	1435	76	98	141	65	98	141	43
RTOR Reduction (vph)	0	5	0	0	6	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	2801	0	0	1505	0	98	206	0	0	278	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2589			2579		208	418			311	
v/s Ratio Prot		c0.64			0.35			0.15				
v/s Ratio Perm							0.14				c0.27	
v/c Ratio		1.08			0.58		0.47	0.49			0.89	
Uniform Delay, d1		18.4			11.4		25.7	25.9			30.2	
Progression Factor		1.00			1.62		1.00	1.00			1.00	
Incremental Delay, d2		44.4			0.8		7.5	4.1			29.9	
Delay (s)		62.8			19.4		33.2	30.1			60.0	
Level of Service		E			B		C	C			E	
Approach Delay (s)		62.8			19.4			31.1			60.0	
Approach LOS		E			B			C			E	

Intersection Summary			
HCM Average Control Delay	47.3	HCM Level of Service	D
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	113.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	2171	200	0	1350	50	80	80	30	50	150	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.97			0.99			0.95			0.96	
Flpb, ped/bikes		1.00			1.00			0.92			0.95	
Frt		0.99			0.99			0.98			0.98	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		4102			4206			1196			1271	
Flt Permitted		1.00			1.00			0.73			0.90	
Satd. Flow (perm)		4102			4206			894			1157	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	2310	213	0	1436	53	85	85	32	53	160	32
RTOR Reduction (vph)	0	6	0	0	4	0	0	1	0	0	4	0
Lane Group Flow (vph)	0	2517	0	0	1485	0	0	201	0	0	241	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2461			2524			268			347	
v/s Ratio Prot		c0.61			0.35							
v/s Ratio Perm								c0.23			0.21	
v/c Ratio		1.02			0.59			0.75			0.69	
Uniform Delay, d1		18.0			11.1			28.5			27.8	
Progression Factor		0.12			1.00			1.00			1.00	
Incremental Delay, d2		12.7			1.0			17.5			10.9	
Delay (s)		14.9			12.1			46.0			38.7	
Level of Service		B			B			D			D	
Approach Delay (s)		14.9			12.1			46.0			38.7	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	16.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	82.5%	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		↑↑↑			↑↑↑		↰	↕				↱
Volume (vph)	0	1771	0	0	570	30	870	451	50	0	0	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.98		1.00	0.98				0.97
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.98				1.00
Satd. Flow (prot)		4282			4360		1415	2659				1373
Flt Permitted		1.00			1.00		0.95	0.98				1.00
Satd. Flow (perm)		4282			4360		1415	2659				1373
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	1864	0	0	600	32	916	475	53	0	0	63
RTOR Reduction (vph)	0	0	0	0	7	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	1864	0	0	625	0	476	964	0	0	0	63
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		44.0			30.0		36.0	36.0				11.0
Effective Green, g (s)		44.0			30.0		36.0	36.0				11.0
Actuated g/C Ratio		0.49			0.33		0.40	0.40				0.12
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		2093			1453		566	1064				168
v/s Ratio Prot		c0.44			0.14							
v/s Ratio Perm							0.34	0.36				0.05
v/c Ratio		0.89			0.43		0.84	0.91				0.38
Uniform Delay, d1		20.8			23.3		24.4	25.4				36.3
Progression Factor		1.00			0.30		1.00	1.00				1.00
Incremental Delay, d2		6.2			0.8		14.1	12.6				6.3
Delay (s)		27.0			7.8		38.5	38.0				42.6
Level of Service		C			A		D	D				D
Approach Delay (s)		27.0			7.8			38.2			42.6	
Approach LOS		C			A			D			D	

Intersection Summary			
HCM Average Control Delay	28.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	75.8%	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												
Volume (vph)	305	240	1385	0	120	30	400	273	40	0	430	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		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.93		1.00	0.94			1.00	0.67
Flpb, ped/bikes		0.86	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.97		1.00	0.98			1.00	0.85
Flt Protected		0.97	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1362	2448		1265		4385	1316			3110	815
Flt Permitted		0.74	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		1033	2448		1265		4385	1316			3110	815
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	318	250	1443	0	125	31	417	284	42	0	448	52
RTOR Reduction (vph)	0	0	2	0	10	0	0	6	0	0	0	37
Lane Group Flow (vph)	0	568	1441	0	146	0	417	320	0	0	448	15
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		40.5	55.5		40.5		11.5	41.5			26.5	26.5
Effective Green, g (s)		40.5	52.0		40.5		11.5	41.5			26.5	26.5
Actuated g/C Ratio		0.45	0.58		0.45		0.13	0.46			0.29	0.29
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		465	1414		569		560	607			916	240
v/s Ratio Prot			c0.59		0.12		0.10	c0.24			0.14	
v/s Ratio Perm		c0.55										0.02
v/c Ratio		1.22	1.02		0.26		0.74	0.53			0.49	0.06
Uniform Delay, d1		24.8	19.0		15.4		37.8	17.3			26.2	22.8
Progression Factor		0.23	0.59		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		109.4	21.9		0.2		8.7	3.3			1.9	0.5
Delay (s)		115.1	33.0		15.6		46.5	20.5			28.0	23.3
Level of Service		F	C		B		D	C			C	C
Approach Delay (s)		56.2			15.6			35.1			27.5	
Approach LOS		E			B			D			C	

Intersection Summary			
HCM Average Control Delay	45.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	100.7%	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												
Volume (vph)	0	0	0	30	100	50	20	40	0	0	50	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.70		1.00			0.98	
Flpb, ped/bikes					0.95	1.00		0.99			1.00	
Frt					1.00	0.85		1.00			0.96	
Flt Protected					0.99	1.00		0.98			1.00	
Satd. Flow (prot)					2744	954		1589			1548	
Flt Permitted					0.99	1.00		0.91			1.00	
Satd. Flow (perm)					2744	954		1471			1548	
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	0	0	0	38	128	64	26	51	0	0	64	26
RTOR Reduction (vph)	0	0	0	0	0	36	0	0	0	0	16	0
Lane Group Flow (vph)	0	0	0	0	166	28	0	77	0	0	74	0
Confl. Peds. (#/hr)				154		203	51					51
Confl. Bikes (#/hr)						14						3
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					26.0	26.0		24.0			24.0	
Effective Green, g (s)					26.0	26.0		24.0			24.0	
Actuated g/C Ratio					0.43	0.43		0.40			0.40	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1189	413		588			619	
v/s Ratio Prot											0.05	
v/s Ratio Perm					0.06	0.03		c0.05				
v/c Ratio					0.14	0.07		0.13			0.12	
Uniform Delay, d1					10.3	9.9		11.4			11.3	
Progression Factor					1.00	1.00		0.94			1.00	
Incremental Delay, d2					0.2	0.3		0.5			0.4	
Delay (s)					10.5	10.2		11.2			11.7	
Level of Service					B	B		B			B	
Approach Delay (s)		0.0			10.4			11.2			11.7	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	10.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.14		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	45.0%	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												
Volume (vph)	0	0	0	30	120	10	20	10	0	0	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.98		1.00	1.00			0.92	
Flpb, ped/bikes				1.00	1.00		0.85	1.00			1.00	
Frt				1.00	0.99		1.00	1.00			0.93	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	3007		1314	1637			1397	
Flt Permitted				0.95	1.00		0.74	1.00			1.00	
Satd. Flow (perm)				1555	3007		1024	1637			1397	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	0	0	0	39	156	13	26	13	0	0	13	13
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	39	165	0	26	13	0	0	26	0
Confl. Peds. (#/hr)						369	74					74
Confl. Bikes (#/hr)						16			1			
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				42.4	42.4		8.3	8.3			8.3	
Effective Green, g (s)				42.4	42.4		8.3	8.3			8.3	
Actuated g/C Ratio				0.71	0.71		0.14	0.14			0.14	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				1099	2125		142	226			193	
v/s Ratio Prot				0.03	c0.05			0.01			0.02	
v/s Ratio Perm							c0.03					
v/c Ratio				0.04	0.08		0.18	0.06			0.13	
Uniform Delay, d1				2.6	2.7		22.9	22.5			22.7	
Progression Factor				1.00	1.00		0.82	0.81			1.00	
Incremental Delay, d2				0.1	0.1		2.8	0.5			1.4	
Delay (s)				2.7	2.8		21.5	18.7			24.1	
Level of Service				A	A		C	B			C	
Approach Delay (s)		0.0			2.8			20.6			24.1	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	7.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.10		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	134	40	10	70	40	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	140	42	10	73	42	10
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	291					
pX, platoon unblocked						
vC, conflicting volume			581		1054	891
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			581		1054	891
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		61	92
cM capacity (veh/h)			692		106	139

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	93	88	83	52
Volume Left	0	0	10	42
Volume Right	0	42	0	10
cSH	1700	1700	692	111
Volume to Capacity	0.05	0.05	0.02	0.47
Queue Length 95th (ft)	0	0	1	52
Control Delay (s)	0.0	0.0	1.4	63.2
Lane LOS			A	F
Approach Delay (s)	0.0		1.4	63.2
Approach LOS				F

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												
Volume (vph)	20	140	20	10	104	10	28	30	16	20	50	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	
Lane Util. Factor		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.57		0.97			0.89			0.88	
Flpb, ped/bikes		0.96	1.00		0.98			0.83			0.90	
Frt		1.00	0.85		0.99			0.97			0.97	
Flt Protected		0.99	1.00		1.00			0.98			0.99	
Satd. Flow (prot)		1558	793		1331			1008			1090	
Flt Permitted		0.96	1.00		0.98			0.89			0.94	
Satd. Flow (perm)		1510	793		1309			915			1038	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	23	161	23	11	120	11	32	34	18	23	57	23
RTOR Reduction (vph)	0	0	12	0	5	0	0	11	0	0	15	0
Lane Group Flow (vph)	0	184	11	0	137	0	0	73	0	0	88	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4			4		
Actuated Green, G (s)		29.0	29.0		29.0			22.0			22.0	
Effective Green, g (s)		29.0	29.0		29.0			22.0			22.0	
Actuated g/C Ratio		0.48	0.48		0.48			0.37			0.37	
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)		730	383		633			336			381	
v/s Ratio Prot												
v/s Ratio Perm		c0.12	0.01		0.10			0.08			c0.09	
v/c Ratio		0.25	0.03		0.22			0.22			0.23	
Uniform Delay, d1		9.1	8.1		8.9			13.1			13.2	
Progression Factor		1.00	1.00		1.00			1.00			0.84	
Incremental Delay, d2		0.8	0.1		0.8			1.5			1.4	
Delay (s)		9.9	8.3		9.7			14.5			12.5	
Level of Service		A	A		A			B			B	
Approach Delay (s)		9.8			9.7			14.5			12.5	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	11.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	77.9%	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												
Volume (vph)	0	163	20	20	174	0	10	0	28	10	10	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
Lane Util. Factor		1.00	1.00		0.95			1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.42		1.00			0.60			1.00	0.67
Flpb, ped/bikes		1.00	1.00		0.96			0.92			0.75	1.00
Frt		1.00	0.85		1.00			0.90			1.00	0.85
Flt Protected		1.00	1.00		0.99			0.99			0.98	1.00
Satd. Flow (prot)		1637	571		2957			797			1194	933
Flt Permitted		1.00	1.00		0.91			0.96			0.93	1.00
Satd. Flow (perm)		1637	571		2714			776			1137	933
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	0	192	24	24	205	0	12	0	33	12	12	12
RTOR Reduction (vph)	0	0	18	0	0	0	0	2	0	0	0	5
Lane Group Flow (vph)	0	192	6	0	229	0	0	43	0	0	24	7
Confl. Peds. (#/hr)			400	400			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	36.5
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	36.5
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	0.61
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)		396	138		656			472			692	568
v/s Ratio Prot		c0.12										
v/s Ratio Perm			0.01		0.08			c0.06			0.02	0.01
v/c Ratio		0.48	0.04		0.35			0.09			0.03	0.01
Uniform Delay, d1		19.5	17.4		18.8			4.9			4.7	4.6
Progression Factor		0.84	0.70		1.00			1.00			1.00	1.00
Incremental Delay, d2		4.2	0.6		1.5			0.4			0.0	0.0
Delay (s)		20.5	12.8		20.3			5.3			4.7	4.6
Level of Service		C	B		C			A			A	A
Approach Delay (s)		19.7			20.3			5.3			4.7	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM Average Control Delay	17.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.20		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	160	10	10	20	20	0	197	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		0.83		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		0.93		1.00			1.00
Flt Protected		1.00		0.98		1.00			0.97
Satd. Flow (prot)		942		1079		1637			3013
Flt Permitted		1.00		0.98		1.00			0.95
Satd. Flow (perm)		942		1079		1637			2970
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	184	11	11	23	23	0	226	126
RTOR Reduction (vph)	0	0	0	16	0	0	0	0	0
Lane Group Flow (vph)	0	184	0	29	0	23	0	0	352
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		306		314			891
v/s Ratio Prot						0.01			
v/s Ratio Perm		c0.20		0.03					c0.12
v/c Ratio		0.35		0.09		0.07			0.40
Uniform Delay, d1		7.3		15.8		19.9			16.7
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		1.8		0.6		0.1			1.3
Delay (s)		9.1		16.4		20.0			18.0
Level of Service		A		B		B			B
Approach Delay (s)	9.1			16.4		20.0			18.0
Approach LOS	A			B		B			B

Intersection Summary			
HCM Average Control Delay	15.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	56.3%	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												
Volume (vph)	30	258	40	40	130	40	30	80	20	20	60	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.97			1.00	0.59	1.00	0.88			0.88	
Flpb, ped/bikes		0.97			1.00	1.00	0.52	1.00			0.91	
Frt		0.98			1.00	0.85	1.00	0.97			0.97	
Flt Protected		1.00			0.99	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1323			1415	722	815	1225			2385	
Flt Permitted		0.96			0.87	1.00	0.68	1.00			0.88	
Satd. Flow (perm)		1281			1243	722	585	1225			2119	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	34	290	45	45	146	45	34	90	22	22	67	22
RTOR Reduction (vph)	0	3	0	0	0	3	0	12	0	0	0	0
Lane Group Flow (vph)	0	366	0	0	191	42	34	100	0	0	111	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		68.6			68.6	68.6	11.3	11.3			11.3	
Effective Green, g (s)		68.6			68.6	68.6	11.3	11.3			11.3	
Actuated g/C Ratio		0.76			0.76	0.76	0.13	0.13			0.13	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		976			947	550	73	154			266	
v/s Ratio Prot								c0.08				
v/s Ratio Perm		c0.29			0.15	0.06	0.06				0.05	
v/c Ratio		0.37			0.20	0.08	0.47	0.65			0.42	
Uniform Delay, d1		3.6			3.0	2.7	36.5	37.5			36.3	
Progression Factor		1.00			1.00	1.00	0.63	0.67			1.00	
Incremental Delay, d2		1.1			0.5	0.3	4.6	9.0			1.1	
Delay (s)		4.7			3.5	3.0	27.5	34.2			37.4	
Level of Service		A			A	A	C	C			D	
Approach Delay (s)		4.7			3.4			32.6			37.4	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM Average Control Delay	13.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	110.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Volume (vph)	20	230	40	10	134	10	10	55	30	30	30	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.96			0.98			0.81			0.84	
Flpb, ped/bikes		0.98			0.99			0.95			0.83	
Frt		0.98			0.99			0.96			0.97	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		1319			1369			1048			953	
Flt Permitted		0.98			0.98			0.97			0.87	
Satd. Flow (perm)		1292			1341			1022			843	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	24	271	47	12	158	12	12	65	35	35	35	24
RTOR Reduction (vph)	0	1	0	0	1	0	0	18	0	0	13	0
Lane Group Flow (vph)	0	341	0	0	181	0	0	94	0	0	81	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.6			62.6			18.6			18.6	
Effective Green, g (s)		62.6			62.6			18.6			18.6	
Actuated g/C Ratio		0.70			0.70			0.21			0.21	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		899			933			211			174	
v/s Ratio Prot												
v/s Ratio Perm		c0.26			0.14			0.09			c0.10	
v/c Ratio		0.38			0.19			0.44			0.46	
Uniform Delay, d1		5.7			4.8			31.2			31.3	
Progression Factor		1.00			1.00			0.76			1.00	
Incremental Delay, d2		1.2			0.5			5.2			8.6	
Delay (s)		6.9			5.3			28.8			39.9	
Level of Service		A			A			C			D	
Approach Delay (s)		6.9			5.3			28.8			39.9	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM Average Control Delay	14.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	20	230	60	20	104	10	20	26	90	10	30	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.93			1.00	0.66		0.63			0.89	
Flpb, ped/bikes		0.98			0.97	1.00		0.93			0.92	
Frt		0.97			1.00	0.85		0.91			0.97	
Flt Protected		1.00			0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1276			1377	802		755			1129	
Flt Permitted		0.98			0.93	1.00		0.96			0.95	
Satd. Flow (perm)		1256			1291	802		731			1081	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	250	65	22	113	11	22	28	98	11	33	11
RTOR Reduction (vph)	0	7	0	0	0	4	0	71	0	0	8	0
Lane Group Flow (vph)	0	330	0	0	135	7	0	77	0	0	47	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		57.0			57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0			57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63			0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		795			818	508		203			300	
v/s Ratio Prot												
v/s Ratio Perm		c0.26			0.10	0.01		c0.11			0.04	
v/c Ratio		0.42			0.17	0.01		0.38			0.16	
Uniform Delay, d1		8.2			6.8	6.1		26.2			24.5	
Progression Factor		1.00			0.77	0.63		0.85			1.00	
Incremental Delay, d2		1.6			0.4	0.0		4.4			1.1	
Delay (s)		9.8			5.6	3.9		26.6			25.7	
Level of Service		A			A	A		C			C	
Approach Delay (s)		9.8			5.5			26.6			25.7	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	13.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	230	70	10	114	10	40	78	40	10	30	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.66		1.00	0.66		0.86			0.81	
Flpb, ped/bikes		0.97	1.00		0.98	1.00		0.88			0.94	
Frt		1.00	0.85		1.00	0.85		0.97			0.95	
Flt Protected		0.99	1.00		1.00	1.00		0.99			0.99	
Satd. Flow (prot)		1382	786		1403	786		1031			1184	
Flt Permitted		0.96	1.00		0.98	1.00		0.92			0.95	
Satd. Flow (perm)		1336	786		1373	786		959			1137	
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)	33	256	78	11	127	11	44	87	44	11	33	22
RTOR Reduction (vph)	0	0	7	0	0	4	0	14	0	0	16	0
Lane Group Flow (vph)	0	289	71	0	138	7	0	161	0	0	50	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63	0.63		0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		846	498		870	498		266			316	
v/s Ratio Prot												
v/s Ratio Perm		c0.22	0.09		0.10	0.01		c0.17			0.04	
v/c Ratio		0.34	0.14		0.16	0.01		0.61			0.16	
Uniform Delay, d1		7.7	6.7		6.7	6.1		28.2			24.6	
Progression Factor		0.70	0.64		1.00	1.00		0.67			1.00	
Incremental Delay, d2		1.0	0.6		0.4	0.1		6.0			1.1	
Delay (s)		6.4	4.8		7.1	6.2		24.9			25.6	
Level of Service		A	A		A	A		C			C	
Approach Delay (s)		6.1			7.0			24.9			25.6	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	12.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations										
Volume (vph)	10	250	30	30	10	20	170	20	184	297
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				5.0		5.0		5.0	5.0
Lane Util. Factor	1.00				1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.88				0.88		0.93		1.00	1.00
Flpb, ped/bikes	1.00				0.70		1.00		1.00	1.00
Frt	0.87				0.95		0.98		1.00	1.00
Flt Protected	1.00				0.97		1.00		0.95	1.00
Satd. Flow (prot)	1256				927		2854		1555	3110
Flt Permitted	1.00				0.97		1.00		0.95	1.00
Satd. Flow (perm)	1256				927		2854		1555	3110
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	250	30	30	10	20	170	20	184	297
RTOR Reduction (vph)	5	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	285	0	0	0	60	0	190	0	184	297
Confl. Peds. (#/hr)				400	400	400		400		
Confl. Bikes (#/hr)		30	30			10		30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0
Turn Type				Perm					Split	
Protected Phases	4				3		6		2	2
Permitted Phases				3						
Actuated Green, G (s)	20.0				20.0		17.0		13.0	13.0
Effective Green, g (s)	20.0				20.0		17.0		13.0	13.0
Actuated g/C Ratio	0.22				0.22		0.19		0.14	0.14
Clearance Time (s)	5.0				5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	279				206		539		225	449
v/s Ratio Prot	c0.23						c0.07		c0.12	0.10
v/s Ratio Perm					0.06					
v/c Ratio	1.02				0.29		0.35		0.82	0.66
Uniform Delay, d1	35.0				29.1		31.7		37.4	36.4
Progression Factor	1.00				0.78		1.00		0.81	0.82
Incremental Delay, d2	59.8				0.7		1.8		26.5	7.3
Delay (s)	94.8				23.4		33.5		56.9	37.1
Level of Service	F				C		C		E	D
Approach Delay (s)	94.8				23.4		33.5			44.7
Approach LOS	F				C		C			D

Intersection Summary			
HCM Average Control Delay	55.6	HCM Level of Service	E
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	78.7%	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												
Volume (vph)	0	1831	40	0	850	10	0	24	48	0	50	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			1.00			0.75			0.94	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.91			0.98	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2888			2900			971			1309	
Flt Permitted		1.00			1.00			1.00			1.00	
Satd. Flow (perm)		2888			2900			971			1309	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1990	43	0	924	11	0	26	52	0	54	11
RTOR Reduction (vph)	0	0	0	0	0	0	0	4	0	0	9	0
Lane Group Flow (vph)	0	2033	0	0	935	0	0	74	0	0	56	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type												
Protected Phases		2			6			8			4	
Permitted Phases												
Actuated Green, G (s)		70.7			70.7			10.5			10.5	
Effective Green, g (s)		70.7			70.7			10.5			10.5	
Actuated g/C Ratio		0.79			0.79			0.12			0.12	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2269			2278			113			153	
v/s Ratio Prot		c0.70			0.32			c0.08			0.04	
v/s Ratio Perm												
v/c Ratio		0.90			0.41			0.65			0.37	
Uniform Delay, d1		7.0			3.1			38.0			36.7	
Progression Factor		0.30			1.00			1.00			1.00	
Incremental Delay, d2		3.7			0.1			12.7			1.5	
Delay (s)		5.8			3.2			50.7			38.2	
Level of Service		A			A			D			D	
Approach Delay (s)		5.8			3.2			50.7			38.2	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	6.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	79.0%	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												
Volume (vph)	10	1551	390	40	560	30	120	80	74	0	120	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.77		1.00	0.77	1.00	1.00	0.67		0.97	
Flpb, ped/bikes		1.00	1.00		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	0.85		0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3109	1077		3099	1077	3016	1637	933		2800	
Flt Permitted		0.95	1.00		0.76	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		2958	1077		2377	1077	3016	1637	933		2800	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	10	1599	402	41	577	31	124	82	76	0	124	10
RTOR Reduction (vph)	0	0	60	0	0	9	0	0	2	0	7	0
Lane Group Flow (vph)	0	1609	342	0	618	22	124	82	74	0	127	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type	Perm		Perm	Perm		Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		60.0	60.0		60.0	60.0	7.1	21.0	21.0		9.4	
Effective Green, g (s)		60.0	60.0		60.0	60.0	7.1	21.0	21.0		9.4	
Actuated g/C Ratio		0.67	0.67		0.67	0.67	0.08	0.23	0.23		0.10	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		1972	718		1585	718	238	382	218		292	
v/s Ratio Prot							c0.04	0.05			c0.05	
v/s Ratio Perm		c0.54	0.32		0.26	0.02			0.08			
v/c Ratio		0.82	0.48		0.39	0.03	0.52	0.21	0.34		0.43	
Uniform Delay, d1		11.0	7.3		6.8	5.1	39.8	27.8	28.7		37.8	
Progression Factor		1.00	1.00		0.79	0.77	1.00	1.00	1.00		0.72	
Incremental Delay, d2		3.9	2.3		0.7	0.1	2.1	0.3	0.9		1.0	
Delay (s)		14.8	9.6		6.1	4.0	41.9	28.1	29.6		28.3	
Level of Service		B	A		A	A	D	C	C		C	
Approach Delay (s)		13.8			6.0			34.6			28.3	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM Average Control Delay	14.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	126.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	65	1417	540	40	40	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	0.98		0.83	
Flpb, ped/bikes		0.99	1.00		1.00	
Frt		1.00	0.99		0.94	
Flt Protected		1.00	1.00		0.97	
Satd. Flow (prot)		2894	3015		1092	
Flt Permitted		0.89	1.00		0.97	
Satd. Flow (perm)		2574	3015		1092	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	71	1540	587	43	43	33
RTOR Reduction (vph)	0	0	6	0	27	0
Lane Group Flow (vph)	0	1611	624	0	49	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		66.4	66.4		16.6	
Effective Green, g (s)		66.4	66.4		16.6	
Actuated g/C Ratio		0.74	0.74		0.18	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1899	2224		201	
v/s Ratio Prot			0.21		c0.04	
v/s Ratio Perm		c0.63				
v/c Ratio		0.85	0.28		0.24	
Uniform Delay, d1		8.3	3.9		31.3	
Progression Factor		0.37	1.00		0.69	
Incremental Delay, d2		2.2	0.1		2.7	
Delay (s)		5.3	4.0		24.2	
Level of Service		A	A		C	
Approach Delay (s)		5.3	4.0		24.2	
Approach LOS		A	A		C	

Intersection Summary			
HCM Average Control Delay	5.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	116.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	54	1414	40	20	380	60	30	24	60	40	50	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.96			0.81			0.91	
Flpb, ped/bikes		0.99			1.00			0.93			0.91	
Frt		1.00			0.98			0.93			0.97	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2859			2731			998			1132	
Flt Permitted		0.91			0.85			0.90			0.88	
Satd. Flow (perm)		2618			2338			913			1014	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	57	1504	43	21	404	64	32	26	64	43	53	32
RTOR Reduction (vph)	0	2	0	0	2	0	0	8	0	0	13	0
Lane Group Flow (vph)	0	1602	0	0	487	0	0	114	0	0	115	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		60.6			60.6			20.6			20.6	
Effective Green, g (s)		60.6			60.6			20.6			20.6	
Actuated g/C Ratio		0.67			0.67			0.23			0.23	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1763			1574			209			232	
v/s Ratio Prot												
v/s Ratio Perm		c0.61			0.21			c0.13			0.11	
v/c Ratio		0.91			0.31			0.55			0.50	
Uniform Delay, d1		12.4			6.1			30.6			30.2	
Progression Factor		1.00			0.16			1.00			0.81	
Incremental Delay, d2		8.4			0.4			9.9			7.2	
Delay (s)		20.8			1.4			40.5			31.5	
Level of Service		C			A			D			C	
Approach Delay (s)		20.8			1.4			40.5			31.5	
Approach LOS		C			A			D			C	

Intersection Summary			
HCM Average Control Delay	18.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	113.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	48	1456	20	40	660	80	40	30	110	40	20	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			0.97			0.78			0.83	
Flpb, ped/bikes		1.00			1.00			0.94			0.92	
Frt		1.00			0.98			0.92			0.94	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2886			2769			953			1018	
Flt Permitted		0.89			0.76			0.92			0.81	
Satd. Flow (perm)		2574			2118			885			837	
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)	53	1618	22	44	733	89	44	33	122	44	22	56
RTOR Reduction (vph)	0	1	0	0	2	0	0	6	0	0	34	0
Lane Group Flow (vph)	0	1692	0	0	864	0	0	193	0	0	88	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		61.7			61.7			19.4			19.4	
Effective Green, g (s)		61.7			61.7			19.4			19.4	
Actuated g/C Ratio		0.69			0.69			0.22			0.22	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1765			1452			191			180	
v/s Ratio Prot												
v/s Ratio Perm		c0.66			0.41			c0.22			0.11	
v/c Ratio		0.96			0.60			1.01			0.49	
Uniform Delay, d1		13.0			7.5			35.3			31.0	
Progression Factor		0.32			3.12			1.00			0.69	
Incremental Delay, d2		8.3			0.6			67.5			2.1	
Delay (s)		12.5			24.0			102.8			23.4	
Level of Service		B			C			F			C	
Approach Delay (s)		12.5			24.0			102.8			23.4	
Approach LOS		B			C			F			C	

Intersection Summary			
HCM Average Control Delay	22.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	110.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1391	190	50	703	30	40	10	20	10	20	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.96			0.99			0.89			0.85	
Flpb, ped/bikes		1.00			1.00			0.81			0.94	
Frt		0.98			0.99			0.96			0.95	
Flt Protected		1.00			1.00			0.97			0.99	
Satd. Flow (prot)		2755			3041			1113			1232	
Flt Permitted		0.95			0.73			0.83			0.95	
Satd. Flow (perm)		2618			2238			950			1186	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	10	1434	196	52	725	31	41	10	21	10	21	21
RTOR Reduction (vph)	0	2	0	0	2	0	0	10	0	0	16	0
Lane Group Flow (vph)	0	1638	0	0	806	0	0	62	0	0	36	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1806			1544			204			254	
v/s Ratio Prot												
v/s Ratio Perm		c0.63			0.36			c0.07			0.03	
v/c Ratio		0.91			0.52			0.30			0.14	
Uniform Delay, d1		11.6			6.8			29.7			28.6	
Progression Factor		0.32			0.74			1.00			0.77	
Incremental Delay, d2		2.9			0.4			3.8			0.8	
Delay (s)		6.6			5.4			33.5			22.9	
Level of Service		A			A			C			C	
Approach Delay (s)		6.6			5.4			33.5			22.9	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	7.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	88.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	30	1391	723	451	450	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3037	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3037	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	1512	786	490	489	33
RTOR Reduction (vph)	0	44	0	0	6	0
Lane Group Flow (vph)	33	1468	786	490	516	0
Confl. Peds. (#/hr)						63
Confl. Bikes (#/hr)		22				160
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	27.0	54.8	23.8	53.0	25.2	
Effective Green, g (s)	27.0	54.8	23.8	53.0	25.2	
Actuated g/C Ratio	0.30	0.61	0.26	0.59	0.28	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	467	1491	798	1717	850	
v/s Ratio Prot	0.02	c0.60	0.26	0.17	c0.17	
v/s Ratio Perm						
v/c Ratio	0.07	0.98	0.98	0.29	0.61	
Uniform Delay, d1	22.5	17.2	32.9	9.1	28.1	
Progression Factor	0.65	0.31	0.88	0.59	0.68	
Incremental Delay, d2	0.0	13.1	25.7	0.4	1.0	
Delay (s)	14.7	18.5	54.8	5.8	20.1	
Level of Service	B	B	D	A	C	
Approach Delay (s)	18.4			36.0	20.1	
Approach LOS	B			D	C	

Intersection Summary				
HCM Average Control Delay	25.4	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.87			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	83.2%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	150	142	40	0	1821	0	20	163	1033
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			1.00			1.00	1.00
Flpb, ped/bikes				0.73			1.00			1.00	1.00
Frt				0.98			1.00			1.00	1.00
Flt Protected				0.96			1.00			0.95	1.00
Satd. Flow (prot)				2053			4454			1555	3110
Flt Permitted				0.96			1.00			0.95	1.00
Satd. Flow (perm)				2053			4454			1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	163	154	43	0	1979	0	22	177	1123
RTOR Reduction (vph)	0	0	0	13	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	0	0	347	0	0	2000	0	0	177	1123
Confl. Peds. (#/hr)			96	119					96		
Confl. Bikes (#/hr)					4				178		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				18.9			48.1			10.0	62.1
Effective Green, g (s)				18.9			48.1			10.0	62.1
Actuated g/C Ratio				0.21			0.53			0.11	0.69
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				431			2380			173	2146
v/s Ratio Prot							c0.45			c0.11	0.36
v/s Ratio Perm				0.17							
v/c Ratio				0.80			0.84			1.02	0.52
Uniform Delay, d1				33.8			17.7			40.0	6.8
Progression Factor				1.00			0.82			1.00	1.00
Incremental Delay, d2				10.4			1.2			74.6	0.9
Delay (s)				44.2			15.7			114.6	7.7
Level of Service				D			B			F	A
Approach Delay (s)	0.0			44.2			15.7				22.2
Approach LOS	A			D			B				C

Intersection Summary			
HCM Average Control Delay	20.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBR	EBR2	SEL	SET	SER2	NWL2	NWT	NWR	SWR2
Lane Configurations										
Volume (vph)	20	20	220	30	1240	601	111	1163	80	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		7.0	7.0	7.0	7.0	7.0		
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00	1.00	0.95		
Frpb, ped/bikes	1.00	0.93		1.00	1.00	0.96	1.00	0.96		
Flpb, ped/bikes	1.00	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	0.99		
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1555	1137		1555	3110	1336	1555	2961		
Flt Permitted	0.95	1.00		0.13	1.00	1.00	0.13	1.00		
Satd. Flow (perm)	1555	1137		211	3110	1336	212	2961		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	22	239	33	1348	653	121	1264	87	0
RTOR Reduction (vph)	0	171	0	0	0	289	0	6	0	0
Lane Group Flow (vph)	22	90	0	33	1348	364	121	1345	0	0
Confl. Peds. (#/hr)			38						1000	100
Confl. Bikes (#/hr)		10	10			30			30	10
Parking (#/hr)		5	5							
Turn Type	custom	custom		Perm		Perm	Perm			custom
Protected Phases					6			2		
Permitted Phases	4	4		6		6	2			8
Actuated Green, G (s)	22.5	22.5		44.0	44.0	44.0	44.0	44.0		
Effective Green, g (s)	22.5	22.5		44.0	44.0	44.0	44.0	44.0		
Actuated g/C Ratio	0.28	0.28		0.56	0.56	0.56	0.56	0.56		
Clearance Time (s)	5.5	5.5		7.0	7.0	7.0	7.0	7.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	443	324		118	1732	744	118	1649		
v/s Ratio Prot					0.43			0.45		
v/s Ratio Perm	0.01	c0.08		0.16		0.27	c0.57			
v/c Ratio	0.05	0.28		0.28	0.78	0.49	1.03	0.82		
Uniform Delay, d1	20.5	21.9		9.2	13.7	10.7	17.5	14.2		
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.0	0.5		5.8	3.5	2.3	89.8	4.6		
Delay (s)	20.5	22.4		15.0	17.2	12.9	107.3	18.8		
Level of Service	C	C		B	B	B	F	B		
Approach Delay (s)					15.8			26.1		
Approach LOS					B			C		

Intersection Summary			
HCM Average Control Delay	20.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	106.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	30	0	80	0	0	0	180	1245	0	0	20	1270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.76					1.00	1.00				0.98
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.90					1.00	1.00				0.99
Flt Protected		0.99					0.95	1.00				1.00
Satd. Flow (prot)		965					1555	3110				3007
Flt Permitted		0.99					0.95	1.00				0.92
Satd. Flow (perm)		965					1555	3110				2756
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)	33	0	89	0	0	0	200	1383	0	0	22	1411
RTOR Reduction (vph)	0	79	0	0	0	0	0	0	0	0	0	3
Lane Group Flow (vph)	0	43	0	0	0	0	200	1383	0	0	0	1508
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		10.0					5.0	71.0				61.0
Effective Green, g (s)		10.0					5.0	71.0				61.0
Actuated g/C Ratio		0.11					0.06	0.79				0.68
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		107					86	2453				1868
v/s Ratio Prot		c0.04					c0.13	0.44				
v/s Ratio Perm												c0.55
v/c Ratio		0.40					2.33	0.56				0.81
Uniform Delay, d1		37.2					42.5	3.6				10.3
Progression Factor		1.00					0.80	0.23				1.00
Incremental Delay, d2		2.5					624.6	0.8				3.9
Delay (s)		39.7					658.5	1.6				14.2
Level of Service		D					F	A				B
Approach Delay (s)		39.7			0.0			84.6				14.2
Approach LOS		D			A			F				B

Intersection Summary			
HCM Average Control Delay	49.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	115.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	70
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.90
Adj. Flow (vph)	78
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	254	1186	0	0	610	160	120	215	70	0	0	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				
Lane Util. Factor		0.95			0.95			0.95				
Frpb, ped/bikes		1.00			0.94			0.94				
Flpb, ped/bikes		0.99			1.00			0.91				
Frt		1.00			0.97			0.97				
Flt Protected		0.99			1.00			0.99				
Satd. Flow (prot)		2811			2629			2369				
Flt Permitted		0.63			1.00			0.99				
Satd. Flow (perm)		1794			2629			2369				
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)	259	1210	0	0	622	163	122	219	71	0	0	0
RTOR Reduction (vph)	0	0	0	0	8	0	0	22	0	0	0	0
Lane Group Flow (vph)	0	1469	0	0	777	0	0	390	0	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm					
Protected Phases		2			6			8				
Permitted Phases	2						8					
Actuated Green, G (s)		44.0			44.0			27.0				
Effective Green, g (s)		44.0			44.0			27.0				
Actuated g/C Ratio		0.55			0.55			0.34				
Clearance Time (s)		4.5			4.5			4.5				
Vehicle Extension (s)		3.0			3.0			3.0				
Lane Grp Cap (vph)		987			1446			800				
v/s Ratio Prot					0.30							
v/s Ratio Perm		c0.82						0.16				
v/c Ratio		1.49			0.54			0.49				
Uniform Delay, d1		18.0			11.5			21.0				
Progression Factor		1.00			0.37			1.00				
Incremental Delay, d2		225.2			0.9			2.1				
Delay (s)		243.2			5.1			23.1				
Level of Service		F			A			C				
Approach Delay (s)		243.2			5.1			23.1			0.0	
Approach LOS		F			A			C			A	

Intersection Summary			
HCM Average Control Delay	139.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	109.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	776	480	30	670	0	0	0	0	70	630	110
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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.88			1.00						0.96	
Flpb, ped/bikes		1.00			1.00						0.98	
Frt		0.94			1.00						0.98	
Flt Protected		1.00			1.00						1.00	
Satd. Flow (prot)		2568			3099						2679	
Flt Permitted		1.00			0.74						1.00	
Satd. Flow (perm)		2568			2291						2679	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	800	495	31	691	0	0	0	0	72	649	113
RTOR Reduction (vph)	0	9	0	0	0	0	0	0	0	0	15	0
Lane Group Flow (vph)	0	1286	0	0	722	0	0	0	0	0	819	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		33.5			33.5						37.5	
Effective Green, g (s)		33.5			33.5						37.5	
Actuated g/C Ratio		0.42			0.42						0.47	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		1075			959						1256	
v/s Ratio Prot		c0.50										
v/s Ratio Perm					0.32						0.31	
v/c Ratio		1.20			0.75						0.65	
Uniform Delay, d1		23.2			19.7						16.3	
Progression Factor		0.67			1.00						1.00	
Incremental Delay, d2		89.1			3.4						2.6	
Delay (s)		104.8			23.1						18.9	
Level of Service		F			C						B	
Approach Delay (s)		104.8			23.1			0.0			18.9	
Approach LOS		F			C			A			B	

Intersection Summary			
HCM Average Control Delay	59.0	HCM Level of Service	E
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	83.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	116	490	720	1309	0	1290	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.67	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		0.99	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	930	3016	3110		3043	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	930	3016	3110		3043	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	116	490	720	1309	0	1290	60
RTOR Reduction (vph)	0	248	0	0	0	4	0
Lane Group Flow (vph)	116	242	720	1309	0	1346	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	25.3	25.3	15.7	53.7		32.0	
Effective Green, g (s)	25.3	25.3	15.7	53.7		32.0	
Actuated g/C Ratio	0.28	0.28	0.17	0.60		0.36	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	437	261	526	1856		1082	
v/s Ratio Prot	0.07		c0.24	0.42		c0.44	
v/s Ratio Perm		c0.26					
v/c Ratio	0.27	0.93	1.37	0.71		1.24	
Uniform Delay, d1	25.1	31.5	37.1	12.6		29.0	
Progression Factor	1.00	1.00	1.00	1.00		0.79	
Incremental Delay, d2	0.3	36.3	177.8	2.3		114.7	
Delay (s)	25.5	67.8	215.0	14.9		137.7	
Level of Service	C	E	F	B		F	
Approach Delay (s)	59.7			85.9		137.7	
Approach LOS	E			F		F	

Intersection Summary			
HCM Average Control Delay	99.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	122.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	166	10	20	104	10	20	10	26	10	10	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
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.59		1.00	0.75		0.85			1.00	0.45
Flpb, ped/bikes		0.99	1.00		0.95	1.00		0.82			0.86	1.00
Frt		1.00	0.85		1.00	0.85		0.94			1.00	0.85
Flt Protected		1.00	1.00		0.99	1.00		0.98			0.98	1.00
Satd. Flow (prot)		1613	823		1545	1050		1053			1369	632
Flt Permitted		0.99	1.00		0.96	1.00		0.88			0.81	1.00
Satd. Flow (perm)		1599	823		1488	1050		937			1138	632
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	177	11	21	111	11	21	11	28	11	11	11
RTOR Reduction (vph)	0	0	3	0	0	3	0	25	0	0	0	10
Lane Group Flow (vph)	0	188	8	0	132	8	0	35	0	0	22	1
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		45.3	45.3		45.3	45.3		5.7			5.7	5.7
Effective Green, g (s)		45.3	45.3		45.3	45.3		5.7			5.7	5.7
Actuated g/C Ratio		0.75	0.75		0.75	0.75		0.10			0.10	0.10
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)		1207	621		1123	793		89			108	60
v/s Ratio Prot												
v/s Ratio Perm		c0.12	0.01		0.09	0.01		c0.04			0.02	0.00
v/c Ratio		0.16	0.01		0.12	0.01		0.39			0.20	0.02
Uniform Delay, d1		2.0	1.8		2.0	1.8		25.5			25.1	24.6
Progression Factor		1.00	1.00		0.12	0.00		1.00			0.82	0.73
Incremental Delay, d2		0.1	0.0		0.2	0.0		2.8			0.9	0.1
Delay (s)		2.1	1.8		0.4	0.0		28.3			21.6	18.2
Level of Service		A	A		A	A		C			C	B
Approach Delay (s)		2.1			0.4			28.3			20.4	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	6.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.18		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	491	10	898	410	60	60	60	20	20	20	300	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.34		0.66	1.00	0.95			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.81	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	559	3110	479		936	1555	1325			1257	1174
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (perm)	3110	559	3110	479		936	1555	1325			1259	1174
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)	517	11	945	432	63	63	63	21	21	21	316	42
RTOR Reduction (vph)	0	5	0	171	0	37	0	15	0	0	0	31
Lane Group Flow (vph)	517	6	945	324	0	26	63	27	0	0	337	11
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	43.0	43.0	43.0	43.0		20.0	20.0	20.0			20.0	20.0
Effective Green, g (s)	43.0	43.0	43.0	43.0		20.0	20.0	20.0			20.0	20.0
Actuated g/C Ratio	0.57	0.57	0.57	0.57		0.27	0.27	0.27			0.27	0.27
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1783	320	1783	275		250	415	353			336	313
v/s Ratio Prot	0.17		0.30									
v/s Ratio Perm		0.01		c0.68		0.03	0.04	0.02			c0.27	0.01
v/c Ratio	0.29	0.02	0.53	1.18		0.11	0.15	0.08			1.00	0.04
Uniform Delay, d1	8.2	6.9	9.8	16.0		20.7	21.0	20.6			27.5	20.4
Progression Factor	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	1.1	111.8		0.8	0.8	0.4			49.8	0.2
Delay (s)	8.6	7.0	10.9	127.8		21.6	21.8	21.0			77.3	20.6
Level of Service	A	A	B	F		C	C	C			E	C
Approach Delay (s)	8.6		51.1								71.1	
Approach LOS	A		D								E	

Intersection Summary			
HCM Average Control Delay	43.2	HCM Level of Service	D
HCM Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	521	70	40	1158	80	40
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	560	75	43	1245	86	43

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	373	262	458	830	129
Volume Left (vph)	0	0	43	0	86
Volume Right (vph)	0	75	0	0	43
Hadj (s)	0.02	-0.18	0.06	0.02	-0.05
Departure Headway (s)	6.3	6.1	5.9	5.8	6.6
Degree Utilization, x	0.66	0.45	0.75	1.34	0.24
Capacity (veh/h)	557	576	605	620	526
Control Delay (s)	19.4	12.8	23.0	182.4	11.7
Approach Delay (s)	16.7		125.7		11.7
Approach LOS	C		F		B

Intersection Summary			
Delay	84.8		
HCM Level of Service	F		
Intersection Capacity Utilization	79.8%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT
Lane Configurations												
Volume (vph)	10	421	110	30	10	10	1038	20	20	20	10	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4					5.4		4.0			5.0
Lane Util. Factor		0.95					0.95		1.00			1.00
Frpb, ped/bikes		0.86					0.99		0.78			1.00
Flpb, ped/bikes		1.00					1.00		1.00			1.00
Frt		0.96					1.00		0.86			1.00
Flt Protected		1.00					1.00		1.00			0.97
Satd. Flow (prot)		2408					3063		1106			1589
Flt Permitted		0.93					0.94		1.00			0.97
Satd. Flow (perm)		2241					2873		1106			1589
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	458	120	33	11	11	1128	22	22	22	11	22
RTOR Reduction (vph)	0	5	0	0	0	0	2	0	0	0	0	0
Lane Group Flow (vph)	0	617	0	0	0	0	1170	0	22	0	0	55
Confl. Peds. (#/hr)	400		400	400	400	400		400	400	400	400	
Confl. Bikes (#/hr)			30	30				30	10			
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm	Perm			Free	Split	Split	
Protected Phases		2					6			4	4	4
Permitted Phases	2				6	6			Free			
Actuated Green, G (s)		41.6					41.6		75.0			9.0
Effective Green, g (s)		41.6					41.6		75.0			9.0
Actuated g/C Ratio		0.55					0.55		1.00			0.12
Clearance Time (s)		5.4					5.4					5.0
Lane Grp Cap (vph)		1243					1594		1106			191
v/s Ratio Prot												0.03
v/s Ratio Perm		0.28					c0.41		0.02			
v/c Ratio		0.50					0.73		0.02			0.29
Uniform Delay, d1		10.3					12.5		0.0			30.1
Progression Factor		1.00					0.25		1.00			1.00
Incremental Delay, d2		1.4					2.2		0.0			3.8
Delay (s)		11.7					5.4		0.0			33.8
Level of Service		B					A		A			C
Approach Delay (s)		11.7					5.4					42.1
Approach LOS		B					A					D

Intersection Summary			
HCM Average Control Delay	11.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	88.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR	NWL	NWR	NWR2
Lane Configurations				
Volume (vph)	50	110	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0
Lane Util. Factor	1.00	0.97		1.00
Frpb, ped/bikes	0.55	0.94		0.55
Flpb, ped/bikes	1.00	1.00		1.00
Frt	0.85	0.99		0.85
Flt Protected	1.00	0.96		1.00
Satd. Flow (prot)	768	2810		768
Flt Permitted	1.00	0.96		1.00
Satd. Flow (perm)	768	2810		768
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	120	11	11
RTOR Reduction (vph)	6	0	0	10
Lane Group Flow (vph)	48	131	0	1
Confl. Peds. (#/hr)	400	400	400	400
Confl. Bikes (#/hr)	10		10	10
Parking (#/hr)				
Turn Type	Perm			Perm
Protected Phases		8		
Permitted Phases	4			8
Actuated Green, G (s)	9.0	9.0		9.0
Effective Green, g (s)	9.0	9.0		9.0
Actuated g/C Ratio	0.12	0.12		0.12
Clearance Time (s)	5.0	5.0		5.0
Lane Grp Cap (vph)	92	337		92
v/s Ratio Prot		c0.05		
v/s Ratio Perm	c0.06			0.00
v/c Ratio	0.52	0.39		0.01
Uniform Delay, d1	31.0	30.5		29.1
Progression Factor	1.00	1.00		1.00
Incremental Delay, d2	19.4	3.4		0.3
Delay (s)	50.4	33.8		29.4
Level of Service	D	C		C
Approach Delay (s)		33.5		
Approach LOS		C		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	411	40	30	1058	40	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.97			1.00	0.86	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.99			1.00	0.94	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2785			3091	1288	
Flt Permitted	1.00			0.93	0.97	
Satd. Flow (perm)	2785			2885	1288	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	452	44	33	1163	44	33
RTOR Reduction (vph)	10	0	0	0	23	0
Lane Group Flow (vph)	486	0	0	1196	54	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1671			1731	386	
v/s Ratio Prot	0.17				c0.04	
v/s Ratio Perm				c0.41		
v/c Ratio	0.29			0.69	0.14	
Uniform Delay, d1	7.3			10.2	19.2	
Progression Factor	0.47			1.00	1.00	
Incremental Delay, d2	0.4			2.3	0.8	
Delay (s)	3.8			12.5	19.9	
Level of Service	A			B	B	
Approach Delay (s)	3.8			12.5	19.9	
Approach LOS	A			B	B	

Intersection Summary			
HCM Average Control Delay	10.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	81.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	411	20	10	1058	10	10
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	452	22	11	1163	11	11

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	301	173	399	775	22
Volume Left (vph)	0	0	11	0	11
Volume Right (vph)	0	22	0	0	11
Hadj (s)	0.02	-0.07	0.03	0.02	-0.18
Departure Headway (s)	5.7	5.6	5.1	5.1	6.3
Degree Utilization, x	0.48	0.27	0.56	1.09	0.04
Capacity (veh/h)	612	622	695	722	549
Control Delay (s)	12.7	9.5	13.2	81.0	9.5
Approach Delay (s)	11.5		58.0		9.5
Approach LOS	B		F		A

Intersection Summary			
Delay	44.2		
HCM Level of Service	E		
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL2	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	20	441	40	10	10	1028	70	50	30	30	80	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5				5.5	5.5		5.5		5.5	5.5
Lane Util. Factor		0.95				0.95	1.00		1.00		0.95	0.95
Frpb, ped/bikes		0.95				1.00	0.66		0.91		1.00	0.92
Flpb, ped/bikes		1.00				1.00	1.00		0.86		0.73	0.93
Frt		0.99				1.00	0.85		0.96		1.00	0.98
Flt Protected		1.00				1.00	1.00		0.98		0.95	0.99
Satd. Flow (prot)		2708				3104	808		1052		1078	1286
Flt Permitted		0.89				0.95	1.00		0.84		0.70	0.92
Satd. Flow (perm)		2419				2949	808		904		795	1202
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	21	459	42	10	10	1071	73	52	31	31	83	42
RTOR Reduction (vph)	0	1	0	0	0	0	4	0	15	0	0	0
Lane Group Flow (vph)	0	531	0	0	0	1081	69	0	99	0	66	69
Confl. Peds. (#/hr)	400		400	400	400		400	400		400	400	
Confl. Bikes (#/hr)			10	10			10			10		
Parking (#/hr)		5	5	5			5	5	5	5		
Turn Type	Perm				Perm		Perm	Perm			Perm	
Protected Phases		2				6			8			4
Permitted Phases	2				6	6	6	8			4	
Actuated Green, G (s)		56.5				56.5	56.5		22.5		22.5	22.5
Effective Green, g (s)		56.5				56.5	56.5		22.5		22.5	22.5
Actuated g/C Ratio		0.63				0.63	0.63		0.25		0.25	0.25
Clearance Time (s)		5.5				5.5	5.5		5.5		5.5	5.5
Vehicle Extension (s)		3.0				3.0	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)		1519				1851	507		226		199	301
v/s Ratio Prot												
v/s Ratio Perm		0.22				c0.37	0.09		c0.11		0.08	0.06
v/c Ratio		0.35				0.58	0.14		0.44		0.33	0.23
Uniform Delay, d1		8.0				9.8	6.8		28.4		27.6	26.9
Progression Factor		1.00				0.26	0.16		1.00		1.00	1.00
Incremental Delay, d2		0.6				1.2	0.5		6.1		1.0	0.4
Delay (s)		8.6				3.8	1.6		34.5		28.6	27.2
Level of Service		A				A	A		C		C	C
Approach Delay (s)		8.6				3.6			34.5			27.5
Approach LOS		A				A			C			C

Intersection Summary			
HCM Average Control Delay	8.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR	SBR2	NER2
Lane Configurations			
Volume (vph)	10	30	60
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)		5.5	4.0
Lane Util. Factor		1.00	1.00
Frpb, ped/bikes		0.65	0.78
Flpb, ped/bikes		1.00	1.00
Frt		0.85	0.86
Flt Protected		1.00	1.00
Satd. Flow (prot)		911	967
Flt Permitted		1.00	1.00
Satd. Flow (perm)		911	967
Peak-hour factor, PHF	0.96	0.96	0.96
Adj. Flow (vph)	10	31	62
RTOR Reduction (vph)	0	14	0
Lane Group Flow (vph)	0	17	62
Confl. Peds. (#/hr)	400	400	400
Confl. Bikes (#/hr)	10	10	10
Parking (#/hr)			5
Turn Type		Perm	Free
Protected Phases			
Permitted Phases		4	Free
Actuated Green, G (s)		22.5	90.0
Effective Green, g (s)		22.5	90.0
Actuated g/C Ratio		0.25	1.00
Clearance Time (s)		5.5	
Vehicle Extension (s)		3.0	
Lane Grp Cap (vph)		228	967
v/s Ratio Prot			
v/s Ratio Perm		0.02	0.06
v/c Ratio		0.07	0.06
Uniform Delay, d1		25.8	0.0
Progression Factor		1.00	1.00
Incremental Delay, d2		0.1	0.1
Delay (s)		25.9	0.1
Level of Service		C	A
Approach Delay (s)			
Approach LOS			

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	551	0	0	1088	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	612	0	0	1209	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	612	0	0	1209	0
Confl. Peds. (#/hr)						
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		76.0			76.0	
Effective Green, g (s)		76.0			76.0	
Actuated g/C Ratio		0.84			0.84	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		2067			2547	
v/s Ratio Prot		0.25			c0.40	
v/s Ratio Perm						
v/c Ratio		0.30			0.47	
Uniform Delay, d1		1.5			1.8	
Progression Factor		0.70			0.17	
Incremental Delay, d2		0.4			0.4	
Delay (s)		1.4			0.7	
Level of Service		A			A	
Approach Delay (s)	1.4			0.0	0.7	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	0.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	54.2%	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												
Volume (vph)	10	190	90	180	400	30	100	270	190	20	90	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.80		1.00	0.96			1.00	0.62		1.00	0.36
Flpb, ped/bikes		0.99		0.60	1.00			0.86	1.00		0.97	1.00
Frt		0.95		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.99	1.00		0.99	1.00
Satd. Flow (prot)		2354		936	1354			1177	844		1577	507
Flt Permitted		0.94		0.55	1.00			0.88	1.00		0.91	1.00
Satd. Flow (perm)		2207		547	1354			1050	844		1447	507
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)	11	211	100	200	444	33	111	300	211	22	100	56
RTOR Reduction (vph)	0	49	0	0	3	0	0	0	23	0	0	11
Lane Group Flow (vph)	0	273	0	200	474	0	0	411	188	0	122	45
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		35.6		35.6	35.6			44.4	44.4		44.4	44.4
Effective Green, g (s)		35.6		35.6	35.6			44.4	44.4		44.4	44.4
Actuated g/C Ratio		0.40		0.40	0.40			0.49	0.49		0.49	0.49
Clearance Time (s)		5.5		5.5	5.5			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)		873		216	536			518	416		714	250
v/s Ratio Prot					0.35							
v/s Ratio Perm		0.12		c0.37				c0.39	0.22		0.08	0.09
v/c Ratio		0.31		0.93	0.88			0.79	0.45		0.17	0.18
Uniform Delay, d1		18.8		25.9	25.3			19.0	14.9		12.6	12.7
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		0.2		40.8	15.9			11.8	3.5		0.5	1.6
Delay (s)		19.0		66.8	41.2			30.8	18.4		13.1	14.3
Level of Service		B		E	D			C	B		B	B
Approach Delay (s)		19.0			48.7			26.6			13.5	
Approach LOS		B			D			C			B	

Intersection Summary			
HCM Average Control Delay	32.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	80.9%	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												
Volume (vph)	0	280	110	90	450	1238	180	0	130	551	160	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.96			1.00	0.96		0.99		1.00	1.00	
Flpb, ped/bikes		1.00			0.99	1.00		0.99		1.00	1.00	
Frt		0.96			1.00	0.85		0.94		1.00	0.99	
Flt Protected		1.00			0.99	1.00		0.97		0.95	0.98	
Satd. Flow (prot)		2688			1612	2362		1287		1477	1499	
Flt Permitted		1.00			0.80	1.00		0.18		0.57	0.68	
Satd. Flow (perm)		2688			1297	2362		239		878	1045	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	292	115	94	469	1290	188	0	135	574	167	21
RTOR Reduction (vph)	0	46	0	0	0	0	0	29	0	0	2	0
Lane Group Flow (vph)	0	361	0	0	563	1290	0	294	0	379	381	0
Confl. Peds. (#/hr)			50	50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		28.0			28.0	65.5		17.5		34.0	34.0	
Effective Green, g (s)		28.0			28.0	65.5		17.5		34.0	34.0	
Actuated g/C Ratio		0.31			0.31	0.73		0.19		0.38	0.38	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		836			404	1719		46		332	395	
v/s Ratio Prot		0.13										
v/s Ratio Perm					c0.43	0.55		c1.23		c0.43	0.36	
v/c Ratio		0.43			1.39	0.75		6.39		1.14	0.96	
Uniform Delay, d1		24.7			31.0	7.3		36.2		28.0	27.4	
Progression Factor		1.00			1.00	1.00		1.00		1.11	1.12	
Incremental Delay, d2		1.6			191.7	3.1		2471.6		93.2	36.7	
Delay (s)		26.3			222.7	10.4		2507.9		124.3	67.4	
Level of Service		C			F	B		F		F	E	
Approach Delay (s)		26.3			74.9			2507.9			95.7	
Approach LOS		C			E			F			F	

Intersection Summary			
HCM Average Control Delay	308.7	HCM Level of Service	F
HCM Volume to Capacity ratio	2.37		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	116.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	581	20	110	1604	20	180	30	171	30	40	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5			3.5			3.5	3.5
Lane Util. Factor		0.95			0.91			0.95			1.00	1.00
Frpb, ped/bikes		0.99			1.00			0.83			1.00	0.62
Flpb, ped/bikes		1.00			0.99			0.84			0.92	1.00
Frt		1.00			1.00			0.93			1.00	0.85
Flt Protected		1.00			1.00			0.98			0.98	1.00
Satd. Flow (prot)		3051			4395			1850			1482	860
Flt Permitted		0.78			0.81			0.78			0.78	1.00
Satd. Flow (perm)		2397			3580			1484			1183	860
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)	33	646	22	122	1782	22	200	33	190	33	44	56
RTOR Reduction (vph)	0	2	0	0	1	0	0	28	0	0	0	1
Lane Group Flow (vph)	0	699	0	0	1925	0	0	395	0	0	77	55
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		53.4			53.4			29.6			29.6	29.6
Effective Green, g (s)		53.4			53.4			29.6			29.6	29.6
Actuated g/C Ratio		0.59			0.59			0.33			0.33	0.33
Clearance Time (s)		3.5			3.5			3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		1422			2124			488			389	283
v/s Ratio Prot												
v/s Ratio Perm		0.29			c0.54			c0.27			0.07	0.06
v/c Ratio		0.49			0.91			0.81			0.20	0.19
Uniform Delay, d1		10.5			16.1			27.6			21.7	21.6
Progression Factor		1.00			0.42			1.00			1.00	1.00
Incremental Delay, d2		0.3			5.6			13.6			1.1	1.5
Delay (s)		10.8			12.3			41.2			22.8	23.2
Level of Service		B			B			D			C	C
Approach Delay (s)		10.8			12.3			41.2			23.0	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM Average Control Delay	16.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	99.4%	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												
Volume (vph)	20	601	160	5	1324	30	80	189	133	10	364	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.91		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.80		1.00		1.00	0.86			0.88	
Flpb, ped/bikes		1.00	1.00		1.00		0.86	1.00			1.00	
Frt		1.00	0.85		1.00		1.00	0.94			0.95	
Flt Protected		1.00	1.00		1.00		0.95	1.00			1.00	
Satd. Flow (prot)		3102	973		4431		1336	3599			3713	
Flt Permitted		0.88	1.00		0.94		0.39	1.00			0.93	
Satd. Flow (perm)		2729	973		4158		552	3599			3466	
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)	20	613	163	5	1351	31	82	193	136	10	371	204
RTOR Reduction (vph)	0	0	1	0	3	0	0	33	0	0	6	0
Lane Group Flow (vph)	0	633	162	0	1384	0	82	296	0	0	579	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		44.7	44.7		44.7		35.3	35.3			35.3	
Effective Green, g (s)		44.7	44.7		44.7		35.3	35.3			35.3	
Actuated g/C Ratio		0.50	0.50		0.50		0.39	0.39			0.39	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1355	483		2065		217	1412			1359	
v/s Ratio Prot								0.08				
v/s Ratio Perm		0.23	0.17		c0.33		0.15				c0.17	
v/c Ratio		0.47	0.34		0.67		0.38	0.21			0.43	
Uniform Delay, d1		14.8	13.7		17.1		19.5	18.1			20.0	
Progression Factor		0.69	0.69		0.94		1.00	1.00			1.00	
Incremental Delay, d2		0.2	0.3		0.7		5.0	0.3			1.0	
Delay (s)		10.4	9.8		16.8		24.5	18.4			20.9	
Level of Service		B	A		B		C	B			C	
Approach Delay (s)		10.3			16.8			19.6			20.9	
Approach LOS		B			B			B			C	

Intersection Summary			
HCM Average Control Delay	16.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1482	260	0	2498	120	290	160	30	70	140	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.95			0.98		1.00	0.95		1.00	0.93	
Flpb, ped/bikes		1.00			1.00		0.76	1.00		0.77	1.00	
Frt		0.98			0.99		1.00	0.98		1.00	0.97	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4131			4182		1182	1514		1191	1283	
Flt Permitted		1.00			1.00		0.60	1.00		0.59	1.00	
Satd. Flow (perm)		4131			4182		752	1514		737	1283	
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)	0	1512	265	0	2549	122	296	163	31	71	143	41
RTOR Reduction (vph)	0	7	0	0	6	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	1770	0	0	2665	0	296	191	0	71	184	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2387			2416		230	463		225	392	
v/s Ratio Prot		0.43			c0.64			0.13			0.14	
v/s Ratio Perm							c0.39			0.10		
v/c Ratio		0.74			1.10		1.29	0.41		0.32	0.47	
Uniform Delay, d1		14.0			19.0		31.2	24.8		24.0	25.3	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.1			53.3		157.8	2.7		3.6	4.0	
Delay (s)		16.2			72.3		189.1	27.5		27.7	29.3	
Level of Service		B			E		F	C		C	C	
Approach Delay (s)		16.2			72.3			125.1			28.9	
Approach LOS		B			E			F			C	

Intersection Summary			
HCM Average Control Delay	56.0	HCM Level of Service	E
HCM Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	111.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1262	130	0	2208	120	100	160	40	70	200	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			0.95	
Frpb, ped/bikes		0.98			0.98		1.00	0.93			0.94	
Flpb, ped/bikes		1.00			1.00		0.81	1.00			0.95	
Frt		0.99			0.99		1.00	0.97			0.97	
Flt Protected		1.00			1.00		0.95	1.00			0.99	
Satd. Flow (prot)		4318			4353		1259	1483			2680	
Flt Permitted		1.00			1.00		0.50	1.00			0.81	
Satd. Flow (perm)		4318			4353		665	1483			2196	
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	1328	137	0	2324	126	105	168	42	74	211	63
RTOR Reduction (vph)	0	4	0	0	5	0	0	6	0	0	1	0
Lane Group Flow (vph)	0	1461	0	0	2445	0	105	204	0	0	347	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2557			2578		199	443			656	
v/s Ratio Prot		0.34			c0.56			0.14				
v/s Ratio Perm							0.16				c0.16	
v/c Ratio		0.57			0.95		0.53	0.46			0.53	
Uniform Delay, d1		11.3			17.1		26.3	25.7			26.3	
Progression Factor		1.00			0.22		1.00	1.00			1.00	
Incremental Delay, d2		0.9			4.4		9.7	3.4			3.0	
Delay (s)		12.2			8.1		35.9	29.1			29.3	
Level of Service		B			A		D	C			C	
Approach Delay (s)		12.2			8.1			31.4			29.3	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM Average Control Delay	12.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	108.1%	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												
Volume (vph)	0	1332	100	0	2108	60	60	100	30	30	170	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.98			0.99			0.95			0.93	
Flpb, ped/bikes		1.00			1.00			0.94			0.97	
Frt		0.99			1.00			0.98			0.97	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		4133			4223			1233			1262	
Flt Permitted		1.00			1.00			0.79			0.94	
Satd. Flow (perm)		4133			4223			985			1197	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1448	109	0	2291	65	65	109	33	33	185	54
RTOR Reduction (vph)	0	5	0	0	3	0	0	4	0	0	1	0
Lane Group Flow (vph)	0	1552	0	0	2353	0	0	203	0	0	271	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2480			2534			296			359	
v/s Ratio Prot		0.38			c0.56							
v/s Ratio Perm								0.21			c0.23	
v/c Ratio		0.63			0.93			0.69			0.76	
Uniform Delay, d1		11.5			16.3			27.8			28.5	
Progression Factor		1.51			1.00			1.00			1.00	
Incremental Delay, d2		1.0			7.5			12.2			13.8	
Delay (s)		18.5			23.7			39.9			42.3	
Level of Service		B			C			D			D	
Approach Delay (s)		18.5			23.7			39.9			42.3	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM Average Control Delay	23.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	80.0%	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		↑↑↑			↑↑↑		↰	↕				↱
Volume (vph)	0	1112	0	0	1318	60	820	431	40	0	0	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.99		1.00	0.99				0.95
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.98				1.00
Satd. Flow (prot)		4282			4374		1415	2678				1352
Flt Permitted		1.00			1.00		0.95	0.98				1.00
Satd. Flow (perm)		4282			4374		1415	2678				1352
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1196	0	0	1417	65	882	463	43	0	0	86
RTOR Reduction (vph)	0	0	0	0	5	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	1196	0	0	1477	0	459	925	0	0	0	86
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		38.0			29.0		42.0	42.0				6.0
Effective Green, g (s)		38.0			29.0		42.0	42.0				6.0
Actuated g/C Ratio		0.42			0.32		0.47	0.47				0.07
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		1808			1409		660	1250				90
v/s Ratio Prot		0.28			c0.34							
v/s Ratio Perm							0.32	0.35				c0.06
v/c Ratio		0.66			1.05		0.70	0.74				0.96
Uniform Delay, d1		20.8			30.5		19.0	19.6				41.9
Progression Factor		1.00			0.39		1.00	1.00				1.00
Incremental Delay, d2		1.9			31.7		6.0	4.0				83.3
Delay (s)		22.8			43.4		24.9	23.5				125.1
Level of Service		C			D		C	C				F
Approach Delay (s)		22.8			43.4			24.0			125.1	
Approach LOS		C			D			C			F	

Intersection Summary			
HCM Average Control Delay	32.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	82.4%	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												
Volume (vph)	164	200	857	0	190	20	1026	237	40	0	447	172
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		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.97		1.00	0.95			1.00	0.67
Flpb, ped/bikes		0.90	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.99		1.00	0.98			1.00	0.85
Flt Protected		0.98	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1446	2448		1329		4385	1332			3110	815
Flt Permitted		0.62	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		915	2448		1329		4385	1332			3110	815
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	176	215	922	0	204	22	1103	255	43	0	481	185
RTOR Reduction (vph)	0	0	2	0	4	0	0	7	0	0	0	4
Lane Group Flow (vph)	0	391	920	0	222	0	1103	291	0	0	481	181
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		26.5	55.5		26.5		25.5	55.5			26.5	26.5
Effective Green, g (s)		26.5	52.0		26.5		25.5	55.5			26.5	26.5
Actuated g/C Ratio		0.29	0.58		0.29		0.28	0.62			0.29	0.29
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		269	1414		391		1242	821			916	240
v/s Ratio Prot			0.38		0.17		c0.25	0.22			0.15	
v/s Ratio Perm		c0.43										c0.22
v/c Ratio		1.45	0.65		0.57		0.89	0.35			0.53	0.75
Uniform Delay, d1		31.8	12.9		26.9		30.9	8.5			26.5	28.8
Progression Factor		0.45	0.32		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		219.6	0.8		1.9		9.7	1.2			2.2	19.5
Delay (s)		234.0	4.9		28.8		40.5	9.7			28.6	48.3
Level of Service		F	A		C		D	A			C	D
Approach Delay (s)		73.2			28.8			34.0			34.1	
Approach LOS		E			C			C			C	

Intersection Summary			
HCM Average Control Delay	47.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	102.1%	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												
Volume (vph)	0	0	0	70	230	50	40	50	0	0	60	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.29		1.00			0.92	
Flpb, ped/bikes					0.85	1.00		0.87			1.00	
Frt					1.00	0.85		1.00			0.97	
Flt Protected					0.99	1.00		0.98			1.00	
Satd. Flow (prot)					2450	400		1396			1450	
Flt Permitted					0.99	1.00		0.86			1.00	
Satd. Flow (perm)					2450	400		1232			1450	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	0	80	264	57	46	57	0	0	69	23
RTOR Reduction (vph)	0	0	0	0	0	31	0	0	0	0	1	0
Lane Group Flow (vph)	0	0	0	0	344	26	0	103	0	0	91	0
Confl. Peds. (#/hr)				945		1084	569					569
Confl. Bikes (#/hr)						76			2			4
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					34.0	34.0		31.0			31.0	
Effective Green, g (s)					34.0	34.0		31.0			31.0	
Actuated g/C Ratio					0.45	0.45		0.41			0.41	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1111	181		509			599	
v/s Ratio Prot											0.06	
v/s Ratio Perm					0.14	0.06		c0.08				
v/c Ratio					0.31	0.14		0.20			0.15	
Uniform Delay, d1					13.0	12.0		14.1			13.8	
Progression Factor					1.00	1.00		0.95			1.00	
Incremental Delay, d2					0.7	1.6		0.8			0.5	
Delay (s)					13.8	13.6		14.3			14.3	
Level of Service					B	B		B			B	
Approach Delay (s)		0.0			13.7			14.3			14.3	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	57.5%	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												
Volume (vph)	0	0	0	210	250	30	170	40	0	0	80	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.92		1.00	1.00			0.96	
Flpb, ped/bikes				1.00	1.00		0.71	1.00			1.00	
Frt				1.00	0.98		1.00	1.00			0.99	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	2816		1101	1637			1552	
Flt Permitted				0.95	1.00		0.69	1.00			1.00	
Satd. Flow (perm)				1555	2816		802	1637			1552	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	0	236	281	34	191	45	0	0	90	11
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	236	308	0	191	45	0	0	101	0
Confl. Peds. (#/hr)						1700	537					569
Confl. Bikes (#/hr)						76			2			4
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				40.4	40.4		25.3	25.3			25.3	
Effective Green, g (s)				40.4	40.4		25.3	25.3			25.3	
Actuated g/C Ratio				0.54	0.54		0.34	0.34			0.34	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				838	1517		271	552			524	
v/s Ratio Prot				c0.15	0.11			0.03			0.07	
v/s Ratio Perm							c0.24					
v/c Ratio				0.28	0.20		0.70	0.08			0.19	
Uniform Delay, d1				9.4	9.0		21.6	16.9			17.6	
Progression Factor				1.00	1.00		1.03	1.04			1.00	
Incremental Delay, d2				0.8	0.3		14.3	0.3			0.8	
Delay (s)				10.2	9.3		36.6	17.8			18.4	
Level of Service				B	A		D	B			B	
Approach Delay (s)		0.0			9.7			33.0			18.4	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM Average Control Delay	16.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	38.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	193	110	10	508	20	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	205	117	11	540	21	11
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	306					
pX, platoon unblocked						
vC, conflicting volume			722		1626	961
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			722		1626	961
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		52	91
cM capacity (veh/h)			613		45	125

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	137	185	551	32
Volume Left	0	0	11	21
Volume Right	0	117	0	11
cSH	1700	1700	613	57
Volume to Capacity	0.08	0.11	0.02	0.56
Queue Length 95th (ft)	0	0	1	56
Control Delay (s)	0.0	0.0	0.5	130.7
Lane LOS			A	F
Approach Delay (s)	0.0		0.5	130.7
Approach LOS				F

Intersection Summary			
Average Delay	4.9		
Intersection Capacity Utilization	54.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	164	36	26	507	10	29	50	8	30	60	30
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		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.44		0.99			0.95			0.87	
Flpb, ped/bikes		0.96	1.00		0.98			0.87			0.89	
Frt		1.00	0.85		1.00			0.99			0.97	
Flt Protected		0.99	1.00		1.00			0.98			0.99	
Satd. Flow (prot)		1559	609		1383			1149			1058	
Flt Permitted		0.83	1.00		0.98			0.89			0.92	
Satd. Flow (perm)		1313	609		1357			1038			986	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	47	193	42	31	596	12	34	59	9	35	71	35
RTOR Reduction (vph)	0	0	17	0	1	0	0	5	0	0	3	0
Lane Group Flow (vph)	0	240	25	0	638	0	0	97	0	0	138	0
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4			4		
Actuated Green, G (s)		40.0	40.0		40.0			26.0			26.0	
Effective Green, g (s)		40.0	40.0		40.0			26.0			26.0	
Actuated g/C Ratio		0.53	0.53		0.53			0.35			0.35	
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)		700	325		724			360			342	
v/s Ratio Prot												
v/s Ratio Perm		0.18	0.04		c0.47			0.09			c0.14	
v/c Ratio		0.34	0.08		0.88			0.27			0.40	
Uniform Delay, d1		10.0	8.5		15.4			17.7			18.6	
Progression Factor		1.00	1.00		1.00			1.00			0.72	
Incremental Delay, d2		1.3	0.5		14.5			1.8			3.5	
Delay (s)		11.3	9.0		29.9			19.5			16.9	
Level of Service		B	A		C			B			B	
Approach Delay (s)		11.0			29.9			19.5			16.9	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	22.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	99.6%	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												
Volume (vph)	0	241	20	23	491	0	20	0	54	20	30	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
Lane Util. Factor		1.00	1.00		0.95			1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.26		1.00			0.60			1.00	0.67
Flpb, ped/bikes		1.00	1.00		0.98			0.92			0.81	1.00
Frt		1.00	0.85		1.00			0.90			1.00	0.85
Flt Protected		1.00	1.00		1.00			0.99			0.98	1.00
Satd. Flow (prot)		1637	354		3040			801			1298	933
Flt Permitted		1.00	1.00		0.93			0.95			0.92	1.00
Satd. Flow (perm)		1637	354		2842			769			1219	933
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	256	21	24	522	0	21	0	57	21	32	21
RTOR Reduction (vph)	0	0	16	0	0	0	0	0	0	0	0	8
Lane Group Flow (vph)	0	256	5	0	546	0	0	78	0	0	53	13
Confl. Peds. (#/hr)			800	800			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	36.5
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	36.5
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	0.61
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)		396	86		687			468			742	568
v/s Ratio Prot		0.16										
v/s Ratio Perm			0.01		c0.19			c0.10			0.04	0.01
v/c Ratio		0.65	0.06		0.79			0.17			0.07	0.02
Uniform Delay, d1		20.4	17.5		21.4			5.1			4.8	4.7
Progression Factor		1.00	1.00		1.00			1.00			1.00	1.00
Incremental Delay, d2		7.9	1.3		9.2			0.8			0.0	0.0
Delay (s)		28.4	18.8		30.6			5.9			4.9	4.7
Level of Service		C	B		C			A			A	A
Approach Delay (s)		27.6			30.6			5.9			4.8	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	25.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	366	20	80	10	190	10	385	340
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		0.97		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		0.99		0.99			1.00
Flt Protected		1.00		0.96		1.00			0.97
Satd. Flow (prot)		942		1311		1619			3029
Flt Permitted		1.00		0.96		1.00			0.95
Satd. Flow (perm)		942		1311		1619			2970
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	398	22	87	11	207	11	418	370
RTOR Reduction (vph)	0	0	0	6	0	0	0	0	0
Lane Group Flow (vph)	0	398	0	114	0	218	0	0	788
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		371		310			891
v/s Ratio Prot						0.13			
v/s Ratio Perm		c0.42		0.09					c0.27
v/c Ratio		0.76		0.31		0.70			0.88
Uniform Delay, d1		10.1		16.9		22.7			20.0
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		9.8		2.1		7.1			12.5
Delay (s)		19.9		19.0		29.7			32.5
Level of Service		B		B		C			C
Approach Delay (s)	19.9			19.0		29.7			32.5
Approach LOS	B			B		C			C

Intersection Summary			
HCM Average Control Delay	27.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	77.6%	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												
Volume (vph)	30	159	50	30	330	30	70	40	30	30	80	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.95			1.00	0.59	1.00	0.77			0.81	
Flpb, ped/bikes		0.97			1.00	1.00	0.61	1.00			0.92	
Frt		0.97			1.00	0.85	1.00	0.94			0.95	
Flt Protected		0.99			1.00	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1279			1426	721	952	1029			2168	
Flt Permitted		0.92			0.96	1.00	0.63	1.00			0.89	
Satd. Flow (perm)		1189			1375	721	630	1029			1954	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	34	183	57	34	379	34	80	46	34	34	92	69
RTOR Reduction (vph)	0	7	0	0	0	6	0	27	0	0	0	0
Lane Group Flow (vph)	0	267	0	0	413	28	80	53	0	0	195	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		62.5			62.5	62.5	17.4	17.4			17.4	
Effective Green, g (s)		62.5			62.5	62.5	17.4	17.4			17.4	
Actuated g/C Ratio		0.69			0.69	0.69	0.19	0.19			0.19	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		826			955	501	122	199			378	
v/s Ratio Prot								0.05				
v/s Ratio Perm		0.22			c0.30	0.04	c0.13				0.10	
v/c Ratio		0.32			0.43	0.06	0.66	0.26			0.52	
Uniform Delay, d1		5.4			6.0	4.4	33.5	30.9			32.5	
Progression Factor		1.00			1.00	1.00	0.66	0.42			1.00	
Incremental Delay, d2		1.0			1.4	0.2	12.0	0.7			1.2	
Delay (s)		6.5			7.4	4.6	34.0	13.7			33.7	
Level of Service		A			A	A	C	B			C	
Approach Delay (s)		6.5			7.2			23.8			33.7	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	14.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	118.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Volume (vph)	30	214	30	30	327	20	20	48	70	20	62	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.95			0.98			0.69			0.80	
Flpb, ped/bikes		0.97			0.98			0.94			0.93	
Frt		0.99			0.99			0.93			0.96	
Flt Protected		0.99			1.00			0.99			0.99	
Satd. Flow (prot)		1299			1352			859			1013	
Flt Permitted		0.94			0.96			0.95			0.94	
Satd. Flow (perm)		1223			1305			821			960	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	32	228	32	32	348	21	21	51	74	21	66	43
RTOR Reduction (vph)	0	1	0	0	1	0	0	41	0	0	20	0
Lane Group Flow (vph)	0	291	0	0	400	0	0	105	0	0	110	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.6			62.6			18.6			18.6	
Effective Green, g (s)		62.6			62.6			18.6			18.6	
Actuated g/C Ratio		0.70			0.70			0.21			0.21	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		851			908			170			198	
v/s Ratio Prot												
v/s Ratio Perm		0.24			c0.31			c0.13			0.11	
v/c Ratio		0.34			0.44			0.62			0.56	
Uniform Delay, d1		5.5			6.0			32.5			32.0	
Progression Factor		1.00			1.00			0.65			1.00	
Incremental Delay, d2		1.1			1.5			13.5			10.8	
Delay (s)		6.6			7.6			34.5			42.8	
Level of Service		A			A			C			D	
Approach Delay (s)		6.6			7.6			34.5			42.8	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM Average Control Delay	16.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.6%	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												
Volume (vph)	20	264	120	50	213	20	40	28	70	20	52	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.85			1.00	0.51		0.71			0.76	
Flpb, ped/bikes		0.99			0.96	1.00		0.88			0.94	
Frt		0.96			1.00	0.85		0.93			0.94	
Flt Protected		1.00			0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1153			1355	617		830			953	
Flt Permitted		0.98			0.87	1.00		0.89			0.95	
Satd. Flow (perm)		1131			1184	617		747			909	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	22	297	135	56	239	22	45	31	79	22	58	61
RTOR Reduction (vph)	0	6	0	0	0	7	0	33	0	0	30	0
Lane Group Flow (vph)	0	448	0	0	295	15	0	122	0	0	111	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		57.0			57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0			57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63			0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		716			750	391		208			253	
v/s Ratio Prot												
v/s Ratio Perm		c0.40			0.25	0.02		c0.16			0.12	
v/c Ratio		0.63			0.39	0.04		0.59			0.44	
Uniform Delay, d1		10.0			8.1	6.2		28.0			26.7	
Progression Factor		1.00			0.82	0.68		0.91			1.00	
Incremental Delay, d2		4.1			1.5	0.2		10.3			5.4	
Delay (s)		14.1			8.1	4.4		35.9			32.1	
Level of Service		B			A	A		D			C	
Approach Delay (s)		14.1			7.9			35.9			32.1	
Approach LOS		B			A			D			C	

Intersection Summary			
HCM Average Control Delay	17.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	264	70	10	173	10	30	34	40	20	43	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.51		1.00	0.51		0.78			0.82	
Flpb, ped/bikes		0.98	1.00		0.98	1.00		0.87			0.91	
Frt		1.00	0.85		1.00	0.85		0.95			0.96	
Flt Protected		1.00	1.00		1.00	1.00		0.99			0.99	
Satd. Flow (prot)		1392	604		1406	604		916			1151	
Flt Permitted		0.98	1.00		0.98	1.00		0.91			0.94	
Satd. Flow (perm)		1363	604		1384	604		842			1089	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	22	297	79	11	194	11	34	38	45	22	48	34
RTOR Reduction (vph)	0	0	6	0	0	4	0	25	0	0	20	0
Lane Group Flow (vph)	0	319	73	0	205	7	0	92	0	0	85	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63	0.63		0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		863	383		877	383		234			303	
v/s Ratio Prot												
v/s Ratio Perm		c0.23	0.12		0.15	0.01		c0.11			0.08	
v/c Ratio		0.37	0.19		0.23	0.02		0.39			0.28	
Uniform Delay, d1		7.9	6.9		7.1	6.1		26.3			25.4	
Progression Factor		0.63	0.62		1.00	1.00		0.79			1.00	
Incremental Delay, d2		1.0	0.9		0.6	0.1		4.0			2.3	
Delay (s)		5.9	5.1		7.7	6.2		24.8			27.7	
Level of Service		A	A		A	A		C			C	
Approach Delay (s)		5.7			7.6			24.8			27.7	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	11.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	30	274	20	30	30	20	506	70	10	203	585
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				5.0		5.0			5.0	5.0
Lane Util. Factor	1.00				1.00		0.95			1.00	0.95
Frpb, ped/bikes	0.89				0.91		0.88			1.00	1.00
Flpb, ped/bikes	1.00				0.66		1.00			1.00	1.00
Frt	0.88				0.97		0.98			1.00	1.00
Flt Protected	1.00				0.96		1.00			0.95	1.00
Satd. Flow (prot)	1274				913		2690			1555	3110
Flt Permitted	1.00				0.96		1.00			0.95	1.00
Satd. Flow (perm)	1274				913		2690			1555	3110
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
Adj. Flow (vph)	32	288	21	32	32	21	533	74	11	214	616
RTOR Reduction (vph)	2	0	0	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	339	0	0	0	85	0	616	0	0	214	616
Confl. Peds. (#/hr)				400	400	400		400	400		
Confl. Bikes (#/hr)		30	30			10		30	30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0
Turn Type				Perm						Split	
Protected Phases	4				3		6			2	2
Permitted Phases				3							
Actuated Green, G (s)	20.0				20.0		17.0			13.0	13.0
Effective Green, g (s)	20.0				20.0		17.0			13.0	13.0
Actuated g/C Ratio	0.22				0.22		0.19			0.14	0.14
Clearance Time (s)	5.0				5.0		5.0			5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	283				203		508			225	449
v/s Ratio Prot	c0.27						c0.23			0.14	c0.20
v/s Ratio Perm					0.09						
v/c Ratio	1.20				0.42		1.21			0.95	1.37
Uniform Delay, d1	35.0				30.0		36.5			38.2	38.5
Progression Factor	1.00				1.02		1.00			0.81	0.80
Incremental Delay, d2	117.6				1.3		113.1			47.2	180.5
Delay (s)	152.6				31.8		149.6			78.0	211.4
Level of Service	F				C		F			E	F
Approach Delay (s)	152.6				31.8		149.6				177.0
Approach LOS	F				C		F				F

Intersection Summary			
HCM Average Control Delay	157.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	87.5%	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												
Volume (vph)	0	933	40	8	1550	30	0	43	18	0	84	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.91			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.89			0.93	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.96			0.97	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2862			4245			1221			1293	
Flt Permitted		1.00			0.93			1.00			1.00	
Satd. Flow (perm)		2862			3966			1221			1293	
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)	0	1037	44	9	1722	33	0	48	20	0	93	22
RTOR Reduction (vph)	0	0	0	0	0	0	0	18	0	0	8	0
Lane Group Flow (vph)	0	1081	0	0	1764	0	0	50	0	0	107	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type				Perm								
Protected Phases		2			6			8			4	
Permitted Phases				6								
Actuated Green, G (s)		70.3			70.3			10.9			10.9	
Effective Green, g (s)		70.3			70.3			10.9			10.9	
Actuated g/C Ratio		0.78			0.78			0.12			0.12	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2236			3098			148			157	
v/s Ratio Prot		0.38						0.04			c0.08	
v/s Ratio Perm					c0.44							
v/c Ratio		0.48			0.57			0.34			0.68	
Uniform Delay, d1		3.5			3.9			36.3			37.9	
Progression Factor		0.56			1.00			1.00			1.00	
Incremental Delay, d2		0.7			0.2			1.4			11.6	
Delay (s)		2.7			4.1			37.6			49.5	
Level of Service		A			A			D			D	
Approach Delay (s)		2.7			4.1			37.6			49.5	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	6.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	0	802	220	4	1179	40	350	90	73	0	150	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.70		1.00	0.70	1.00	1.00	0.74		0.98	
Flpb, ped/bikes		1.00	1.00		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	0.85		0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3110	974		3109	974	3016	1637	1024		2816	
Flt Permitted		1.00	1.00		0.95	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		3110	974		2964	974	3016	1637	1024		2816	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	853	234	4	1254	43	372	96	78	0	160	11
RTOR Reduction (vph)	0	0	66	0	0	19	0	0	3	0	6	0
Lane Group Flow (vph)	0	853	168	0	1258	24	372	96	75	0	165	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type			Perm	Perm		Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases			2	6		6			8			
Actuated Green, G (s)		50.3	50.3		50.3	50.3	15.6	30.7	30.7		10.6	
Effective Green, g (s)		50.3	50.3		50.3	50.3	15.6	30.7	30.7		10.6	
Actuated g/C Ratio		0.56	0.56		0.56	0.56	0.17	0.34	0.34		0.12	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		1738	544		1657	544	523	558	349		332	
v/s Ratio Prot		0.27					c0.12	0.06			c0.06	
v/s Ratio Perm			0.17		c0.42	0.02			0.07			
v/c Ratio		0.49	0.31		0.76	0.04	0.71	0.17	0.22		0.50	
Uniform Delay, d1		12.1	10.6		15.2	9.0	35.1	20.8	21.1		37.2	
Progression Factor		1.00	1.00		0.78	0.67	1.00	1.00	1.00		0.79	
Incremental Delay, d2		1.0	1.5		3.1	0.1	4.5	0.1	0.3		1.1	
Delay (s)		13.1	12.1		14.9	6.2	39.6	20.9	21.4		30.6	
Level of Service		B	B		B	A	D	C	C		C	
Approach Delay (s)		12.8			14.6			33.7			30.6	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM Average Control Delay	18.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	93.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	88	776	1126	40	90	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.91		1.00	
Frpb, ped/bikes		1.00	0.99		0.82	
Flpb, ped/bikes		1.00	1.00		1.00	
Frt		1.00	0.99		0.93	
Flt Protected		0.99	1.00		0.98	
Satd. Flow (prot)		2886	4399		1063	
Flt Permitted		0.69	1.00		0.98	
Satd. Flow (perm)		2002	4399		1063	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	94	826	1198	43	96	98
RTOR Reduction (vph)	0	0	4	0	19	0
Lane Group Flow (vph)	0	920	1237	0	175	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		64.0	64.0		19.0	
Effective Green, g (s)		64.0	64.0		19.0	
Actuated g/C Ratio		0.71	0.71		0.21	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1424	3128		224	
v/s Ratio Prot			0.28		c0.16	
v/s Ratio Perm		c0.46				
v/c Ratio		0.65	0.40		0.78	
Uniform Delay, d1		6.9	5.2		33.5	
Progression Factor		0.60	1.00		0.82	
Incremental Delay, d2		0.9	0.1		22.5	
Delay (s)		5.1	5.3		49.8	
Level of Service		A	A		D	
Approach Delay (s)		5.1	5.3		49.8	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	8.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	123.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	32	423	50	50	1197	40	30	47	60	70	84	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			0.99			0.84			0.91	
Flpb, ped/bikes		1.00			0.99			0.96			0.92	
Frt		0.99			1.00			0.94			0.96	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2767			2852			1078			1131	
Flt Permitted		0.82			0.91			0.90			0.83	
Satd. Flow (perm)		2263			2593			979			952	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	34	455	54	54	1287	43	32	51	65	75	90	60
RTOR Reduction (vph)	0	2	0	0	2	0	0	32	0	0	12	0
Lane Group Flow (vph)	0	541	0	0	1382	0	0	116	0	0	213	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		60.6			60.6			20.6			20.6	
Effective Green, g (s)		60.6			60.6			20.6			20.6	
Actuated g/C Ratio		0.67			0.67			0.23			0.23	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1524			1746			224			218	
v/s Ratio Prot												
v/s Ratio Perm		0.24			c0.53			0.12			c0.22	
v/c Ratio		0.36			0.79			0.52			0.98	
Uniform Delay, d1		6.3			10.3			30.4			34.4	
Progression Factor		1.00			0.11			1.00			0.82	
Incremental Delay, d2		0.6			2.5			8.4			50.2	
Delay (s)		7.0			3.7			38.7			78.4	
Level of Service		A			A			D			E	
Approach Delay (s)		7.0			3.7			38.7			78.4	
Approach LOS		A			A			D			E	

Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	108.8%	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												
Volume (vph)	34	708	30	30	1216	40	30	30	60	50	40	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.82			0.88	
Flpb, ped/bikes		1.00			1.00			0.94			0.91	
Frt		0.99			1.00			0.93			0.96	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2852			2865			1017			1073	
Flt Permitted		0.84			0.92			0.90			0.82	
Satd. Flow (perm)		2389			2632			927			895	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	37	770	33	33	1322	43	33	33	65	54	43	47
RTOR Reduction (vph)	0	1	0	0	1	0	0	41	0	0	13	0
Lane Group Flow (vph)	0	839	0	0	1397	0	0	90	0	0	131	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		65.0			65.0			16.1			16.1	
Effective Green, g (s)		65.0			65.0			16.1			16.1	
Actuated g/C Ratio		0.72			0.72			0.18			0.18	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1725			1901			166			160	
v/s Ratio Prot												
v/s Ratio Perm		0.35			c0.53			0.10			c0.15	
v/c Ratio		0.49			0.73			0.54			0.82	
Uniform Delay, d1		5.4			7.4			33.6			35.5	
Progression Factor		0.76			0.29			1.00			0.84	
Incremental Delay, d2		0.9			1.0			3.6			26.2	
Delay (s)		5.0			3.1			37.2			56.1	
Level of Service		A			A			D			E	
Approach Delay (s)		5.0			3.1			37.2			56.1	
Approach LOS		A			A			D			E	

Intersection Summary			
HCM Average Control Delay	8.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	86.7%	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												
Volume (vph)	20	731	70	40	1120	20	140	10	30	10	10	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			0.99			0.94			0.82	
Flpb, ped/bikes		1.00			1.00			0.74			0.95	
Frt		0.99			1.00			0.98			0.93	
Flt Protected		1.00			1.00			0.96			0.99	
Satd. Flow (prot)		2796			3073			1074			1171	
Flt Permitted		0.90			0.89			0.74			0.92	
Satd. Flow (perm)		2528			2741			830			1086	
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)	22	812	78	44	1244	22	156	11	33	11	11	22
RTOR Reduction (vph)	0	2	0	0	1	0	0	8	0	0	15	0
Lane Group Flow (vph)	0	910	0	0	1309	0	0	192	0	0	29	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1744			1891			178			233	
v/s Ratio Prot												
v/s Ratio Perm		0.36			c0.48			c0.23			0.03	
v/c Ratio		0.52			0.69			1.08			0.12	
Uniform Delay, d1		6.8			8.3			35.4			28.5	
Progression Factor		1.36			0.36			1.00			0.62	
Incremental Delay, d2		1.0			0.9			90.2			0.1	
Delay (s)		10.2			3.8			125.6			17.8	
Level of Service		B			A			F			B	
Approach Delay (s)		10.2			3.8			125.6			17.8	
Approach LOS		B			A			F			B	

Intersection Summary			
HCM Average Control Delay	16.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	94.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	20	751	1140	766	779	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3056	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3056	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	816	1239	833	847	43
RTOR Reduction (vph)	0	10	0	0	4	0
Lane Group Flow (vph)	22	806	1239	833	886	0
Confl. Peds. (#/hr)						95
Confl. Bikes (#/hr)		10				81
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	7.0	50.6	39.6	73.0	29.4	
Effective Green, g (s)	7.0	50.6	39.6	73.0	29.4	
Actuated g/C Ratio	0.08	0.56	0.44	0.81	0.33	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	121	1376	1327	2364	998	
v/s Ratio Prot	0.01	c0.33	c0.41	0.29	c0.29	
v/s Ratio Perm						
v/c Ratio	0.18	0.59	0.93	0.35	0.89	
Uniform Delay, d1	38.8	12.9	24.0	2.2	28.7	
Progression Factor	1.06	0.80	0.72	1.15	0.41	
Incremental Delay, d2	0.6	0.5	6.8	0.2	1.0	
Delay (s)	41.8	10.8	24.1	2.8	12.7	
Level of Service	D	B	C	A	B	
Approach Delay (s)	11.6			15.5	12.7	
Approach LOS	B			B	B	

Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	79.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	90	341	40	0	1499	0	50	46	1566
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			1.00			1.00	1.00
Flpb, ped/bikes				0.81			1.00			1.00	1.00
Frt				0.99			1.00			1.00	1.00
Flt Protected				0.96			1.00			0.95	1.00
Satd. Flow (prot)				2258			4428			1555	3110
Flt Permitted				0.96			1.00			0.95	1.00
Satd. Flow (perm)				2258			4428			1555	3110
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
Adj. Flow (vph)	0	0	100	379	44	0	1666	0	56	51	1740
RTOR Reduction (vph)	0	0	0	8	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	0	0	515	0	0	1719	0	0	51	1740
Confl. Peds. (#/hr)			125	64					125		
Confl. Bikes (#/hr)					34				86		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				24.1			48.6			4.3	56.9
Effective Green, g (s)				24.1			48.6			4.3	56.9
Actuated g/C Ratio				0.27			0.54			0.05	0.63
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				605			2391			74	1966
v/s Ratio Prot							0.39			0.03	c0.56
v/s Ratio Perm				0.23							
v/c Ratio				0.85			0.72			0.69	0.89
Uniform Delay, d1				31.2			15.6			42.2	13.8
Progression Factor				1.00			0.79			1.00	1.00
Incremental Delay, d2				11.1			0.6			19.2	6.3
Delay (s)				42.3			12.8			61.4	20.1
Level of Service				D			B			E	C
Approach Delay (s)	0.0			42.3			12.8				21.3
Approach LOS	A			D			B				C

Intersection Summary			
HCM Average Control Delay	20.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	70.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBR	EBR2	SEL	SET	SER2	NWL2	NWL	NWT	NWR	SWR2
Lane Configurations											
Volume (vph)	32	2	300	20	1113	426	176	0	1584	20	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		7.0	7.0	7.0		4.0	7.0		
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00		1.00	0.95		
Frpb, ped/bikes	1.00	0.91		1.00	1.00	0.95		1.00	0.99		
Flpb, ped/bikes	1.00	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	1.00		
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95	1.00		
Satd. Flow (prot)	1555	1105		1555	3110	1323		1555	3080		
Flt Permitted	0.95	1.00		0.13	1.00	1.00		0.40	1.00		
Satd. Flow (perm)	1555	1105		218	3110	1323		655	3080		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	2	326	22	1210	463	191	0	1722	22	0
RTOR Reduction (vph)	0	233	0	0	0	287	0	0	1	0	0
Lane Group Flow (vph)	35	95	0	22	1210	176	0	191	1743	0	0
Confl. Peds. (#/hr)			64							1000	100
Confl. Bikes (#/hr)		10	10			30				30	10
Parking (#/hr)		5	5								
Turn Type	custom	custom		Perm		Perm	custom	Prot			custom
Protected Phases					6			5	2		
Permitted Phases	4	4		6		6	5				8
Actuated Green, G (s)	22.5	22.5		30.0	30.0	30.0		10.0	44.0		
Effective Green, g (s)	22.5	22.5		30.0	30.0	30.0		10.0	44.0		
Actuated g/C Ratio	0.28	0.28		0.38	0.38	0.38		0.13	0.56		
Clearance Time (s)	5.5	5.5		7.0	7.0	7.0		4.0	7.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	443	315		83	1181	502		83	1715		
v/s Ratio Prot					0.39				c0.57		
v/s Ratio Perm	0.02	c0.09		0.10		0.13		c0.29			
v/c Ratio	0.08	0.30		0.27	1.02	0.35		2.30	1.02		
Uniform Delay, d1	20.7	22.1		16.9	24.5	17.5		34.5	17.5		
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2	0.1	0.5		7.6	32.6	1.9		621.7	25.8		
Delay (s)	20.7	22.6		24.5	57.1	19.4		656.2	43.3		
Level of Service	C	C		C	E	B		F	D		
Approach Delay (s)					46.4				103.8		
Approach LOS					D				F		

Intersection Summary			
HCM Average Control Delay	72.1	HCM Level of Service	E
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	118.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	40	0	130	0	0	0	90	1709	0	0	20	1276
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.75					1.00	1.00				0.99
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.90					1.00	1.00				1.00
Flt Protected		0.99					0.95	1.00				1.00
Satd. Flow (prot)		953					1555	3110				3078
Flt Permitted		0.99					0.95	1.00				0.85
Satd. Flow (perm)		953					1555	3110				2631
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	43	0	138	0	0	0	96	1818	0	0	21	1357
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	0	179	0	0	0	0	96	1818	0	0	0	1398
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		21.2					4.0	59.8				50.8
Effective Green, g (s)		21.2					4.0	59.8				50.8
Actuated g/C Ratio		0.24					0.04	0.66				0.56
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		224					69	2066				1485
v/s Ratio Prot		c0.19					0.06	c0.58				
v/s Ratio Perm												c0.53
v/c Ratio		0.80					1.39	0.88				0.94
Uniform Delay, d1		32.4					43.0	12.2				18.2
Progression Factor		1.00					0.69	0.18				1.00
Incremental Delay, d2		18.3					218.1	3.4				13.0
Delay (s)		50.7					247.7	5.5				31.3
Level of Service		D					F	A				C
Approach Delay (s)		50.7			0.0			17.7				31.3
Approach LOS		D			A			B				C

Intersection Summary			
HCM Average Control Delay	24.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	113.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	20
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	21
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	101	728	0	0	943	110	280	302	40	0	0	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			
Lane Util. Factor		0.95			0.95			0.95	1.00			
Frpb, ped/bikes		1.00			0.97			1.00	0.71			
Flpb, ped/bikes		0.99			1.00			0.86	1.00			
Frt		1.00			0.98			1.00	0.85			
Flt Protected		0.99			1.00			0.98	1.00			
Satd. Flow (prot)		2844			2750			2427	986			
Flt Permitted		0.60			1.00			0.98	1.00			
Satd. Flow (perm)		1707			2750			2427	986			
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)	106	766	0	0	993	116	295	318	42	0	0	0
RTOR Reduction (vph)	0	0	0	0	11	0	0	0	24	0	0	0
Lane Group Flow (vph)	0	872	0	0	1098	0	0	613	18	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm		Perm			
Protected Phases		2			6			8				
Permitted Phases	2						8		8			
Actuated Green, G (s)		37.0			37.0			34.0	34.0			
Effective Green, g (s)		37.0			37.0			34.0	34.0			
Actuated g/C Ratio		0.46			0.46			0.42	0.42			
Clearance Time (s)		4.5			4.5			4.5	4.5			
Vehicle Extension (s)		3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)		789			1272			1031	419			
v/s Ratio Prot					0.40							
v/s Ratio Perm		c0.51						0.25	0.02			
v/c Ratio		1.14dl			0.86			0.59	0.04			
Uniform Delay, d1		21.5			19.2			17.7	13.5			
Progression Factor		1.00			0.35			1.00	1.00			
Incremental Delay, d2		64.8			0.8			2.5	0.2			
Delay (s)		86.3			7.5			20.2	13.7			
Level of Service		F			A			C	B			
Approach Delay (s)		86.3			7.5			19.8			0.0	
Approach LOS		F			A			B			A	

Intersection Summary			
HCM Average Control Delay	36.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	104.2%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	488	280	50	856	0	0	0	0	70	718	206
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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.88			1.00						0.95	
Flpb, ped/bikes		1.00			1.00						0.98	
Frt		0.95			1.00						0.97	
Flt Protected		1.00			1.00						1.00	
Satd. Flow (prot)		2589			3087						2641	
Flt Permitted		1.00			0.78						1.00	
Satd. Flow (perm)		2589			2417						2641	
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)	0	498	286	51	873	0	0	0	0	71	733	210
RTOR Reduction (vph)	0	17	0	0	0	0	0	0	0	0	15	0
Lane Group Flow (vph)	0	767	0	0	924	0	0	0	0	0	999	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		27.0			27.0						44.0	
Effective Green, g (s)		27.0			27.0						44.0	
Actuated g/C Ratio		0.34			0.34						0.55	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		874			816						1453	
v/s Ratio Prot		0.30										
v/s Ratio Perm					c0.38						0.38	
v/c Ratio		0.88			1.13						0.69	
Uniform Delay, d1		25.0			26.5						13.0	
Progression Factor		0.83			1.00						1.00	
Incremental Delay, d2		1.0			74.6						2.7	
Delay (s)		21.7			101.1						15.7	
Level of Service		C			F						B	
Approach Delay (s)		21.7			101.1			0.0			15.7	
Approach LOS		C			F			A			B	

Intersection Summary			
HCM Average Control Delay	46.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	104.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	98	430	580	1711	0	1301	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.67	1.00	1.00		0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		0.99	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	929	3016	3110		2998	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	929	3016	3110		2998	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	98	430	580	1711	0	1301	106
RTOR Reduction (vph)	0	212	0	0	0	7	0
Lane Group Flow (vph)	98	218	580	1711	0	1400	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	23.6	23.6	15.4	55.4		34.0	
Effective Green, g (s)	23.6	23.6	15.4	55.4		34.0	
Actuated g/C Ratio	0.26	0.26	0.17	0.62		0.38	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	408	244	516	1914		1133	
v/s Ratio Prot	0.06		c0.19	0.55		c0.47	
v/s Ratio Perm		c0.23					
v/c Ratio	0.24	0.89	1.12	0.89		1.24	
Uniform Delay, d1	26.1	32.0	37.3	14.8		28.0	
Progression Factor	1.00	1.00	1.00	1.00		0.84	
Incremental Delay, d2	0.3	31.1	78.3	6.9		109.3	
Delay (s)	26.4	63.1	115.6	21.7		132.7	
Level of Service	C	E	F	C		F	
Approach Delay (s)	56.3			45.5		132.7	
Approach LOS	E			D		F	

Intersection Summary			
HCM Average Control Delay	75.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	115.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	172	30	15	93	10	20	20	28	50	80	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
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.46		1.00	0.67		0.86			1.00	0.43
Flpb, ped/bikes		0.98	1.00		0.94	1.00		0.87			0.89	1.00
Frt		1.00	0.85		1.00	0.85		0.94			1.00	0.85
Flt Protected		1.00	1.00		0.99	1.00		0.99			0.98	1.00
Satd. Flow (prot)		1607	635		1533	937		1138			1428	604
Flt Permitted		0.99	1.00		0.96	1.00		0.89			0.88	1.00
Satd. Flow (perm)		1593	635		1486	937		1022			1275	604
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	183	32	16	99	11	21	21	30	53	85	21
RTOR Reduction (vph)	0	0	4	0	0	3	0	17	0	0	0	18
Lane Group Flow (vph)	0	194	28	0	115	8	0	55	0	0	138	3
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		54.1	54.1		54.1	54.1		11.9			11.9	11.9
Effective Green, g (s)		54.1	54.1		54.1	54.1		11.9			11.9	11.9
Actuated g/C Ratio		0.72	0.72		0.72	0.72		0.16			0.16	0.16
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)		1149	458		1072	676		162			202	96
v/s Ratio Prot												
v/s Ratio Perm		c0.12	0.04		0.08	0.01		0.05			c0.11	0.01
v/c Ratio		0.17	0.06		0.11	0.01		0.34			0.68	0.03
Uniform Delay, d1		3.3	3.0		3.2	2.9		28.1			29.8	26.7
Progression Factor		1.00	1.00		1.00	1.00		1.00			0.74	0.60
Incremental Delay, d2		0.1	0.1		0.2	0.0		1.3			9.0	0.1
Delay (s)		3.4	3.1		3.4	3.0		29.3			30.9	16.2
Level of Service		A	A		A	A		C			C	B
Approach Delay (s)		3.3			3.3			29.3			29.0	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	13.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	104.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	525	40	571	400	90	70	50	20	40	20	390	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.34		0.67	1.00	0.96			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.81	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	558	3110	477		952	1555	1330			1264	1175
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.96	1.00
Satd. Flow (perm)	3110	558	3110	477		952	1555	1330			1280	1175
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	547	42	595	417	94	73	52	21	42	21	406	104
RTOR Reduction (vph)	0	20	0	187	0	25	0	29	0	0	0	72
Lane Group Flow (vph)	547	22	595	324	0	48	52	34	0	0	427	32
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	40.0	40.0	40.0	40.0		23.0	23.0	23.0			23.0	23.0
Effective Green, g (s)	40.0	40.0	40.0	40.0		23.0	23.0	23.0			23.0	23.0
Actuated g/C Ratio	0.53	0.53	0.53	0.53		0.31	0.31	0.31			0.31	0.31
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1659	298	1659	254		292	477	408			393	360
v/s Ratio Prot	0.18		0.19									
v/s Ratio Perm		0.04		c0.68		0.05	0.03	0.03			c0.33	0.03
v/c Ratio	0.33	0.08	0.36	1.28		0.16	0.11	0.08			1.09	0.09
Uniform Delay, d1	9.9	8.5	10.1	17.5		19.0	18.7	18.5			26.0	18.5
Progression Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	0.5	0.5	0.6	151.5		1.2	0.5	0.4			70.6	0.5
Delay (s)	10.4	9.0	10.7	169.0		20.2	19.1	18.9			96.6	19.0
Level of Service	B	A	B	F		C	B	B			F	B
Approach Delay (s)	10.3		83.8								81.4	
Approach LOS	B		F								F	

Intersection Summary			
HCM Average Control Delay	60.4	HCM Level of Service	E
HCM Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	765	110	40	811	140	100
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	789	113	41	836	144	103

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	526	376	320	557	247
Volume Left (vph)	0	0	41	0	144
Volume Right (vph)	0	113	0	0	103
Hadj (s)	0.02	-0.19	0.08	0.02	-0.12
Departure Headway (s)	6.7	6.5	6.9	6.8	6.8
Degree Utilization, x	0.98	0.68	0.61	1.06	0.47
Capacity (veh/h)	535	545	523	540	523
Control Delay (s)	57.7	20.8	18.9	79.5	15.6
Approach Delay (s)	42.3		57.4		15.6
Approach LOS	E		F		C

Intersection Summary			
Delay	45.6		
HCM Level of Service	E		
Intersection Capacity Utilization	83.8%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT
Lane Configurations												
Volume (vph)	100	655	90	20	10	30	671	50	40	30	20	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4					5.4		4.0			5.0
Lane Util. Factor		0.95					0.95		1.00			1.00
Frpb, ped/bikes		0.93					0.97		0.78			1.00
Flpb, ped/bikes		0.99					0.99		1.00			1.00
Frt		0.98					0.99		0.86			1.00
Flt Protected		0.99					1.00		1.00			0.98
Satd. Flow (prot)		2603					2971		1106			1600
Flt Permitted		0.74					0.86		1.00			0.98
Satd. Flow (perm)		1929					2569		1106			1600
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	106	697	96	21	11	32	714	53	43	32	21	64
RTOR Reduction (vph)	0	0	0	0	0	0	7	0	0	0	0	0
Lane Group Flow (vph)	0	920	0	0	0	0	803	0	43	0	0	117
Confl. Peds. (#/hr)	400		400	400	400	400		400	400	400	400	
Confl. Bikes (#/hr)			30	30				30	10			
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm	Perm			Free	Split	Split	
Protected Phases		2					6			4	4	4
Permitted Phases	2				6	6			Free			
Actuated Green, G (s)		41.6					41.6		75.0			9.0
Effective Green, g (s)		41.6					41.6		75.0			9.0
Actuated g/C Ratio		0.55					0.55		1.00			0.12
Clearance Time (s)		5.4					5.4					5.0
Lane Grp Cap (vph)		1070					1425		1106			192
v/s Ratio Prot												c0.07
v/s Ratio Perm		c0.48					0.31		0.04			
v/c Ratio		0.86					0.56		0.04			0.61
Uniform Delay, d1		14.2					10.8		0.0			31.3
Progression Factor		1.00					0.48		1.00			1.00
Incremental Delay, d2		9.0					1.4		0.1			13.6
Delay (s)		23.2					6.6		0.1			44.9
Level of Service		C					A		A			D
Approach Delay (s)		23.2					6.6					46.0
Approach LOS		C					A					D

Intersection Summary			
HCM Average Control Delay	19.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	113.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR	NWL	NWR	NWR2
Lane Configurations				
Volume (vph)	60	120	40	20
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0
Lane Util. Factor	1.00	0.97		1.00
Frpb, ped/bikes	0.55	0.81		0.55
Flpb, ped/bikes	1.00	1.00		1.00
Frt	0.85	0.96		0.85
Flt Protected	1.00	0.96		1.00
Satd. Flow (prot)	768	2392		768
Flt Permitted	1.00	0.96		1.00
Satd. Flow (perm)	768	2392		768
Peak-hour factor, PHF	0.94	0.94	0.94	0.94
Adj. Flow (vph)	64	128	43	21
RTOR Reduction (vph)	19	0	0	18
Lane Group Flow (vph)	45	171	0	3
Confl. Peds. (#/hr)	400	400	400	400
Confl. Bikes (#/hr)	10		10	10
Parking (#/hr)				
Turn Type	Perm			Perm
Protected Phases		8		
Permitted Phases	4			8
Actuated Green, G (s)	9.0	9.0		9.0
Effective Green, g (s)	9.0	9.0		9.0
Actuated g/C Ratio	0.12	0.12		0.12
Clearance Time (s)	5.0	5.0		5.0
Lane Grp Cap (vph)	92	287		92
v/s Ratio Prot		c0.07		
v/s Ratio Perm	0.06			0.00
v/c Ratio	0.49	0.60		0.03
Uniform Delay, d1	30.8	31.3		29.1
Progression Factor	1.00	1.00		1.00
Incremental Delay, d2	17.2	8.8		0.6
Delay (s)	48.0	40.1		29.7
Level of Service	D	D		C
Approach Delay (s)		39.0		
Approach LOS		D		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	685	60	40	681	90	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.97			1.00	0.86	
Flpb, ped/bikes	1.00			0.99	1.00	
Frt	0.99			1.00	0.94	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2797			3084	1281	
Flt Permitted	1.00			0.87	0.97	
Satd. Flow (perm)	2797			2699	1281	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	770	67	45	765	101	79
RTOR Reduction (vph)	8	0	0	0	22	0
Lane Group Flow (vph)	829	0	0	810	158	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1678			1619	384	
v/s Ratio Prot	0.30				c0.12	
v/s Ratio Perm				c0.30		
v/c Ratio	0.49			0.50	0.41	
Uniform Delay, d1	8.5			8.6	21.0	
Progression Factor	0.38			1.00	1.00	
Incremental Delay, d2	0.7			1.1	3.2	
Delay (s)	3.9			9.7	24.2	
Level of Service	A			A	C	
Approach Delay (s)	3.9			9.7	24.2	
Approach LOS	A			A	C	

Intersection Summary			
HCM Average Control Delay	8.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	79.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	685	50	30	721	20	40
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	737	54	32	775	22	43

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	491	299	291	517	65
Volume Left (vph)	0	0	32	0	22
Volume Right (vph)	0	54	0	0	43
Hadj (s)	0.02	-0.11	0.07	0.02	-0.32
Departure Headway (s)	5.7	5.5	5.7	5.6	6.4
Degree Utilization, x	0.77	0.46	0.46	0.81	0.11
Capacity (veh/h)	622	633	614	626	537
Control Delay (s)	24.1	12.0	12.3	27.0	10.2
Approach Delay (s)	19.5		21.7		10.2
Approach LOS	C		C		B

Intersection Summary			
Delay	20.2		
HCM Level of Service	C		
Intersection Capacity Utilization	66.6%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	585	40	20	621	170	70	60	30	100	80	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frpb, ped/bikes		0.95			1.00	0.54		0.94		1.00	0.95	
Flpb, ped/bikes		0.98			1.00	1.00		0.88		0.77	0.98	
Frt		0.99			1.00	0.85		0.97		1.00	0.98	
Flt Protected		1.00			1.00	1.00		0.98		0.95	1.00	
Satd. Flow (prot)		2671			3110	657		1137		1134	1410	
Flt Permitted		0.82			1.00	1.00		0.83		0.69	0.97	
Satd. Flow (perm)		2192			3110	657		960		822	1373	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	77	643	44	22	682	187	77	66	33	110	88	11
RTOR Reduction (vph)	0	3	0	0	0	23	0	10	0	0	0	0
Lane Group Flow (vph)	0	783	0	0	682	164	0	166	0	99	110	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10	10		10			10			10
Parking (#/hr)		5	5	5		5	5	5	5			
Turn Type	Perm					Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2				6	6	8			4		
Actuated Green, G (s)		27.5			27.5	27.5		21.5		21.5	21.5	
Effective Green, g (s)		27.5			27.5	27.5		21.5		21.5	21.5	
Actuated g/C Ratio		0.46			0.46	0.46		0.36		0.36	0.36	
Clearance Time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		1005			1425	301		344		295	492	
v/s Ratio Prot					0.22							
v/s Ratio Perm		c0.36				0.25		c0.17		0.12	0.08	
v/c Ratio		0.78			0.48	0.55		0.48		0.34	0.22	
Uniform Delay, d1		13.7			11.3	11.7		14.9		14.0	13.4	
Progression Factor		1.00			0.39	0.33		1.00		1.00	1.00	
Incremental Delay, d2		6.0			1.1	6.7		4.8		0.7	0.2	
Delay (s)		19.6			5.5	10.6		19.7		14.7	13.7	
Level of Service		B			A	B		B		B	B	
Approach Delay (s)		19.6			6.6			19.7			14.0	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM Average Control Delay	12.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	94.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR2	NER2
Lane Configurations		
Volume (vph)	60	100
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.5	4.0
Lane Util. Factor	1.00	1.00
Frpb, ped/bikes	0.68	0.78
Flpb, ped/bikes	1.00	1.00
Frt	0.85	0.86
Flt Protected	1.00	1.00
Satd. Flow (prot)	952	967
Flt Permitted	1.00	1.00
Satd. Flow (perm)	952	967
Peak-hour factor, PHF	0.91	0.91
Adj. Flow (vph)	66	110
RTOR Reduction (vph)	8	0
Lane Group Flow (vph)	58	110
Confl. Peds. (#/hr)	400	400
Confl. Bikes (#/hr)	10	10
Parking (#/hr)		5
Turn Type	Perm	Free
Protected Phases		
Permitted Phases	4	Free
Actuated Green, G (s)	21.5	60.0
Effective Green, g (s)	21.5	60.0
Actuated g/C Ratio	0.36	1.00
Clearance Time (s)	5.5	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	341	967
v/s Ratio Prot		
v/s Ratio Perm	0.06	0.11
v/c Ratio	0.17	0.11
Uniform Delay, d1	13.1	0.0
Progression Factor	1.00	1.00
Incremental Delay, d2	0.2	0.2
Delay (s)	13.4	0.2
Level of Service	B	A
Approach Delay (s)		
Approach LOS		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	835	0	0	791	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	918	0	0	869	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	918	0	0	869	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)		30				30
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		46.0			46.0	
Effective Green, g (s)		46.0			46.0	
Actuated g/C Ratio		0.77			0.77	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1877			2312	
v/s Ratio Prot		c0.37			0.29	
v/s Ratio Perm						
v/c Ratio		0.49			0.38	
Uniform Delay, d1		2.6			2.3	
Progression Factor		1.28			0.45	
Incremental Delay, d2		0.7			0.4	
Delay (s)		4.1			1.4	
Level of Service		A			A	
Approach Delay (s)	4.1			0.0	1.4	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	2.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	36.6%	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												
Volume (vph)	20	190	140	200	200	30	90	380	260	40	160	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.77		1.00	0.93			1.00	0.66		1.00	0.44
Flpb, ped/bikes		0.98		0.67	1.00			0.92	1.00		0.98	1.00
Frt		0.94		1.00	0.98			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.99	1.00		0.99	1.00
Satd. Flow (prot)		2195		1048	1300			1270	903		1581	609
Flt Permitted		0.93		0.53	1.00			0.90	1.00		0.86	1.00
Satd. Flow (perm)		2045		583	1300			1150	903		1377	609
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	204	151	215	215	32	97	409	280	43	172	32
RTOR Reduction (vph)	0	45	0	0	9	0	0	0	13	0	0	13
Lane Group Flow (vph)	0	332	0	215	238	0	0	506	267	0	215	19
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		21.7		21.7	21.7			28.3	28.3		28.3	28.3
Effective Green, g (s)		21.7		21.7	21.7			28.3	28.3		28.3	28.3
Actuated g/C Ratio		0.36		0.36	0.36			0.47	0.47		0.47	0.47
Clearance Time (s)		5.5		5.5	5.5			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)		740		211	470			542	426		649	287
v/s Ratio Prot					0.18							
v/s Ratio Perm		0.16		c0.37				c0.44	0.30		0.16	0.03
v/c Ratio		0.45		1.02	0.51			0.93	0.63		0.33	0.07
Uniform Delay, d1		14.6		19.1	15.0			15.0	11.9		9.9	8.6
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		0.4		67.0	0.9			25.3	6.8		1.4	0.5
Delay (s)		15.0		86.1	15.8			40.2	18.7		11.3	9.1
Level of Service		B		F	B			D	B		B	A
Approach Delay (s)		15.0			48.5			32.6			11.0	
Approach LOS		B			D			C			B	

Intersection Summary			
HCM Average Control Delay	30.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
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												
Volume (vph)	0	290	120	70	310	781	170	0	110	655	150	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.94			1.00	0.96		0.99		1.00	1.00	
Flpb, ped/bikes		1.00			0.99	1.00		0.99		1.00	1.00	
Frt		0.96			1.00	0.85		0.95		1.00	0.99	
Flt Protected		1.00			0.99	1.00		0.97		0.95	0.97	
Satd. Flow (prot)		2619			1603	2357		1294		1477	1490	
Flt Permitted		1.00			0.62	1.00		0.22		0.58	0.67	
Satd. Flow (perm)		2619			1003	2357		295		904	1023	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	302	125	73	323	814	177	0	115	682	156	31
RTOR Reduction (vph)	0	75	0	0	0	0	0	39	0	0	5	0
Lane Group Flow (vph)	0	352	0	0	396	814	0	253	0	430	434	0
Confl. Peds. (#/hr)	50		50	50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		11.0			11.0	38.5		14.5		24.0	24.0	
Effective Green, g (s)		11.0			11.0	38.5		14.5		24.0	24.0	
Actuated g/C Ratio		0.18			0.18	0.64		0.24		0.40	0.40	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		480			184	1512		71		362	409	
v/s Ratio Prot		0.13										
v/s Ratio Perm					c0.39	0.35		c0.86		c0.48	0.42	
v/c Ratio		0.73			2.15	0.54		3.57		1.19	1.06	
Uniform Delay, d1		23.1			24.5	5.9		22.8		18.0	18.0	
Progression Factor		1.00			1.00	1.00		1.00		0.75	0.75	
Incremental Delay, d2		9.5			536.1	1.4		1189.8		107.4	60.1	
Delay (s)		32.7			560.6	7.3		1212.5		120.9	73.5	
Level of Service		C			F	A		F		F	E	
Approach Delay (s)		32.7			188.4			1212.5			97.0	
Approach LOS		C			F			F			F	

Intersection Summary			
HCM Average Control Delay	243.1	HCM Level of Service	F
HCM Volume to Capacity ratio	2.10		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	93.7%	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												
Volume (vph)	50	775	30	50	819	40	260	60	261	30	40	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Lane Util. Factor		0.95			0.95	1.00		0.95			1.00	1.00
Frpb, ped/bikes		0.98			1.00	0.66		0.85			1.00	0.66
Flpb, ped/bikes		1.00			0.99	1.00		0.87			0.95	1.00
Frt		0.99			1.00	0.85		0.93			1.00	0.85
Flt Protected		1.00			1.00	1.00		0.98			0.98	1.00
Satd. Flow (prot)		3012			3080	806		1954			1515	922
Flt Permitted		0.82			0.83	1.00		0.79			0.77	1.00
Satd. Flow (perm)		2490			2568	806		1582			1197	922
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	52	807	31	52	853	42	271	62	272	31	42	52
RTOR Reduction (vph)	0	4	0	0	0	23	0	3	0	0	0	2
Lane Group Flow (vph)	0	886	0	0	905	19	0	602	0	0	73	50
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Actuated Green, G (s)		23.8			23.8	23.8		29.2			29.2	29.2
Effective Green, g (s)		23.8			23.8	23.8		29.2			29.2	29.2
Actuated g/C Ratio		0.40			0.40	0.40		0.49			0.49	0.49
Clearance Time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)		988			1019	320		770			583	449
v/s Ratio Prot												
v/s Ratio Perm		c0.36			0.35	0.02		c0.38			0.06	0.05
v/c Ratio		0.90			0.89	0.06		0.78			0.13	0.11
Uniform Delay, d1		16.9			16.9	11.2		12.8			8.4	8.4
Progression Factor		1.00			0.87	1.23		1.00			1.00	1.00
Incremental Delay, d2		10.6			7.8	0.1		7.8			0.4	0.5
Delay (s)		27.5			22.6	13.8		20.6			8.9	8.9
Level of Service		C			C	B		C			A	A
Approach Delay (s)		27.5			22.2			20.6			8.9	
Approach LOS		C			C			C			A	

Intersection Summary			
HCM Average Control Delay	23.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	95.6%	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												
Volume (vph)	80	776	190	107	579	20	70	251	155	10	269	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.95		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.76		0.99		1.00	0.88			0.87	
Flpb, ped/bikes		0.99	1.00		0.99		0.84	1.00			1.00	
Frt		1.00	0.85		1.00		1.00	0.94			0.94	
Flt Protected		1.00	1.00		0.99		0.95	1.00			1.00	
Satd. Flow (prot)		3073	922		3025		1309	3692			3651	
Flt Permitted		0.80	1.00		0.65		0.46	1.00			0.93	
Satd. Flow (perm)		2478	922		1985		633	3692			3391	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	843	207	116	629	22	76	273	168	11	292	196
RTOR Reduction (vph)	0	0	5	0	4	0	0	9	0	0	17	0
Lane Group Flow (vph)	0	930	202	0	763	0	76	432	0	0	482	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		28.5	28.5		28.5		21.5	21.5			21.5	
Effective Green, g (s)		28.5	28.5		28.5		21.5	21.5			21.5	
Actuated g/C Ratio		0.48	0.48		0.48		0.36	0.36			0.36	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1177	438		943		227	1323			1215	
v/s Ratio Prot								0.12				
v/s Ratio Perm		0.38	0.22		c0.38		0.12				c0.14	
v/c Ratio		0.79	0.46		0.81		0.33	0.33			0.40	
Uniform Delay, d1		13.2	10.6		13.4		14.0	14.0			14.4	
Progression Factor		0.61	0.67		0.66		1.00	1.00			1.00	
Incremental Delay, d2		2.1	0.4		4.9		3.9	0.7			1.0	
Delay (s)		10.1	7.6		13.8		18.0	14.6			15.4	
Level of Service		B	A		B		B	B			B	
Approach Delay (s)		9.7			13.8			15.1			15.4	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	12.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	100.6%	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												
Volume (vph)	0	1506	300	0	2073	90	340	190	50	90	140	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.94			0.98		1.00	0.93		1.00	0.91	
Flpb, ped/bikes		1.00			1.00		0.77	1.00		0.79	1.00	
Frt		0.98			0.99		1.00	0.97		1.00	0.96	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4094			4191		1191	1477		1230	1257	
Flt Permitted		1.00			1.00		0.59	1.00		0.51	1.00	
Satd. Flow (perm)		4094			4191		737	1477		662	1257	
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)	0	1537	306	0	2115	92	347	194	51	92	143	51
RTOR Reduction (vph)	0	7	0	0	5	0	0	3	0	0	1	0
Lane Group Flow (vph)	0	1836	0	0	2202	0	347	242	0	92	193	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2365			2421		225	451		202	384	
v/s Ratio Prot		0.45			c0.53			0.16			0.15	
v/s Ratio Perm							c0.47			0.14		
v/c Ratio		0.78			0.91		1.54	0.54		0.46	0.50	
Uniform Delay, d1		14.5			16.9		31.2	26.0		25.2	25.6	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.6			6.5		265.0	4.5		7.2	4.7	
Delay (s)		17.1			23.4		296.2	30.5		32.4	30.3	
Level of Service		B			C		F	C		C	C	
Approach Delay (s)		17.1			23.4			186.2			31.0	
Approach LOS		B			C			F			C	

Intersection Summary			
HCM Average Control Delay	41.0	HCM Level of Service	D
HCM Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	104.3%	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												
Volume (vph)	0	1516	130	0	1713	120	140	200	30	160	180	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			1.00	
Frpb, ped/bikes		0.97			0.98		1.00	0.96			0.94	
Flpb, ped/bikes		1.00			1.00		0.88	1.00			0.92	
Frt		0.99			0.99		1.00	0.98			0.98	
Flt Protected		1.00			1.00		0.95	1.00			0.98	
Satd. Flow (prot)		4291			4322		1361	1535			1359	
Flt Permitted		1.00			1.00		0.45	1.00			0.63	
Satd. Flow (perm)		4291			4322		638	1535			876	
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	1596	137	0	1803	126	147	211	32	168	189	74
RTOR Reduction (vph)	0	5	0	0	4	0	0	3	0	0	1	0
Lane Group Flow (vph)	0	1728	0	0	1925	0	147	240	0	0	430	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2541			2560		191	459			262	
v/s Ratio Prot		0.40			c0.45			0.16				
v/s Ratio Perm							0.23				c0.49	
v/c Ratio		0.68			0.75		0.77	0.52			1.64	
Uniform Delay, d1		12.5			13.5		28.7	26.2			31.6	
Progression Factor		1.00			0.25		1.00	1.00			1.00	
Incremental Delay, d2		1.5			1.3		25.3	4.2			304.5	
Delay (s)		14.0			4.6		54.0	30.4			336.1	
Level of Service		B			A		D	C			F	
Approach Delay (s)		14.0			4.6			39.3			336.1	
Approach LOS		B			A			D			F	

Intersection Summary			
HCM Average Control Delay	43.1	HCM Level of Service	D
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	105.9%	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												
Volume (vph)	0	1496	90	0	1753	70	80	100	30	40	160	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.98			0.99			0.95			0.93	
Flpb, ped/bikes		1.00			1.00			0.93			0.97	
Frt		0.99			0.99			0.98			0.97	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		4161			4200			1221			1250	
Flt Permitted		1.00			1.00			0.72			0.92	
Satd. Flow (perm)		4161			4200			900			1165	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	1591	96	0	1865	74	85	106	32	43	170	53
RTOR Reduction (vph)	0	5	0	0	5	0	0	3	0	0	1	0
Lane Group Flow (vph)	0	1682	0	0	1934	0	0	220	0	0	265	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2497			2520			270			350	
v/s Ratio Prot		0.40			c0.46							
v/s Ratio Perm								c0.24			0.23	
v/c Ratio		0.67			0.77			0.82			0.76	
Uniform Delay, d1		12.1			13.3			29.2			28.5	
Progression Factor		1.50			1.00			1.00			1.00	
Incremental Delay, d2		0.9			2.3			23.1			14.1	
Delay (s)		19.0			15.7			52.3			42.6	
Level of Service		B			B			D			D	
Approach Delay (s)		19.0			15.7			52.3			42.6	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	20.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.8%	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		↑↑↑			↑↑↑		↰	↕				↱
Volume (vph)	0	1356	0	0	1163	70	680	601	50	0	0	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.98		1.00	0.98				0.95
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.99				1.00
Satd. Flow (prot)		4282			4347		1415	2682				1352
Flt Permitted		1.00			1.00		0.95	0.99				1.00
Satd. Flow (perm)		4282			4347		1415	2682				1352
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	1559	0	0	1337	80	782	691	57	0	0	69
RTOR Reduction (vph)	0	0	0	0	7	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	1559	0	0	1410	0	500	1025	0	0	0	69
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		43.0			34.0		37.0	37.0				6.0
Effective Green, g (s)		43.0			34.0		37.0	37.0				6.0
Actuated g/C Ratio		0.48			0.38		0.41	0.41				0.07
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		2046			1642		582	1103				90
v/s Ratio Prot		c0.36			c0.32							
v/s Ratio Perm							0.35	0.38				0.05
v/c Ratio		0.76			0.86		0.86	0.93				0.77
Uniform Delay, d1		19.3			25.8		24.1	25.3				41.3
Progression Factor		1.00			0.48		1.00	1.00				1.00
Incremental Delay, d2		2.7			4.7		15.2	14.7				45.8
Delay (s)		22.0			17.2		39.3	40.0				87.1
Level of Service		C			B		D	D				F
Approach Delay (s)		22.0			17.2			39.8			87.1	
Approach LOS		C			B			D			F	

Intersection Summary			
HCM Average Control Delay	27.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	71.5%	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												
Volume (vph)	241	250	825	0	190	10	785	254	50	0	447	188
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		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.98		1.00	0.94			1.00	0.67
Flpb, ped/bikes		0.89	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.99		1.00	0.98			1.00	0.85
Flt Protected		0.98	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1419	2448		1360		4385	1308			3110	815
Flt Permitted		0.68	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		982	2448		1360		4385	1308			3110	815
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	248	258	851	0	196	10	809	262	52	0	461	194
RTOR Reduction (vph)	0	0	2	0	2	0	0	8	0	0	0	12
Lane Group Flow (vph)	0	506	849	0	204	0	809	306	0	0	461	182
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		32.5	55.5		32.5		19.5	49.5			26.5	26.5
Effective Green, g (s)		32.5	52.0		32.5		19.5	49.5			26.5	26.5
Actuated g/C Ratio		0.36	0.58		0.36		0.22	0.55			0.29	0.29
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		355	1414		491		950	719			916	240
v/s Ratio Prot			0.35		0.15		c0.18	0.23			0.15	
v/s Ratio Perm		c0.52										c0.22
v/c Ratio		1.43	0.60		0.42		0.85	0.43			0.50	0.76
Uniform Delay, d1		28.8	12.3		21.6		33.9	11.9			26.3	28.8
Progression Factor		0.38	0.04		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		201.4	0.4		0.6		9.5	1.8			2.0	19.9
Delay (s)		212.3	1.0		22.2		43.4	13.7			28.3	48.7
Level of Service		F	A		C		D	B			C	D
Approach Delay (s)		79.8			22.2			35.1			34.3	
Approach LOS		E			C			D			C	

Intersection Summary			
HCM Average Control Delay	52.3	HCM Level of Service	D
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	104.4%	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												
Volume (vph)	0	0	0	70	290	70	50	70	0	0	60	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.12		1.00			0.91	
Flpb, ped/bikes					0.86	1.00		0.86			1.00	
Frt					1.00	0.85		1.00			0.97	
Flt Protected					0.99	1.00		0.98			1.00	
Satd. Flow (prot)					2471	159		1381			1432	
Flt Permitted					0.99	1.00		0.86			1.00	
Satd. Flow (perm)					2471	159		1213			1432	
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)	0	0	0	78	322	78	56	78	0	0	67	22
RTOR Reduction (vph)	0	0	0	0	0	42	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	400	36	0	134	0	0	89	0
Confl. Peds. (#/hr)				1245		1700	831					831
Confl. Bikes (#/hr)						158			9			17
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					28.0	28.0		22.0			22.0	
Effective Green, g (s)					28.0	28.0		22.0			22.0	
Actuated g/C Ratio					0.47	0.47		0.37			0.37	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1153	74		445			525	
v/s Ratio Prot											0.06	
v/s Ratio Perm					0.16	c0.23		c0.11				
v/c Ratio					0.35	0.49		0.30			0.17	
Uniform Delay, d1					10.2	11.1		13.5			12.8	
Progression Factor					1.00	1.00		0.15			1.00	
Incremental Delay, d2					0.8	21.5		0.9			0.7	
Delay (s)					11.0	32.6		2.9			13.5	
Level of Service					B	C		A			B	
Approach Delay (s)		0.0			14.5			2.9			13.5	
Approach LOS		A			B			A			B	

Intersection Summary			
HCM Average Control Delay	12.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	45.0%	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												
Volume (vph)	0	0	0	290	310	40	180	50	0	0	80	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.92		1.00	1.00			0.92	
Flpb, ped/bikes				1.00	1.00		0.65	1.00			1.00	
Frt				1.00	0.98		1.00	1.00			0.97	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	2813		1008	1637			1463	
Flt Permitted				0.95	1.00		0.68	1.00			1.00	
Satd. Flow (perm)				1555	2813		726	1637			1463	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	0	326	348	45	202	56	0	0	90	22
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	326	385	0	202	56	0	0	112	0
Confl. Peds. (#/hr)						1700	585					585
Confl. Bikes (#/hr)						113			6			3
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				38.4	38.4		12.3	12.3			12.3	
Effective Green, g (s)				38.4	38.4		12.3	12.3			12.3	
Actuated g/C Ratio				0.64	0.64		0.21	0.21			0.21	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				995	1800		149	336			300	
v/s Ratio Prot				c0.21	0.14			0.03			0.08	
v/s Ratio Perm							c0.28					
v/c Ratio				0.33	0.21		1.36	0.17			0.37	
Uniform Delay, d1				4.9	4.5		23.9	19.6			20.5	
Progression Factor				1.00	1.00		0.84	0.80			1.00	
Incremental Delay, d2				0.9	0.3		197.3	1.1			3.5	
Delay (s)				5.8	4.8		217.4	16.7			24.1	
Level of Service				A	A		F	B			C	
Approach Delay (s)		0.0			5.2			173.9			24.1	
Approach LOS		A			A			F			C	

Intersection Summary			
HCM Average Control Delay	47.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	326	110	20	540	40	30
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	354	120	22	587	43	33
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	306					
pX, platoon unblocked						
vC, conflicting volume			874		1845	1037
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			874		1845	1037
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		0	71
cM capacity (veh/h)			538		31	111

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	236	238	609	76
Volume Left	0	0	22	43
Volume Right	0	120	0	33
cSH	1700	1700	538	45
Volume to Capacity	0.14	0.14	0.04	1.69
Queue Length 95th (ft)	0	0	3	191
Control Delay (s)	0.0	0.0	1.1	533.6
Lane LOS			A	F
Approach Delay (s)	0.0		1.1	533.6
Approach LOS				F

Intersection Summary			
Average Delay	35.6		
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	206	48	6	691	10	61	100	46	20	70	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	
Lane Util. Factor		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.42		0.99			0.88			0.84	
Flpb, ped/bikes		1.00	1.00		1.00			0.89			0.95	
Frt		1.00	0.85		1.00			0.97			0.96	
Flt Protected		1.00	1.00		1.00			0.99			0.99	
Satd. Flow (prot)		1637	588		1413			1075			1089	
Flt Permitted		1.00	1.00		1.00			0.86			0.93	
Satd. Flow (perm)		1637	588		1410			941			1020	
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	0	275	64	8	921	13	81	133	61	27	93	53
RTOR Reduction (vph)	0	0	21	0	1	0	0	3	0	0	1	0
Lane Group Flow (vph)	0	275	43	0	941	0	0	272	0	0	172	0
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type			Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases			2	2			4			4		
Actuated Green, G (s)		29.0	29.0		29.0			22.0			22.0	
Effective Green, g (s)		29.0	29.0		29.0			22.0			22.0	
Actuated g/C Ratio		0.48	0.48		0.48			0.37			0.37	
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)		791	284		682			345			374	
v/s Ratio Prot		0.17										
v/s Ratio Perm			0.07		c0.67			c0.29			0.17	
v/c Ratio		0.35	0.15		1.38			0.79			0.46	
Uniform Delay, d1		9.6	8.6		15.5			16.9			14.5	
Progression Factor		1.00	1.00		1.00			0.81			0.77	
Incremental Delay, d2		1.2	1.1		180.0			13.1			4.0	
Delay (s)		10.8	9.8		195.5			26.9			15.1	
Level of Service		B	A		F			C			B	
Approach Delay (s)		10.6			195.5			26.9			15.1	
Approach LOS		B			F			C			B	

Intersection Summary			
HCM Average Control Delay	114.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	95.4%	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												
Volume (vph)	0	249	40	22	565	0	60	0	80	20	40	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
Lane Util. Factor		1.00	1.00		0.95			1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.26		1.00			0.69			1.00	0.67
Flpb, ped/bikes		1.00	1.00		0.98			0.87			0.86	1.00
Frt		1.00	0.85		1.00			0.92			1.00	0.85
Flt Protected		1.00	1.00		1.00			0.98			0.98	1.00
Satd. Flow (prot)		1637	354		3055			887			1379	933
Flt Permitted		1.00	1.00		0.93			0.87			0.91	1.00
Satd. Flow (perm)		1637	354		2860			793			1281	933
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	286	46	25	649	0	69	0	92	23	46	46
RTOR Reduction (vph)	0	0	35	0	0	0	0	0	0	0	0	11
Lane Group Flow (vph)	0	286	11	0	674	0	0	161	0	0	69	35
Confl. Peds. (#/hr)			800	800			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	36.5
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	36.5
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	0.61
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)		396	86		691			482			779	568
v/s Ratio Prot		0.17										
v/s Ratio Perm			0.03		c0.24			c0.20			0.05	0.04
v/c Ratio		0.72	0.13		0.98			0.33			0.09	0.06
Uniform Delay, d1		20.9	17.8		22.6			5.8			4.9	4.8
Progression Factor		0.83	0.55		1.00			0.95			1.00	1.00
Incremental Delay, d2		10.7	3.0		28.7			1.7			0.0	0.0
Delay (s)		28.0	12.9		51.3			7.2			4.9	4.8
Level of Service		C	B		D			A			A	A
Approach Delay (s)		25.9			51.3			7.2			4.9	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM Average Control Delay	35.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	74.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	379	10	70	0	210	0	570	490
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		1.00		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		1.00		1.00			1.00
Flt Protected		1.00		0.95		1.00			0.97
Satd. Flow (prot)		942		1360		1637			3028
Flt Permitted		1.00		0.95		1.00			0.95
Satd. Flow (perm)		942		1360		1637			2970
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	399	11	74	0	221	0	600	516
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	399	0	85	0	221	0	0	1116
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		385		314			891
v/s Ratio Prot						0.14			
v/s Ratio Perm		c0.42		0.06					c0.38
v/c Ratio		0.76		0.22		0.70			1.25
Uniform Delay, d1		10.2		16.4		22.7			21.0
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		9.9		1.3		7.0			122.9
Delay (s)		20.0		17.8		29.6			143.9
Level of Service		C		B		C			F
Approach Delay (s)	20.0			17.8		29.6			143.9
Approach LOS	C			B		C			F

Intersection Summary			
HCM Average Control Delay	97.0	HCM Level of Service	F
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	89.5%	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												
Volume (vph)	40	211	60	50	223	50	50	110	40	40	80	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.95			1.00	0.56	1.00	0.86			0.74	
Flpb, ped/bikes		0.97			1.00	1.00	0.64	1.00			0.93	
Frt		0.97			1.00	0.85	1.00	0.96			0.93	
Flt Protected		0.99			0.99	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1270			1419	681	999	1176			1966	
Flt Permitted		0.93			0.89	1.00	0.59	1.00			0.88	
Satd. Flow (perm)		1191			1275	681	621	1176			1737	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	45	240	68	57	253	57	57	125	45	45	91	125
RTOR Reduction (vph)	0	11	0	0	0	13	0	25	0	0	0	0
Lane Group Flow (vph)	0	342	0	0	310	44	57	145	0	0	261	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		35.8			35.8	35.8	14.1	14.1			14.1	
Effective Green, g (s)		35.8			35.8	35.8	14.1	14.1			14.1	
Actuated g/C Ratio		0.60			0.60	0.60	0.23	0.23			0.23	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		711			761	406	146	276			408	
v/s Ratio Prot								0.12				
v/s Ratio Perm		c0.29			0.24	0.06	0.09				c0.15	
v/c Ratio		0.48			0.41	0.11	0.39	0.52			0.64	
Uniform Delay, d1		6.8			6.4	5.2	19.3	20.0			20.7	
Progression Factor		1.00			1.00	1.00	0.60	0.52			1.00	
Incremental Delay, d2		2.3			1.6	0.5	1.7	1.8			3.3	
Delay (s)		9.2			8.1	5.8	13.4	12.3			23.9	
Level of Service		A			A	A	B	B			C	
Approach Delay (s)		9.2			7.7			12.6			23.9	
Approach LOS		A			A			B			C	

Intersection Summary			
HCM Average Control Delay	12.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	100.0%	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		✣			✣			✣			✣	
Volume (vph)	60	246	50	50	201	30	20	127	100	40	66	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.93			0.94			0.78			0.85	
Flpb, ped/bikes		0.95			0.95			0.97			0.92	
Frt		0.98			0.99			0.95			0.96	
Flt Protected		0.99			0.99			1.00			0.99	
Satd. Flow (prot)		1220			1255			1018			1063	
Flt Permitted		0.90			0.89			0.97			0.88	
Satd. Flow (perm)		1112			1127			992			951	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	66	270	55	55	221	33	22	140	110	44	73	44
RTOR Reduction (vph)	0	10	0	0	7	0	0	19	0	0	22	0
Lane Group Flow (vph)	0	381	0	0	302	0	0	253	0	0	139	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		32.6			32.6			18.6			18.6	
Effective Green, g (s)		32.6			32.6			18.6			18.6	
Actuated g/C Ratio		0.54			0.54			0.31			0.31	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		604			612			308			295	
v/s Ratio Prot												
v/s Ratio Perm		c0.34			0.27			c0.25			0.15	
v/c Ratio		0.63			0.49			0.82			0.47	
Uniform Delay, d1		9.5			8.5			19.2			16.7	
Progression Factor		1.00			1.00			0.67			0.86	
Incremental Delay, d2		4.9			2.8			18.6			4.9	
Delay (s)		14.5			11.4			31.4			19.3	
Level of Service		B			B			C			B	
Approach Delay (s)		14.5			11.4			31.4			19.3	
Approach LOS		B			B			C			B	

Intersection Summary			
HCM Average Control Delay	18.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	60.1%	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												
Volume (vph)	30	216	100	40	136	40	50	66	170	40	62	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.84			1.00	0.46		0.69			0.84	
Flpb, ped/bikes		0.97			0.94	1.00		0.93			0.92	
Frt		0.96			1.00	0.85		0.92			0.96	
Flt Protected		1.00			0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1117			1325	565		834			1047	
Flt Permitted		0.97			0.88	1.00		0.93			0.87	
Satd. Flow (perm)		1087			1180	565		780			928	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	32	232	108	43	146	43	54	71	183	43	67	49
RTOR Reduction (vph)	0	19	0	0	0	18	0	16	0	0	21	0
Lane Group Flow (vph)	0	353	0	0	189	25	0	292	0	0	138	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		31.0			31.0	31.0		21.0			21.0	
Effective Green, g (s)		31.0			31.0	31.0		21.0			21.0	
Actuated g/C Ratio		0.52			0.52	0.52		0.35			0.35	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		562			610	292		273			325	
v/s Ratio Prot												
v/s Ratio Perm		c0.32			0.16	0.04		c0.37			0.15	
v/c Ratio		0.63			0.31	0.08		1.07			0.43	
Uniform Delay, d1		10.4			8.3	7.3		19.5			14.9	
Progression Factor		1.00			0.83	0.70		0.72			0.21	
Incremental Delay, d2		5.3			1.3	0.6		70.2			4.0	
Delay (s)		15.6			8.3	5.7		84.1			7.0	
Level of Service		B			A	A		F			A	
Approach Delay (s)		15.6			7.8			84.1			7.0	
Approach LOS		B			A			F			A	

Intersection Summary			
HCM Average Control Delay	32.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	85.7%	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												
Volume (vph)	30	236	70	20	96	20	20	70	60	20	32	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.48		1.00	0.48		0.77			0.84	
Flpb, ped/bikes		0.95	1.00		0.94	1.00		0.94			0.89	
Frt		1.00	0.85		1.00	0.85		0.95			0.96	
Flt Protected		0.99	1.00		0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1358	573		1340	573		973			1173	
Flt Permitted		0.97	1.00		0.94	1.00		0.96			0.90	
Satd. Flow (perm)		1319	573		1264	573		941			1075	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	34	271	80	23	110	23	23	80	69	23	37	23
RTOR Reduction (vph)	0	0	6	0	0	5	0	29	0	0	17	0
Lane Group Flow (vph)	0	305	74	0	133	18	0	143	0	0	66	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		36.0	36.0		36.0	36.0		16.0			16.0	
Effective Green, g (s)		36.0	36.0		36.0	36.0		16.0			16.0	
Actuated g/C Ratio		0.60	0.60		0.60	0.60		0.27			0.27	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		791	344		758	344		251			287	
v/s Ratio Prot												
v/s Ratio Perm		c0.23	0.13		0.11	0.03		c0.15			0.06	
v/c Ratio		0.39	0.22		0.18	0.05		0.57			0.23	
Uniform Delay, d1		6.2	5.5		5.4	5.0		19.0			17.2	
Progression Factor		0.89	0.83		1.00	1.00		0.81			1.02	
Incremental Delay, d2		0.8	0.8		0.5	0.3		7.8			1.7	
Delay (s)		6.4	5.4		5.9	5.2		23.1			19.3	
Level of Service		A	A		A	A		C			B	
Approach Delay (s)		6.2			5.8			23.1			19.3	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM Average Control Delay	11.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations										
Volume (vph)	30	176	60	30	40	20	399	200	156	870
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				4.0		5.0		5.0	5.0
Lane Util. Factor	1.00				1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.89				0.91		0.79		1.00	1.00
Flpb, ped/bikes	1.00				0.60		1.00		1.00	1.00
Frt	0.88				0.97		0.95		1.00	1.00
Flt Protected	0.99				0.96		1.00		0.95	1.00
Satd. Flow (prot)	1280				845		2322		1555	3110
Flt Permitted	0.99				0.96		1.00		0.95	1.00
Satd. Flow (perm)	1280				845		2322		1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	191	65	33	43	22	434	217	170	946
RTOR Reduction (vph)	12	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	277	0	0	0	98	0	651	0	170	946
Confl. Peds. (#/hr)				400	400	400		400		
Confl. Bikes (#/hr)		30	30			10		30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0
Turn Type				custom					Split	
Protected Phases	4!				8!		6		2	2
Permitted Phases				3						
Actuated Green, G (s)	20.0				46.0		17.0		13.0	13.0
Effective Green, g (s)	20.0				46.0		17.0		13.0	13.0
Actuated g/C Ratio	0.22				0.51		0.19		0.14	0.14
Clearance Time (s)	5.0				4.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	284				432		439		225	449
v/s Ratio Prot	c0.22						c0.28		0.11	c0.30
v/s Ratio Perm					0.12					
v/c Ratio	0.98				0.23		1.48		0.76	2.11
Uniform Delay, d1	34.8				12.2		36.5		37.0	38.5
Progression Factor	1.00				1.17		1.00		0.89	0.91
Incremental Delay, d2	46.5				0.2		229.2		18.9	504.9
Delay (s)	81.2				14.5		265.7		51.7	539.7
Level of Service	F				B		F		D	F
Approach Delay (s)	81.2				14.5		265.7			465.4
Approach LOS	F				B		F			F

Intersection Summary			
HCM Average Control Delay	333.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	79.3%	ICU Level of Service	D
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1070	30	8	717	20	0	66	28	0	106	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.90			0.91	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.96			0.96	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2875			2873			1237			1250	
Flt Permitted		1.00			0.94			1.00			1.00	
Satd. Flow (perm)		2875			2714			1237			1250	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	1115	31	8	747	21	0	69	29	0	110	42
RTOR Reduction (vph)	0	3	0	0	3	0	0	9	0	0	24	0
Lane Group Flow (vph)	0	1143	0	0	773	0	0	89	0	0	128	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type				Perm								
Protected Phases		2			6			8			4	
Permitted Phases				6								
Actuated Green, G (s)		41.1			41.1			10.1			10.1	
Effective Green, g (s)		41.1			41.1			10.1			10.1	
Actuated g/C Ratio		0.69			0.69			0.17			0.17	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1969			1859			208			210	
v/s Ratio Prot		c0.40						0.07			c0.10	
v/s Ratio Perm					0.28							
v/c Ratio		0.58			0.42			0.43			0.61	
Uniform Delay, d1		4.9			4.2			22.4			23.1	
Progression Factor		0.40			1.00			1.00			1.00	
Incremental Delay, d2		1.0			0.2			1.4			4.9	
Delay (s)		3.0			4.3			23.8			28.1	
Level of Service		A			A			C			C	
Approach Delay (s)		3.0			4.3			23.8			28.1	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	6.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
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												
Volume (vph)	0	838	160	6	554	40	180	130	86	0	170	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.69		1.00	0.69	1.00	1.00	0.72		0.98	
Flpb, ped/bikes		1.00	1.00		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	0.85		0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3110	959		3108	959	3016	1637	1006		2837	
Flt Permitted		1.00	1.00		0.95	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		3110	959		2948	959	3016	1637	1006		2837	
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)	0	855	163	6	565	41	184	133	88	0	173	10
RTOR Reduction (vph)	0	0	67	0	0	18	0	0	2	0	6	0
Lane Group Flow (vph)	0	855	96	0	571	23	184	133	86	0	177	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type	Perm		Perm	Perm		Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		33.0	33.0		33.0	33.0	4.5	18.0	18.0		9.0	
Effective Green, g (s)		33.0	33.0		33.0	33.0	4.5	18.0	18.0		9.0	
Actuated g/C Ratio		0.55	0.55		0.55	0.55	0.08	0.30	0.30		0.15	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		1711	527		1621	527	226	491	302		426	
v/s Ratio Prot		c0.27					c0.06	0.08			c0.06	
v/s Ratio Perm			0.10		0.19	0.02			0.09			
v/c Ratio		0.50	0.18		0.35	0.04	0.81	0.27	0.28		0.42	
Uniform Delay, d1		8.4	6.8		7.5	6.2	27.3	16.0	16.1		23.1	
Progression Factor		1.00	1.00		0.76	0.63	1.00	1.00	1.00		1.04	
Incremental Delay, d2		1.0	0.8		0.6	0.1	19.7	0.3	0.5		0.6	
Delay (s)		9.4	7.5		6.3	4.1	47.0	16.3	16.6		24.7	
Level of Service		A	A		A	A	D	B	B		C	
Approach Delay (s)		9.1			6.2			30.3			24.7	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	13.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	79.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	147	781	558	70	90	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	0.96		0.80	
Flpb, ped/bikes		0.98	1.00		1.00	
Frt		1.00	0.98		0.92	
Flt Protected		0.99	1.00		0.98	
Satd. Flow (prot)		2836	2942		1037	
Flt Permitted		0.75	1.00		0.98	
Satd. Flow (perm)		2130	2942		1037	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	156	831	594	74	96	134
RTOR Reduction (vph)	0	0	17	0	38	0
Lane Group Flow (vph)	0	987	651	0	192	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		35.5	35.5		17.5	
Effective Green, g (s)		35.5	35.5		17.5	
Actuated g/C Ratio		0.59	0.59		0.29	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1260	1741		302	
v/s Ratio Prot			0.22		c0.19	
v/s Ratio Perm		c0.46				
v/c Ratio		0.78	0.37		0.64	
Uniform Delay, d1		9.3	6.4		18.5	
Progression Factor		0.48	1.00		0.85	
Incremental Delay, d2		3.0	0.1		9.1	
Delay (s)		7.5	6.6		24.8	
Level of Service		A	A		C	
Approach Delay (s)		7.5	6.6		24.8	
Approach LOS		A	A		C	

Intersection Summary			
HCM Average Control Delay	9.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	89.1%	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												
Volume (vph)	54	367	50	30	582	150	40	62	50	60	74	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.96			0.92			0.90			0.89	
Flpb, ped/bikes		0.99			0.99			0.94			0.93	
Frt		0.98			0.97			0.96			0.96	
Flt Protected		0.99			1.00			0.99			0.99	
Satd. Flow (prot)		2693			2576			1143			1121	
Flt Permitted		0.81			0.92			0.88			0.87	
Satd. Flow (perm)		2203			2385			1025			992	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	57	390	53	32	619	160	43	66	53	64	79	71
RTOR Reduction (vph)	0	15	0	0	18	0	0	29	0	0	16	0
Lane Group Flow (vph)	0	485	0	0	793	0	0	133	0	0	198	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		30.6			30.6			20.6			20.6	
Effective Green, g (s)		30.6			30.6			20.6			20.6	
Actuated g/C Ratio		0.51			0.51			0.34			0.34	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1124			1216			352			341	
v/s Ratio Prot												
v/s Ratio Perm		0.22			c0.33			0.13			c0.20	
v/c Ratio		0.43			0.65			0.38			0.58	
Uniform Delay, d1		9.2			10.8			14.9			16.1	
Progression Factor		1.00			0.65			1.00			0.68	
Incremental Delay, d2		1.2			2.6			3.1			6.1	
Delay (s)		10.4			9.6			17.9			17.2	
Level of Service		B			A			B			B	
Approach Delay (s)		10.4			9.6			17.9			17.2	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM Average Control Delay	11.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	83.1%	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												
Volume (vph)	60	799	40	40	509	50	60	50	70	30	50	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.98			0.97			0.87			0.89	
Flpb, ped/bikes		0.99			0.99			0.92			0.95	
Frt		0.99			0.99			0.95			0.95	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		2805			2753			1070			1136	
Flt Permitted		0.88			0.86			0.86			0.90	
Satd. Flow (perm)		2470			2383			938			1031	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	62	824	41	41	525	52	62	52	72	31	52	43
RTOR Reduction (vph)	0	5	0	0	10	0	0	12	0	0	28	0
Lane Group Flow (vph)	0	922	0	0	608	0	0	174	0	0	98	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		36.0			36.0			15.1			15.1	
Effective Green, g (s)		36.0			36.0			15.1			15.1	
Actuated g/C Ratio		0.60			0.60			0.25			0.25	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1482			1430			236			259	
v/s Ratio Prot												
v/s Ratio Perm		c0.37			0.26			c0.19			0.10	
v/c Ratio		0.62			0.43			0.74			0.38	
Uniform Delay, d1		7.7			6.4			20.6			18.6	
Progression Factor		0.75			1.00			1.00			0.78	
Incremental Delay, d2		1.9			0.2			11.4			0.9	
Delay (s)		7.7			6.7			32.0			15.4	
Level of Service		A			A			C			B	
Approach Delay (s)		7.7			6.7			32.0			15.4	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	85.7%	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												
Volume (vph)	30	766	80	40	486	90	70	10	20	20	20	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			0.96			0.93			0.82	
Flpb, ped/bikes		1.00			1.00			0.79			0.93	
Frt		0.99			0.98			0.97			0.93	
Flt Protected		1.00			1.00			0.97			0.99	
Satd. Flow (prot)		2779			2882			1135			1148	
Flt Permitted		0.91			0.84			0.77			0.92	
Satd. Flow (perm)		2542			2427			905			1067	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	34	861	90	45	546	101	79	11	22	22	22	45
RTOR Reduction (vph)	0	2	0	0	2	0	0	9	0	0	35	0
Lane Group Flow (vph)	0	983	0	0	690	0	0	103	0	0	54	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1754			1675			194			229	
v/s Ratio Prot												
v/s Ratio Perm		c0.39			0.28			c0.11			0.05	
v/c Ratio		0.56			0.41			0.53			0.23	
Uniform Delay, d1		7.1			6.0			31.3			29.2	
Progression Factor		1.00			0.36			1.00			0.50	
Incremental Delay, d2		1.3			0.7			9.9			0.2	
Delay (s)		8.4			2.8			41.3			14.9	
Level of Service		A			A			D			B	
Approach Delay (s)		8.4			2.8			41.3			14.9	
Approach LOS		A			A			D			B	

Intersection Summary			
HCM Average Control Delay	8.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	50	756	546	975	553	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3013	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3013	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	52	779	563	1005	570	52
RTOR Reduction (vph)	0	32	0	0	8	0
Lane Group Flow (vph)	52	747	563	1005	614	0
Confl. Peds. (#/hr)						109
Confl. Bikes (#/hr)		10				64
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	20.0	53.5	29.5	60.0	26.5	
Effective Green, g (s)	20.0	53.5	29.5	60.0	26.5	
Actuated g/C Ratio	0.22	0.59	0.33	0.67	0.29	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	346	1455	989	1943	887	
v/s Ratio Prot	0.03	c0.30	c0.19	0.34	c0.20	
v/s Ratio Perm						
v/c Ratio	0.15	0.51	0.57	0.52	0.69	
Uniform Delay, d1	28.2	10.6	25.0	7.6	28.1	
Progression Factor	0.79	0.38	0.79	0.84	0.35	
Incremental Delay, d2	0.2	0.3	0.6	0.8	0.2	
Delay (s)	22.3	4.3	20.4	7.2	10.0	
Level of Service	C	A	C	A	A	
Approach Delay (s)	5.4			11.9	10.0	
Approach LOS	A			B	A	

Intersection Summary			
HCM Average Control Delay	9.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	58.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	90	242	40	0	1509	30	70	49	1209
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			0.99			1.00	1.00
Flpb, ped/bikes				0.73			1.00			1.00	1.00
Frt				0.98			0.99			1.00	1.00
Flt Protected				0.96			1.00			0.95	1.00
Satd. Flow (prot)				2041			4393			1555	3110
Flt Permitted				0.96			1.00			0.95	1.00
Satd. Flow (perm)				2041			4393			1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	98	263	43	0	1640	33	76	53	1314
RTOR Reduction (vph)	0	0	0	11	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	0	0	393	0	0	1744	0	0	53	1314
Confl. Peds. (#/hr)			107	139					107		
Confl. Bikes (#/hr)					8				106		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				21.1			50.2			5.7	59.9
Effective Green, g (s)				21.1			50.2			5.7	59.9
Actuated g/C Ratio				0.23			0.56			0.06	0.67
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				479			2450			98	2070
v/s Ratio Prot							c0.40			0.03	c0.42
v/s Ratio Perm				0.19							
v/c Ratio				0.82			0.71			0.54	0.63
Uniform Delay, d1				32.6			14.6			40.9	8.7
Progression Factor				1.00			0.79			1.00	1.00
Incremental Delay, d2				10.5			0.8			3.2	1.5
Delay (s)				43.2			12.3			44.1	10.2
Level of Service				D			B			D	B
Approach Delay (s)	0.0			43.2			12.3				11.5
Approach LOS	A			D			B				B

Intersection Summary			
HCM Average Control Delay	15.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	64.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBL	EBR	EBR2	SEL	SET	SER2	NWL2	NWL	NWT	NWR	SWR2
Lane Configurations												
Volume (vph)	31	0	0	160	20	1028	231	39	0	1170	30	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5		7.0	7.0	7.0		7.0	7.0		
Lane Util. Factor		1.00	1.00		1.00	0.95	1.00		1.00	0.95		
Frpb, ped/bikes		1.00	0.86		1.00	1.00	0.96		1.00	0.98		
Flpb, ped/bikes		1.00	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	1.00		
Flt Protected		0.95	1.00		0.95	1.00	1.00		0.95	1.00		
Satd. Flow (prot)		1555	1052		1555	3110	1334		1555	3050		
Flt Permitted		0.95	1.00		0.14	1.00	1.00		0.20	1.00		
Satd. Flow (perm)		1555	1052		227	3110	1334		323	3050		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	34	0	0	174	22	1117	251	42	0	1272	33	0
RTOR Reduction (vph)	0	0	126	0	0	0	118	0	0	2	0	0
Lane Group Flow (vph)	0	34	48	0	22	1117	133	0	42	1303	0	0
Confl. Peds. (#/hr)				130							1000	100
Confl. Bikes (#/hr)			10	10			30				30	10
Parking (#/hr)			5	5								
Turn Type	Perm		Perm		Perm		Perm	Perm	Perm			custom
Protected Phases		4				6				2		
Permitted Phases	4		4		6		6	2	2			8
Actuated Green, G (s)		18.0	18.0		34.5	34.5	34.5		34.5	34.5		
Effective Green, g (s)		18.0	18.0		34.5	34.5	34.5		34.5	34.5		
Actuated g/C Ratio		0.28	0.28		0.53	0.53	0.53		0.53	0.53		
Clearance Time (s)		5.5	5.5		7.0	7.0	7.0		7.0	7.0		
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)		431	291		120	1651	708		171	1619		
v/s Ratio Prot						0.36				c0.43		
v/s Ratio Perm		0.02	c0.05		0.10		0.10		0.13			
v/c Ratio		0.08	0.17		0.18	0.68	0.19		0.25	0.80		
Uniform Delay, d1		17.4	17.8		7.9	11.2	7.9		8.2	12.5		
Progression Factor		1.00	1.00		1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2		0.1	0.3		3.3	2.2	0.6		3.4	4.4		
Delay (s)		17.5	18.1		11.3	13.4	8.5		11.6	16.9		
Level of Service		B	B		B	B	A		B	B		
Approach Delay (s)		18.0				12.5				16.7		
Approach LOS		B				B				B		

Intersection Summary			
HCM Average Control Delay	14.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	82.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	30	0	20	0	0	0	60	1208	0	0	30	1159
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.87					1.00	1.00				0.99
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.95					1.00	1.00				1.00
Flt Protected		0.97					0.95	1.00				1.00
Satd. Flow (prot)		1140					1555	3110				3058
Flt Permitted		0.97					0.95	1.00				0.89
Satd. Flow (perm)		1140					1555	3110				2718
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	32	0	21	0	0	0	64	1285	0	0	32	1233
RTOR Reduction (vph)	0	3	0	0	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	0	50	0	0	0	0	64	1285	0	0	0	1296
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		6.9					4.0	74.1				65.1
Effective Green, g (s)		6.9					4.0	74.1				65.1
Actuated g/C Ratio		0.08					0.04	0.82				0.72
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		87					69	2561				1966
v/s Ratio Prot		c0.04					c0.04	0.41				
v/s Ratio Perm												c0.48
v/c Ratio		0.58					0.93	0.50				0.66
Uniform Delay, d1		40.1					42.9	2.4				6.6
Progression Factor		1.00					0.87	0.48				1.00
Incremental Delay, d2		9.0					77.0	0.6				1.8
Delay (s)		49.1					114.3	1.8				8.3
Level of Service		D					F	A				A
Approach Delay (s)		49.1			0.0			7.1				8.3
Approach LOS		D			A			A				A

Intersection Summary			
HCM Average Control Delay	8.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	94.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	30
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	32
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	93	556	0	0	512	40	150	154	20	0	0	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				
Lane Util. Factor		0.95			0.95			0.95				
Frpb, ped/bikes		1.00			0.98			0.98				
Flpb, ped/bikes		0.98			1.00			0.86				
Frt		1.00			0.99			0.99				
Flt Protected		0.99			1.00			0.98				
Satd. Flow (prot)		2811			2788			2337				
Flt Permitted		0.78			1.00			0.98				
Satd. Flow (perm)		2211			2788			2337				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	99	591	0	0	545	43	160	164	21	0	0	0
RTOR Reduction (vph)	0	0	0	0	7	0	0	6	0	0	0	0
Lane Group Flow (vph)	0	690	0	0	581	0	0	339	0	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm					
Protected Phases		2			6			8				
Permitted Phases	2						8					
Actuated Green, G (s)		43.5			43.5			27.5				
Effective Green, g (s)		43.5			43.5			27.5				
Actuated g/C Ratio		0.54			0.54			0.34				
Clearance Time (s)		4.5			4.5			4.5				
Vehicle Extension (s)		3.0			3.0			3.0				
Lane Grp Cap (vph)		1202			1516			803				
v/s Ratio Prot					0.21							
v/s Ratio Perm		c0.31						0.15				
v/c Ratio		0.57			0.38			0.42				
Uniform Delay, d1		12.1			10.5			20.2				
Progression Factor		1.00			0.29			1.00				
Incremental Delay, d2		2.0			0.6			1.6				
Delay (s)		14.1			3.7			21.8				
Level of Service		B			A			C				
Approach Delay (s)		14.1			3.7			21.8			0.0	
Approach LOS		B			A			C			A	

Intersection Summary			
HCM Average Control Delay	12.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	95.4%	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												
Volume (vph)	0	416	180	50	447	0	0	0	0	20	307	105
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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.90			1.00						0.94	
Flpb, ped/bikes		1.00			0.99						0.99	
Frt		0.95			1.00						0.96	
Flt Protected		1.00			0.99						1.00	
Satd. Flow (prot)		2674			3060						2620	
Flt Permitted		1.00			0.77						1.00	
Satd. Flow (perm)		2674			2377						2620	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	447	194	54	481	0	0	0	0	22	330	113
RTOR Reduction (vph)	0	48	0	0	0	0	0	0	0	0	36	0
Lane Group Flow (vph)	0	593	0	0	535	0	0	0	0	0	429	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		24.6			24.6						46.4	
Effective Green, g (s)		24.6			24.6						46.4	
Actuated g/C Ratio		0.31			0.31						0.58	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		822			731						1520	
v/s Ratio Prot		0.22										
v/s Ratio Perm					c0.23						0.16	
v/c Ratio		0.72			0.73						0.28	
Uniform Delay, d1		24.6			24.8						8.4	
Progression Factor		0.49			1.00						1.00	
Incremental Delay, d2		2.7			3.8						0.5	
Delay (s)		14.6			28.5						8.9	
Level of Service		B			C						A	
Approach Delay (s)		14.6			28.5			0.0			8.9	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM Average Control Delay	17.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	85.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	66	330	490	1213	0	1012	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.66	1.00	1.00		0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		0.99	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	914	3016	3110		3005	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	914	3016	3110		3005	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	66	330	490	1213	0	1012	77
RTOR Reduction (vph)	0	283	0	0	0	5	0
Lane Group Flow (vph)	66	47	490	1213	0	1084	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	12.7	12.7	21.0	66.3		39.3	
Effective Green, g (s)	12.7	12.7	21.0	66.3		39.3	
Actuated g/C Ratio	0.14	0.14	0.23	0.74		0.44	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	219	129	704	2291		1312	
v/s Ratio Prot	0.04		c0.16	0.39		c0.36	
v/s Ratio Perm		c0.05					
v/c Ratio	0.30	0.36	0.70	0.53		0.83	
Uniform Delay, d1	34.7	35.0	31.6	5.1		22.3	
Progression Factor	1.00	1.00	1.00	1.00		0.69	
Incremental Delay, d2	0.8	1.7	3.0	0.9		4.7	
Delay (s)	35.4	36.7	34.6	6.0		20.1	
Level of Service	D	D	C	A		C	
Approach Delay (s)	36.5			14.2		20.1	
Approach LOS	D			B		C	

Intersection Summary			
HCM Average Control Delay	19.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	96.2%	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												
Volume (vph)	20	231	10	17	137	20	10	80	26	30	110	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
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.43		1.00	0.66		0.93			1.00	0.46
Flpb, ped/bikes		0.98	1.00		0.96	1.00		0.96			0.95	1.00
Frt		1.00	0.85		1.00	0.85		0.97			1.00	0.85
Flt Protected		1.00	1.00		0.99	1.00		1.00			0.99	1.00
Satd. Flow (prot)		1596	600		1559	917		1410			1534	644
Flt Permitted		0.98	1.00		0.96	1.00		0.96			0.93	1.00
Satd. Flow (perm)		1567	600		1510	917		1366			1439	644
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	21	246	11	18	146	21	11	85	28	32	117	11
RTOR Reduction (vph)	0	0	4	0	0	7	0	6	0	0	0	8
Lane Group Flow (vph)	0	267	7	0	164	14	0	118	0	0	149	3
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		40.8	40.8		40.8	40.8		10.2			10.2	10.2
Effective Green, g (s)		40.8	40.8		40.8	40.8		10.2			10.2	10.2
Actuated g/C Ratio		0.68	0.68		0.68	0.68		0.17			0.17	0.17
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)		1066	408		1027	624		232			245	109
v/s Ratio Prot												
v/s Ratio Perm		c0.17	0.01		0.11	0.02		0.09			c0.10	0.00
v/c Ratio		0.25	0.02		0.16	0.02		0.51			0.61	0.02
Uniform Delay, d1		3.7	3.1		3.4	3.1		22.6			23.1	20.8
Progression Factor		1.00	1.00		0.22	0.05		1.21			0.99	1.07
Incremental Delay, d2		0.1	0.0		0.2	0.0		1.2			4.1	0.1
Delay (s)		3.8	3.1		0.9	0.2		28.5			26.9	22.2
Level of Service		A	A		A	A		C			C	C
Approach Delay (s)		3.8			0.8			28.5			26.6	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	12.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	1801	30	290	200	40	60	20	10	10	10	190	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.35		0.64	1.00	0.95			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.74	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	559	3110	480		904	1555	1315			1148	1172
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.98	1.00
Satd. Flow (perm)	3110	559	3110	480		904	1555	1315			1180	1172
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	2024	34	326	225	45	67	22	11	11	11	213	22
RTOR Reduction (vph)	0	4	0	101	0	2	0	9	0	0	0	17
Lane Group Flow (vph)	2024	30	326	169	0	65	22	13	0	0	224	5
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	47.0	47.0	47.0	47.0		16.0	16.0	16.0			16.0	16.0
Effective Green, g (s)	47.0	47.0	47.0	47.0		16.0	16.0	16.0			16.0	16.0
Actuated g/C Ratio	0.63	0.63	0.63	0.63		0.21	0.21	0.21			0.21	0.21
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1949	350	1949	301		193	332	281			252	250
v/s Ratio Prot	c0.65		0.10									
v/s Ratio Perm		0.05		0.35		0.07	0.01	0.01			c0.19	0.00
v/c Ratio	1.04	0.08	0.17	0.56		0.34	0.07	0.05			0.89	0.02
Uniform Delay, d1	14.0	5.5	5.8	8.1		25.0	23.5	23.4			28.6	23.3
Progression Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	31.2	0.5	0.2	7.4		4.7	0.4	0.3			34.0	0.1
Delay (s)	45.2	6.0	6.0	15.5		29.7	23.9	23.8			62.6	23.4
Level of Service	D	A	A	B		C	C	C			E	C
Approach Delay (s)	44.5		10.3								59.1	
Approach LOS	D		B								E	

Intersection Summary			
HCM Average Control Delay	38.3	HCM Level of Service	D
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	86.1%	ICU Level of Service	E
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	1831	60	20	440	90	59
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1948	64	21	468	96	63

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	1299	713	177	312	159
Volume Left (vph)	0	0	21	0	96
Volume Right (vph)	0	64	0	0	63
Hadj (s)	0.02	-0.05	0.08	0.02	-0.10
Departure Headway (s)	5.8	5.7	6.7	6.7	6.5
Degree Utilization, x	2.08	1.13	0.33	0.58	0.29
Capacity (veh/h)	626	634	528	535	538
Control Delay (s)	505.5	98.4	11.8	17.2	12.1
Approach Delay (s)	361.2		15.2		12.1
Approach LOS	F		C		B

Intersection Summary			
Delay	276.7		
HCM Level of Service	F		
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	1621	230	20	10	360	20	10	10	10	20	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4				5.4		4.0			5.0	5.0
Lane Util. Factor		0.95				0.95		1.00			1.00	1.00
Frpb, ped/bikes		0.92				0.98		0.78			1.00	0.55
Flpb, ped/bikes		1.00				1.00		1.00			1.00	1.00
Frt		0.98				0.99		0.86			1.00	0.85
Flt Protected		1.00				1.00		1.00			0.98	1.00
Satd. Flow (prot)		2632				3019		1106			1597	768
Flt Permitted		0.94				0.76		1.00			0.98	1.00
Satd. Flow (perm)		2482				2291		1106			1597	768
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	1762	250	22	11	391	22	11	11	11	22	22
RTOR Reduction (vph)	0	1	0	0	0	5	0	0	0	0	0	19
Lane Group Flow (vph)	0	2066	0	0	0	419	0	11	0	0	44	3
Confl. Peds. (#/hr)	400		400	400	400		400	400	400	400		400
Confl. Bikes (#/hr)			30	30			30	10				10
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm			Free	Split	Split		Perm
Protected Phases		2				6			4	4	4	
Permitted Phases	2				6			Free				4
Actuated Green, G (s)		41.6				41.6		75.0			9.0	9.0
Effective Green, g (s)		41.6				41.6		75.0			9.0	9.0
Actuated g/C Ratio		0.55				0.55		1.00			0.12	0.12
Clearance Time (s)		5.4				5.4					5.0	5.0
Lane Grp Cap (vph)		1377				1271		1106			192	92
v/s Ratio Prot											c0.03	
v/s Ratio Perm		c0.83				0.18		0.01				0.00
v/c Ratio		1.50				0.33		0.01			0.23	0.03
Uniform Delay, d1		16.7				9.1		0.0			29.9	29.1
Progression Factor		1.00				0.84		1.00			1.00	1.00
Incremental Delay, d2		229.1				0.7		0.0			2.8	0.6
Delay (s)		245.8				8.4		0.0			32.6	29.7
Level of Service		F				A		A			C	C
Approach Delay (s)		245.8				8.4					31.7	
Approach LOS		F				A					C	

Intersection Summary			
HCM Average Control Delay	191.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	123.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	NWL	NWR	NWR2
Lane Configurations			
Volume (vph)	90	20	10
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	5.0		5.0
Lane Util. Factor	0.97		1.00
Frpb, ped/bikes	0.86		0.55
Flpb, ped/bikes	1.00		1.00
Frt	0.97		0.85
Flt Protected	0.96		1.00
Satd. Flow (prot)	2560		768
Flt Permitted	0.96		1.00
Satd. Flow (perm)	2560		768
Peak-hour factor, PHF	0.92	0.92	0.92
Adj. Flow (vph)	98	22	11
RTOR Reduction (vph)	0	0	1
Lane Group Flow (vph)	120	0	10
Confl. Peds. (#/hr)	400	400	400
Confl. Bikes (#/hr)		10	10
Parking (#/hr)			
Turn Type			Perm
Protected Phases	8		
Permitted Phases			8
Actuated Green, G (s)	9.0		9.0
Effective Green, g (s)	9.0		9.0
Actuated g/C Ratio	0.12		0.12
Clearance Time (s)	5.0		5.0
Lane Grp Cap (vph)	307		92
v/s Ratio Prot	c0.05		
v/s Ratio Perm			0.01
v/c Ratio	0.39		0.11
Uniform Delay, d1	30.5		29.4
Progression Factor	1.00		1.00
Incremental Delay, d2	3.7		2.4
Delay (s)	34.2		31.8
Level of Service	C		C
Approach Delay (s)	34.0		
Approach LOS	C		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1611	30	10	340	60	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.99			1.00	0.89	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	1.00			1.00	0.95	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2888			3103	1344	
Flt Permitted	1.00			0.90	0.97	
Satd. Flow (perm)	2888			2789	1344	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1696	32	11	358	63	32
RTOR Reduction (vph)	2	0	0	0	2	0
Lane Group Flow (vph)	1726	0	0	369	93	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1733			1673	403	
v/s Ratio Prot	c0.60				c0.07	
v/s Ratio Perm				0.13		
v/c Ratio	1.00			0.22	0.23	
Uniform Delay, d1	14.9			6.9	19.7	
Progression Factor	0.09			1.00	1.00	
Incremental Delay, d2	5.7			0.3	1.3	
Delay (s)	7.0			7.2	21.1	
Level of Service	A			A	C	
Approach Delay (s)	7.0			7.2	21.1	
Approach LOS	A			A	C	

Intersection Summary			
HCM Average Control Delay	7.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	76.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	1601	10	10	330	10	10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1703	11	11	351	11	11

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	1135	578	128	234	21
Volume Left (vph)	0	0	11	0	11
Volume Right (vph)	0	11	0	0	11
Hadj (s)	0.02	0.00	0.06	0.02	-0.18
Departure Headway (s)	5.0	4.9	6.0	6.0	6.2
Degree Utilization, x	1.56	0.79	0.21	0.39	0.04
Capacity (veh/h)	722	718	579	588	559
Control Delay (s)	273.1	23.0	9.5	11.6	9.4
Approach Delay (s)	188.7		10.8		9.4
Approach LOS	F		B		A

Intersection Summary			
Delay	156.2		
HCM Level of Service	F		
Intersection Capacity Utilization	69.6%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR2
Lane Configurations												
Volume (vph)	36	1485	30	10	330	92	50	30	50	20	20	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5	5.5		5.5		5.5	5.5	5.5
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	1.00
Frpb, ped/bikes		0.99			1.00	0.66		0.87		1.00	1.00	0.65
Flpb, ped/bikes		1.00			1.00	1.00		0.88		0.74	0.98	1.00
Frt		1.00			1.00	0.85		0.95		1.00	1.00	0.85
Flt Protected		1.00			1.00	1.00		0.98		0.95	1.00	1.00
Satd. Flow (prot)		2847			3110	808		1012		1097	1512	911
Flt Permitted		0.94			1.00	1.00		0.88		0.67	0.98	1.00
Satd. Flow (perm)		2674			3110	808		908		774	1490	911
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)	37	1515	31	10	337	94	51	31	51	20	20	10
RTOR Reduction (vph)	0	0	0	0	0	4	0	5	0	0	0	8
Lane Group Flow (vph)	0	1593	0	0	337	90	0	128	0	18	22	3
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10	10		10			10			10
Parking (#/hr)		5	5	5		5	5	5	5			
Turn Type	Perm					Perm	Perm			Perm		Perm
Protected Phases		2			6			8			4	
Permitted Phases	2				6	6	8			4		4
Actuated Green, G (s)		56.5			56.5	56.5		22.5		22.5	22.5	22.5
Effective Green, g (s)		56.5			56.5	56.5		22.5		22.5	22.5	22.5
Actuated g/C Ratio		0.63			0.63	0.63		0.25		0.25	0.25	0.25
Clearance Time (s)		5.5			5.5	5.5		5.5		5.5	5.5	5.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		1679			1952	507		227		194	373	228
v/s Ratio Prot					0.11							
v/s Ratio Perm		c0.60				0.11		c0.14		0.02	0.01	0.00
v/c Ratio		0.95			0.17	0.18		0.56		0.09	0.06	0.01
Uniform Delay, d1		15.4			7.0	7.0		29.5		25.9	25.7	25.4
Progression Factor		1.00			0.57	0.54		1.00		1.00	1.00	1.00
Incremental Delay, d2		12.7			0.2	0.8		9.7		0.2	0.1	0.0
Delay (s)		28.2			4.2	4.6		39.2		26.1	25.8	25.4
Level of Service		C			A	A		D		C	C	C
Approach Delay (s)		28.2			4.3			39.2			25.8	
Approach LOS		C			A			D			C	

Intersection Summary			
HCM Average Control Delay	23.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	128.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	NER2
Lane Configurations	
Volume (vph)	30
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.78
Flpb, ped/bikes	1.00
Frt	0.86
Flt Protected	1.00
Satd. Flow (prot)	967
Flt Permitted	1.00
Satd. Flow (perm)	967
Peak-hour factor, PHF	0.98
Adj. Flow (vph)	31
RTOR Reduction (vph)	0
Lane Group Flow (vph)	31
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	10
Parking (#/hr)	5
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Actuated Green, G (s)	90.0
Effective Green, g (s)	90.0
Actuated g/C Ratio	1.00
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	967
v/s Ratio Prot	
v/s Ratio Perm	0.03
v/c Ratio	0.03
Uniform Delay, d1	0.0
Progression Factor	1.00
Incremental Delay, d2	0.1
Delay (s)	0.1
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	1545	0	0	432	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1661	0	0	465	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	1661	0	0	465	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)		30				30
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		76.0			76.0	
Effective Green, g (s)		76.0			76.0	
Actuated g/C Ratio		0.84			0.84	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		2067			2547	
v/s Ratio Prot		c0.68			0.15	
v/s Ratio Perm						
v/c Ratio		0.80			0.18	
Uniform Delay, d1		3.4			1.3	
Progression Factor		1.12			1.03	
Incremental Delay, d2		1.5			0.2	
Delay (s)		5.3			1.5	
Level of Service		A			A	
Approach Delay (s)	5.3			0.0	1.5	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	4.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
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												
Volume (vph)	10	370	90	80	200	10	80	90	230	30	100	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.88		1.00	0.97			1.00	0.62		1.00	0.37
Flpb, ped/bikes		0.99		0.74	1.00			0.76	1.00		0.93	1.00
Frt		0.97		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.99	1.00
Satd. Flow (prot)		2618		1153	1376			1030	844		1507	508
Flt Permitted		0.95		0.36	1.00			0.82	1.00		0.92	1.00
Satd. Flow (perm)		2480		435	1376			865	844		1401	508
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)	11	389	95	84	211	11	84	95	242	32	105	21
RTOR Reduction (vph)	0	27	0	0	2	0	0	0	6	0	0	8
Lane Group Flow (vph)	0	468	0	84	220	0	0	179	236	0	137	13
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		23.8		23.8	23.8			56.2	56.2		56.2	56.2
Effective Green, g (s)		23.8		23.8	23.8			56.2	56.2		56.2	56.2
Actuated g/C Ratio		0.26		0.26	0.26			0.62	0.62		0.62	0.62
Clearance Time (s)		5.5		5.5	5.5			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)		656		115	364			540	527		875	317
v/s Ratio Prot					0.16							
v/s Ratio Perm		0.19		c0.19				0.21	c0.28		0.10	0.03
v/c Ratio		0.71		0.73	0.60			0.33	0.45		0.16	0.04
Uniform Delay, d1		30.0		30.2	29.0			8.0	8.8		7.0	6.5
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		3.7		21.0	2.8			1.6	2.7		0.4	0.2
Delay (s)		33.7		51.2	31.8			9.6	11.6		7.4	6.8
Level of Service		C		D	C			A	B		A	A
Approach Delay (s)		33.7			37.1			10.7			7.3	
Approach LOS		C			D			B			A	

Intersection Summary			
HCM Average Control Delay	24.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	67.2%	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												
Volume (vph)	0	450	110	20	180	472	90	0	40	1375	110	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.98			1.00	0.96		0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		0.99		1.00	1.00	
Frt		0.97			1.00	0.85		0.96		1.00	1.00	
Flt Protected		1.00			0.99	1.00		0.97		0.95	0.96	
Satd. Flow (prot)		2786			1622	2362		1308		1477	1488	
Flt Permitted		1.00			0.65	1.00		0.19		0.67	0.67	
Satd. Flow (perm)		2786			1054	2362		262		1044	1039	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	464	113	21	186	487	93	0	41	1418	113	10
RTOR Reduction (vph)	0	24	0	0	0	0	0	16	0	0	1	0
Lane Group Flow (vph)	0	553	0	0	207	487	0	118	0	766	775	0
Confl. Peds. (#/hr)	50			50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		17.0			17.0	65.5		17.5		45.0	45.0	
Effective Green, g (s)		17.0			17.0	65.5		17.5		45.0	45.0	
Actuated g/C Ratio		0.19			0.19	0.73		0.19		0.50	0.50	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		526			199	1719		51		522	520	
v/s Ratio Prot		c0.20										
v/s Ratio Perm					0.20	0.21		c0.45		0.73	c0.75	
v/c Ratio		1.05			1.04	0.28		2.31		1.47	1.49	
Uniform Delay, d1		36.5			36.5	4.2		36.2		22.5	22.5	
Progression Factor		1.00			1.00	1.00		1.00		0.91	0.91	
Incremental Delay, d2		53.7			74.7	0.4		646.9		217.4	227.1	
Delay (s)		90.2			111.2	4.6		683.2		237.8	247.5	
Level of Service		F			F	A		F		F	F	
Approach Delay (s)		90.2			36.4			683.2			242.7	
Approach LOS		F			D			F			F	

Intersection Summary			
HCM Average Control Delay	184.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	88.3%	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												
Volume (vph)	20	1445	30	60	542	20	129	60	274	30	30	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Lane Util. Factor		0.95			0.95	1.00		0.95			1.00	1.00
Frpb, ped/bikes		0.99			1.00	0.62		0.77			1.00	0.62
Flpb, ped/bikes		1.00			1.00	1.00		0.90			0.92	1.00
Frt		1.00			1.00	0.85		0.91			1.00	0.85
Flt Protected		1.00			1.00	1.00		0.99			0.98	1.00
Satd. Flow (prot)		3069			3094	754		1833			1473	860
Flt Permitted		0.94			0.65	1.00		0.84			0.75	1.00
Satd. Flow (perm)		2895			2006	754		1568			1131	860
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	21	1505	31	62	565	21	134	62	285	31	31	31
RTOR Reduction (vph)	0	2	0	0	0	9	0	3	0	0	0	20
Lane Group Flow (vph)	0	1555	0	0	627	12	0	478	0	0	62	11
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Actuated Green, G (s)		52.1			52.1	52.1		30.9			30.9	30.9
Effective Green, g (s)		52.1			52.1	52.1		30.9			30.9	30.9
Actuated g/C Ratio		0.58			0.58	0.58		0.34			0.34	0.34
Clearance Time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)		1676			1161	436		538			388	295
v/s Ratio Prot												
v/s Ratio Perm		c0.54			0.31	0.02		c0.31			0.05	0.01
v/c Ratio		0.93			0.54	0.03		0.95dr			0.16	0.04
Uniform Delay, d1		17.2			11.6	8.1		27.9			20.5	19.6
Progression Factor		1.00			0.48	0.26		1.00			1.00	1.00
Incremental Delay, d2		9.4			0.5	0.0		19.3			0.9	0.2
Delay (s)		26.6			6.1	2.2		47.3			21.4	19.9
Level of Service		C			A	A		D			C	B
Approach Delay (s)		26.6			6.0			47.3			20.9	
Approach LOS		C			A			D			C	

Intersection Summary			
HCM Average Control Delay	25.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	106.3%	ICU Level of Service	G
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	1569	150	0	483	30	81	280	174	10	140	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.95		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.80		0.99		1.00	0.86			0.88	
Flpb, ped/bikes		1.00	1.00		1.00		0.74	1.00			0.99	
Frt		1.00	0.85		0.99		1.00	0.94			0.95	
Flt Protected		1.00	1.00		1.00		0.95	1.00			1.00	
Satd. Flow (prot)		3104	974		3047		1155	3627			3726	
Flt Permitted		0.94	1.00		1.00		0.60	1.00			0.91	
Satd. Flow (perm)		2934	974		3047		733	3627			3408	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	21	1634	156	0	503	31	84	292	181	10	146	73
RTOR Reduction (vph)	0	0	1	0	0	0	0	5	0	0	56	0
Lane Group Flow (vph)	0	1655	155	0	534	0	84	468	0	0	173	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm				Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4				2			6		
Actuated Green, G (s)		59.4	59.4		59.4		20.6	20.6			20.6	
Effective Green, g (s)		59.4	59.4		59.4		20.6	20.6			20.6	
Actuated g/C Ratio		0.66	0.66		0.66		0.23	0.23			0.23	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1936	643		2011		168	830			780	
v/s Ratio Prot					0.18			c0.13				
v/s Ratio Perm		c0.56	0.16				0.11				0.05	
v/c Ratio		0.85	0.24		0.27		0.50	0.56			0.22	
Uniform Delay, d1		11.9	6.2		6.3		30.2	30.7			28.2	
Progression Factor		0.31	0.43		1.85		1.00	1.00			1.00	
Incremental Delay, d2		1.7	0.1		0.1		10.2	2.8			0.7	
Delay (s)		5.3	2.8		11.7		40.5	33.5			28.8	
Level of Service		A	A		B		D	C			C	
Approach Delay (s)		5.1			11.7			34.5			28.8	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM Average Control Delay	13.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	108.0%	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												
Volume (vph)	0	2484	220	0	1490	60	140	149	40	90	110	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.97			0.99		1.00	0.93		1.00	0.91	
Flpb, ped/bikes		1.00			1.00		0.74	1.00		0.77	1.00	
Frt		0.99			0.99		1.00	0.97		1.00	0.96	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4283			4197		1157	1476		1191	1255	
Flt Permitted		1.00			1.00		0.65	1.00		0.59	1.00	
Satd. Flow (perm)		4283			4197		793	1476		736	1255	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	2561	227	0	1536	62	144	154	41	93	113	41
RTOR Reduction (vph)	0	8	0	0	5	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	2780	0	0	1593	0	144	195	0	93	151	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2475			2425		242	451		225	383	
v/s Ratio Prot		c0.65			0.38			0.13			0.12	
v/s Ratio Perm							c0.18			0.13		
v/c Ratio		1.12			0.66		0.60	0.43		0.41	0.39	
Uniform Delay, d1		19.0			12.9		26.5	25.0		24.8	24.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		61.4			1.4		10.3	3.0		5.5	3.0	
Delay (s)		80.4			14.3		36.9	28.0		30.4	27.7	
Level of Service		F			B		D	C		C	C	
Approach Delay (s)		80.4			14.3			31.8			28.7	
Approach LOS		F			B			C			C	

Intersection Summary			
HCM Average Control Delay	53.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	104.4%	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												
Volume (vph)	0	2424	110	0	1320	70	90	130	60	90	130	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			1.00	
Frpb, ped/bikes		0.98			0.98		1.00	0.90			0.95	
Flpb, ped/bikes		1.00			1.00		0.82	1.00			0.92	
Frt		0.99			0.99		1.00	0.95			0.98	
Flt Protected		1.00			1.00		0.95	1.00			0.98	
Satd. Flow (prot)		4370			4355		1280	1397			1378	
Flt Permitted		1.00			1.00		0.52	1.00			0.74	
Satd. Flow (perm)		4370			4355		695	1397			1041	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	2635	120	0	1435	76	98	141	65	98	141	43
RTOR Reduction (vph)	0	5	0	0	6	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	2750	0	0	1505	0	98	206	0	0	278	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2588			2579		208	418			311	
v/s Ratio Prot		c0.63			0.35			0.15				
v/s Ratio Perm							0.14				c0.27	
v/c Ratio		1.06			0.58		0.47	0.49			0.89	
Uniform Delay, d1		18.4			11.4		25.7	25.9			30.2	
Progression Factor		1.00			1.62		1.00	1.00			1.00	
Incremental Delay, d2		37.1			0.8		7.5	4.1			29.9	
Delay (s)		55.4			19.4		33.2	30.1			60.0	
Level of Service		E			B		C	C			E	
Approach Delay (s)		55.4			19.4			31.1			60.0	
Approach LOS		E			B			C			E	

Intersection Summary			
HCM Average Control Delay	42.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	112.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	2124	200	0	1350	50	80	80	30	50	150	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.97			0.99			0.95			0.96	
Flpb, ped/bikes		1.00			1.00			0.92			0.95	
Frt		0.99			0.99			0.98			0.98	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		4099			4206			1196			1271	
Flt Permitted		1.00			1.00			0.73			0.90	
Satd. Flow (perm)		4099			4206			894			1157	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	2260	213	0	1436	53	85	85	32	53	160	32
RTOR Reduction (vph)	0	6	0	0	4	0	0	1	0	0	4	0
Lane Group Flow (vph)	0	2467	0	0	1485	0	0	201	0	0	241	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2459			2524			268			347	
v/s Ratio Prot		c0.60			0.35							
v/s Ratio Perm								c0.23			0.21	
v/c Ratio		1.00			0.59			0.75			0.69	
Uniform Delay, d1		18.0			11.1			28.5			27.8	
Progression Factor		0.13			1.00			1.00			1.00	
Incremental Delay, d2		6.3			1.0			17.5			10.9	
Delay (s)		8.6			12.1			46.0			38.7	
Level of Service		A			B			D			D	
Approach Delay (s)		8.6			12.1			46.0			38.7	
Approach LOS		A			B			D			D	

Intersection Summary			
HCM Average Control Delay	13.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	81.5%	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		↑↑↑			↑↑↑↱		↰	↰↑↑				↱
Volume (vph)	0	1724	0	0	570	30	870	463	50	0	0	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.98		1.00	0.98				0.97
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.98				1.00
Satd. Flow (prot)		4282			4360		1415	2661				1373
Flt Permitted		1.00			1.00		0.95	0.98				1.00
Satd. Flow (perm)		4282			4360		1415	2661				1373
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	1815	0	0	600	32	916	487	53	0	0	63
RTOR Reduction (vph)	0	0	0	0	6	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	1815	0	0	626	0	476	976	0	0	0	63
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		43.0			29.0		37.0	37.0				11.0
Effective Green, g (s)		43.0			29.0		37.0	37.0				11.0
Actuated g/C Ratio		0.48			0.32		0.41	0.41				0.12
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		2046			1405		582	1094				168
v/s Ratio Prot		c0.42			0.14							
v/s Ratio Perm							0.34	0.37				0.05
v/c Ratio		0.89			0.45		0.82	0.89				0.38
Uniform Delay, d1		21.3			24.1		23.5	24.7				36.3
Progression Factor		1.00			0.30		1.00	1.00				1.00
Incremental Delay, d2		6.2			0.9		12.1	11.1				6.3
Delay (s)		27.5			8.1		35.6	35.8				42.6
Level of Service		C			A		D	D				D
Approach Delay (s)		27.5			8.1			35.7			42.6	
Approach LOS		C			A			D			D	

Intersection Summary			
HCM Average Control Delay	27.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	75.1%	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												
Volume (vph)	259	240	1385	0	120	30	400	274	40	0	430	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		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.93		1.00	0.94			1.00	0.67
Flpb, ped/bikes		0.87	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.97		1.00	0.98			1.00	0.85
Flt Protected		0.97	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1382	2448		1265		4385	1316			3110	815
Flt Permitted		0.75	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		1066	2448		1265		4385	1316			3110	815
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	270	250	1443	0	125	31	417	285	42	0	448	52
RTOR Reduction (vph)	0	0	2	0	10	0	0	6	0	0	0	37
Lane Group Flow (vph)	0	520	1441	0	146	0	417	321	0	0	448	15
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		40.5	55.5		40.5		11.5	41.5			26.5	26.5
Effective Green, g (s)		40.5	52.0		40.5		11.5	41.5			26.5	26.5
Actuated g/C Ratio		0.45	0.58		0.45		0.13	0.46			0.29	0.29
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		480	1414		569		560	607			916	240
v/s Ratio Prot			c0.59		0.12		0.10	c0.24			0.14	
v/s Ratio Perm		c0.49										0.02
v/c Ratio		1.08	1.02		0.26		0.74	0.53			0.49	0.06
Uniform Delay, d1		24.8	19.0		15.4		37.8	17.3			26.2	22.8
Progression Factor		0.20	0.65		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		54.5	22.0		0.2		8.7	3.3			1.9	0.5
Delay (s)		59.4	34.3		15.6		46.5	20.6			28.0	23.3
Level of Service		E	C		B		D	C			C	C
Approach Delay (s)		40.9			15.6			35.1			27.5	
Approach LOS		D			B			D			C	

Intersection Summary			
HCM Average Control Delay	36.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	97.9%	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												
Volume (vph)	0	0	0	30	100	50	20	40	0	0	50	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.70		1.00			0.98	
Flpb, ped/bikes					0.95	1.00		0.99			1.00	
Frt					1.00	0.85		1.00			0.96	
Flt Protected					0.99	1.00		0.98			1.00	
Satd. Flow (prot)					2744	954		1589			1548	
Flt Permitted					0.99	1.00		0.91			1.00	
Satd. Flow (perm)					2744	954		1471			1548	
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	0	0	0	38	128	64	26	51	0	0	64	26
RTOR Reduction (vph)	0	0	0	0	0	36	0	0	0	0	16	0
Lane Group Flow (vph)	0	0	0	0	166	28	0	77	0	0	74	0
Confl. Peds. (#/hr)				154		203	51					51
Confl. Bikes (#/hr)						14						3
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					26.0	26.0		24.0			24.0	
Effective Green, g (s)					26.0	26.0		24.0			24.0	
Actuated g/C Ratio					0.43	0.43		0.40			0.40	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1189	413		588			619	
v/s Ratio Prot											0.05	
v/s Ratio Perm					0.06	0.03		c0.05				
v/c Ratio					0.14	0.07		0.13			0.12	
Uniform Delay, d1					10.3	9.9		11.4			11.3	
Progression Factor					1.00	1.00		0.96			1.00	
Incremental Delay, d2					0.2	0.3		0.5			0.4	
Delay (s)					10.5	10.2		11.4			11.7	
Level of Service					B	B		B			B	
Approach Delay (s)		0.0			10.4			11.4			11.7	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	10.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.14		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	45.0%	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												
Volume (vph)	0	0	0	30	120	10	20	10	0	0	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.98		1.00	1.00			0.92	
Flpb, ped/bikes				1.00	1.00		0.85	1.00			1.00	
Frt				1.00	0.99		1.00	1.00			0.93	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	3007		1314	1637			1397	
Flt Permitted				0.95	1.00		0.74	1.00			1.00	
Satd. Flow (perm)				1555	3007		1024	1637			1397	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	0	0	0	39	156	13	26	13	0	0	13	13
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	39	165	0	26	13	0	0	26	0
Confl. Peds. (#/hr)						369	74					74
Confl. Bikes (#/hr)						16			1			
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				42.4	42.4		8.3	8.3			8.3	
Effective Green, g (s)				42.4	42.4		8.3	8.3			8.3	
Actuated g/C Ratio				0.71	0.71		0.14	0.14			0.14	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				1099	2125		142	226			193	
v/s Ratio Prot				0.03	c0.05			0.01			0.02	
v/s Ratio Perm							c0.03					
v/c Ratio				0.04	0.08		0.18	0.06			0.13	
Uniform Delay, d1				2.6	2.7		22.9	22.5			22.7	
Progression Factor				1.00	1.00		0.84	0.84			1.00	
Incremental Delay, d2				0.1	0.1		2.8	0.5			1.4	
Delay (s)				2.7	2.8		22.0	19.3			24.1	
Level of Service				A	A		C	B			C	
Approach Delay (s)		0.0			2.8			21.1			24.1	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	7.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.10		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	130	40	10	70	40	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	135	42	10	73	42	10
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	291					
pX, platoon unblocked						
vC, conflicting volume			577		1050	889
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			577		1050	889
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		61	93
cM capacity (veh/h)			694		106	139

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	90	87	83	52
Volume Left	0	0	10	42
Volume Right	0	42	0	10
cSH	1700	1700	694	112
Volume to Capacity	0.05	0.05	0.02	0.47
Queue Length 95th (ft)	0	0	1	51
Control Delay (s)	0.0	0.0	1.4	62.7
Lane LOS			A	F
Approach Delay (s)	0.0		1.4	62.7
Approach LOS				F

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												
Volume (vph)	20	140	20	10	100	10	10	30	15	20	50	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	
Lane Util. Factor		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.57		0.97			0.86			0.88	
Flpb, ped/bikes		0.96	1.00		0.97			0.92			0.90	
Frt		1.00	0.85		0.99			0.96			0.97	
Flt Protected		0.99	1.00		1.00			0.99			0.99	
Satd. Flow (prot)		1557	793		1327			1079			1086	
Flt Permitted		0.96	1.00		0.98			0.96			0.94	
Satd. Flow (perm)		1510	793		1304			1045			1038	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	23	161	23	11	115	11	11	34	17	23	57	23
RTOR Reduction (vph)	0	0	12	0	5	0	0	11	0	0	15	0
Lane Group Flow (vph)	0	184	11	0	132	0	0	51	0	0	88	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4			4		
Actuated Green, G (s)		29.0	29.0		29.0			22.0			22.0	
Effective Green, g (s)		29.0	29.0		29.0			22.0			22.0	
Actuated g/C Ratio		0.48	0.48		0.48			0.37			0.37	
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)		730	383		630			383			381	
v/s Ratio Prot												
v/s Ratio Perm		c0.12	0.01		0.10			0.05			c0.09	
v/c Ratio		0.25	0.03		0.21			0.13			0.23	
Uniform Delay, d1		9.1	8.1		8.9			12.7			13.2	
Progression Factor		1.00	1.00		1.00			1.00			0.84	
Incremental Delay, d2		0.8	0.1		0.8			0.7			1.4	
Delay (s)		9.9	8.3		9.7			13.4			12.5	
Level of Service		A	A		A			B			B	
Approach Delay (s)		9.8			9.7			13.4			12.5	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	10.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	77.9%	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												
Volume (vph)	0	142	20	20	170	0	10	0	14	10	10	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
Lane Util. Factor		1.00	1.00		0.95			1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.42		1.00			0.69			1.00	0.67
Flpb, ped/bikes		1.00	1.00		0.95			0.87			0.74	1.00
Frt		1.00	0.85		1.00			0.92			1.00	0.85
Flt Protected		1.00	1.00		0.99			0.98			0.98	1.00
Satd. Flow (prot)		1637	571		2945			879			1184	933
Flt Permitted		1.00	1.00		0.91			0.94			0.93	1.00
Satd. Flow (perm)		1637	571		2708			845			1132	933
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	0	167	24	24	200	0	12	0	16	12	12	12
RTOR Reduction (vph)	0	0	18	0	0	0	0	2	0	0	0	5
Lane Group Flow (vph)	0	167	6	0	224	0	0	26	0	0	24	7
Confl. Peds. (#/hr)			400	400			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	36.5
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	36.5
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	0.61
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)		396	138		654			514			689	568
v/s Ratio Prot		c0.10										
v/s Ratio Perm			0.01		0.08			c0.03			0.02	0.01
v/c Ratio		0.42	0.04		0.34			0.05			0.03	0.01
Uniform Delay, d1		19.2	17.4		18.8			4.8			4.7	4.6
Progression Factor		0.87	0.74		1.00			1.00			1.00	1.00
Incremental Delay, d2		3.3	0.6		1.4			0.2			0.0	0.0
Delay (s)		19.9	13.5		20.2			4.9			4.7	4.6
Level of Service		B	B		C			A			A	A
Approach Delay (s)		19.1			20.2			4.9			4.7	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM Average Control Delay	17.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.16		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	160	10	10	20	20	0	178	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		0.83		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		0.93		1.00			1.00
Flt Protected		1.00		0.98		1.00			0.97
Satd. Flow (prot)		942		1079		1637			3016
Flt Permitted		1.00		0.98		1.00			0.95
Satd. Flow (perm)		942		1079		1637			2970
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	184	11	11	23	23	0	205	126
RTOR Reduction (vph)	0	0	0	16	0	0	0	0	0
Lane Group Flow (vph)	0	184	0	29	0	23	0	0	331
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		306		314			891
v/s Ratio Prot						0.01			
v/s Ratio Perm		c0.20		0.03					c0.11
v/c Ratio		0.35		0.09		0.07			0.37
Uniform Delay, d1		7.3		15.8		19.9			16.5
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		1.8		0.6		0.1			1.2
Delay (s)		9.1		16.4		20.0			17.7
Level of Service		A		B		B			B
Approach Delay (s)	9.1			16.4		20.0			17.7
Approach LOS	A			B		B			B

Intersection Summary			
HCM Average Control Delay	15.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	55.1%	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												
Volume (vph)	30	240	40	40	130	40	30	80	20	20	60	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.97			1.00	0.59	1.00	0.88			0.88	
Flpb, ped/bikes		0.97			1.00	1.00	0.52	1.00			0.91	
Frt		0.98			1.00	0.85	1.00	0.97			0.97	
Flt Protected		1.00			0.99	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1317			1415	722	815	1225			2385	
Flt Permitted		0.96			0.87	1.00	0.68	1.00			0.88	
Satd. Flow (perm)		1273			1249	722	585	1225			2119	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	34	270	45	45	146	45	34	90	22	22	67	22
RTOR Reduction (vph)	0	4	0	0	0	3	0	12	0	0	0	0
Lane Group Flow (vph)	0	345	0	0	191	42	34	100	0	0	111	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		68.6			68.6	68.6	11.3	11.3			11.3	
Effective Green, g (s)		68.6			68.6	68.6	11.3	11.3			11.3	
Actuated g/C Ratio		0.76			0.76	0.76	0.13	0.13			0.13	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		970			952	550	73	154			266	
v/s Ratio Prot								c0.08				
v/s Ratio Perm		c0.27			0.15	0.06	0.06				0.05	
v/c Ratio		0.36			0.20	0.08	0.47	0.65			0.42	
Uniform Delay, d1		3.5			3.0	2.7	36.5	37.5			36.3	
Progression Factor		1.00			1.00	1.00	0.62	0.67			1.00	
Incremental Delay, d2		1.0			0.5	0.3	4.6	9.0			1.1	
Delay (s)		4.5			3.5	3.0	27.4	33.9			37.4	
Level of Service		A			A	A	C	C			D	
Approach Delay (s)		4.5			3.4			32.4			37.4	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM Average Control Delay	13.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	110.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Volume (vph)	20	230	40	10	130	10	10	35	30	30	30	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.96			0.98			0.76			0.84	
Flpb, ped/bikes		0.98			0.99			0.93			0.82	
Frt		0.98			0.99			0.95			0.97	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		1319			1368			953			938	
Flt Permitted		0.98			0.98			0.96			0.87	
Satd. Flow (perm)		1293			1339			924			836	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	24	271	47	12	153	12	12	41	35	35	35	24
RTOR Reduction (vph)	0	1	0	0	1	0	0	26	0	0	13	0
Lane Group Flow (vph)	0	341	0	0	176	0	0	62	0	0	81	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.6			62.6			18.6			18.6	
Effective Green, g (s)		62.6			62.6			18.6			18.6	
Actuated g/C Ratio		0.70			0.70			0.21			0.21	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		899			931			191			173	
v/s Ratio Prot												
v/s Ratio Perm		c0.26			0.13			0.07			c0.10	
v/c Ratio		0.38			0.19			0.32			0.47	
Uniform Delay, d1		5.7			4.8			30.4			31.3	
Progression Factor		1.00			1.00			0.73			1.00	
Incremental Delay, d2		1.2			0.4			3.8			8.7	
Delay (s)		6.9			5.3			25.8			40.1	
Level of Service		A			A			C			D	
Approach Delay (s)		6.9			5.3			25.8			40.1	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM Average Control Delay	13.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	20	230	60	20	100	10	20	7	90	10	30	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.93			1.00	0.66		0.57			0.89	
Flpb, ped/bikes		0.98			0.97	1.00		0.91			0.92	
Frt		0.97			1.00	0.85		0.90			0.97	
Flt Protected		1.00			0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1276			1375	802		666			1124	
Flt Permitted		0.98			0.93	1.00		0.96			0.95	
Satd. Flow (perm)		1256			1288	802		642			1079	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	250	65	22	109	11	22	8	98	11	33	11
RTOR Reduction (vph)	0	7	0	0	0	4	0	71	0	0	8	0
Lane Group Flow (vph)	0	330	0	0	131	7	0	57	0	0	47	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		57.0			57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0			57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63			0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		795			816	508		178			300	
v/s Ratio Prot												
v/s Ratio Perm		c0.26			0.10	0.01		c0.09			0.04	
v/c Ratio		0.42			0.16	0.01		0.32			0.16	
Uniform Delay, d1		8.2			6.7	6.1		25.8			24.5	
Progression Factor		1.00			0.81	0.68		0.85			1.00	
Incremental Delay, d2		1.6			0.4	0.0		4.2			1.1	
Delay (s)		9.8			5.8	4.2		26.0			25.7	
Level of Service		A			A	A		C			C	
Approach Delay (s)		9.8			5.7			26.0			25.7	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	13.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	230	70	10	110	10	40	64	40	10	30	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.66		1.00	0.66		0.85			0.81	
Flpb, ped/bikes		0.97	1.00		0.98	1.00		0.87			0.94	
Frt		1.00	0.85		1.00	0.85		0.96			0.95	
Flt Protected		0.99	1.00		1.00	1.00		0.99			0.99	
Satd. Flow (prot)		1381	786		1402	786		995			1180	
Flt Permitted		0.96	1.00		0.97	1.00		0.91			0.95	
Satd. Flow (perm)		1337	786		1371	786		920			1137	
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)	33	256	78	11	122	11	44	71	44	11	33	22
RTOR Reduction (vph)	0	0	7	0	0	4	0	15	0	0	16	0
Lane Group Flow (vph)	0	289	71	0	133	7	0	144	0	0	50	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63	0.63		0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		847	498		868	498		256			316	
v/s Ratio Prot												
v/s Ratio Perm		c0.22	0.09		0.10	0.01		c0.16			0.04	
v/c Ratio		0.34	0.14		0.15	0.01		0.56			0.16	
Uniform Delay, d1		7.7	6.7		6.7	6.1		27.8			24.6	
Progression Factor		0.68	0.66		1.00	1.00		0.69			1.00	
Incremental Delay, d2		1.0	0.6		0.4	0.1		5.6			1.1	
Delay (s)		6.2	4.9		7.1	6.2		24.9			25.6	
Level of Service		A	A		A	A		C			C	
Approach Delay (s)		6.0			7.0			24.9			25.6	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	12.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations										
Volume (vph)	10	250	30	30	10	20	170	20	180	278
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				5.0		5.0		5.0	5.0
Lane Util. Factor	1.00				1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.88				0.88		0.93		1.00	1.00
Flpb, ped/bikes	1.00				0.70		1.00		1.00	1.00
Frt	0.87				0.95		0.98		1.00	1.00
Flt Protected	1.00				0.97		1.00		0.95	1.00
Satd. Flow (prot)	1256				927		2854		1555	3110
Flt Permitted	1.00				0.97		1.00		0.95	1.00
Satd. Flow (perm)	1256				927		2854		1555	3110
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	250	30	30	10	20	170	20	180	278
RTOR Reduction (vph)	5	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	285	0	0	0	60	0	190	0	180	278
Confl. Peds. (#/hr)				400	400	400		400		
Confl. Bikes (#/hr)		30	30			10		30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0
Turn Type				Perm					Split	
Protected Phases	4				3		6		2	2
Permitted Phases				3						
Actuated Green, G (s)	20.0				20.0		17.0		13.0	13.0
Effective Green, g (s)	20.0				20.0		17.0		13.0	13.0
Actuated g/C Ratio	0.22				0.22		0.19		0.14	0.14
Clearance Time (s)	5.0				5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	279				206		539		225	449
v/s Ratio Prot	c0.23						c0.07		c0.12	0.09
v/s Ratio Perm					0.06					
v/c Ratio	1.02				0.29		0.35		0.80	0.62
Uniform Delay, d1	35.0				29.1		31.7		37.2	36.2
Progression Factor	1.00				0.79		1.00		0.81	0.81
Incremental Delay, d2	59.8				0.7		1.8		24.6	6.2
Delay (s)	94.8				23.7		33.5		54.6	35.4
Level of Service	F				C		C		D	D
Approach Delay (s)	94.8				23.7		33.5			42.9
Approach LOS	F				C		C			D

Intersection Summary			
HCM Average Control Delay	55.1	HCM Level of Service	E
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	78.4%	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												
Volume (vph)	0	1753	40	0	863	10	0	20	47	0	50	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			1.00			0.73			0.94	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.91			0.98	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2887			2900			951			1309	
Flt Permitted		1.00			1.00			1.00			1.00	
Satd. Flow (perm)		2887			2900			951			1309	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1905	43	0	938	11	0	22	51	0	54	11
RTOR Reduction (vph)	0	0	0	0	0	0	0	5	0	0	9	0
Lane Group Flow (vph)	0	1948	0	0	949	0	0	68	0	0	56	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type												
Protected Phases		2			6			8			4	
Permitted Phases												
Actuated Green, G (s)		70.9			70.9			10.3			10.3	
Effective Green, g (s)		70.9			70.9			10.3			10.3	
Actuated g/C Ratio		0.79			0.79			0.11			0.11	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2274			2285			109			150	
v/s Ratio Prot		c0.67			0.33			c0.07			0.04	
v/s Ratio Perm												
v/c Ratio		0.86			0.42			0.62			0.37	
Uniform Delay, d1		6.2			3.0			38.0			36.9	
Progression Factor		0.25			1.00			1.00			1.00	
Incremental Delay, d2		2.8			0.1			10.5			1.6	
Delay (s)		4.4			3.1			48.5			38.4	
Level of Service		A			A			D			D	
Approach Delay (s)		4.4			3.1			48.5			38.4	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	5.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	76.6%	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												
Volume (vph)	10	1472	390	40	567	30	127	80	70	0	120	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.77		1.00	0.77	1.00	1.00	0.67		0.97	
Flpb, ped/bikes		1.00	1.00		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	0.85		0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3109	1077		3099	1077	3016	1637	933		2800	
Flt Permitted		0.95	1.00		0.78	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		2957	1077		2435	1077	3016	1637	933		2800	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	10	1518	402	41	585	31	131	82	72	0	124	10
RTOR Reduction (vph)	0	0	62	0	0	8	0	0	2	0	7	0
Lane Group Flow (vph)	0	1528	340	0	626	23	131	82	70	0	127	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type	Perm		Perm	Perm		Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		60.4	60.4		60.4	60.4	6.7	20.6	20.6		9.4	
Effective Green, g (s)		60.4	60.4		60.4	60.4	6.7	20.6	20.6		9.4	
Actuated g/C Ratio		0.67	0.67		0.67	0.67	0.07	0.23	0.23		0.10	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		1984	723		1634	723	225	375	214		292	
v/s Ratio Prot							c0.04	0.05			c0.05	
v/s Ratio Perm		c0.52	0.32		0.26	0.02			0.07			
v/c Ratio		0.77	0.47		0.38	0.03	0.58	0.22	0.33		0.43	
Uniform Delay, d1		10.1	7.1		6.6	5.0	40.3	28.2	28.9		37.8	
Progression Factor		1.00	1.00		0.79	0.78	1.00	1.00	1.00		0.72	
Incremental Delay, d2		3.0	2.2		0.7	0.1	3.8	0.3	0.9		1.0	
Delay (s)		13.0	9.3		5.8	4.0	44.1	28.5	29.8		28.1	
Level of Service		B	A		A	A	D	C	C		C	
Approach Delay (s)		12.3			5.7			36.0			28.1	
Approach LOS		B			A			D			C	

Intersection Summary			
HCM Average Control Delay	13.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	123.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	45	1357	547	40	40	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	0.98		0.83	
Flpb, ped/bikes		1.00	1.00		1.00	
Frt		1.00	0.99		0.94	
Flt Protected		1.00	1.00		0.97	
Satd. Flow (prot)		2900	3016		1093	
Flt Permitted		0.91	1.00		0.97	
Satd. Flow (perm)		2648	3016		1093	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	1475	595	43	43	33
RTOR Reduction (vph)	0	0	6	0	27	0
Lane Group Flow (vph)	0	1524	632	0	49	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		65.8	65.8		17.2	
Effective Green, g (s)		65.8	65.8		17.2	
Actuated g/C Ratio		0.73	0.73		0.19	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1936	2205		209	
v/s Ratio Prot			0.21		c0.05	
v/s Ratio Perm		c0.58				
v/c Ratio		0.79	0.29		0.24	
Uniform Delay, d1		7.7	4.1		30.8	
Progression Factor		0.25	1.00		0.67	
Incremental Delay, d2		1.4	0.1		2.5	
Delay (s)		3.4	4.2		23.1	
Level of Service		A	A		C	
Approach Delay (s)		3.4	4.2		23.1	
Approach LOS		A	A		C	

Intersection Summary			
HCM Average Control Delay	4.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	97.9%	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												
Volume (vph)	36	1370	40	20	387	60	30	20	60	40	50	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.96			0.81			0.91	
Flpb, ped/bikes		1.00			1.00			0.93			0.91	
Frt		1.00			0.98			0.93			0.97	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2863			2734			981			1130	
Flt Permitted		0.93			0.86			0.90			0.88	
Satd. Flow (perm)		2668			2356			895			1007	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	38	1457	43	21	412	64	32	21	64	43	53	32
RTOR Reduction (vph)	0	2	0	0	3	0	0	8	0	0	13	0
Lane Group Flow (vph)	0	1536	0	0	494	0	0	109	0	0	115	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		60.6			60.6			20.6			20.6	
Effective Green, g (s)		60.6			60.6			20.6			20.6	
Actuated g/C Ratio		0.67			0.67			0.23			0.23	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1796			1586			205			230	
v/s Ratio Prot												
v/s Ratio Perm		c0.58			0.21			c0.12			0.11	
v/c Ratio		0.86			0.31			0.53			0.50	
Uniform Delay, d1		11.3			6.1			30.4			30.2	
Progression Factor		1.00			0.36			1.00			0.78	
Incremental Delay, d2		5.5			0.4			9.5			7.4	
Delay (s)		16.8			2.6			39.9			31.1	
Level of Service		B			A			D			C	
Approach Delay (s)		16.8			2.6			39.9			31.1	
Approach LOS		B			A			D			C	

Intersection Summary			
HCM Average Control Delay	15.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	97.1%	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												
Volume (vph)	34	1426	20	40	667	80	40	30	110	40	20	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			0.97			0.78			0.83	
Flpb, ped/bikes		1.00			1.00			0.94			0.92	
Frt		1.00			0.98			0.92			0.94	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2888			2770			953			1018	
Flt Permitted		0.91			0.78			0.92			0.81	
Satd. Flow (perm)		2641			2152			885			837	
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)	38	1584	22	44	741	89	44	33	122	44	22	56
RTOR Reduction (vph)	0	1	0	0	2	0	0	7	0	0	34	0
Lane Group Flow (vph)	0	1643	0	0	872	0	0	192	0	0	88	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		61.7			61.7			19.4			19.4	
Effective Green, g (s)		61.7			61.7			19.4			19.4	
Actuated g/C Ratio		0.69			0.69			0.22			0.22	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1811			1475			191			180	
v/s Ratio Prot												
v/s Ratio Perm		c0.62			0.41			c0.22			0.11	
v/c Ratio		0.91			0.59			1.00			0.49	
Uniform Delay, d1		11.8			7.5			35.3			31.0	
Progression Factor		0.28			2.76			1.00			0.73	
Incremental Delay, d2		5.1			0.6			66.4			2.1	
Delay (s)		8.4			21.2			101.7			24.8	
Level of Service		A			C			F			C	
Approach Delay (s)		8.4			21.2			101.7			24.8	
Approach LOS		A			C			F			C	

Intersection Summary			
HCM Average Control Delay	19.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	98.2%	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												
Volume (vph)	10	1391	190	50	692	30	40	10	20	10	20	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.96			0.99			0.89			0.85	
Flpb, ped/bikes		1.00			1.00			0.81			0.94	
Frt		0.98			0.99			0.96			0.95	
Flt Protected		1.00			1.00			0.97			0.99	
Satd. Flow (prot)		2755			3040			1113			1232	
Flt Permitted		0.95			0.73			0.83			0.95	
Satd. Flow (perm)		2619			2234			950			1186	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	10	1434	196	52	713	31	41	10	21	10	21	21
RTOR Reduction (vph)	0	2	0	0	2	0	0	10	0	0	16	0
Lane Group Flow (vph)	0	1638	0	0	794	0	0	62	0	0	36	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1807			1541			204			254	
v/s Ratio Prot												
v/s Ratio Perm		c0.63			0.36			c0.07			0.03	
v/c Ratio		0.91			0.52			0.30			0.14	
Uniform Delay, d1		11.6			6.7			29.7			28.6	
Progression Factor		0.29			0.73			1.00			0.67	
Incremental Delay, d2		3.6			0.4			3.8			0.8	
Delay (s)		7.0			5.3			33.5			20.0	
Level of Service		A			A			C			C	
Approach Delay (s)		7.0			5.3			33.5			20.0	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	7.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	88.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	30	1391	712	428	450	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3037	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3037	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	1512	774	465	489	33
RTOR Reduction (vph)	0	44	0	0	6	0
Lane Group Flow (vph)	33	1468	774	465	516	0
Confl. Peds. (#/hr)						63
Confl. Bikes (#/hr)		22				160
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	27.0	54.8	23.8	53.0	25.2	
Effective Green, g (s)	27.0	54.8	23.8	53.0	25.2	
Actuated g/C Ratio	0.30	0.61	0.26	0.59	0.28	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	467	1491	798	1717	850	
v/s Ratio Prot	0.02	c0.60	0.26	0.16	c0.17	
v/s Ratio Perm						
v/c Ratio	0.07	0.98	0.97	0.27	0.61	
Uniform Delay, d1	22.5	17.2	32.7	9.0	28.1	
Progression Factor	0.67	0.36	0.89	0.59	0.67	
Incremental Delay, d2	0.0	13.1	22.4	0.3	1.0	
Delay (s)	15.2	19.2	51.7	5.6	19.9	
Level of Service	B	B	D	A	B	
Approach Delay (s)	19.1			34.4	19.9	
Approach LOS	B			C	B	

Intersection Summary			
HCM Average Control Delay	25.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	83.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	150	137	40	0	1821	0	20	131	1001
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			1.00			1.00	1.00
Flpb, ped/bikes				0.73			1.00			1.00	1.00
Frt				0.98			1.00			1.00	1.00
Flt Protected				0.96			1.00			0.95	1.00
Satd. Flow (prot)				2052			4454			1555	3110
Flt Permitted				0.96			1.00			0.95	1.00
Satd. Flow (perm)				2052			4454			1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	163	149	43	0	1979	0	22	142	1088
RTOR Reduction (vph)	0	0	0	14	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	0	0	341	0	0	2000	0	0	142	1088
Confl. Peds. (#/hr)			96	119					96		
Confl. Bikes (#/hr)					4				178		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				18.7			47.7			10.6	62.3
Effective Green, g (s)				18.7			47.7			10.6	62.3
Actuated g/C Ratio				0.21			0.53			0.12	0.69
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				426			2361			183	2153
v/s Ratio Prot							c0.45			c0.09	0.35
v/s Ratio Perm				0.17							
v/c Ratio				0.80			0.85			0.78	0.51
Uniform Delay, d1				33.9			18.0			38.5	6.6
Progression Factor				1.00			0.85			1.00	1.00
Incremental Delay, d2				10.1			1.3			16.9	0.9
Delay (s)				44.0			16.5			55.5	7.4
Level of Service				D			B			E	A
Approach Delay (s)	0.0			44.0			16.5				13.0
Approach LOS	A			D			B				B

Intersection Summary			
HCM Average Control Delay	18.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBR	EBR2	SEL	SET	SER2	NWL2	NWT	NWR	SWR2
Lane Configurations										
Volume (vph)	20	20	220	30	1240	601	111	1131	80	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		7.0	7.0	7.0	7.0	7.0		
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00	1.00	0.95		
Frpb, ped/bikes	1.00	0.93		1.00	1.00	0.96	1.00	0.96		
Flpb, ped/bikes	1.00	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	0.99		
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1555	1137		1555	3110	1336	1555	2957		
Flt Permitted	0.95	1.00		0.14	1.00	1.00	0.13	1.00		
Satd. Flow (perm)	1555	1137		226	3110	1336	212	2957		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	22	239	33	1348	653	121	1229	87	0
RTOR Reduction (vph)	0	171	0	0	0	289	0	7	0	0
Lane Group Flow (vph)	22	90	0	33	1348	364	121	1309	0	0
Confl. Peds. (#/hr)			38						1000	100
Confl. Bikes (#/hr)		10	10			30			30	10
Parking (#/hr)		5	5							
Turn Type	custom	custom		Perm		Perm	Perm			custom
Protected Phases					6			2		
Permitted Phases	4	4		6		6	2			8
Actuated Green, G (s)	22.5	22.5		44.0	44.0	44.0	44.0	44.0		
Effective Green, g (s)	22.5	22.5		44.0	44.0	44.0	44.0	44.0		
Actuated g/C Ratio	0.28	0.28		0.56	0.56	0.56	0.56	0.56		
Clearance Time (s)	5.5	5.5		7.0	7.0	7.0	7.0	7.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	443	324		126	1732	744	118	1647		
v/s Ratio Prot					0.43			0.44		
v/s Ratio Perm	0.01	c0.08		0.15		0.27	c0.57			
v/c Ratio	0.05	0.28		0.26	0.78	0.49	1.03	0.79		
Uniform Delay, d1	20.5	21.9		9.1	13.7	10.7	17.5	13.9		
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.0	0.5		5.0	3.5	2.3	89.8	4.1		
Delay (s)	20.5	22.4		14.1	17.2	12.9	107.3	18.0		
Level of Service	C	C		B	B	B	F	B		
Approach Delay (s)					15.8			25.5		
Approach LOS					B			C		

Intersection Summary			
HCM Average Control Delay	20.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	105.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	30	0	80	0	0	0	180	1214	0	0	20	1270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.76					1.00	1.00				0.98
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.90					1.00	1.00				0.99
Flt Protected		0.99					0.95	1.00				1.00
Satd. Flow (prot)		965					1555	3110				3007
Flt Permitted		0.99					0.95	1.00				0.92
Satd. Flow (perm)		965					1555	3110				2760
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)	33	0	89	0	0	0	200	1349	0	0	22	1411
RTOR Reduction (vph)	0	79	0	0	0	0	0	0	0	0	0	3
Lane Group Flow (vph)	0	43	0	0	0	0	200	1349	0	0	0	1508
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		10.0					5.0	71.0				61.0
Effective Green, g (s)		10.0					5.0	71.0				61.0
Actuated g/C Ratio		0.11					0.06	0.79				0.68
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		107					86	2453				1871
v/s Ratio Prot		c0.04					c0.13	0.43				
v/s Ratio Perm												c0.55
v/c Ratio		0.40					2.33	0.55				0.81
Uniform Delay, d1		37.2					42.5	3.5				10.3
Progression Factor		1.00					0.79	0.50				1.00
Incremental Delay, d2		2.5					625.1	0.7				3.8
Delay (s)		39.7					658.6	2.5				14.1
Level of Service		D					F	A				B
Approach Delay (s)		39.7			0.0			87.2				14.1
Approach LOS		D			A			F				B

Intersection Summary			
HCM Average Control Delay	50.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	114.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	70
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.90
Adj. Flow (vph)	78
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	254	1184	0	0	610	160	120	212	70	0	0	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				
Lane Util. Factor		0.95			0.95			0.95				
Frpb, ped/bikes		1.00			0.94			0.94				
Flpb, ped/bikes		0.99			1.00			0.91				
Frt		1.00			0.97			0.97				
Flt Protected		0.99			1.00			0.99				
Satd. Flow (prot)		2811			2629			2365				
Flt Permitted		0.63			1.00			0.99				
Satd. Flow (perm)		1794			2629			2365				
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)	259	1208	0	0	622	163	122	216	71	0	0	0
RTOR Reduction (vph)	0	0	0	0	8	0	0	22	0	0	0	0
Lane Group Flow (vph)	0	1467	0	0	777	0	0	387	0	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm					
Protected Phases		2			6			8				
Permitted Phases	2						8					
Actuated Green, G (s)		44.0			44.0			27.0				
Effective Green, g (s)		44.0			44.0			27.0				
Actuated g/C Ratio		0.55			0.55			0.34				
Clearance Time (s)		4.5			4.5			4.5				
Vehicle Extension (s)		3.0			3.0			3.0				
Lane Grp Cap (vph)		987			1446			798				
v/s Ratio Prot					0.30							
v/s Ratio Perm		c0.82						0.16				
v/c Ratio		1.49			0.54			0.49				
Uniform Delay, d1		18.0			11.5			21.0				
Progression Factor		1.00			0.37			1.00				
Incremental Delay, d2		224.3			0.9			2.1				
Delay (s)		242.3			5.1			23.1				
Level of Service		F			A			C				
Approach Delay (s)		242.3			5.1			23.1			0.0	
Approach LOS		F			A			C			A	

Intersection Summary			
HCM Average Control Delay	138.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	109.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	774	480	30	670	0	0	0	0	70	630	110
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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.88			1.00						0.96	
Flpb, ped/bikes		1.00			1.00						0.98	
Frt		0.94			1.00						0.98	
Flt Protected		1.00			1.00						1.00	
Satd. Flow (prot)		2567			3099						2679	
Flt Permitted		1.00			0.74						1.00	
Satd. Flow (perm)		2567			2294						2679	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	798	495	31	691	0	0	0	0	72	649	113
RTOR Reduction (vph)	0	9	0	0	0	0	0	0	0	0	15	0
Lane Group Flow (vph)	0	1284	0	0	722	0	0	0	0	0	819	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		33.5			33.5						37.5	
Effective Green, g (s)		33.5			33.5						37.5	
Actuated g/C Ratio		0.42			0.42						0.47	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		1075			961						1256	
v/s Ratio Prot		c0.50										
v/s Ratio Perm					0.31						0.31	
v/c Ratio		1.19			0.75						0.65	
Uniform Delay, d1		23.2			19.7						16.3	
Progression Factor		0.67			1.00						1.00	
Incremental Delay, d2		88.3			3.4						2.6	
Delay (s)		104.0			23.1						18.9	
Level of Service		F			C						B	
Approach Delay (s)		104.0			23.1			0.0			18.9	
Approach LOS		F			C			A			B	

Intersection Summary			
HCM Average Control Delay	58.6	HCM Level of Service	E
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	83.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	114	490	720	1278	0	1290	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.67	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		0.99	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	930	3016	3110		3043	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	930	3016	3110		3043	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	114	490	720	1278	0	1290	60
RTOR Reduction (vph)	0	248	0	0	0	4	0
Lane Group Flow (vph)	114	242	720	1278	0	1346	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	25.3	25.3	15.7	53.7		32.0	
Effective Green, g (s)	25.3	25.3	15.7	53.7		32.0	
Actuated g/C Ratio	0.28	0.28	0.17	0.60		0.36	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	437	261	526	1856		1082	
v/s Ratio Prot	0.07		c0.24	0.41		c0.44	
v/s Ratio Perm		c0.26					
v/c Ratio	0.26	0.93	1.37	0.69		1.24	
Uniform Delay, d1	25.1	31.5	37.1	12.4		29.0	
Progression Factor	1.00	1.00	1.00	1.00		0.72	
Incremental Delay, d2	0.3	36.3	177.8	2.1		114.7	
Delay (s)	25.4	67.8	215.0	14.5		135.5	
Level of Service	C	E	F	B		F	
Approach Delay (s)	59.8			86.8		135.5	
Approach LOS	E			F		F	

Intersection Summary			
HCM Average Control Delay	99.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	122.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	165	10	20	100	10	20	10	7	10	10	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
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.59		1.00	0.75		0.94			1.00	0.45
Flpb, ped/bikes		0.99	1.00		0.95	1.00		0.73			0.85	1.00
Frt		1.00	0.85		1.00	0.85		0.98			1.00	0.85
Flt Protected		1.00	1.00		0.99	1.00		0.97			0.98	1.00
Satd. Flow (prot)		1613	823		1542	1050		1067			1362	621
Flt Permitted		0.99	1.00		0.95	1.00		0.82			0.82	1.00
Satd. Flow (perm)		1599	823		1484	1050		899			1147	621
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	176	11	21	106	11	21	11	7	11	11	11
RTOR Reduction (vph)	0	0	2	0	0	2	0	7	0	0	0	10
Lane Group Flow (vph)	0	187	9	0	127	9	0	32	0	0	22	1
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		47.0	47.0		47.0	47.0		4.0			4.0	4.0
Effective Green, g (s)		47.0	47.0		47.0	47.0		4.0			4.0	4.0
Actuated g/C Ratio		0.78	0.78		0.78	0.78		0.07			0.07	0.07
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)		1253	645		1162	823		60			76	41
v/s Ratio Prot												
v/s Ratio Perm		c0.12	0.01		0.09	0.01		c0.04			0.02	0.00
v/c Ratio		0.15	0.01		0.11	0.01		0.54			0.29	0.02
Uniform Delay, d1		1.6	1.4		1.5	1.4		27.1			26.6	26.2
Progression Factor		1.00	1.00		0.12	0.00		1.00			0.83	0.75
Incremental Delay, d2		0.1	0.0		0.2	0.0		9.6			2.1	0.2
Delay (s)		1.7	1.4		0.4	0.0		36.7			24.3	19.9
Level of Service		A	A		A	A		D			C	B
Approach Delay (s)		1.6			0.3			36.7			22.8	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM Average Control Delay	6.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.18		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	479	10	873	410	60	60	60	20	20	20	300	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.34		0.66	1.00	0.95			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.81	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	559	3110	479		936	1555	1325			1257	1174
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (perm)	3110	559	3110	479		936	1555	1325			1259	1174
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)	504	11	919	432	63	63	63	21	21	21	316	42
RTOR Reduction (vph)	0	5	0	171	0	38	0	15	0	0	0	31
Lane Group Flow (vph)	504	6	919	324	0	25	63	27	0	0	337	11
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	43.0	43.0	43.0	43.0		20.0	20.0	20.0			20.0	20.0
Effective Green, g (s)	43.0	43.0	43.0	43.0		20.0	20.0	20.0			20.0	20.0
Actuated g/C Ratio	0.57	0.57	0.57	0.57		0.27	0.27	0.27			0.27	0.27
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1783	320	1783	275		250	415	353			336	313
v/s Ratio Prot	0.16		0.30									
v/s Ratio Perm		0.01		c0.68		0.03	0.04	0.02			c0.27	0.01
v/c Ratio	0.28	0.02	0.52	1.18		0.10	0.15	0.08			1.00	0.04
Uniform Delay, d1	8.1	6.9	9.7	16.0		20.7	21.0	20.6			27.5	20.4
Progression Factor	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	1.1	111.8		0.8	0.8	0.4			49.8	0.2
Delay (s)	8.5	7.0	10.8	127.8		21.5	21.8	21.0			77.3	20.6
Level of Service	A	A	B	F		C	C	C			E	C
Approach Delay (s)	8.5		51.7								71.1	
Approach LOS	A		D								E	

Intersection Summary			
HCM Average Control Delay	43.6	HCM Level of Service	D
HCM Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	509	70	59	1133	80	59
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	547	75	63	1218	86	63

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	365	258	470	812	149
Volume Left (vph)	0	0	63	0	86
Volume Right (vph)	0	75	0	0	63
Hadj (s)	0.02	-0.19	0.08	0.02	-0.12
Departure Headway (s)	6.4	6.2	6.0	5.9	6.6
Degree Utilization, x	0.65	0.45	0.78	1.33	0.27
Capacity (veh/h)	549	567	596	612	531
Control Delay (s)	19.4	12.9	25.6	177.8	12.0
Approach Delay (s)	16.8		122.1		12.0
Approach LOS	C		F		B

Intersection Summary			
Delay	82.1		
HCM Level of Service	F		
Intersection Capacity Utilization	79.3%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT
Lane Configurations												
Volume (vph)	10	428	110	30	10	10	1032	20	20	20	10	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4					5.4		4.0			5.0
Lane Util. Factor		0.95					0.95		1.00			1.00
Frpb, ped/bikes		0.86					0.99		0.78			1.00
Flpb, ped/bikes		1.00					1.00		1.00			1.00
Frt		0.96					1.00		0.86			1.00
Flt Protected		1.00					1.00		1.00			0.97
Satd. Flow (prot)		2414					3062		1106			1589
Flt Permitted		0.93					0.94		1.00			0.97
Satd. Flow (perm)		2247					2872		1106			1589
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	465	120	33	11	11	1122	22	22	22	11	22
RTOR Reduction (vph)	0	5	0	0	0	0	2	0	0	0	0	0
Lane Group Flow (vph)	0	624	0	0	0	0	1164	0	22	0	0	55
Confl. Peds. (#/hr)	400		400	400	400	400		400	400	400	400	
Confl. Bikes (#/hr)			30	30				30	10			
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm	Perm			Free	Split	Split	
Protected Phases		2					6			4	4	4
Permitted Phases	2				6	6			Free			
Actuated Green, G (s)		41.6					41.6		75.0			9.0
Effective Green, g (s)		41.6					41.6		75.0			9.0
Actuated g/C Ratio		0.55					0.55		1.00			0.12
Clearance Time (s)		5.4					5.4					5.0
Lane Grp Cap (vph)		1246					1593		1106			191
v/s Ratio Prot												0.03
v/s Ratio Perm		0.28					c0.41		0.02			
v/c Ratio		0.50					0.73		0.02			0.29
Uniform Delay, d1		10.3					12.5		0.0			30.1
Progression Factor		1.00					0.25		1.00			1.00
Incremental Delay, d2		1.4					2.2		0.0			3.8
Delay (s)		11.7					5.4		0.0			33.8
Level of Service		B					A		A			C
Approach Delay (s)		11.7					5.4					41.7
Approach LOS		B					A					D

Intersection Summary			
HCM Average Control Delay	11.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR	NWL	NWR	NWR2
Lane Configurations				
Volume (vph)	50	110	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0
Lane Util. Factor	1.00	0.97		1.00
Frpb, ped/bikes	0.55	0.94		0.55
Flpb, ped/bikes	1.00	1.00		1.00
Frt	0.85	0.99		0.85
Flt Protected	1.00	0.96		1.00
Satd. Flow (prot)	768	2810		768
Flt Permitted	1.00	0.96		1.00
Satd. Flow (perm)	768	2810		768
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	120	11	11
RTOR Reduction (vph)	7	0	0	10
Lane Group Flow (vph)	47	131	0	1
Confl. Peds. (#/hr)	400	400	400	400
Confl. Bikes (#/hr)	10		10	10
Parking (#/hr)				
Turn Type	Perm			Perm
Protected Phases		8		
Permitted Phases	4			8
Actuated Green, G (s)	9.0	9.0		9.0
Effective Green, g (s)	9.0	9.0		9.0
Actuated g/C Ratio	0.12	0.12		0.12
Clearance Time (s)	5.0	5.0		5.0
Lane Grp Cap (vph)	92	337		92
v/s Ratio Prot		c0.05		
v/s Ratio Perm	c0.06			0.00
v/c Ratio	0.51	0.39		0.01
Uniform Delay, d1	30.9	30.5		29.1
Progression Factor	1.00	1.00		1.00
Incremental Delay, d2	18.8	3.4		0.3
Delay (s)	49.7	33.8		29.4
Level of Service	D	C		C
Approach Delay (s)		33.5		
Approach LOS		C		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	418	40	30	1052	40	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.97			1.00	0.86	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.99			1.00	0.94	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2787			3091	1288	
Flt Permitted	1.00			0.93	0.97	
Satd. Flow (perm)	2787			2884	1288	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	459	44	33	1156	44	33
RTOR Reduction (vph)	10	0	0	0	23	0
Lane Group Flow (vph)	493	0	0	1189	54	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1672			1730	386	
v/s Ratio Prot	0.18				c0.04	
v/s Ratio Perm				c0.41		
v/c Ratio	0.30			0.69	0.14	
Uniform Delay, d1	7.3			10.2	19.2	
Progression Factor	0.47			1.00	1.00	
Incremental Delay, d2	0.4			2.3	0.8	
Delay (s)	3.8			12.5	19.9	
Level of Service	A			B	B	
Approach Delay (s)	3.8			12.5	19.9	
Approach LOS	A			B	B	

Intersection Summary			
HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	81.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	418	20	10	1052	10	10
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	459	22	11	1156	11	11

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	306	175	396	771	22
Volume Left (vph)	0	0	11	0	11
Volume Right (vph)	0	22	0	0	11
Hadj (s)	0.02	-0.07	0.03	0.02	-0.18
Departure Headway (s)	5.7	5.6	5.1	5.1	6.3
Degree Utilization, x	0.49	0.27	0.56	1.09	0.04
Capacity (veh/h)	612	622	694	720	548
Control Delay (s)	12.8	9.6	13.2	79.6	9.6
Approach Delay (s)	11.6		57.1		9.6
Approach LOS	B		F		A

Intersection Summary			
Delay	43.4		
HCM Level of Service	E		
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL2	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	46	422	40	10	10	996	112	50	30	30	122	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5				5.5	5.5		5.5		5.5	5.5
Lane Util. Factor		0.95				0.95	1.00		1.00		0.95	0.95
Frpb, ped/bikes		0.95				1.00	0.66		0.91		1.00	0.94
Flpb, ped/bikes		0.99				1.00	1.00		0.86		0.73	0.88
Frt		0.99				1.00	0.85		0.96		1.00	0.98
Flt Protected		1.00				1.00	1.00		0.98		0.95	0.98
Satd. Flow (prot)		2695				3104	808		1057		1078	1240
Flt Permitted		0.79				0.95	1.00		0.83		0.70	0.84
Satd. Flow (perm)		2142				2948	808		898		795	1069
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	48	440	42	10	10	1038	117	52	31	31	127	42
RTOR Reduction (vph)	0	1	0	0	0	0	4	0	15	0	0	0
Lane Group Flow (vph)	0	539	0	0	0	1048	113	0	99	0	88	91
Confl. Peds. (#/hr)	400		400	400	400		400	400		400	400	
Confl. Bikes (#/hr)			10	10			10			10		
Parking (#/hr)		5	5	5			5	5	5	5		
Turn Type	Perm				Perm		Perm	Perm			Perm	
Protected Phases		2				6			8			4
Permitted Phases	2				6	6	6	8			4	
Actuated Green, G (s)		56.5				56.5	56.5		22.5		22.5	22.5
Effective Green, g (s)		56.5				56.5	56.5		22.5		22.5	22.5
Actuated g/C Ratio		0.63				0.63	0.63		0.25		0.25	0.25
Clearance Time (s)		5.5				5.5	5.5		5.5		5.5	5.5
Vehicle Extension (s)		3.0				3.0	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)		1345				1851	507		225		199	267
v/s Ratio Prot												
v/s Ratio Perm		0.25				c0.36	0.14		0.11		c0.11	0.09
v/c Ratio		0.40				0.57	0.22		0.44		0.44	0.34
Uniform Delay, d1		8.3				9.7	7.2		28.4		28.5	27.7
Progression Factor		1.00				0.28	0.23		1.00		1.00	1.00
Incremental Delay, d2		0.9				1.2	0.9		6.1		1.6	0.8
Delay (s)		9.2				3.8	2.6		34.6		30.0	28.4
Level of Service		A				A	A		C		C	C
Approach Delay (s)		9.2				3.7			34.6			28.7
Approach LOS		A				A			C			C

Intersection Summary			
HCM Average Control Delay	9.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR	SBR2	NER2
Lane Configurations			
Volume (vph)	10	56	60
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)		5.5	4.0
Lane Util. Factor		1.00	1.00
Frpb, ped/bikes		0.65	0.78
Flpb, ped/bikes		1.00	1.00
Frt		0.85	0.86
Flt Protected		1.00	1.00
Satd. Flow (prot)		911	967
Flt Permitted		1.00	1.00
Satd. Flow (perm)		911	967
Peak-hour factor, PHF	0.96	0.96	0.96
Adj. Flow (vph)	10	58	62
RTOR Reduction (vph)	0	15	0
Lane Group Flow (vph)	0	43	62
Confl. Peds. (#/hr)	400	400	400
Confl. Bikes (#/hr)	10	10	10
Parking (#/hr)			5
Turn Type		Perm	Free
Protected Phases			
Permitted Phases		4	Free
Actuated Green, G (s)		22.5	90.0
Effective Green, g (s)		22.5	90.0
Actuated g/C Ratio		0.25	1.00
Clearance Time (s)		5.5	
Vehicle Extension (s)		3.0	
Lane Grp Cap (vph)		228	967
v/s Ratio Prot			
v/s Ratio Perm		0.05	0.06
v/c Ratio		0.19	0.06
Uniform Delay, d1		26.6	0.0
Progression Factor		1.00	1.00
Incremental Delay, d2		0.4	0.1
Delay (s)		27.0	0.1
Level of Service		C	A
Approach Delay (s)			
Approach LOS			

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	575	0	0	1099	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	639	0	0	1221	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	639	0	0	1221	0
Confl. Peds. (#/hr)						
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		76.0			76.0	
Effective Green, g (s)		76.0			76.0	
Actuated g/C Ratio		0.84			0.84	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		2067			2547	
v/s Ratio Prot		0.26			c0.40	
v/s Ratio Perm						
v/c Ratio		0.31			0.48	
Uniform Delay, d1		1.5			1.8	
Progression Factor		0.69			0.21	
Incremental Delay, d2		0.4			0.4	
Delay (s)		1.4			0.8	
Level of Service		A			A	
Approach Delay (s)	1.4			0.0	0.8	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	1.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	54.2%	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												
Volume (vph)	10	190	90	180	400	30	100	270	190	20	90	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.80		1.00	0.96			1.00	0.62		1.00	0.36
Flpb, ped/bikes		0.99		0.60	1.00			0.86	1.00		0.97	1.00
Frt		0.95		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.99	1.00		0.99	1.00
Satd. Flow (prot)		2354		936	1354			1177	844		1577	507
Flt Permitted		0.94		0.55	1.00			0.88	1.00		0.91	1.00
Satd. Flow (perm)		2207		547	1354			1050	844		1447	507
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)	11	211	100	200	444	33	111	300	211	22	100	56
RTOR Reduction (vph)	0	49	0	0	3	0	0	0	23	0	0	11
Lane Group Flow (vph)	0	273	0	200	474	0	0	411	188	0	122	45
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		35.6		35.6	35.6			44.4	44.4		44.4	44.4
Effective Green, g (s)		35.6		35.6	35.6			44.4	44.4		44.4	44.4
Actuated g/C Ratio		0.40		0.40	0.40			0.49	0.49		0.49	0.49
Clearance Time (s)		5.5		5.5	5.5			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)		873		216	536			518	416		714	250
v/s Ratio Prot					0.35							
v/s Ratio Perm		0.12		c0.37				c0.39	0.22		0.08	0.09
v/c Ratio		0.31		0.93	0.88			0.79	0.45		0.17	0.18
Uniform Delay, d1		18.8		25.9	25.3			19.0	14.9		12.6	12.7
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		0.2		40.8	15.9			11.8	3.5		0.5	1.6
Delay (s)		19.0		66.8	41.2			30.8	18.4		13.1	14.3
Level of Service		B		E	D			C	B		B	B
Approach Delay (s)		19.0			48.7			26.6			13.5	
Approach LOS		B			D			C			B	

Intersection Summary			
HCM Average Control Delay	32.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	80.9%	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												
Volume (vph)	0	280	110	90	450	1249	180	0	130	575	160	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.96			1.00	0.96		0.99		1.00	1.00	
Flpb, ped/bikes		1.00			0.99	1.00		0.99		1.00	1.00	
Frt		0.96			1.00	0.85		0.94		1.00	0.99	
Flt Protected		1.00			0.99	1.00		0.97		0.95	0.97	
Satd. Flow (prot)		2688			1612	2362		1287		1477	1498	
Flt Permitted		1.00			0.80	1.00		0.18		0.57	0.67	
Satd. Flow (perm)		2688			1297	2362		240		878	1033	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	292	115	94	469	1301	188	0	135	599	167	21
RTOR Reduction (vph)	0	46	0	0	0	0	0	29	0	0	2	0
Lane Group Flow (vph)	0	361	0	0	563	1301	0	294	0	389	396	0
Confl. Peds. (#/hr)			50	50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		28.0			28.0	65.5		17.5		34.0	34.0	
Effective Green, g (s)		28.0			28.0	65.5		17.5		34.0	34.0	
Actuated g/C Ratio		0.31			0.31	0.73		0.19		0.38	0.38	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		836			404	1719		47		332	390	
v/s Ratio Prot		0.13										
v/s Ratio Perm					c0.43	0.55		c1.23		c0.44	0.38	
v/c Ratio		0.43			1.39	0.76		6.26		1.17	1.01	
Uniform Delay, d1		24.7			31.0	7.4		36.2		28.0	28.0	
Progression Factor		1.00			1.00	1.00		1.00		1.06	1.07	
Incremental Delay, d2		1.6			191.7	3.2		2409.6		104.3	48.8	
Delay (s)		26.3			222.7	10.6		2445.9		133.9	78.8	
Level of Service		C			F	B		F		F	E	
Approach Delay (s)		26.3			74.7			2445.9			106.0	
Approach LOS		C			E			F			F	

Intersection Summary			
HCM Average Control Delay	302.7	HCM Level of Service	F
HCM Volume to Capacity ratio	2.38		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	116.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	585	20	110	1588	20	199	30	167	30	40	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5			3.5			3.5	3.5
Lane Util. Factor		0.95			0.91			0.95			1.00	1.00
Frpb, ped/bikes		0.99			1.00			0.84			1.00	0.62
Flpb, ped/bikes		1.00			0.99			0.83			0.93	1.00
Frt		1.00			1.00			0.94			1.00	0.85
Flt Protected		1.00			1.00			0.98			0.98	1.00
Satd. Flow (prot)		3051			4394			1855			1486	860
Flt Permitted		0.79			0.81			0.78			0.78	1.00
Satd. Flow (perm)		2403			3572			1478			1179	860
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)	33	650	22	122	1764	22	221	33	186	33	44	56
RTOR Reduction (vph)	0	2	0	0	1	0	0	27	0	0	0	2
Lane Group Flow (vph)	0	703	0	0	1907	0	0	413	0	0	77	54
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		53.3			53.3			29.7			29.7	29.7
Effective Green, g (s)		53.3			53.3			29.7			29.7	29.7
Actuated g/C Ratio		0.59			0.59			0.33			0.33	0.33
Clearance Time (s)		3.5			3.5			3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		1423			2115			488			389	284
v/s Ratio Prot												
v/s Ratio Perm		0.29			c0.53			c0.28			0.07	0.06
v/c Ratio		0.49			0.90			0.85			0.20	0.19
Uniform Delay, d1		10.6			16.1			28.0			21.6	21.6
Progression Factor		1.00			0.46			1.00			1.00	1.00
Incremental Delay, d2		0.3			5.4			16.3			1.1	1.5
Delay (s)		10.8			12.8			44.3			22.8	23.0
Level of Service		B			B			D			C	C
Approach Delay (s)		10.8			12.8			44.3			22.9	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM Average Control Delay	17.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	99.2%	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												
Volume (vph)	20	592	171	5	1299	30	91	180	112	10	331	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.91		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.80		1.00		1.00	0.87			0.87	
Flpb, ped/bikes		1.00	1.00		1.00		0.85	1.00			1.00	
Frt		1.00	0.85		1.00		1.00	0.94			0.94	
Flt Protected		1.00	1.00		1.00		0.95	1.00			1.00	
Satd. Flow (prot)		3102	973		4430		1323	3661			3669	
Flt Permitted		0.88	1.00		0.94		0.41	1.00			0.93	
Satd. Flow (perm)		2731	973		4157		575	3661			3426	
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)	20	604	174	5	1326	31	93	184	114	10	338	204
RTOR Reduction (vph)	0	0	1	0	3	0	0	34	0	0	7	0
Lane Group Flow (vph)	0	624	173	0	1359	0	93	264	0	0	545	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		43.9	43.9		43.9		36.1	36.1			36.1	
Effective Green, g (s)		43.9	43.9		43.9		36.1	36.1			36.1	
Actuated g/C Ratio		0.49	0.49		0.49		0.40	0.40			0.40	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1332	475		2028		231	1468			1374	
v/s Ratio Prot								0.07				
v/s Ratio Perm		0.23	0.18		c0.33		c0.16				0.16	
v/c Ratio		0.47	0.36		0.67		0.40	0.18			0.40	
Uniform Delay, d1		15.3	14.4		17.5		19.2	17.4			19.2	
Progression Factor		0.68	0.68		0.90		1.00	1.00			1.00	
Incremental Delay, d2		0.2	0.4		0.8		5.2	0.3			0.9	
Delay (s)		10.6	10.1		16.5		24.4	17.7			20.1	
Level of Service		B	B		B		C	B			C	
Approach Delay (s)		10.5			16.5			19.3			20.1	
Approach LOS		B			B			B			C	

Intersection Summary			
HCM Average Control Delay	15.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1458	260	0	2458	120	290	179	30	70	159	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.95			0.98		1.00	0.95		1.00	0.93	
Flpb, ped/bikes		1.00			1.00		0.77	1.00		0.78	1.00	
Frt		0.98			0.99		1.00	0.98		1.00	0.97	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4127			4180		1198	1525		1206	1297	
Flt Permitted		1.00			1.00		0.57	1.00		0.56	1.00	
Satd. Flow (perm)		4127			4180		724	1525		708	1297	
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)	0	1488	265	0	2508	122	296	183	31	71	162	41
RTOR Reduction (vph)	0	6	0	0	5	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	1747	0	0	2625	0	296	211	0	71	203	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2384			2415		221	466		216	396	
v/s Ratio Prot		0.42			c0.63			0.14			0.16	
v/s Ratio Perm							c0.41			0.10		
v/c Ratio		0.73			1.09		1.34	0.45		0.33	0.51	
Uniform Delay, d1		13.9			19.0		31.2	25.2		24.1	25.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.0			46.8		180.0	3.2		4.0	4.7	
Delay (s)		15.9			65.8		211.2	28.4		28.2	30.4	
Level of Service		B			E		F	C		C	C	
Approach Delay (s)		15.9			65.8			134.5			29.8	
Approach LOS		B			E			F			C	

Intersection Summary			
HCM Average Control Delay	53.8	HCM Level of Service	D
HCM Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	110.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1238	130	0	2168	120	100	160	40	70	200	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			0.95	
Frpb, ped/bikes		0.98			0.98		1.00	0.93			0.94	
Flpb, ped/bikes		1.00			1.00		0.81	1.00			0.95	
Frt		0.99			0.99		1.00	0.97			0.97	
Flt Protected		1.00			1.00		0.95	1.00			0.99	
Satd. Flow (prot)		4315			4351		1259	1483			2680	
Flt Permitted		1.00			1.00		0.50	1.00			0.81	
Satd. Flow (perm)		4315			4351		665	1483			2196	
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	1303	137	0	2282	126	105	168	42	74	211	63
RTOR Reduction (vph)	0	4	0	0	5	0	0	6	0	0	1	0
Lane Group Flow (vph)	0	1436	0	0	2403	0	105	204	0	0	347	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2555			2577		199	443			656	
v/s Ratio Prot		0.33			c0.55			0.14				
v/s Ratio Perm							0.16				c0.16	
v/c Ratio		0.56			0.93		0.53	0.46			0.53	
Uniform Delay, d1		11.2			16.7		26.3	25.7			26.3	
Progression Factor		1.00			0.22		1.00	1.00			1.00	
Incremental Delay, d2		0.9			3.7		9.7	3.4			3.0	
Delay (s)		12.1			7.5		35.9	29.1			29.3	
Level of Service		B			A		D	C			C	
Approach Delay (s)		12.1			7.5			31.4			29.3	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM Average Control Delay	12.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	107.2%	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												
Volume (vph)	0	1308	100	0	2068	60	60	100	30	30	170	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.98			0.99			0.95			0.93	
Flpb, ped/bikes		1.00			1.00			0.94			0.97	
Frt		0.99			1.00			0.98			0.97	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		4130			4222			1233			1262	
Flt Permitted		1.00			1.00			0.79			0.94	
Satd. Flow (perm)		4130			4222			985			1197	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1422	109	0	2248	65	65	109	33	33	185	54
RTOR Reduction (vph)	0	5	0	0	3	0	0	5	0	0	1	0
Lane Group Flow (vph)	0	1526	0	0	2310	0	0	202	0	0	271	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2478			2533			296			359	
v/s Ratio Prot		0.37			c0.55							
v/s Ratio Perm								0.21			c0.23	
v/c Ratio		0.62			0.91			0.68			0.76	
Uniform Delay, d1		11.4			15.9			27.7			28.5	
Progression Factor		1.51			1.00			1.00			1.00	
Incremental Delay, d2		1.0			6.3			12.1			13.8	
Delay (s)		18.3			22.2			39.8			42.3	
Level of Service		B			C			D			D	
Approach Delay (s)		18.3			22.2			39.8			42.3	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM Average Control Delay	22.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.1%	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		↑↑↑			↑↑↑↱		↰	↕↱				↱
Volume (vph)	0	1088	0	0	1278	60	820	447	40	0	0	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.99		1.00	0.99				0.95
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.98				1.00
Satd. Flow (prot)		4282			4371		1415	2680				1352
Flt Permitted		1.00			1.00		0.95	0.98				1.00
Satd. Flow (perm)		4282			4371		1415	2680				1352
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1170	0	0	1374	65	882	481	43	0	0	86
RTOR Reduction (vph)	0	0	0	0	5	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	1170	0	0	1434	0	459	943	0	0	0	86
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		38.0			29.0		42.0	42.0				6.0
Effective Green, g (s)		38.0			29.0		42.0	42.0				6.0
Actuated g/C Ratio		0.42			0.32		0.47	0.47				0.07
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		1808			1408		660	1251				90
v/s Ratio Prot		0.27			c0.33							
v/s Ratio Perm							0.32	0.35				c0.06
v/c Ratio		0.65			1.02		0.70	0.75				0.96
Uniform Delay, d1		20.7			30.5		19.0	19.7				41.9
Progression Factor		1.00			0.37		1.00	1.00				1.00
Incremental Delay, d2		1.8			22.6		6.0	4.2				83.3
Delay (s)		22.5			33.8		24.9	24.0				125.1
Level of Service		C			C		C	C				F
Approach Delay (s)		22.5			33.8			24.3			125.1	
Approach LOS		C			C			C			F	

Intersection Summary			
HCM Average Control Delay	29.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	81.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

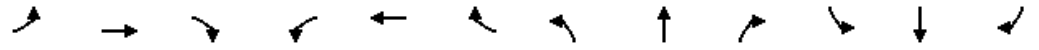
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	139	200	857	0	190	20	1026	243	40	0	452	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.97		1.00	0.95			1.00	0.67
Flpb, ped/bikes		0.91	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.99		1.00	0.98			1.00	0.85
Flt Protected		0.98	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1463	2448		1329		4385	1334			3110	815
Flt Permitted		0.63	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		945	2448		1329		4385	1334			3110	815
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	149	215	922	0	204	22	1103	261	43	0	486	142
RTOR Reduction (vph)	0	0	2	0	4	0	0	7	0	0	0	4
Lane Group Flow (vph)	0	364	920	0	222	0	1103	297	0	0	486	138
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		26.5	55.5		26.5		25.5	55.5			26.5	26.5
Effective Green, g (s)		26.5	52.0		26.5		25.5	55.5			26.5	26.5
Actuated g/C Ratio		0.29	0.58		0.29		0.28	0.62			0.29	0.29
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		278	1414		391		1242	823			916	240
v/s Ratio Prot			0.38		0.17		c0.25	0.22			0.16	
v/s Ratio Perm		c0.39										c0.17
v/c Ratio		1.31	0.65		0.57		0.89	0.36			0.53	0.57
Uniform Delay, d1		31.8	12.9		26.9		30.9	8.5			26.5	27.0
Progression Factor		0.46	0.33		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		158.3	0.9		1.9		9.7	1.2			2.2	9.6
Delay (s)		172.8	5.1		28.8		40.5	9.7			28.7	36.6
Level of Service		F	A		C		D	A			C	D
Approach Delay (s)		52.6			28.8			33.9			30.5	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM Average Control Delay	39.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	102.1%	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												
Volume (vph)	0	0	0	70	230	50	40	50	0	0	60	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.29		1.00			0.92	
Flpb, ped/bikes					0.85	1.00		0.87			1.00	
Frt					1.00	0.85		1.00			0.97	
Flt Protected					0.99	1.00		0.98			1.00	
Satd. Flow (prot)					2450	400		1396			1450	
Flt Permitted					0.99	1.00		0.86			1.00	
Satd. Flow (perm)					2450	400		1232			1450	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	0	80	264	57	46	57	0	0	69	23
RTOR Reduction (vph)	0	0	0	0	0	31	0	0	0	0	1	0
Lane Group Flow (vph)	0	0	0	0	344	26	0	103	0	0	91	0
Confl. Peds. (#/hr)				945		1084	569					569
Confl. Bikes (#/hr)						76			2			4
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					34.0	34.0		31.0			31.0	
Effective Green, g (s)					34.0	34.0		31.0			31.0	
Actuated g/C Ratio					0.45	0.45		0.41			0.41	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1111	181		509			599	
v/s Ratio Prot											0.06	
v/s Ratio Perm					0.14	0.06		c0.08				
v/c Ratio					0.31	0.14		0.20			0.15	
Uniform Delay, d1					13.0	12.0		14.1			13.8	
Progression Factor					1.00	1.00		0.96			1.00	
Incremental Delay, d2					0.7	1.6		0.9			0.5	
Delay (s)					13.8	13.6		14.4			14.3	
Level of Service					B	B		B			B	
Approach Delay (s)		0.0			13.7			14.4			14.3	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	57.5%	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												
Volume (vph)	0	0	0	210	250	30	170	40	0	0	80	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.92		1.00	1.00			0.96	
Flpb, ped/bikes				1.00	1.00		0.71	1.00			1.00	
Frt				1.00	0.98		1.00	1.00			0.99	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	2816		1101	1637			1552	
Flt Permitted				0.95	1.00		0.69	1.00			1.00	
Satd. Flow (perm)				1555	2816		802	1637			1552	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	0	236	281	34	191	45	0	0	90	11
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	236	308	0	191	45	0	0	101	0
Confl. Peds. (#/hr)						1700	537					569
Confl. Bikes (#/hr)						76			2			4
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				40.4	40.4		25.3	25.3			25.3	
Effective Green, g (s)				40.4	40.4		25.3	25.3			25.3	
Actuated g/C Ratio				0.54	0.54		0.34	0.34			0.34	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				838	1517		271	552			524	
v/s Ratio Prot				c0.15	0.11			0.03			0.07	
v/s Ratio Perm							c0.24					
v/c Ratio				0.28	0.20		0.70	0.08			0.19	
Uniform Delay, d1				9.4	9.0		21.6	16.9			17.6	
Progression Factor				1.00	1.00		1.04	1.04			1.00	
Incremental Delay, d2				0.8	0.3		14.3	0.3			0.8	
Delay (s)				10.2	9.3		36.7	17.9			18.4	
Level of Service				B	A		D	B			B	
Approach Delay (s)		0.0			9.7			33.1			18.4	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM Average Control Delay	16.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	38.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	190	110	10	496	20	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	202	117	11	528	21	11
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	306					
pX, platoon unblocked						
vC, conflicting volume			719		1610	960
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			719		1610	960
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		53	91
cM capacity (veh/h)			614		46	125

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	135	184	538	32
Volume Left	0	0	11	21
Volume Right	0	117	0	11
cSH	1700	1700	614	58
Volume to Capacity	0.08	0.11	0.02	0.55
Queue Length 95th (ft)	0	0	1	55
Control Delay (s)	0.0	0.0	0.5	126.3
Lane LOS			A	F
Approach Delay (s)	0.0		0.5	126.3
Approach LOS				F

Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	160	20	25	496	10	20	50	7	30	60	30
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		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.44		0.99			0.95			0.87	
Flpb, ped/bikes		0.96	1.00		0.98			0.89			0.89	
Frt		1.00	0.85		1.00			0.99			0.97	
Flt Protected		0.99	1.00		1.00			0.99			0.99	
Satd. Flow (prot)		1556	609		1384			1190			1055	
Flt Permitted		0.83	1.00		0.98			0.92			0.92	
Satd. Flow (perm)		1311	609		1360			1108			986	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	47	188	24	29	584	12	24	59	8	35	71	35
RTOR Reduction (vph)	0	0	11	0	1	0	0	5	0	0	3	0
Lane Group Flow (vph)	0	235	13	0	624	0	0	86	0	0	138	0
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4			4		
Actuated Green, G (s)		40.0	40.0		40.0			26.0			26.0	
Effective Green, g (s)		40.0	40.0		40.0			26.0			26.0	
Actuated g/C Ratio		0.53	0.53		0.53			0.35			0.35	
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)		699	325		725			384			342	
v/s Ratio Prot												
v/s Ratio Perm		0.18	0.02		c0.46			0.08			c0.14	
v/c Ratio		0.34	0.04		0.86			0.23			0.40	
Uniform Delay, d1		10.0	8.3		15.1			17.4			18.6	
Progression Factor		1.00	1.00		1.00			1.00			0.72	
Incremental Delay, d2		1.3	0.2		12.8			1.4			3.5	
Delay (s)		11.2	8.6		27.9			18.7			16.9	
Level of Service		B	A		C			B			B	
Approach Delay (s)		11.0			27.9			18.7			16.9	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	21.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	99.6%	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												
Volume (vph)	0	225	20	18	461	0	20	0	46	20	30	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
Lane Util. Factor		1.00	1.00		0.95			1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.26		1.00			0.62			1.00	0.67
Flpb, ped/bikes		1.00	1.00		0.98			0.91			0.81	1.00
Frt		1.00	0.85		1.00			0.91			1.00	0.85
Flt Protected		1.00	1.00		1.00			0.99			0.98	1.00
Satd. Flow (prot)		1637	354		3048			818			1295	933
Flt Permitted		1.00	1.00		0.94			0.94			0.92	1.00
Satd. Flow (perm)		1637	354		2865			782			1219	933
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	239	21	19	490	0	21	0	49	21	32	21
RTOR Reduction (vph)	0	0	16	0	0	0	0	0	0	0	0	8
Lane Group Flow (vph)	0	239	5	0	509	0	0	70	0	0	53	13
Confl. Peds. (#/hr)			800	800			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	36.5
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	36.5
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	0.61
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)		396	86		692			476			742	568
v/s Ratio Prot		0.15										
v/s Ratio Perm			0.01		c0.18			c0.09			0.04	0.01
v/c Ratio		0.60	0.06		0.74			0.15			0.07	0.02
Uniform Delay, d1		20.2	17.5		21.0			5.1			4.8	4.7
Progression Factor		1.00	1.00		1.00			1.00			1.00	1.00
Incremental Delay, d2		6.7	1.3		6.8			0.7			0.0	0.0
Delay (s)		26.9	18.8		27.8			5.7			4.9	4.7
Level of Service		C	B		C			A			A	A
Approach Delay (s)		26.2			27.8			5.7			4.8	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	23.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	349	20	80	10	190	10	374	340
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		0.97		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		0.99		0.99			1.00
Flt Protected		1.00		0.96		1.00			0.97
Satd. Flow (prot)		942		1311		1619			3030
Flt Permitted		1.00		0.96		1.00			0.95
Satd. Flow (perm)		942		1311		1619			2970
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	379	22	87	11	207	11	407	370
RTOR Reduction (vph)	0	0	0	6	0	0	0	0	0
Lane Group Flow (vph)	0	379	0	114	0	218	0	0	777
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		371		310			891
v/s Ratio Prot						0.13			
v/s Ratio Perm		c0.40		0.09					c0.26
v/c Ratio		0.72		0.31		0.70			0.87
Uniform Delay, d1		9.8		16.9		22.7			19.9
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		8.3		2.1		7.1			11.5
Delay (s)		18.1		19.0		29.7			31.4
Level of Service		B		B		C			C
Approach Delay (s)	18.1			19.0		29.7			31.4
Approach LOS	B			B		C			C

Intersection Summary			
HCM Average Control Delay	26.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	76.9%	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												
Volume (vph)	30	150	50	30	306	30	70	40	30	30	80	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.95			1.00	0.59	1.00	0.77			0.81	
Flpb, ped/bikes		0.97			1.00	1.00	0.61	1.00			0.92	
Frt		0.97			1.00	0.85	1.00	0.94			0.95	
Flt Protected		0.99			1.00	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1271			1426	721	952	1029			2168	
Flt Permitted		0.93			0.96	1.00	0.63	1.00			0.89	
Satd. Flow (perm)		1183			1372	721	630	1029			1954	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	34	172	57	34	352	34	80	46	34	34	92	69
RTOR Reduction (vph)	0	7	0	0	0	7	0	27	0	0	0	0
Lane Group Flow (vph)	0	256	0	0	386	27	80	53	0	0	195	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		62.5			62.5	62.5	17.4	17.4			17.4	
Effective Green, g (s)		62.5			62.5	62.5	17.4	17.4			17.4	
Actuated g/C Ratio		0.69			0.69	0.69	0.19	0.19			0.19	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		822			953	501	122	199			378	
v/s Ratio Prot								0.05				
v/s Ratio Perm		0.22			c0.28	0.04	c0.13				0.10	
v/c Ratio		0.31			0.41	0.05	0.66	0.26			0.52	
Uniform Delay, d1		5.4			5.8	4.4	33.5	30.9			32.5	
Progression Factor		1.00			1.00	1.00	0.66	0.43			1.00	
Incremental Delay, d2		1.0			1.3	0.2	12.0	0.7			1.2	
Delay (s)		6.3			7.1	4.6	34.0	13.9			33.7	
Level of Service		A			A	A	C	B			C	
Approach Delay (s)		6.3			6.9			23.9			33.7	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	14.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	118.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Volume (vph)	30	210	30	30	316	20	20	37	70	20	45	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.95			0.98			0.66			0.77	
Flpb, ped/bikes		0.97			0.98			0.93			0.92	
Frt		0.98			0.99			0.93			0.95	
Flt Protected		0.99			1.00			0.99			0.99	
Satd. Flow (prot)		1296			1349			811			949	
Flt Permitted		0.94			0.96			0.95			0.93	
Satd. Flow (perm)		1221			1301			774			894	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	32	223	32	32	336	21	21	39	74	21	48	43
RTOR Reduction (vph)	0	1	0	0	1	0	0	49	0	0	25	0
Lane Group Flow (vph)	0	286	0	0	388	0	0	85	0	0	87	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.6			62.6			18.6			18.6	
Effective Green, g (s)		62.6			62.6			18.6			18.6	
Actuated g/C Ratio		0.70			0.70			0.21			0.21	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		849			905			160			185	
v/s Ratio Prot												
v/s Ratio Perm		0.23			c0.30			c0.11			0.10	
v/c Ratio		0.34			0.43			0.53			0.47	
Uniform Delay, d1		5.4			5.9			31.8			31.4	
Progression Factor		1.00			1.00			0.62			1.00	
Incremental Delay, d2		1.1			1.5			10.7			8.4	
Delay (s)		6.5			7.4			30.5			39.8	
Level of Service		A			A			C			D	
Approach Delay (s)		6.5			7.4			30.5			39.8	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM Average Control Delay	14.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	20	260	120	50	210	20	40	18	70	20	43	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.85			1.00	0.51		0.69			0.76	
Flpb, ped/bikes		0.98			0.95	1.00		0.87			0.93	
Frt		0.96			1.00	0.85		0.93			0.94	
Flt Protected		1.00			0.99	1.00		0.98			0.99	
Satd. Flow (prot)		1150			1353	617		786			946	
Flt Permitted		0.98			0.87	1.00		0.89			0.94	
Satd. Flow (perm)		1128			1183	617		707			898	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	22	292	135	56	236	22	45	20	79	22	48	52
RTOR Reduction (vph)	0	6	0	0	0	7	0	33	0	0	30	0
Lane Group Flow (vph)	0	443	0	0	292	15	0	111	0	0	92	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		57.0			57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0			57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63			0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		714			749	391		196			249	
v/s Ratio Prot												
v/s Ratio Perm		c0.39			0.25	0.02		c0.16			0.10	
v/c Ratio		0.62			0.39	0.04		0.57			0.37	
Uniform Delay, d1		10.0			8.0	6.2		27.8			26.2	
Progression Factor		1.00			0.83	0.68		1.00			1.00	
Incremental Delay, d2		4.0			1.5	0.2		10.2			4.2	
Delay (s)		14.0			8.2	4.4		38.0			30.4	
Level of Service		B			A	A		D			C	
Approach Delay (s)		14.0			7.9			38.0			30.4	
Approach LOS		B			A			D			C	

Intersection Summary			
HCM Average Control Delay	17.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	260	70	10	170	10	30	26	40	20	38	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.51		1.00	0.51		0.77			0.81	
Flpb, ped/bikes		0.97	1.00		0.98	1.00		0.86			0.90	
Frt		1.00	0.85		1.00	0.85		0.94			0.95	
Flt Protected		1.00	1.00		1.00	1.00		0.98			0.99	
Satd. Flow (prot)		1391	604		1405	604		877			1126	
Flt Permitted		0.98	1.00		0.98	1.00		0.90			0.93	
Satd. Flow (perm)		1362	604		1383	604		802			1065	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	22	292	79	11	191	11	34	29	45	22	43	34
RTOR Reduction (vph)	0	0	6	0	0	4	0	29	0	0	21	0
Lane Group Flow (vph)	0	314	73	0	202	7	0	79	0	0	78	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63	0.63		0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		863	383		876	383		223			296	
v/s Ratio Prot												
v/s Ratio Perm		c0.23	0.12		0.15	0.01		c0.10			0.07	
v/c Ratio		0.36	0.19		0.23	0.02		0.35			0.26	
Uniform Delay, d1		7.9	6.9		7.1	6.1		26.0			25.3	
Progression Factor		0.63	0.62		1.00	1.00		0.87			1.00	
Incremental Delay, d2		0.9	0.9		0.6	0.1		3.6			2.2	
Delay (s)		5.9	5.2		7.7	6.2		26.3			27.5	
Level of Service		A	A		A	A		C			C	
Approach Delay (s)		5.7			7.6			26.3			27.5	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	11.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	30	270	20	30	30	20	489	70	10	200	574
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				5.0		5.0			5.0	5.0
Lane Util. Factor	1.00				1.00		0.95			1.00	0.95
Frpb, ped/bikes	0.89				0.91		0.88			1.00	1.00
Flpb, ped/bikes	1.00				0.66		1.00			1.00	1.00
Frt	0.88				0.97		0.98			1.00	1.00
Flt Protected	1.00				0.96		1.00			0.95	1.00
Satd. Flow (prot)	1275				913		2678			1555	3110
Flt Permitted	1.00				0.96		1.00			0.95	1.00
Satd. Flow (perm)	1275				913		2678			1555	3110
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
Adj. Flow (vph)	32	284	21	32	32	21	515	74	11	211	604
RTOR Reduction (vph)	2	0	0	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	335	0	0	0	85	0	598	0	0	211	604
Confl. Peds. (#/hr)				400	400	400		400	400		
Confl. Bikes (#/hr)		30	30			10		30	30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0
Turn Type				Perm						Split	
Protected Phases	4				3		6			2	2
Permitted Phases				3							
Actuated Green, G (s)	20.0				20.0		17.0			13.0	13.0
Effective Green, g (s)	20.0				20.0		17.0			13.0	13.0
Actuated g/C Ratio	0.22				0.22		0.19			0.14	0.14
Clearance Time (s)	5.0				5.0		5.0			5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	283				203		506			225	449
v/s Ratio Prot	c0.26						c0.22			0.14	c0.19
v/s Ratio Perm					0.09						
v/c Ratio	1.18				0.42		1.18			0.94	1.35
Uniform Delay, d1	35.0				30.0		36.5			38.1	38.5
Progression Factor	1.00				1.03		1.00			0.92	0.91
Incremental Delay, d2	112.3				1.3		100.9			44.5	169.1
Delay (s)	147.3				32.1		137.4			79.6	204.0
Level of Service	F				C		F			E	F
Approach Delay (s)	147.3				32.1		137.4				171.8
Approach LOS	F				C		F				F

Intersection Summary			
HCM Average Control Delay	149.6	HCM Level of Service	F
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	86.6%	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												
Volume (vph)	0	903	40	7	1511	30	0	40	18	0	80	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.91			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.88			0.92	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.96			0.97	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2861			4244			1208			1288	
Flt Permitted		1.00			0.94			1.00			1.00	
Satd. Flow (perm)		2861			3970			1208			1288	
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)	0	1003	44	8	1679	33	0	44	20	0	89	22
RTOR Reduction (vph)	0	0	0	0	0	0	0	18	0	0	8	0
Lane Group Flow (vph)	0	1047	0	0	1720	0	0	46	0	0	103	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type				Perm								
Protected Phases		2			6			8			4	
Permitted Phases				6								
Actuated Green, G (s)		70.4			70.4			10.8			10.8	
Effective Green, g (s)		70.4			70.4			10.8			10.8	
Actuated g/C Ratio		0.78			0.78			0.12			0.12	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2238			3105			145			155	
v/s Ratio Prot		0.37						0.04			c0.08	
v/s Ratio Perm					c0.43							
v/c Ratio		0.47			0.55			0.32			0.67	
Uniform Delay, d1		3.4			3.8			36.2			37.9	
Progression Factor		0.60			1.00			1.00			1.00	
Incremental Delay, d2		0.7			0.2			1.3			10.3	
Delay (s)		2.7			4.0			37.5			48.1	
Level of Service		A			A			D			D	
Approach Delay (s)		2.7			4.0			37.5			48.1	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	5.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	0	766	227	0	1133	40	357	90	70	0	150	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.70		1.00	0.70	1.00	1.00	0.74		0.98	
Flpb, ped/bikes		1.00	1.00		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	0.85		0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3110	974		3110	974	3016	1637	1024		2816	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		3110	974		3110	974	3016	1637	1024		2816	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	815	241	0	1205	43	380	96	74	0	160	11
RTOR Reduction (vph)	0	0	71	0	0	19	0	0	3	0	6	0
Lane Group Flow (vph)	0	815	170	0	1205	24	380	96	71	0	165	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type			Perm			Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases			2			6			8			
Actuated Green, G (s)		49.9	49.9		49.9	49.9	16.0	31.1	31.1		10.6	
Effective Green, g (s)		49.9	49.9		49.9	49.9	16.0	31.1	31.1		10.6	
Actuated g/C Ratio		0.55	0.55		0.55	0.55	0.18	0.35	0.35		0.12	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		1724	540		1724	540	536	566	354		332	
v/s Ratio Prot		0.26			c0.39		c0.13	0.06			c0.06	
v/s Ratio Perm			0.17			0.02			0.07			
v/c Ratio		0.47	0.31		0.70	0.04	0.71	0.17	0.20		0.50	
Uniform Delay, d1		12.1	10.8		14.6	9.2	34.8	20.5	20.7		37.2	
Progression Factor		1.00	1.00		0.78	0.67	1.00	1.00	1.00		0.79	
Incremental Delay, d2		0.9	1.5		2.2	0.1	4.3	0.1	0.3		1.1	
Delay (s)		13.0	12.3		13.5	6.3	39.1	20.6	21.0		30.4	
Level of Service		B	B		B	A	D	C	C		C	
Approach Delay (s)		12.9			13.3			33.4			30.4	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM Average Control Delay	17.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	79.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	77	749	1097	40	90	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.91		1.00	
Frpb, ped/bikes		1.00	0.99		0.84	
Flpb, ped/bikes		1.00	1.00		1.00	
Frt		1.00	0.99		0.94	
Flt Protected		1.00	1.00		0.97	
Satd. Flow (prot)		2888	4397		1093	
Flt Permitted		0.72	1.00		0.97	
Satd. Flow (perm)		2086	4397		1093	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	82	797	1167	43	96	80
RTOR Reduction (vph)	0	0	4	0	21	0
Lane Group Flow (vph)	0	879	1206	0	155	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		64.0	64.0		19.0	
Effective Green, g (s)		64.0	64.0		19.0	
Actuated g/C Ratio		0.71	0.71		0.21	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1483	3127		231	
v/s Ratio Prot			0.27		c0.14	
v/s Ratio Perm		c0.42				
v/c Ratio		0.59	0.39		0.67	
Uniform Delay, d1		6.5	5.2		32.6	
Progression Factor		0.53	1.00		0.85	
Incremental Delay, d2		0.6	0.1		14.2	
Delay (s)		4.0	5.3		41.9	
Level of Service		A	A		D	
Approach Delay (s)		4.0	5.3		41.9	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	7.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	111.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	22	405	50	50	1175	40	30	45	60	70	81	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			0.99			0.84			0.91	
Flpb, ped/bikes		1.00			0.99			0.96			0.92	
Frt		0.98			1.00			0.94			0.97	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2763			2850			1071			1133	
Flt Permitted		0.86			0.91			0.90			0.83	
Satd. Flow (perm)		2382			2597			975			953	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	24	435	54	54	1263	43	32	48	65	75	87	55
RTOR Reduction (vph)	0	2	0	0	2	0	0	32	0	0	13	0
Lane Group Flow (vph)	0	511	0	0	1358	0	0	113	0	0	204	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		60.6			60.6			20.6			20.6	
Effective Green, g (s)		60.6			60.6			20.6			20.6	
Actuated g/C Ratio		0.67			0.67			0.23			0.23	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1604			1749			223			218	
v/s Ratio Prot												
v/s Ratio Perm		0.21			c0.52			0.12			c0.21	
v/c Ratio		0.32			0.78			0.50			0.94	
Uniform Delay, d1		6.1			10.1			30.3			34.0	
Progression Factor		1.00			0.11			1.00			0.79	
Incremental Delay, d2		0.5			2.4			8.0			41.9	
Delay (s)		6.6			3.5			38.2			68.9	
Level of Service		A			A			D			E	
Approach Delay (s)		6.6			3.5			38.2			68.9	
Approach LOS		A			A			D			E	

Intersection Summary			
HCM Average Control Delay	12.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
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												
Volume (vph)	26	699	30	30	1197	40	30	30	60	50	40	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.82			0.89	
Flpb, ped/bikes		1.00			1.00			0.94			0.90	
Frt		0.99			1.00			0.93			0.96	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2853			2864			1015			1085	
Flt Permitted		0.87			0.92			0.90			0.80	
Satd. Flow (perm)		2489			2633			927			890	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	760	33	33	1301	43	33	33	65	54	43	41
RTOR Reduction (vph)	0	1	0	0	1	0	0	41	0	0	14	0
Lane Group Flow (vph)	0	820	0	0	1376	0	0	90	0	0	124	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		65.5			65.5			15.6			15.6	
Effective Green, g (s)		65.5			65.5			15.6			15.6	
Actuated g/C Ratio		0.73			0.73			0.17			0.17	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1811			1916			161			154	
v/s Ratio Prot												
v/s Ratio Perm		0.33			c0.52			0.10			c0.14	
v/c Ratio		0.45			0.72			0.56			0.80	
Uniform Delay, d1		5.0			7.0			34.0			35.7	
Progression Factor		0.77			0.36			1.00			0.83	
Incremental Delay, d2		0.8			0.9			4.1			25.1	
Delay (s)		4.6			3.4			38.2			54.8	
Level of Service		A			A			D			D	
Approach Delay (s)		4.6			3.4			38.2			54.8	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	8.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	86.1%	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												
Volume (vph)	20	721	70	40	1117	20	140	10	30	10	10	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			0.99			0.94			0.82	
Flpb, ped/bikes		1.00			1.00			0.74			0.95	
Frt		0.99			1.00			0.98			0.93	
Flt Protected		1.00			1.00			0.96			0.99	
Satd. Flow (prot)		2794			3072			1074			1171	
Flt Permitted		0.90			0.89			0.74			0.92	
Satd. Flow (perm)		2525			2743			830			1086	
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)	22	801	78	44	1241	22	156	11	33	11	11	22
RTOR Reduction (vph)	0	2	0	0	1	0	0	8	0	0	15	0
Lane Group Flow (vph)	0	899	0	0	1306	0	0	192	0	0	29	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1742			1893			178			233	
v/s Ratio Prot												
v/s Ratio Perm		0.36			c0.48			c0.23			0.03	
v/c Ratio		0.52			0.69			1.08			0.12	
Uniform Delay, d1		6.7			8.3			35.4			28.5	
Progression Factor		1.33			0.50			1.00			0.30	
Incremental Delay, d2		1.0			0.9			90.2			0.1	
Delay (s)		9.9			5.0			125.6			8.8	
Level of Service		A			A			F			A	
Approach Delay (s)		9.9			5.0			125.6			8.8	
Approach LOS		A			A			F			A	

Intersection Summary			
HCM Average Control Delay	16.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	94.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	20	741	1137	754	759	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3054	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3054	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	805	1236	820	825	43
RTOR Reduction (vph)	0	11	0	0	4	0
Lane Group Flow (vph)	22	794	1236	820	864	0
Confl. Peds. (#/hr)						95
Confl. Bikes (#/hr)		10				81
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	7.0	50.6	39.6	73.0	29.4	
Effective Green, g (s)	7.0	50.6	39.6	73.0	29.4	
Actuated g/C Ratio	0.08	0.56	0.44	0.81	0.33	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	121	1376	1327	2364	998	
v/s Ratio Prot	0.01	c0.32	c0.41	0.28	c0.28	
v/s Ratio Perm						
v/c Ratio	0.18	0.58	0.93	0.35	0.87	
Uniform Delay, d1	38.8	12.8	23.9	2.2	28.4	
Progression Factor	1.25	0.90	0.76	0.47	0.40	
Incremental Delay, d2	0.6	0.5	6.7	0.2	0.8	
Delay (s)	49.0	12.0	25.0	1.2	12.2	
Level of Service	D	B	C	A	B	
Approach Delay (s)	13.0			15.5	12.2	
Approach LOS	B			B	B	

Intersection Summary			
HCM Average Control Delay	14.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	78.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	90	341	40	0	1470	0	50	29	1549
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			1.00			1.00	1.00
Flpb, ped/bikes				0.80			1.00			1.00	1.00
Frt				0.99			1.00			1.00	1.00
Flt Protected				0.96			1.00			0.95	1.00
Satd. Flow (prot)				2253			4427			1555	3110
Flt Permitted				0.96			1.00			0.95	1.00
Satd. Flow (perm)				2253			4427			1555	3110
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
Adj. Flow (vph)	0	0	100	379	44	0	1633	0	56	32	1721
RTOR Reduction (vph)	0	0	0	8	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	0	0	515	0	0	1685	0	0	32	1721
Confl. Peds. (#/hr)			125	64					125		
Confl. Bikes (#/hr)					34				86		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				23.9			49.4			3.7	57.1
Effective Green, g (s)				23.9			49.4			3.7	57.1
Actuated g/C Ratio				0.27			0.55			0.04	0.63
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				598			2430			64	1973
v/s Ratio Prot							0.38			0.02	c0.55
v/s Ratio Perm				0.23							
v/c Ratio				0.86			0.69			0.50	0.87
Uniform Delay, d1				31.5			14.8			42.2	13.5
Progression Factor				1.00			0.66			1.00	1.00
Incremental Delay, d2				12.1			0.5			2.2	5.7
Delay (s)				43.6			10.2			44.5	19.1
Level of Service				D			B			D	B
Approach Delay (s)	0.0			43.6			10.2				19.6
Approach LOS	A			D			B				B

Intersection Summary			
HCM Average Control Delay	18.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	70.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBR	EBR2	SEL	SET	SER2	NWL2	NWL	NWT	NWR	SWR2
Lane Configurations											
Volume (vph)	32	2	300	20	1084	424	176	0	1566	20	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		7.0	7.0	7.0		4.0	7.0		
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00		1.00	0.95		
Frpb, ped/bikes	1.00	0.91		1.00	1.00	0.95		1.00	0.99		
Flpb, ped/bikes	1.00	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	1.00		
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95	1.00		
Satd. Flow (prot)	1555	1105		1555	3110	1323		1555	3080		
Flt Permitted	0.95	1.00		0.13	1.00	1.00		0.40	1.00		
Satd. Flow (perm)	1555	1105		218	3110	1323		655	3080		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	2	326	22	1178	461	191	0	1702	22	0
RTOR Reduction (vph)	0	233	0	0	0	286	0	0	1	0	0
Lane Group Flow (vph)	35	95	0	22	1178	175	0	191	1723	0	0
Confl. Peds. (#/hr)			64							1000	100
Confl. Bikes (#/hr)		10	10			30				30	10
Parking (#/hr)		5	5								
Turn Type	custom	custom		Perm		Perm	custom	Prot			custom
Protected Phases					6			5	2		
Permitted Phases	4	4		6		6	5				8
Actuated Green, G (s)	22.5	22.5		30.0	30.0	30.0		10.0	44.0		
Effective Green, g (s)	22.5	22.5		30.0	30.0	30.0		10.0	44.0		
Actuated g/C Ratio	0.28	0.28		0.38	0.38	0.38		0.13	0.56		
Clearance Time (s)	5.5	5.5		7.0	7.0	7.0		4.0	7.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	443	315		83	1181	502		83	1715		
v/s Ratio Prot					0.38				c0.56		
v/s Ratio Perm	0.02	c0.09		0.10		0.13		c0.29			
v/c Ratio	0.08	0.30		0.27	1.00	0.35		2.30	1.00		
Uniform Delay, d1	20.7	22.1		16.9	24.5	17.5		34.5	17.5		
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2	0.1	0.5		7.6	25.6	1.9		621.7	22.8		
Delay (s)	20.7	22.6		24.5	50.1	19.4		656.2	40.3		
Level of Service	C	C		C	D	B		F	D		
Approach Delay (s)					41.2				101.7		
Approach LOS					D				F		

Intersection Summary			
HCM Average Control Delay	68.9	HCM Level of Service	E
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	117.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	40	0	130	0	0	0	90	1693	0	0	20	1248
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.75					1.00	1.00				0.99
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.90					1.00	1.00				1.00
Flt Protected		0.99					0.95	1.00				1.00
Satd. Flow (prot)		953					1555	3110				3077
Flt Permitted		0.99					0.95	1.00				0.86
Satd. Flow (perm)		953					1555	3110				2646
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	43	0	138	0	0	0	96	1801	0	0	21	1328
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	0	179	0	0	0	0	96	1801	0	0	0	1369
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		21.2					4.0	59.8				50.8
Effective Green, g (s)		21.2					4.0	59.8				50.8
Actuated g/C Ratio		0.24					0.04	0.66				0.56
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		224					69	2066				1494
v/s Ratio Prot		c0.19					0.06	c0.58				
v/s Ratio Perm												c0.52
v/c Ratio		0.80					1.39	0.87				0.92
Uniform Delay, d1		32.4					43.0	12.0				17.7
Progression Factor		1.00					0.70	0.20				1.00
Incremental Delay, d2		18.3					218.8	3.2				10.4
Delay (s)		50.7					248.8	5.7				28.0
Level of Service		D					F	A				C
Approach Delay (s)		50.7			0.0			18.0				28.0
Approach LOS		D			A			B				C

Intersection Summary			
HCM Average Control Delay	23.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	113.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	20
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	21
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	101	727	0	0	942	110	280	302	40	0	0	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			
Lane Util. Factor		0.95			0.95			0.95	1.00			
Frpb, ped/bikes		1.00			0.97			1.00	0.71			
Flpb, ped/bikes		0.99			1.00			0.86	1.00			
Frt		1.00			0.98			1.00	0.85			
Flt Protected		0.99			1.00			0.98	1.00			
Satd. Flow (prot)		2844			2750			2427	986			
Flt Permitted		0.60			1.00			0.98	1.00			
Satd. Flow (perm)		1707			2750			2427	986			
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)	106	765	0	0	992	116	295	318	42	0	0	0
RTOR Reduction (vph)	0	0	0	0	11	0	0	0	24	0	0	0
Lane Group Flow (vph)	0	871	0	0	1097	0	0	613	18	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm		Perm			
Protected Phases		2			6			8				
Permitted Phases	2						8		8			
Actuated Green, G (s)		37.0			37.0			34.0	34.0			
Effective Green, g (s)		37.0			37.0			34.0	34.0			
Actuated g/C Ratio		0.46			0.46			0.42	0.42			
Clearance Time (s)		4.5			4.5			4.5	4.5			
Vehicle Extension (s)		3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)		789			1272			1031	419			
v/s Ratio Prot					0.40							
v/s Ratio Perm		c0.51						0.25	0.02			
v/c Ratio		1.14dl			0.86			0.59	0.04			
Uniform Delay, d1		21.5			19.2			17.7	13.5			
Progression Factor		1.00			0.35			1.00	1.00			
Incremental Delay, d2		64.4			0.8			2.5	0.2			
Delay (s)		85.9			7.4			20.2	13.7			
Level of Service		F			A			C	B			
Approach Delay (s)		85.9			7.4			19.8			0.0	
Approach LOS		F			A			B			A	

Intersection Summary			
HCM Average Control Delay	36.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	104.2%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	487	280	50	855	0	0	0	0	70	715	206
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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.88			1.00						0.95	
Flpb, ped/bikes		1.00			1.00						0.98	
Frt		0.95			1.00						0.97	
Flt Protected		1.00			1.00						1.00	
Satd. Flow (prot)		2589			3087						2640	
Flt Permitted		1.00			0.78						1.00	
Satd. Flow (perm)		2589			2418						2640	
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)	0	497	286	51	872	0	0	0	0	71	730	210
RTOR Reduction (vph)	0	17	0	0	0	0	0	0	0	0	15	0
Lane Group Flow (vph)	0	766	0	0	923	0	0	0	0	0	996	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		27.0			27.0						44.0	
Effective Green, g (s)		27.0			27.0						44.0	
Actuated g/C Ratio		0.34			0.34						0.55	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		874			816						1452	
v/s Ratio Prot		0.30										
v/s Ratio Perm					c0.38						0.38	
v/c Ratio		0.88			1.13						0.69	
Uniform Delay, d1		24.9			26.5						13.0	
Progression Factor		0.83			1.00						1.00	
Incremental Delay, d2		1.0			74.1						2.7	
Delay (s)		21.7			100.6						15.7	
Level of Service		C			F						B	
Approach Delay (s)		21.7			100.6			0.0			15.7	
Approach LOS		C			F			A			B	

Intersection Summary			
HCM Average Control Delay	46.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	104.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	97	430	580	1695	0	1273	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.67	1.00	1.00		0.97	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		0.99	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	929	3016	3110		2997	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	929	3016	3110		2997	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	97	430	580	1695	0	1273	105
RTOR Reduction (vph)	0	212	0	0	0	7	0
Lane Group Flow (vph)	97	218	580	1695	0	1371	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	23.6	23.6	15.4	55.4		34.0	
Effective Green, g (s)	23.6	23.6	15.4	55.4		34.0	
Actuated g/C Ratio	0.26	0.26	0.17	0.62		0.38	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	408	244	516	1914		1132	
v/s Ratio Prot	0.06		c0.19	0.55		c0.46	
v/s Ratio Perm		c0.23					
v/c Ratio	0.24	0.89	1.12	0.89		1.21	
Uniform Delay, d1	26.1	32.0	37.3	14.6		28.0	
Progression Factor	1.00	1.00	1.00	1.00		0.81	
Incremental Delay, d2	0.3	31.1	78.3	6.5		98.9	
Delay (s)	26.4	63.1	115.6	21.1		121.5	
Level of Service	C	E	F	C		F	
Approach Delay (s)	56.4			45.2		121.5	
Approach LOS	E			D		F	

Intersection Summary			
HCM Average Control Delay	71.7	HCM Level of Service	E
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	115.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	167	30	5	81	10	20	20	18	50	80	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
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.46		1.00	0.67		0.89			1.00	0.43
Flpb, ped/bikes		0.98	1.00		0.98	1.00		0.85			0.89	1.00
Frt		1.00	0.85		1.00	0.85		0.96			1.00	0.85
Flt Protected		1.00	1.00		1.00	1.00		0.98			0.98	1.00
Satd. Flow (prot)		1605	635		1595	937		1168			1422	604
Flt Permitted		0.99	1.00		0.99	1.00		0.87			0.86	1.00
Satd. Flow (perm)		1592	635		1584	937		1032			1248	604
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	178	32	5	86	11	21	21	19	53	85	21
RTOR Reduction (vph)	0	0	4	0	0	3	0	16	0	0	0	18
Lane Group Flow (vph)	0	189	28	0	91	8	0	45	0	0	138	3
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		54.1	54.1		54.1	54.1		11.9			11.9	11.9
Effective Green, g (s)		54.1	54.1		54.1	54.1		11.9			11.9	11.9
Actuated g/C Ratio		0.72	0.72		0.72	0.72		0.16			0.16	0.16
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)		1148	458		1143	676		164			198	96
v/s Ratio Prot												
v/s Ratio Perm		c0.12	0.04		0.06	0.01		0.04			c0.11	0.01
v/c Ratio		0.16	0.06		0.08	0.01		0.27			0.70	0.03
Uniform Delay, d1		3.3	3.0		3.1	2.9		27.8			29.8	26.7
Progression Factor		1.00	1.00		1.00	1.00		1.00			0.73	0.60
Incremental Delay, d2		0.1	0.1		0.1	0.0		0.9			10.0	0.1
Delay (s)		3.4	3.1		3.2	3.0		28.7			31.9	16.3
Level of Service		A	A		A	A		C			C	B
Approach Delay (s)		3.3			3.2			28.7			29.8	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	104.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	489	40	540	400	90	70	50	20	40	20	390	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.34		0.67	1.00	0.96			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.81	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	558	3110	477		952	1555	1330			1264	1175
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.96	1.00
Satd. Flow (perm)	3110	558	3110	477		952	1555	1330			1280	1175
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	509	42	562	417	94	73	52	21	42	21	406	104
RTOR Reduction (vph)	0	20	0	187	0	28	0	29	0	0	0	72
Lane Group Flow (vph)	509	22	562	324	0	45	52	34	0	0	427	32
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	40.0	40.0	40.0	40.0		23.0	23.0	23.0			23.0	23.0
Effective Green, g (s)	40.0	40.0	40.0	40.0		23.0	23.0	23.0			23.0	23.0
Actuated g/C Ratio	0.53	0.53	0.53	0.53		0.31	0.31	0.31			0.31	0.31
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1659	298	1659	254		292	477	408			393	360
v/s Ratio Prot	0.16		0.18									
v/s Ratio Perm		0.04		c0.68		0.05	0.03	0.03			c0.33	0.03
v/c Ratio	0.31	0.08	0.34	1.28		0.16	0.11	0.08			1.09	0.09
Uniform Delay, d1	9.8	8.5	10.0	17.5		18.9	18.7	18.5			26.0	18.5
Progression Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	0.5	0.5	0.6	151.5		1.1	0.5	0.4			70.6	0.5
Delay (s)	10.2	9.0	10.5	169.0		20.1	19.1	18.9			96.6	19.0
Level of Service	B	A	B	F		C	B	B			F	B
Approach Delay (s)	10.1		86.0								81.4	
Approach LOS	B		F								F	

Intersection Summary			
HCM Average Control Delay	61.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	59.3%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	729	110	59	780	140	119
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	752	113	61	804	144	123

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	501	364	329	536	267
Volume Left (vph)	0	0	61	0	144
Volume Right (vph)	0	113	0	0	123
Hadj (s)	0.02	-0.20	0.11	0.02	-0.15
Departure Headway (s)	6.8	6.5	6.9	6.8	6.8
Degree Utilization, x	0.94	0.66	0.63	1.02	0.50
Capacity (veh/h)	528	537	512	525	526
Control Delay (s)	50.6	20.3	20.0	69.3	16.3
Approach Delay (s)	37.9		50.6		16.3
Approach LOS	E		F		C

Intersection Summary			
Delay	40.5		
HCM Level of Service	E		
Intersection Capacity Utilization	84.4%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT
Lane Configurations												
Volume (vph)	100	640	90	20	10	30	661	50	40	30	20	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4					5.4		4.0			5.0
Lane Util. Factor		0.95					0.95		1.00			1.00
Frpb, ped/bikes		0.93					0.97		0.78			1.00
Flpb, ped/bikes		0.99					0.99		1.00			1.00
Frt		0.98					0.99		0.86			1.00
Flt Protected		0.99					1.00		1.00			0.98
Satd. Flow (prot)		2597					2969		1106			1600
Flt Permitted		0.74					0.86		1.00			0.98
Satd. Flow (perm)		1929					2569		1106			1600
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	106	681	96	21	11	32	703	53	43	32	21	64
RTOR Reduction (vph)	0	0	0	0	0	0	7	0	0	0	0	0
Lane Group Flow (vph)	0	904	0	0	0	0	792	0	43	0	0	117
Confl. Peds. (#/hr)	400		400	400	400	400		400	400	400	400	
Confl. Bikes (#/hr)			30	30				30	10			
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm	Perm			Free	Split	Split	
Protected Phases		2					6			4	4	4
Permitted Phases	2				6	6			Free			
Actuated Green, G (s)		41.6					41.6		75.0			9.0
Effective Green, g (s)		41.6					41.6		75.0			9.0
Actuated g/C Ratio		0.55					0.55		1.00			0.12
Clearance Time (s)		5.4					5.4					5.0
Lane Grp Cap (vph)		1070					1425		1106			192
v/s Ratio Prot												c0.07
v/s Ratio Perm		c0.47					0.31		0.04			
v/c Ratio		0.84					0.56		0.04			0.61
Uniform Delay, d1		14.0					10.8		0.0			31.3
Progression Factor		1.00					0.48		1.00			1.00
Incremental Delay, d2		8.2					1.4		0.1			13.6
Delay (s)		22.2					6.6		0.1			44.9
Level of Service		C					A		A			D
Approach Delay (s)		22.2					6.6					45.8
Approach LOS		C					A					D

Intersection Summary			
HCM Average Control Delay	19.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	113.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR	NWL	NWR	NWR2
Lane Configurations				
Volume (vph)	60	120	40	20
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0
Lane Util. Factor	1.00	0.97		1.00
Frpb, ped/bikes	0.55	0.81		0.55
Flpb, ped/bikes	1.00	1.00		1.00
Frt	0.85	0.96		0.85
Flt Protected	1.00	0.96		1.00
Satd. Flow (prot)	768	2392		768
Flt Permitted	1.00	0.96		1.00
Satd. Flow (perm)	768	2392		768
Peak-hour factor, PHF	0.94	0.94	0.94	0.94
Adj. Flow (vph)	64	128	43	21
RTOR Reduction (vph)	20	0	0	18
Lane Group Flow (vph)	44	171	0	3
Confl. Peds. (#/hr)	400	400	400	400
Confl. Bikes (#/hr)	10		10	10
Parking (#/hr)				
Turn Type	Perm			Perm
Protected Phases		8		
Permitted Phases	4			8
Actuated Green, G (s)	9.0	9.0		9.0
Effective Green, g (s)	9.0	9.0		9.0
Actuated g/C Ratio	0.12	0.12		0.12
Clearance Time (s)	5.0	5.0		5.0
Lane Grp Cap (vph)	92	287		92
v/s Ratio Prot		c0.07		
v/s Ratio Perm	0.06			0.00
v/c Ratio	0.48	0.60		0.03
Uniform Delay, d1	30.8	31.3		29.1
Progression Factor	1.00	1.00		1.00
Incremental Delay, d2	16.6	8.8		0.6
Delay (s)	47.4	40.1		29.7
Level of Service	D	D		C
Approach Delay (s)		39.0		
Approach LOS		D		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	670	60	40	671	90	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.97			1.00	0.86	
Flpb, ped/bikes	1.00			0.99	1.00	
Frt	0.99			1.00	0.94	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2795			3083	1281	
Flt Permitted	1.00			0.87	0.97	
Satd. Flow (perm)	2795			2701	1281	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	753	67	45	754	101	79
RTOR Reduction (vph)	9	0	0	0	23	0
Lane Group Flow (vph)	811	0	0	799	157	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1677			1621	384	
v/s Ratio Prot	0.29				c0.12	
v/s Ratio Perm				c0.30		
v/c Ratio	0.48			0.49	0.41	
Uniform Delay, d1	8.5			8.5	20.9	
Progression Factor	0.39			1.00	1.00	
Incremental Delay, d2	0.7			1.1	3.2	
Delay (s)	3.9			9.6	24.1	
Level of Service	A			A	C	
Approach Delay (s)	3.9			9.6	24.1	
Approach LOS	A			A	C	

Intersection Summary			
HCM Average Control Delay	8.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	79.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	670	50	30	711	20	40
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	720	54	32	765	22	43

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	480	294	287	510	65
Volume Left (vph)	0	0	32	0	22
Volume Right (vph)	0	54	0	0	43
Hadj (s)	0.02	-0.11	0.07	0.02	-0.32
Departure Headway (s)	5.6	5.5	5.7	5.6	6.4
Degree Utilization, x	0.75	0.45	0.45	0.79	0.11
Capacity (veh/h)	624	635	617	629	537
Control Delay (s)	22.6	11.8	12.1	25.6	10.2
Approach Delay (s)	18.5		20.7		10.2
Approach LOS	C		C		B

Intersection Summary			
Delay	19.2		
HCM Level of Service	C		
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	97	543	40	20	584	211	70	60	30	141	80	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frpb, ped/bikes		0.95			1.00	0.54		0.94		1.00	0.96	
Flpb, ped/bikes		0.98			1.00	1.00		0.89		0.77	0.94	
Frt		0.99			1.00	0.85		0.97		1.00	0.99	
Flt Protected		0.99			1.00	1.00		0.98		0.95	0.99	
Satd. Flow (prot)		2639			3110	657		1141		1134	1366	
Flt Permitted		0.76			1.00	1.00		0.82		0.69	0.90	
Satd. Flow (perm)		2029			3110	657		952		822	1246	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	107	597	44	22	642	232	77	66	33	155	88	11
RTOR Reduction (vph)	0	3	0	0	0	23	0	11	0	0	0	0
Lane Group Flow (vph)	0	767	0	0	642	209	0	165	0	122	132	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10	10		10			10			10
Parking (#/hr)		5	5	5		5	5	5	5			
Turn Type	Perm					Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2				6	6	8			4		
Actuated Green, G (s)		27.5			27.5	27.5		21.5		21.5	21.5	
Effective Green, g (s)		27.5			27.5	27.5		21.5		21.5	21.5	
Actuated g/C Ratio		0.46			0.46	0.46		0.36		0.36	0.36	
Clearance Time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		930			1425	301		341		295	446	
v/s Ratio Prot					0.21							
v/s Ratio Perm		c0.38				0.32		c0.17		0.15	0.11	
v/c Ratio		0.82			0.45	0.70		0.48		0.41	0.30	
Uniform Delay, d1		14.1			11.1	12.9		14.9		14.5	13.8	
Progression Factor		1.00			0.39	0.40		1.00		1.00	1.00	
Incremental Delay, d2		8.2			1.0	12.1		4.9		0.9	0.4	
Delay (s)		22.4			5.3	17.2		19.8		15.4	14.2	
Level of Service		C			A	B		B		B	B	
Approach Delay (s)		22.4			8.4			19.8			14.6	
Approach LOS		C			A			B			B	

Intersection Summary			
HCM Average Control Delay	14.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	93.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR2	NER2
Lane Configurations		
Volume (vph)	87	100
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.5	4.0
Lane Util. Factor	1.00	1.00
Frpb, ped/bikes	0.68	0.78
Flpb, ped/bikes	1.00	1.00
Frt	0.85	0.86
Flt Protected	1.00	1.00
Satd. Flow (prot)	952	967
Flt Permitted	1.00	1.00
Satd. Flow (perm)	952	967
Peak-hour factor, PHF	0.91	0.91
Adj. Flow (vph)	96	110
RTOR Reduction (vph)	10	0
Lane Group Flow (vph)	86	110
Confl. Peds. (#/hr)	400	400
Confl. Bikes (#/hr)	10	10
Parking (#/hr)		5
Turn Type	Perm	Free
Protected Phases		
Permitted Phases	4	Free
Actuated Green, G (s)	21.5	60.0
Effective Green, g (s)	21.5	60.0
Actuated g/C Ratio	0.36	1.00
Clearance Time (s)	5.5	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	341	967
v/s Ratio Prot		
v/s Ratio Perm	0.09	0.11
v/c Ratio	0.25	0.11
Uniform Delay, d1	13.6	0.0
Progression Factor	1.00	1.00
Incremental Delay, d2	0.4	0.2
Delay (s)	14.0	0.2
Level of Service	B	A
Approach Delay (s)		
Approach LOS		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	834	0	0	795	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	916	0	0	874	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	916	0	0	874	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)		30				30
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		46.0			46.0	
Effective Green, g (s)		46.0			46.0	
Actuated g/C Ratio		0.77			0.77	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1877			2312	
v/s Ratio Prot		c0.37			0.29	
v/s Ratio Perm						
v/c Ratio		0.49			0.38	
Uniform Delay, d1		2.6			2.3	
Progression Factor		1.25			0.45	
Incremental Delay, d2		0.7			0.4	
Delay (s)		4.0			1.4	
Level of Service		A			A	
Approach Delay (s)	4.0			0.0	1.4	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	2.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	36.6%	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												
Volume (vph)	20	190	140	200	200	30	90	380	260	40	160	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.77		1.00	0.93			1.00	0.66		1.00	0.44
Flpb, ped/bikes		0.98		0.67	1.00			0.92	1.00		0.98	1.00
Frt		0.94		1.00	0.98			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.99	1.00		0.99	1.00
Satd. Flow (prot)		2195		1048	1300			1270	903		1581	609
Flt Permitted		0.93		0.53	1.00			0.90	1.00		0.86	1.00
Satd. Flow (perm)		2045		583	1300			1150	903		1377	609
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	204	151	215	215	32	97	409	280	43	172	32
RTOR Reduction (vph)	0	45	0	0	9	0	0	0	13	0	0	13
Lane Group Flow (vph)	0	332	0	215	238	0	0	506	267	0	215	19
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		21.7		21.7	21.7			28.3	28.3		28.3	28.3
Effective Green, g (s)		21.7		21.7	21.7			28.3	28.3		28.3	28.3
Actuated g/C Ratio		0.36		0.36	0.36			0.47	0.47		0.47	0.47
Clearance Time (s)		5.5		5.5	5.5			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)		740		211	470			542	426		649	287
v/s Ratio Prot					0.18							
v/s Ratio Perm		0.16		c0.37				c0.44	0.30		0.16	0.03
v/c Ratio		0.45		1.02	0.51			0.93	0.63		0.33	0.07
Uniform Delay, d1		14.6		19.1	15.0			15.0	11.9		9.9	8.6
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		0.4		67.0	0.9			25.3	6.8		1.4	0.5
Delay (s)		15.0		86.1	15.8			40.2	18.7		11.3	9.1
Level of Service		B		F	B			D	B		B	A
Approach Delay (s)		15.0			48.5			32.6			11.0	
Approach LOS		B			D			C			B	

Intersection Summary			
HCM Average Control Delay	30.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
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												
Volume (vph)	0	290	120	70	310	785	170	0	110	654	150	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.94			1.00	0.96		0.99		1.00	1.00	
Flpb, ped/bikes		1.00			0.99	1.00		0.99		1.00	1.00	
Frt		0.96			1.00	0.85		0.95		1.00	0.99	
Flt Protected		1.00			0.99	1.00		0.97		0.95	0.97	
Satd. Flow (prot)		2619			1603	2357		1294		1477	1490	
Flt Permitted		1.00			0.62	1.00		0.22		0.58	0.67	
Satd. Flow (perm)		2619			1003	2357		295		904	1023	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	302	125	73	323	818	177	0	115	681	156	31
RTOR Reduction (vph)	0	75	0	0	0	0	0	39	0	0	5	0
Lane Group Flow (vph)	0	352	0	0	396	818	0	253	0	429	434	0
Confl. Peds. (#/hr)	50		50	50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		11.0			11.0	38.5		14.5		24.0	24.0	
Effective Green, g (s)		11.0			11.0	38.5		14.5		24.0	24.0	
Actuated g/C Ratio		0.18			0.18	0.64		0.24		0.40	0.40	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		480			184	1512		71		362	409	
v/s Ratio Prot		0.13										
v/s Ratio Perm					c0.39	0.35		c0.86		c0.47	0.42	
v/c Ratio		0.73			2.15	0.54		3.57		1.19	1.06	
Uniform Delay, d1		23.1			24.5	5.9		22.8		18.0	18.0	
Progression Factor		1.00			1.00	1.00		1.00		0.82	0.82	
Incremental Delay, d2		9.5			536.1	1.4		1189.8		106.4	60.1	
Delay (s)		32.7			560.6	7.3		1212.5		121.1	74.8	
Level of Service		C			F	A		F		F	E	
Approach Delay (s)		32.7			187.8			1212.5			97.7	
Approach LOS		C			F			F			F	

Intersection Summary			
HCM Average Control Delay	243.1	HCM Level of Service	F
HCM Volume to Capacity ratio	2.09		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	93.7%	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												
Volume (vph)	50	755	30	50	795	40	279	60	254	30	40	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Lane Util. Factor		0.95			0.95	1.00		0.95			1.00	1.00
Frpb, ped/bikes		0.98			1.00	0.66		0.86			1.00	0.66
Flpb, ped/bikes		1.00			0.99	1.00		0.86			0.95	1.00
Frt		0.99			1.00	0.85		0.94			1.00	0.85
Flt Protected		1.00			1.00	1.00		0.98			0.98	1.00
Satd. Flow (prot)		3009			3079	806		1959			1517	922
Flt Permitted		0.83			0.84	1.00		0.79			0.77	1.00
Satd. Flow (perm)		2505			2579	806		1577			1195	922
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	52	786	31	52	828	42	291	62	265	31	42	52
RTOR Reduction (vph)	0	4	0	0	0	24	0	3	0	0	0	2
Lane Group Flow (vph)	0	865	0	0	880	18	0	615	0	0	73	50
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Actuated Green, G (s)		23.6			23.6	23.6		29.4			29.4	29.4
Effective Green, g (s)		23.6			23.6	23.6		29.4			29.4	29.4
Actuated g/C Ratio		0.39			0.39	0.39		0.49			0.49	0.49
Clearance Time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)		985			1014	317		773			586	452
v/s Ratio Prot												
v/s Ratio Perm		c0.35			0.34	0.02		c0.39			0.06	0.05
v/c Ratio		0.88			0.87	0.06		0.80			0.12	0.11
Uniform Delay, d1		16.9			16.8	11.3		12.8			8.3	8.2
Progression Factor		1.00			0.77	1.04		1.00			1.00	1.00
Incremental Delay, d2		9.0			7.0	0.1		8.3			0.4	0.5
Delay (s)		25.8			19.9	11.8		21.1			8.7	8.7
Level of Service		C			B	B		C			A	A
Approach Delay (s)		25.8			19.6			21.1			8.7	
Approach LOS		C			B			C			A	

Intersection Summary			
HCM Average Control Delay	21.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	94.3%	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												
Volume (vph)	80	739	201	89	546	20	81	230	110	10	230	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.95		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.76		0.99		1.00	0.89			0.86	
Flpb, ped/bikes		0.99	1.00		0.99		0.83	1.00			1.00	
Frt		1.00	0.85		1.00		1.00	0.95			0.94	
Flt Protected		1.00	1.00		0.99		0.95	1.00			1.00	
Satd. Flow (prot)		3070	922		3026		1295	3803			3578	
Flt Permitted		0.81	1.00		0.70		0.48	1.00			0.93	
Satd. Flow (perm)		2495	922		2132		653	3803			3326	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	803	218	97	593	22	88	250	120	11	250	196
RTOR Reduction (vph)	0	0	6	0	4	0	0	10	0	0	18	0
Lane Group Flow (vph)	0	890	212	0	708	0	88	360	0	0	439	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		28.1	28.1		28.1		21.9	21.9			21.9	
Effective Green, g (s)		28.1	28.1		28.1		21.9	21.9			21.9	
Actuated g/C Ratio		0.47	0.47		0.47		0.36	0.36			0.36	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1168	432		998		238	1388			1214	
v/s Ratio Prot								0.09				
v/s Ratio Perm		c0.36	0.23		0.33		c0.13				0.13	
v/c Ratio		0.76	0.49		0.71		0.37	0.26			0.36	
Uniform Delay, d1		13.2	11.0		12.7		14.0	13.4			13.9	
Progression Factor		0.61	0.65		0.66		1.00	1.00			1.00	
Incremental Delay, d2		1.8	0.5		2.2		4.4	0.5			0.8	
Delay (s)		9.8	7.6		10.6		18.4	13.8			14.8	
Level of Service		A	A		B		B	B			B	
Approach Delay (s)		9.4			10.6			14.7			14.8	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	11.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	100.0%	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												
Volume (vph)	0	1451	300	0	2024	90	340	209	50	90	159	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.94			0.98		1.00	0.94		1.00	0.92	
Flpb, ped/bikes		1.00			1.00		0.78	1.00		0.80	1.00	
Frt		0.97			0.99		1.00	0.97		1.00	0.96	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4082			4189		1206	1489		1244	1272	
Flt Permitted		1.00			1.00		0.56	1.00		0.48	1.00	
Satd. Flow (perm)		4082			4189		710	1489		632	1272	
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)	0	1481	306	0	2065	92	347	213	51	92	162	51
RTOR Reduction (vph)	0	6	0	0	5	0	0	3	0	0	1	0
Lane Group Flow (vph)	0	1781	0	0	2152	0	347	261	0	92	212	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2358			2420		217	455		193	389	
v/s Ratio Prot		0.44			c0.51			0.18			0.17	
v/s Ratio Perm							c0.49			0.15		
v/c Ratio		0.76			0.89		1.60	0.57		0.48	0.55	
Uniform Delay, d1		14.2			16.5		31.2	26.3		25.4	26.0	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.3			5.4		290.2	5.2		8.2	5.4	
Delay (s)		16.5			21.9		321.4	31.5		33.6	31.5	
Level of Service		B			C		F	C		C	C	
Approach Delay (s)		16.5			21.9			196.1			32.1	
Approach LOS		B			C			F			C	

Intersection Summary			
HCM Average Control Delay	42.5	HCM Level of Service	D
HCM Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	103.3%	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												
Volume (vph)	0	1461	130	0	1664	120	140	200	30	160	180	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			1.00	
Frpb, ped/bikes		0.97			0.98		1.00	0.96			0.94	
Flpb, ped/bikes		1.00			1.00		0.88	1.00			0.92	
Frt		0.99			0.99		1.00	0.98			0.98	
Flt Protected		1.00			1.00		0.95	1.00			0.98	
Satd. Flow (prot)		4285			4318		1361	1535			1359	
Flt Permitted		1.00			1.00		0.45	1.00			0.63	
Satd. Flow (perm)		4285			4318		638	1535			876	
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	1538	137	0	1752	126	147	211	32	168	189	74
RTOR Reduction (vph)	0	5	0	0	4	0	0	4	0	0	2	0
Lane Group Flow (vph)	0	1670	0	0	1874	0	147	239	0	0	429	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2538			2557		191	459			262	
v/s Ratio Prot		0.39			c0.43			0.16				
v/s Ratio Perm							0.23				c0.49	
v/c Ratio		0.66			0.73		0.77	0.52			1.64	
Uniform Delay, d1		12.3			13.2		28.7	26.2			31.6	
Progression Factor		1.00			0.26		1.00	1.00			1.00	
Incremental Delay, d2		1.4			1.2		25.3	4.2			303.3	
Delay (s)		13.6			4.6		54.0	30.4			334.9	
Level of Service		B			A		D	C			F	
Approach Delay (s)		13.6			4.6			39.3			334.9	
Approach LOS		B			A			D			F	

Intersection Summary			
HCM Average Control Delay	43.7	HCM Level of Service	D
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	105.9%	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												
Volume (vph)	0	1441	90	0	1704	70	80	100	30	40	160	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.98			0.99			0.95			0.93	
Flpb, ped/bikes		1.00			1.00			0.93			0.97	
Frt		0.99			0.99			0.98			0.97	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		4156			4198			1221			1250	
Flt Permitted		1.00			1.00			0.72			0.92	
Satd. Flow (perm)		4156			4198			900			1165	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	1533	96	0	1813	74	85	106	32	43	170	53
RTOR Reduction (vph)	0	5	0	0	5	0	0	4	0	0	1	0
Lane Group Flow (vph)	0	1624	0	0	1882	0	0	220	0	0	265	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2494			2519			270			350	
v/s Ratio Prot		0.39			c0.45							
v/s Ratio Perm								c0.24			0.23	
v/c Ratio		0.65			0.75			0.81			0.76	
Uniform Delay, d1		11.8			13.1			29.2			28.5	
Progression Factor		1.51			1.00			1.00			1.00	
Incremental Delay, d2		0.9			2.1			22.8			14.1	
Delay (s)		18.7			15.1			52.0			42.6	
Level of Service		B			B			D			D	
Approach Delay (s)		18.7			15.1			52.0			42.6	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	20.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.8%	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		↑↑↑			↑↑↑↱		↰	↕↱				↱
Volume (vph)	0	1301	0	0	1114	70	680	613	50	0	0	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.98		1.00	0.98				0.96
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.99				1.00
Satd. Flow (prot)		4282			4342		1415	2684				1358
Flt Permitted		1.00			1.00		0.95	0.99				1.00
Satd. Flow (perm)		4282			4342		1415	2684				1358
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	1495	0	0	1280	80	782	705	57	0	0	69
RTOR Reduction (vph)	0	0	0	0	8	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	1495	0	0	1352	0	508	1031	0	0	0	69
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		41.0			31.0		39.0	39.0				7.0
Effective Green, g (s)		41.0			31.0		39.0	39.0				7.0
Actuated g/C Ratio		0.46			0.34		0.43	0.43				0.08
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		1951			1496		613	1163				106
v/s Ratio Prot		c0.35			c0.31							
v/s Ratio Perm							0.36	0.38				0.05
v/c Ratio		0.77			0.90		0.83	0.89				0.65
Uniform Delay, d1		20.5			28.1		22.5	23.5				40.3
Progression Factor		1.00			0.46		1.00	1.00				1.00
Incremental Delay, d2		2.9			7.5		12.3	10.1				27.0
Delay (s)		23.4			20.3		34.8	33.6				67.3
Level of Service		C			C		C	C				E
Approach Delay (s)		23.4			20.3			34.0			67.3	
Approach LOS		C			C			C			E	

Intersection Summary			
HCM Average Control Delay	26.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	70.7%	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												
Volume (vph)	186	250	825	0	190	10	785	253	50	0	451	139
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		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.98		1.00	0.94			1.00	0.67
Flpb, ped/bikes		0.90	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.99		1.00	0.98			1.00	0.85
Flt Protected		0.98	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1446	2448		1360		4385	1308			3110	815
Flt Permitted		0.70	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		1032	2448		1360		4385	1308			3110	815
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	192	258	851	0	196	10	809	261	52	0	465	143
RTOR Reduction (vph)	0	0	2	0	2	0	0	8	0	0	0	12
Lane Group Flow (vph)	0	450	849	0	204	0	809	305	0	0	465	131
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		32.5	55.5		32.5		19.5	49.5			26.5	26.5
Effective Green, g (s)		32.5	52.0		32.5		19.5	49.5			26.5	26.5
Actuated g/C Ratio		0.36	0.58		0.36		0.22	0.55			0.29	0.29
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		373	1414		491		950	719			916	240
v/s Ratio Prot			0.35		0.15		c0.18	0.23			0.15	
v/s Ratio Perm		c0.44										c0.16
v/c Ratio		1.21	0.60		0.42		0.85	0.42			0.51	0.55
Uniform Delay, d1		28.8	12.3		21.6		33.9	11.9			26.3	26.7
Progression Factor		0.51	0.06		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		107.8	0.4		0.6		9.5	1.8			2.0	8.6
Delay (s)		122.3	1.2		22.2		43.4	13.7			28.3	35.3
Level of Service		F	A		C		D	B			C	D
Approach Delay (s)		43.1			22.2			35.1			30.0	
Approach LOS		D			C			D			C	

Intersection Summary			
HCM Average Control Delay	36.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	101.0%	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												
Volume (vph)	0	0	0	70	290	70	50	70	0	0	60	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.12		1.00			0.91	
Flpb, ped/bikes					0.86	1.00		0.86			1.00	
Frt					1.00	0.85		1.00			0.97	
Flt Protected					0.99	1.00		0.98			1.00	
Satd. Flow (prot)					2471	159		1381			1432	
Flt Permitted					0.99	1.00		0.86			1.00	
Satd. Flow (perm)					2471	159		1213			1432	
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)	0	0	0	78	322	78	56	78	0	0	67	22
RTOR Reduction (vph)	0	0	0	0	0	42	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	400	36	0	134	0	0	89	0
Confl. Peds. (#/hr)				1245		1700	831					831
Confl. Bikes (#/hr)						158			9			17
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					28.0	28.0		22.0			22.0	
Effective Green, g (s)					28.0	28.0		22.0			22.0	
Actuated g/C Ratio					0.47	0.47		0.37			0.37	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1153	74		445			525	
v/s Ratio Prot											0.06	
v/s Ratio Perm					0.16	c0.23		c0.11				
v/c Ratio					0.35	0.49		0.30			0.17	
Uniform Delay, d1					10.2	11.1		13.5			12.8	
Progression Factor					1.00	1.00		0.15			1.00	
Incremental Delay, d2					0.8	21.5		1.2			0.7	
Delay (s)					11.0	32.6		3.2			13.5	
Level of Service					B	C		A			B	
Approach Delay (s)		0.0			14.5			3.2			13.5	
Approach LOS		A			B			A			B	

Intersection Summary			
HCM Average Control Delay	12.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	45.0%	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												
Volume (vph)	0	0	0	290	310	40	180	50	0	0	80	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.92		1.00	1.00			0.92	
Flpb, ped/bikes				1.00	1.00		0.65	1.00			1.00	
Frt				1.00	0.98		1.00	1.00			0.97	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	2813		1008	1637			1463	
Flt Permitted				0.95	1.00		0.68	1.00			1.00	
Satd. Flow (perm)				1555	2813		726	1637			1463	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	0	326	348	45	202	56	0	0	90	22
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	326	385	0	202	56	0	0	112	0
Confl. Peds. (#/hr)						1700	585					585
Confl. Bikes (#/hr)						113			6			3
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				38.4	38.4		12.3	12.3			12.3	
Effective Green, g (s)				38.4	38.4		12.3	12.3			12.3	
Actuated g/C Ratio				0.64	0.64		0.21	0.21			0.21	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				995	1800		149	336			300	
v/s Ratio Prot				c0.21	0.14			0.03			0.08	
v/s Ratio Perm							c0.28					
v/c Ratio				0.33	0.21		1.36	0.17			0.37	
Uniform Delay, d1				4.9	4.5		23.9	19.6			20.5	
Progression Factor				1.00	1.00		0.84	0.78			1.00	
Incremental Delay, d2				0.9	0.3		197.4	1.1			3.5	
Delay (s)				5.8	4.8		217.3	16.5			24.1	
Level of Service				A	A		F	B			C	
Approach Delay (s)		0.0			5.2			173.7			24.1	
Approach LOS		A			A			F			C	

Intersection Summary			
HCM Average Control Delay	47.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	320	110	20	525	40	30
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	348	120	22	571	43	33
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	306					
pX, platoon unblocked						
vC, conflicting volume			867		1822	1034
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			867		1822	1034
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		0	71
cM capacity (veh/h)			541		32	111

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	232	236	592	76
Volume Left	0	0	22	43
Volume Right	0	120	0	33
cSH	1700	1700	541	46
Volume to Capacity	0.14	0.14	0.04	1.64
Queue Length 95th (ft)	0	0	3	188
Control Delay (s)	0.0	0.0	1.1	507.7
Lane LOS			A	F
Approach Delay (s)	0.0		1.1	507.7
Approach LOS				F

Intersection Summary			
Average Delay	34.6		
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	200	30	5	675	10	40	100	44	20	70	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	
Lane Util. Factor		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.42		0.99			0.87			0.84	
Flpb, ped/bikes		1.00	1.00		1.00			0.92			0.95	
Frt		1.00	0.85		1.00			0.97			0.96	
Flt Protected		1.00	1.00		1.00			0.99			0.99	
Satd. Flow (prot)		1637	588		1413			1099			1085	
Flt Permitted		1.00	1.00		1.00			0.91			0.93	
Satd. Flow (perm)		1637	588		1410			1008			1022	
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	0	267	40	7	900	13	53	133	59	27	93	53
RTOR Reduction (vph)	0	0	21	0	1	0	0	3	0	0	1	0
Lane Group Flow (vph)	0	267	19	0	919	0	0	242	0	0	172	0
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type			Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases			2	2			4			4		
Actuated Green, G (s)		29.0	29.0		29.0			22.0			22.0	
Effective Green, g (s)		29.0	29.0		29.0			22.0			22.0	
Actuated g/C Ratio		0.48	0.48		0.48			0.37			0.37	
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)		791	284		682			370			375	
v/s Ratio Prot		0.16										
v/s Ratio Perm			0.03		c0.65			c0.24			0.17	
v/c Ratio		0.34	0.07		1.35			0.65			0.46	
Uniform Delay, d1		9.6	8.3		15.5			15.8			14.5	
Progression Factor		1.00	1.00		1.00			0.87			0.77	
Incremental Delay, d2		1.2	0.5		166.0			7.1			4.0	
Delay (s)		10.7	8.7		181.5			20.8			15.1	
Level of Service		B	A		F			C			B	
Approach Delay (s)		10.5			181.5			20.8			15.1	
Approach LOS		B			F			C			B	

Intersection Summary			
HCM Average Control Delay	108.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	94.4%	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												
Volume (vph)	0	218	40	17	527	0	60	0	62	20	40	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
Lane Util. Factor		1.00	1.00		0.95			1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.26		1.00			0.72			1.00	0.67
Flpb, ped/bikes		1.00	1.00		0.99			0.86			0.85	1.00
Frt		1.00	0.85		1.00			0.93			1.00	0.85
Flt Protected		1.00	1.00		1.00			0.98			0.98	1.00
Satd. Flow (prot)		1637	354		3059			919			1373	933
Flt Permitted		1.00	1.00		0.94			0.86			0.92	1.00
Satd. Flow (perm)		1637	354		2879			809			1280	933
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	251	46	20	606	0	69	0	71	23	46	46
RTOR Reduction (vph)	0	0	35	0	0	0	0	0	0	0	0	14
Lane Group Flow (vph)	0	251	11	0	626	0	0	140	0	0	69	32
Confl. Peds. (#/hr)			800	800			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	36.5
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	36.5
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	0.61
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)		396	86		696			492			779	568
v/s Ratio Prot		0.15										
v/s Ratio Perm			0.03		c0.22			c0.17			0.05	0.03
v/c Ratio		0.63	0.13		0.90			0.28			0.09	0.06
Uniform Delay, d1		20.4	17.8		22.0			5.6			4.9	4.8
Progression Factor		0.80	0.50		1.00			0.98			1.00	1.00
Incremental Delay, d2		7.4	3.0		16.9			1.4			0.0	0.0
Delay (s)		23.7	11.9		38.9			6.8			4.9	4.8
Level of Service		C	B		D			A			A	A
Approach Delay (s)		21.9			38.9			6.8			4.9	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM Average Control Delay	27.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	73.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	355	10	70	0	210	0	544	490
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		1.00		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		1.00		1.00			1.00
Flt Protected		1.00		0.95		1.00			0.97
Satd. Flow (prot)		942		1360		1637			3030
Flt Permitted		1.00		0.95		1.00			0.95
Satd. Flow (perm)		942		1360		1637			2970
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	374	11	74	0	221	0	573	516
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	374	0	85	0	221	0	0	1089
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		385		314			891
v/s Ratio Prot						0.14			
v/s Ratio Perm		c0.40		0.06					c0.37
v/c Ratio		0.71		0.22		0.70			1.22
Uniform Delay, d1		9.7		16.4		22.7			21.0
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		7.9		1.3		7.0			110.1
Delay (s)		17.6		17.8		29.6			131.1
Level of Service		B		B		C			F
Approach Delay (s)	17.6			17.8		29.6			131.1
Approach LOS	B			B		C			F

Intersection Summary			
HCM Average Control Delay	89.0	HCM Level of Service	F
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
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												
Volume (vph)	40	190	60	50	195	50	50	110	40	40	80	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.95			1.00	0.56	1.00	0.86			0.74	
Flpb, ped/bikes		0.96			1.00	1.00	0.64	1.00			0.93	
Frt		0.97			1.00	0.85	1.00	0.96			0.93	
Flt Protected		0.99			0.99	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1256			1418	681	999	1176			1966	
Flt Permitted		0.93			0.89	1.00	0.59	1.00			0.88	
Satd. Flow (perm)		1179			1268	681	621	1176			1737	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	45	216	68	57	222	57	57	125	45	45	91	125
RTOR Reduction (vph)	0	12	0	0	0	13	0	25	0	0	0	0
Lane Group Flow (vph)	0	317	0	0	279	44	57	145	0	0	261	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		35.8			35.8	35.8	14.1	14.1			14.1	
Effective Green, g (s)		35.8			35.8	35.8	14.1	14.1			14.1	
Actuated g/C Ratio		0.60			0.60	0.60	0.23	0.23			0.23	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		703			757	406	146	276			408	
v/s Ratio Prot								0.12				
v/s Ratio Perm		c0.27			0.22	0.06	0.09				c0.15	
v/c Ratio		0.45			0.37	0.11	0.39	0.52			0.64	
Uniform Delay, d1		6.7			6.3	5.2	19.3	20.0			20.7	
Progression Factor		1.00			1.00	1.00	0.57	0.49			1.00	
Incremental Delay, d2		2.1			1.4	0.5	1.7	1.8			3.3	
Delay (s)		8.8			7.6	5.8	12.8	11.6			23.9	
Level of Service		A			A	A	B	B			C	
Approach Delay (s)		8.8			7.3			11.9			23.9	
Approach LOS		A			A			B			C	

Intersection Summary			
HCM Average Control Delay	12.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	100.0%	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		✣			✣			✣			✣	
Volume (vph)	60	240	50	50	185	30	20	104	100	40	45	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.92			0.94			0.76			0.83	
Flpb, ped/bikes		0.94			0.95			0.96			0.90	
Frt		0.98			0.98			0.94			0.96	
Flt Protected		0.99			0.99			1.00			0.98	
Satd. Flow (prot)		1215			1244			976			998	
Flt Permitted		0.91			0.89			0.97			0.87	
Satd. Flow (perm)		1109			1112			951			879	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	66	264	55	55	203	33	22	114	110	44	49	44
RTOR Reduction (vph)	0	10	0	0	8	0	0	19	0	0	23	0
Lane Group Flow (vph)	0	375	0	0	283	0	0	227	0	0	114	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		32.6			32.6			18.6			18.6	
Effective Green, g (s)		32.6			32.6			18.6			18.6	
Actuated g/C Ratio		0.54			0.54			0.31			0.31	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		603			604			295			272	
v/s Ratio Prot												
v/s Ratio Perm		c0.34			0.25			c0.24			0.13	
v/c Ratio		0.62			0.47			0.77			0.42	
Uniform Delay, d1		9.4			8.4			18.7			16.4	
Progression Factor		1.00			1.00			0.62			0.81	
Incremental Delay, d2		4.8			2.6			15.9			4.4	
Delay (s)		14.2			11.0			27.6			17.6	
Level of Service		B			B			C			B	
Approach Delay (s)		14.2			11.0			27.6			17.6	
Approach LOS		B			B			C			B	

Intersection Summary			
HCM Average Control Delay	16.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	58.2%	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												
Volume (vph)	30	210	100	40	130	40	50	43	170	40	52	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.84			1.00	0.46		0.66			0.85	
Flpb, ped/bikes		0.97			0.93	1.00		0.92			0.91	
Frt		0.96			1.00	0.85		0.91			0.96	
Flt Protected		1.00			0.99	1.00		0.99			0.98	
Satd. Flow (prot)		1112			1321	565		786			1050	
Flt Permitted		0.97			0.88	1.00		0.92			0.85	
Satd. Flow (perm)		1082			1174	565		733			911	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	32	226	108	43	140	43	54	46	183	43	56	38
RTOR Reduction (vph)	0	20	0	0	0	20	0	17	0	0	21	0
Lane Group Flow (vph)	0	346	0	0	183	23	0	266	0	0	116	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		31.0			31.0	31.0		21.0			21.0	
Effective Green, g (s)		31.0			31.0	31.0		21.0			21.0	
Actuated g/C Ratio		0.52			0.52	0.52		0.35			0.35	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		559			607	292		257			319	
v/s Ratio Prot												
v/s Ratio Perm		c0.32			0.16	0.04		c0.36			0.13	
v/c Ratio		0.62			0.30	0.08		1.04			0.36	
Uniform Delay, d1		10.3			8.3	7.3		19.5			14.5	
Progression Factor		1.00			0.85	0.75		0.68			0.13	
Incremental Delay, d2		5.1			1.3	0.5		62.2			3.1	
Delay (s)		15.4			8.3	6.0		75.5			4.9	
Level of Service		B			A	A		E			A	
Approach Delay (s)		15.4			7.9			75.5			4.9	
Approach LOS		B			A			E			A	

Intersection Summary			
HCM Average Control Delay	29.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	84.9%	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												
Volume (vph)	30	230	70	20	90	20	20	52	60	20	27	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.48		1.00	0.48		0.74			0.83	
Flpb, ped/bikes		0.95	1.00		0.94	1.00		0.93			0.88	
Frt		1.00	0.85		1.00	0.85		0.94			0.96	
Flt Protected		0.99	1.00		0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1356	573		1334	573		918			1132	
Flt Permitted		0.97	1.00		0.93	1.00		0.96			0.90	
Satd. Flow (perm)		1316	573		1256	573		885			1038	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	34	264	80	23	103	23	23	60	69	23	31	23
RTOR Reduction (vph)	0	0	6	0	0	5	0	30	0	0	17	0
Lane Group Flow (vph)	0	298	74	0	126	18	0	122	0	0	60	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		36.0	36.0		36.0	36.0		16.0			16.0	
Effective Green, g (s)		36.0	36.0		36.0	36.0		16.0			16.0	
Actuated g/C Ratio		0.60	0.60		0.60	0.60		0.27			0.27	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		790	344		754	344		236			277	
v/s Ratio Prot												
v/s Ratio Perm		c0.23	0.13		0.10	0.03		c0.14			0.06	
v/c Ratio		0.38	0.22		0.17	0.05		0.52			0.22	
Uniform Delay, d1		6.2	5.5		5.3	5.0		18.7			17.1	
Progression Factor		0.74	0.67		1.00	1.00		0.81			0.92	
Incremental Delay, d2		0.8	0.9		0.5	0.3		6.9			1.7	
Delay (s)		5.4	4.6		5.8	5.2		22.0			17.5	
Level of Service		A	A		A	A		C			B	
Approach Delay (s)		5.2			5.7			22.0			17.5	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM Average Control Delay	10.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations										
Volume (vph)	30	170	60	30	40	20	375	200	150	844
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				4.0		5.0		5.0	5.0
Lane Util. Factor	1.00				1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.89				0.91		0.78		1.00	1.00
Flpb, ped/bikes	1.00				0.60		1.00		1.00	1.00
Frt	0.88				0.97		0.95		1.00	1.00
Flt Protected	0.99				0.96		1.00		0.95	1.00
Satd. Flow (prot)	1281				845		2290		1555	3110
Flt Permitted	0.99				0.96		1.00		0.95	1.00
Satd. Flow (perm)	1281				845		2290		1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	185	65	33	43	22	408	217	163	917
RTOR Reduction (vph)	12	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	271	0	0	0	98	0	625	0	163	917
Confl. Peds. (#/hr)				400	400	400		400		
Confl. Bikes (#/hr)		30	30			10		30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0
Turn Type				custom					Split	
Protected Phases	4!				8!		6		2	2
Permitted Phases				3						
Actuated Green, G (s)	20.0				46.0		17.0		13.0	13.0
Effective Green, g (s)	20.0				46.0		17.0		13.0	13.0
Actuated g/C Ratio	0.22				0.51		0.19		0.14	0.14
Clearance Time (s)	5.0				4.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	285				432		433		225	449
v/s Ratio Prot	c0.21						c0.27		0.10	c0.29
v/s Ratio Perm					0.12					
v/c Ratio	0.95				0.23		1.44		0.72	2.04
Uniform Delay, d1	34.5				12.2		36.5		36.8	38.5
Progression Factor	1.00				1.13		1.00		0.91	0.94
Incremental Delay, d2	40.3				0.2		212.3		16.7	476.0
Delay (s)	74.8				14.0		248.8		50.2	512.1
Level of Service	E				B		F		D	F
Approach Delay (s)	74.8				14.0		248.8			442.4
Approach LOS	E				B		F			F

Intersection Summary			
HCM Average Control Delay	314.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	77.9%	ICU Level of Service	D
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	989	30	7	665	20	0	60	27	0	100	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.89			0.90	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.96			0.96	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2872			2870			1227			1242	
Flt Permitted		1.00			0.95			1.00			1.00	
Satd. Flow (perm)		2872			2717			1227			1242	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	1030	31	7	693	21	0	62	28	0	104	42
RTOR Reduction (vph)	0	2	0	0	2	0	0	12	0	0	28	0
Lane Group Flow (vph)	0	1059	0	0	719	0	0	78	0	0	118	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type				Perm								
Protected Phases		2			6			8			4	
Permitted Phases				6								
Actuated Green, G (s)		41.4			41.4			9.8			9.8	
Effective Green, g (s)		41.4			41.4			9.8			9.8	
Actuated g/C Ratio		0.69			0.69			0.16			0.16	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1982			1875			200			203	
v/s Ratio Prot		c0.37						0.06			c0.10	
v/s Ratio Perm					0.26							
v/c Ratio		0.53			0.38			0.39			0.58	
Uniform Delay, d1		4.6			3.9			22.4			23.2	
Progression Factor		0.35			1.00			1.00			1.00	
Incremental Delay, d2		0.9			0.1			1.3			4.2	
Delay (s)		2.5			4.1			23.7			27.4	
Level of Service		A			A			C			C	
Approach Delay (s)		2.5			4.1			23.7			27.4	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	5.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	52.9%	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												
Volume (vph)	0	750	167	0	497	40	187	130	80	0	170	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.69		1.00	0.69	1.00	1.00	0.72		0.98	
Flpb, ped/bikes		1.00	1.00		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	0.85		0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3110	959		3110	959	3016	1637	1006		2837	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		3110	959		3110	959	3016	1637	1006		2837	
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)	0	765	170	0	507	41	191	133	82	0	173	10
RTOR Reduction (vph)	0	0	77	0	0	18	0	0	3	0	8	0
Lane Group Flow (vph)	0	765	94	0	507	23	191	133	79	0	175	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type	Perm		Perm	Perm		Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		33.0	33.0		33.0	33.0	4.5	18.0	18.0		9.0	
Effective Green, g (s)		33.0	33.0		33.0	33.0	4.5	18.0	18.0		9.0	
Actuated g/C Ratio		0.55	0.55		0.55	0.55	0.08	0.30	0.30		0.15	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		1711	527		1711	527	226	491	302		426	
v/s Ratio Prot		c0.25			0.16		c0.06	0.08			c0.06	
v/s Ratio Perm			0.10			0.02			0.08			
v/c Ratio		0.45	0.18		0.30	0.04	0.85	0.27	0.26		0.41	
Uniform Delay, d1		8.1	6.7		7.3	6.2	27.4	16.0	16.0		23.1	
Progression Factor		1.00	1.00		0.78	0.65	1.00	1.00	1.00		1.07	
Incremental Delay, d2		0.8	0.7		0.4	0.1	24.0	0.3	0.5		0.6	
Delay (s)		8.9	7.5		6.1	4.2	51.4	16.3	16.4		25.4	
Level of Service		A	A		A	A	D	B	B		C	
Approach Delay (s)		8.6			6.0			32.9			25.4	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	14.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	76.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	124	716	521	70	90	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	0.96		0.82	
Flpb, ped/bikes		0.98	1.00		1.00	
Frt		1.00	0.98		0.93	
Flt Protected		0.99	1.00		0.98	
Satd. Flow (prot)		2838	2931		1061	
Flt Permitted		0.77	1.00		0.98	
Satd. Flow (perm)		2209	2931		1061	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	132	762	554	74	96	112
RTOR Reduction (vph)	0	0	19	0	40	0
Lane Group Flow (vph)	0	894	609	0	168	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		34.5	34.5		18.5	
Effective Green, g (s)		34.5	34.5		18.5	
Actuated g/C Ratio		0.58	0.58		0.31	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1270	1685		327	
v/s Ratio Prot			0.21		c0.16	
v/s Ratio Perm		c0.40				
v/c Ratio		0.70	0.36		0.51	
Uniform Delay, d1		9.1	6.8		17.1	
Progression Factor		0.46	1.00		0.85	
Incremental Delay, d2		1.7	0.1		5.3	
Delay (s)		5.8	7.0		19.8	
Level of Service		A	A		B	
Approach Delay (s)		5.8	7.0		19.8	
Approach LOS		A	A		B	

Intersection Summary			
HCM Average Control Delay	7.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	84.5%	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												
Volume (vph)	34	320	50	30	551	150	40	59	50	60	70	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.95			0.92			0.89			0.90	
Flpb, ped/bikes		0.99			0.99			0.94			0.93	
Frt		0.98			0.97			0.95			0.96	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2677			2560			1136			1121	
Flt Permitted		0.87			0.93			0.89			0.87	
Satd. Flow (perm)		2326			2378			1020			988	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	36	340	53	32	586	160	43	63	53	64	74	65
RTOR Reduction (vph)	0	17	0	0	18	0	0	30	0	0	18	0
Lane Group Flow (vph)	0	412	0	0	760	0	0	129	0	0	185	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		30.6			30.6			20.6			20.6	
Effective Green, g (s)		30.6			30.6			20.6			20.6	
Actuated g/C Ratio		0.51			0.51			0.34			0.34	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1186			1213			350			339	
v/s Ratio Prot												
v/s Ratio Perm		0.18			c0.32			0.13			c0.19	
v/c Ratio		0.35			0.63			0.37			0.54	
Uniform Delay, d1		8.8			10.6			14.8			15.9	
Progression Factor		1.00			0.66			1.00			0.65	
Incremental Delay, d2		0.8			2.4			3.0			5.4	
Delay (s)		9.6			9.3			17.8			15.9	
Level of Service		A			A			B			B	
Approach Delay (s)		9.6			9.3			17.8			15.9	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	11.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	76.5%	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												
Volume (vph)	42	769	40	40	482	50	60	50	70	30	50	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.98			0.96			0.87			0.90	
Flpb, ped/bikes		0.99			0.99			0.92			0.94	
Frt		0.99			0.99			0.95			0.96	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		2811			2744			1068			1148	
Flt Permitted		0.91			0.86			0.86			0.89	
Satd. Flow (perm)		2555			2381			933			1041	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	43	793	41	41	497	52	62	52	72	31	52	38
RTOR Reduction (vph)	0	5	0	0	10	0	0	14	0	0	29	0
Lane Group Flow (vph)	0	872	0	0	580	0	0	173	0	0	93	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		36.1			36.1			15.0			15.0	
Effective Green, g (s)		36.1			36.1			15.0			15.0	
Actuated g/C Ratio		0.60			0.60			0.25			0.25	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1537			1433			233			260	
v/s Ratio Prot												
v/s Ratio Perm		c0.34			0.24			c0.18			0.09	
v/c Ratio		0.57			0.40			0.74			0.36	
Uniform Delay, d1		7.2			6.3			20.7			18.5	
Progression Factor		0.78			1.00			1.00			0.84	
Incremental Delay, d2		1.5			0.2			11.9			0.8	
Delay (s)		7.2			6.5			32.6			16.3	
Level of Service		A			A			C			B	
Approach Delay (s)		7.2			6.5			32.6			16.3	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM Average Control Delay	10.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	83.8%	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												
Volume (vph)	30	751	80	40	469	90	70	10	20	20	20	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			0.95			0.93			0.82	
Flpb, ped/bikes		1.00			1.00			0.79			0.93	
Frt		0.99			0.98			0.97			0.93	
Flt Protected		1.00			1.00			0.97			0.99	
Satd. Flow (prot)		2777			2876			1135			1148	
Flt Permitted		0.91			0.84			0.77			0.92	
Satd. Flow (perm)		2541			2421			905			1067	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	34	844	90	45	527	101	79	11	22	22	22	45
RTOR Reduction (vph)	0	2	0	0	2	0	0	9	0	0	35	0
Lane Group Flow (vph)	0	966	0	0	671	0	0	103	0	0	54	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1753			1670			194			229	
v/s Ratio Prot												
v/s Ratio Perm		c0.38			0.28			c0.11			0.05	
v/c Ratio		0.55			0.40			0.53			0.23	
Uniform Delay, d1		7.0			6.0			31.3			29.2	
Progression Factor		1.00			0.41			1.00			0.20	
Incremental Delay, d2		1.3			0.6			9.9			0.2	
Delay (s)		8.2			3.1			41.3			6.2	
Level of Service		A			A			D			A	
Approach Delay (s)		8.2			3.1			41.3			6.2	
Approach LOS		A			A			D			A	

Intersection Summary			
HCM Average Control Delay	8.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	76.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	50	741	529	944	525	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3008	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3008	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	52	764	545	973	541	52
RTOR Reduction (vph)	0	37	0	0	8	0
Lane Group Flow (vph)	52	727	545	973	585	0
Confl. Peds. (#/hr)						109
Confl. Bikes (#/hr)		10				64
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	21.0	53.7	28.7	59.0	26.3	
Effective Green, g (s)	21.0	53.7	28.7	59.0	26.3	
Actuated g/C Ratio	0.23	0.60	0.32	0.66	0.29	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	363	1461	962	1911	879	
v/s Ratio Prot	0.03	c0.30	c0.18	0.33	c0.19	
v/s Ratio Perm						
v/c Ratio	0.14	0.50	0.57	0.51	0.66	
Uniform Delay, d1	27.4	10.4	25.5	8.0	28.0	
Progression Factor	0.78	0.39	0.79	0.64	0.36	
Incremental Delay, d2	0.2	0.2	0.6	0.8	0.2	
Delay (s)	21.5	4.3	20.6	5.9	10.1	
Level of Service	C	A	C	A	B	
Approach Delay (s)	5.4			11.2	10.1	
Approach LOS	A			B	B	

Intersection Summary			
HCM Average Control Delay	9.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	58.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	90	236	40	0	1467	30	70	5	1165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			0.99			1.00	1.00
Flpb, ped/bikes				0.73			1.00			1.00	1.00
Frt				0.98			0.99			1.00	1.00
Flt Protected				0.96			1.00			0.95	1.00
Satd. Flow (prot)				2040			4392			1555	3110
Flt Permitted				0.96			1.00			0.95	1.00
Satd. Flow (perm)				2040			4392			1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	98	257	43	0	1595	33	76	5	1266
RTOR Reduction (vph)	0	0	0	12	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	0	0	386	0	0	1699	0	0	5	1266
Confl. Peds. (#/hr)			107	139					107		
Confl. Bikes (#/hr)					8				106		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				20.9			52.9			3.2	60.1
Effective Green, g (s)				20.9			52.9			3.2	60.1
Actuated g/C Ratio				0.23			0.59			0.04	0.67
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				474			2582			55	2077
v/s Ratio Prot							c0.39			0.00	c0.41
v/s Ratio Perm				0.19							
v/c Ratio				0.82			0.66			0.09	0.61
Uniform Delay, d1				32.7			12.5			42.0	8.4
Progression Factor				1.00			0.94			1.00	1.00
Incremental Delay, d2				10.4			0.4			0.3	1.3
Delay (s)				43.1			12.2			42.3	9.7
Level of Service				D			B			D	A
Approach Delay (s)	0.0			43.1			12.2				9.8
Approach LOS	A			D			B				A

Intersection Summary			
HCM Average Control Delay	14.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	55.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBL	EBR	EBR2	SEL	SET	SER2	NWL2	NWL	NWT	NWR	SWR2
Lane Configurations												
Volume (vph)	31	0	0	160	20	988	226	39	0	1125	30	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5		7.0	7.0	7.0		7.0	7.0		
Lane Util. Factor		1.00	1.00		1.00	0.95	1.00		1.00	0.95		
Frpb, ped/bikes		1.00	0.86		1.00	1.00	0.96		1.00	0.98		
Flpb, ped/bikes		1.00	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	1.00		
Flt Protected		0.95	1.00		0.95	1.00	1.00		0.95	1.00		
Satd. Flow (prot)		1555	1052		1555	3110	1334		1555	3048		
Flt Permitted		0.95	1.00		0.15	1.00	1.00		0.21	1.00		
Satd. Flow (perm)		1555	1052		250	3110	1334		348	3048		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	34	0	0	174	22	1074	246	42	0	1223	33	0
RTOR Reduction (vph)	0	0	126	0	0	0	115	0	0	2	0	0
Lane Group Flow (vph)	0	34	48	0	22	1074	131	0	42	1254	0	0
Confl. Peds. (#/hr)				130							1000	100
Confl. Bikes (#/hr)			10	10			30				30	10
Parking (#/hr)			5	5								
Turn Type	Perm		Perm		Perm		Perm	Perm	Perm			custom
Protected Phases		4				6				2		
Permitted Phases	4		4		6		6	2	2			8
Actuated Green, G (s)		18.0	18.0		34.5	34.5	34.5		34.5	34.5		
Effective Green, g (s)		18.0	18.0		34.5	34.5	34.5		34.5	34.5		
Actuated g/C Ratio		0.28	0.28		0.53	0.53	0.53		0.53	0.53		
Clearance Time (s)		5.5	5.5		7.0	7.0	7.0		7.0	7.0		
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)		431	291		133	1651	708		185	1618		
v/s Ratio Prot						0.35				c0.41		
v/s Ratio Perm		0.02	c0.05		0.09		0.10		0.12			
v/c Ratio		0.08	0.17		0.17	0.65	0.18		0.23	0.77		
Uniform Delay, d1		17.4	17.8		7.8	10.9	7.9		8.1	12.2		
Progression Factor		1.00	1.00		1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2		0.1	0.3		2.7	2.0	0.6		2.8	3.7		
Delay (s)		17.5	18.1		10.5	12.9	8.5		11.0	15.8		
Level of Service		B	B		B	B	A		B	B		
Approach Delay (s)		18.0				12.1				15.7		
Approach LOS		B				B				B		

Intersection Summary			
HCM Average Control Delay	14.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	81.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	30	0	20	0	0	0	60	1164	0	0	30	1120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.87					1.00	1.00				0.99
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.95					1.00	1.00				1.00
Flt Protected		0.97					0.95	1.00				1.00
Satd. Flow (prot)		1140					1555	3110				3056
Flt Permitted		0.97					0.95	1.00				0.89
Satd. Flow (perm)		1140					1555	3110				2722
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	32	0	21	0	0	0	64	1238	0	0	32	1191
RTOR Reduction (vph)	0	4	0	0	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	0	49	0	0	0	0	64	1238	0	0	0	1254
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		6.8					4.0	74.2				65.2
Effective Green, g (s)		6.8					4.0	74.2				65.2
Actuated g/C Ratio		0.08					0.04	0.82				0.72
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		86					69	2564				1972
v/s Ratio Prot		c0.04					c0.04	0.40				
v/s Ratio Perm												c0.46
v/c Ratio		0.57					0.93	0.48				0.64
Uniform Delay, d1		40.2					42.9	2.3				6.3
Progression Factor		1.00					0.88	0.40				1.00
Incremental Delay, d2		8.9					77.6	0.6				1.6
Delay (s)		49.1					115.2	1.5				7.9
Level of Service		D					F	A				A
Approach Delay (s)		49.1			0.0			7.1				7.9
Approach LOS		D			A			A				A

Intersection Summary			
HCM Average Control Delay	8.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	93.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	30
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	32
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	93	554	0	0	509	40	150	149	20	0	0	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				
Lane Util. Factor		0.95			0.95			0.95				
Frpb, ped/bikes		1.00			0.98			0.98				
Flpb, ped/bikes		0.98			1.00			0.85				
Frt		1.00			0.99			0.99				
Flt Protected		0.99			1.00			0.98				
Satd. Flow (prot)		2810			2787			2330				
Flt Permitted		0.78			1.00			0.98				
Satd. Flow (perm)		2212			2787			2330				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	99	589	0	0	541	43	160	159	21	0	0	0
RTOR Reduction (vph)	0	0	0	0	7	0	0	6	0	0	0	0
Lane Group Flow (vph)	0	688	0	0	577	0	0	334	0	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm					
Protected Phases		2			6			8				
Permitted Phases	2						8					
Actuated Green, G (s)		43.5			43.5			27.5				
Effective Green, g (s)		43.5			43.5			27.5				
Actuated g/C Ratio		0.54			0.54			0.34				
Clearance Time (s)		4.5			4.5			4.5				
Vehicle Extension (s)		3.0			3.0			3.0				
Lane Grp Cap (vph)		1203			1515			801				
v/s Ratio Prot					0.21							
v/s Ratio Perm		c0.31						0.14				
v/c Ratio		0.57			0.38			0.42				
Uniform Delay, d1		12.1			10.5			20.1				
Progression Factor		1.00			0.30			1.00				
Incremental Delay, d2		2.0			0.6			1.6				
Delay (s)		14.1			3.7			21.7				
Level of Service		B			A			C				
Approach Delay (s)		14.1			3.7			21.7			0.0	
Approach LOS		B			A			C			A	

Intersection Summary			
HCM Average Control Delay	11.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	95.4%	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												
Volume (vph)	0	414	180	50	445	0	0	0	0	20	302	105
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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.90			1.00						0.94	
Flpb, ped/bikes		1.00			0.99						0.99	
Frt		0.95			1.00						0.96	
Flt Protected		1.00			0.99						1.00	
Satd. Flow (prot)		2673			3060						2616	
Flt Permitted		1.00			0.77						1.00	
Satd. Flow (perm)		2673			2378						2616	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	445	194	54	478	0	0	0	0	22	325	113
RTOR Reduction (vph)	0	49	0	0	0	0	0	0	0	0	37	0
Lane Group Flow (vph)	0	590	0	0	532	0	0	0	0	0	423	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		24.6			24.6						46.4	
Effective Green, g (s)		24.6			24.6						46.4	
Actuated g/C Ratio		0.31			0.31						0.58	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		822			731						1517	
v/s Ratio Prot		0.22										
v/s Ratio Perm					c0.22						0.16	
v/c Ratio		0.72			0.73						0.28	
Uniform Delay, d1		24.6			24.7						8.4	
Progression Factor		0.49			1.00						1.00	
Incremental Delay, d2		2.6			3.6						0.5	
Delay (s)		14.5			28.3						8.9	
Level of Service		B			C						A	
Approach Delay (s)		14.5			28.3			0.0			8.9	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM Average Control Delay	17.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	85.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	64	330	490	1170	0	975	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.66	1.00	1.00		0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		0.99	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	914	3016	3110		3004	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	914	3016	3110		3004	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	64	330	490	1170	0	975	75
RTOR Reduction (vph)	0	283	0	0	0	5	0
Lane Group Flow (vph)	64	47	490	1170	0	1045	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	12.7	12.7	20.0	66.3		40.3	
Effective Green, g (s)	12.7	12.7	20.0	66.3		40.3	
Actuated g/C Ratio	0.14	0.14	0.22	0.74		0.45	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	219	129	670	2291		1345	
v/s Ratio Prot	0.04		c0.16	0.38		c0.35	
v/s Ratio Perm		c0.05					
v/c Ratio	0.29	0.36	0.73	0.51		0.78	
Uniform Delay, d1	34.6	35.0	32.5	5.0		21.0	
Progression Factor	1.00	1.00	1.00	1.00		0.68	
Incremental Delay, d2	0.7	1.7	4.1	0.8		3.6	
Delay (s)	35.4	36.7	36.6	5.8		17.9	
Level of Service	D	D	D	A		B	
Approach Delay (s)	36.5			14.9		17.9	
Approach LOS	D			B		B	

Intersection Summary			
HCM Average Control Delay	18.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	95.0%	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												
Volume (vph)	20	224	10	5	120	20	10	80	3	30	110	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
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.43		1.00	0.66		0.99			1.00	0.46
Flpb, ped/bikes		0.98	1.00		0.99	1.00		0.95			0.94	1.00
Frt		1.00	0.85		1.00	0.85		1.00			1.00	0.85
Flt Protected		1.00	1.00		1.00	1.00		0.99			0.99	1.00
Satd. Flow (prot)		1593	600		1610	917		1530			1529	644
Flt Permitted		0.98	1.00		0.99	1.00		0.96			0.92	1.00
Satd. Flow (perm)		1566	600		1600	917		1470			1418	644
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	21	238	11	5	128	21	11	85	3	32	117	11
RTOR Reduction (vph)	0	0	4	0	0	7	0	2	0	0	0	8
Lane Group Flow (vph)	0	259	7	0	133	14	0	97	0	0	149	3
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		40.8	40.8		40.8	40.8		10.2			10.2	10.2
Effective Green, g (s)		40.8	40.8		40.8	40.8		10.2			10.2	10.2
Actuated g/C Ratio		0.68	0.68		0.68	0.68		0.17			0.17	0.17
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)		1065	408		1088	624		250			241	109
v/s Ratio Prot												
v/s Ratio Perm		c0.17	0.01		0.08	0.02		0.07			c0.11	0.00
v/c Ratio		0.24	0.02		0.12	0.02		0.39			0.62	0.02
Uniform Delay, d1		3.7	3.1		3.4	3.1		22.1			23.1	20.8
Progression Factor		1.00	1.00		0.27	0.06		1.17			1.03	1.17
Incremental Delay, d2		0.1	0.0		0.1	0.0		0.8			4.5	0.1
Delay (s)		3.8	3.1		1.1	0.2		26.8			28.3	24.4
Level of Service		A	A		A	A		C			C	C
Approach Delay (s)		3.8			0.9			26.8			28.0	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	12.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	1803	30	290	200	40	60	20	10	10	10	190	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.35		0.64	1.00	0.95			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.74	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	559	3110	480		904	1555	1315			1148	1172
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.98	1.00
Satd. Flow (perm)	3110	559	3110	480		904	1555	1315			1180	1172
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	2026	34	326	225	45	67	22	11	11	11	213	22
RTOR Reduction (vph)	0	4	0	101	0	2	0	9	0	0	0	17
Lane Group Flow (vph)	2026	30	326	169	0	65	22	13	0	0	224	5
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	47.0	47.0	47.0	47.0		16.0	16.0	16.0			16.0	16.0
Effective Green, g (s)	47.0	47.0	47.0	47.0		16.0	16.0	16.0			16.0	16.0
Actuated g/C Ratio	0.63	0.63	0.63	0.63		0.21	0.21	0.21			0.21	0.21
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1949	350	1949	301		193	332	281			252	250
v/s Ratio Prot	c0.65		0.10									
v/s Ratio Perm		0.05		0.35		0.07	0.01	0.01			c0.19	0.00
v/c Ratio	1.04	0.08	0.17	0.56		0.34	0.07	0.05			0.89	0.02
Uniform Delay, d1	14.0	5.5	5.8	8.1		25.0	23.5	23.4			28.6	23.3
Progression Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	31.5	0.5	0.2	7.4		4.7	0.4	0.3			34.0	0.1
Delay (s)	45.5	6.0	6.0	15.5		29.7	23.9	23.8			62.6	23.4
Level of Service	D	A	A	B		C	C	C			E	C
Approach Delay (s)	44.8		10.3								59.1	
Approach LOS	D		B								E	

Intersection Summary			
HCM Average Control Delay	38.5	HCM Level of Service	D
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	86.2%	ICU Level of Service	E
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	1833	60	20	440	90	59
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1950	64	21	468	96	63

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	1300	714	177	312	159
Volume Left (vph)	0	0	21	0	96
Volume Right (vph)	0	64	0	0	63
Hadj (s)	0.02	-0.05	0.08	0.02	-0.10
Departure Headway (s)	5.8	5.7	6.7	6.7	6.5
Degree Utilization, x	2.08	1.13	0.33	0.58	0.29
Capacity (veh/h)	626	635	528	535	538
Control Delay (s)	506.5	98.8	11.8	17.2	12.1
Approach Delay (s)	362.0		15.2		12.1
Approach LOS	F		C		B

Intersection Summary			
Delay	277.4		
HCM Level of Service	F		
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	1623	230	20	10	360	20	10	10	10	20	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4				5.4		4.0			5.0	5.0
Lane Util. Factor		0.95				0.95		1.00			1.00	1.00
Frpb, ped/bikes		0.92				0.98		0.78			1.00	0.55
Flpb, ped/bikes		1.00				1.00		1.00			1.00	1.00
Frt		0.98				0.99		0.86			1.00	0.85
Flt Protected		1.00				1.00		1.00			0.98	1.00
Satd. Flow (prot)		2632				3019		1106			1597	768
Flt Permitted		0.94				0.76		1.00			0.98	1.00
Satd. Flow (perm)		2482				2291		1106			1597	768
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	1764	250	22	11	391	22	11	11	11	22	22
RTOR Reduction (vph)	0	1	0	0	0	5	0	0	0	0	0	19
Lane Group Flow (vph)	0	2068	0	0	0	419	0	11	0	0	44	3
Confl. Peds. (#/hr)	400		400	400	400		400	400	400	400		400
Confl. Bikes (#/hr)			30	30			30	10				10
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm			Free	Split	Split		Perm
Protected Phases		2				6			4	4	4	
Permitted Phases	2				6			Free				4
Actuated Green, G (s)		41.6				41.6		75.0			9.0	9.0
Effective Green, g (s)		41.6				41.6		75.0			9.0	9.0
Actuated g/C Ratio		0.55				0.55		1.00			0.12	0.12
Clearance Time (s)		5.4				5.4					5.0	5.0
Lane Grp Cap (vph)		1377				1271		1106			192	92
v/s Ratio Prot											c0.03	
v/s Ratio Perm		c0.83				0.18		0.01				0.00
v/c Ratio		1.50				0.33		0.01			0.23	0.03
Uniform Delay, d1		16.7				9.1		0.0			29.9	29.1
Progression Factor		1.00				0.84		1.00			1.00	1.00
Incremental Delay, d2		229.7				0.7		0.0			2.8	0.6
Delay (s)		246.4				8.4		0.0			32.6	29.7
Level of Service		F				A		A			C	C
Approach Delay (s)		246.4				8.4					31.7	
Approach LOS		F				A					C	

Intersection Summary			
HCM Average Control Delay	192.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	123.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NWL	NWR	NWR2
Lane Configurations			
Volume (vph)	90	20	10
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	5.0		5.0
Lane Util. Factor	0.97		1.00
Frpb, ped/bikes	0.86		0.55
Flpb, ped/bikes	1.00		1.00
Frt	0.97		0.85
Flt Protected	0.96		1.00
Satd. Flow (prot)	2560		768
Flt Permitted	0.96		1.00
Satd. Flow (perm)	2560		768
Peak-hour factor, PHF	0.92	0.92	0.92
Adj. Flow (vph)	98	22	11
RTOR Reduction (vph)	0	0	1
Lane Group Flow (vph)	120	0	10
Confl. Peds. (#/hr)	400	400	400
Confl. Bikes (#/hr)		10	10
Parking (#/hr)			
Turn Type			Perm
Protected Phases	8		
Permitted Phases			8
Actuated Green, G (s)	9.0		9.0
Effective Green, g (s)	9.0		9.0
Actuated g/C Ratio	0.12		0.12
Clearance Time (s)	5.0		5.0
Lane Grp Cap (vph)	307		92
v/s Ratio Prot	c0.05		
v/s Ratio Perm			0.01
v/c Ratio	0.39		0.11
Uniform Delay, d1	30.5		29.4
Progression Factor	1.00		1.00
Incremental Delay, d2	3.7		2.4
Delay (s)	34.2		31.8
Level of Service	C		C
Approach Delay (s)	34.0		
Approach LOS	C		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1613	30	10	340	60	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.99			1.00	0.89	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	1.00			1.00	0.95	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2888			3103	1344	
Flt Permitted	1.00			0.90	0.97	
Satd. Flow (perm)	2888			2789	1344	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1698	32	11	358	63	32
RTOR Reduction (vph)	2	0	0	0	2	0
Lane Group Flow (vph)	1728	0	0	369	93	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1733			1673	403	
v/s Ratio Prot	c0.60				c0.07	
v/s Ratio Perm				0.13		
v/c Ratio	1.00			0.22	0.23	
Uniform Delay, d1	14.9			6.9	19.7	
Progression Factor	0.09			1.00	1.00	
Incremental Delay, d2	5.9			0.3	1.3	
Delay (s)	7.3			7.2	21.1	
Level of Service	A			A	C	
Approach Delay (s)	7.3			7.2	21.1	
Approach LOS	A			A	C	

Intersection Summary			
HCM Average Control Delay	7.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	76.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	1603	10	10	330	10	10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1705	11	11	351	11	11

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	1137	579	128	234	21
Volume Left (vph)	0	0	11	0	11
Volume Right (vph)	0	11	0	0	11
Hadj (s)	0.02	0.00	0.06	0.02	-0.18
Departure Headway (s)	5.0	4.9	6.0	6.0	6.2
Degree Utilization, x	1.56	0.79	0.21	0.39	0.04
Capacity (veh/h)	722	718	579	588	559
Control Delay (s)	274.0	23.0	9.5	11.6	9.4
Approach Delay (s)	189.3		10.8		9.4
Approach LOS	F		B		A

Intersection Summary			
Delay	156.7		
HCM Level of Service	F		
Intersection Capacity Utilization	69.6%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR2
Lane Configurations												
Volume (vph)	36	1486	30	10	330	92	50	30	50	20	20	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5	5.5		5.5		5.5	5.5	5.5
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	1.00
Frpb, ped/bikes		0.99			1.00	0.66		0.87		1.00	1.00	0.65
Flpb, ped/bikes		1.00			1.00	1.00		0.88		0.74	0.98	1.00
Frt		1.00			1.00	0.85		0.95		1.00	1.00	0.85
Flt Protected		1.00			1.00	1.00		0.98		0.95	1.00	1.00
Satd. Flow (prot)		2847			3110	808		1012		1097	1512	911
Flt Permitted		0.94			1.00	1.00		0.88		0.67	0.98	1.00
Satd. Flow (perm)		2674			3110	808		908		774	1490	911
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)	37	1516	31	10	337	94	51	31	51	20	20	10
RTOR Reduction (vph)	0	0	0	0	0	4	0	5	0	0	0	8
Lane Group Flow (vph)	0	1594	0	0	337	90	0	128	0	18	22	3
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10	10		10			10			10
Parking (#/hr)		5	5	5		5	5	5	5			
Turn Type	Perm					Perm	Perm			Perm		Perm
Protected Phases		2			6			8			4	
Permitted Phases	2				6	6	8			4		4
Actuated Green, G (s)		56.5			56.5	56.5		22.5		22.5	22.5	22.5
Effective Green, g (s)		56.5			56.5	56.5		22.5		22.5	22.5	22.5
Actuated g/C Ratio		0.63			0.63	0.63		0.25		0.25	0.25	0.25
Clearance Time (s)		5.5			5.5	5.5		5.5		5.5	5.5	5.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		1679			1952	507		227		194	373	228
v/s Ratio Prot					0.11							
v/s Ratio Perm		c0.60				0.11		c0.14		0.02	0.01	0.00
v/c Ratio		0.95			0.17	0.18		0.56		0.09	0.06	0.01
Uniform Delay, d1		15.4			7.0	7.0		29.5		25.9	25.7	25.4
Progression Factor		1.00			0.62	0.59		1.00		1.00	1.00	1.00
Incremental Delay, d2		12.8			0.2	0.8		9.7		0.2	0.1	0.0
Delay (s)		28.3			4.5	4.9		39.2		26.1	25.8	25.4
Level of Service		C			A	A		D		C	C	C
Approach Delay (s)		28.3			4.6			39.2			25.8	
Approach LOS		C			A			D			C	

Intersection Summary			
HCM Average Control Delay	23.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	128.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	NER2
Lane Configurations	
Volume (vph)	30
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.78
Flpb, ped/bikes	1.00
Frt	0.86
Flt Protected	1.00
Satd. Flow (prot)	967
Flt Permitted	1.00
Satd. Flow (perm)	967
Peak-hour factor, PHF	0.98
Adj. Flow (vph)	31
RTOR Reduction (vph)	0
Lane Group Flow (vph)	31
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	10
Parking (#/hr)	5
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Actuated Green, G (s)	90.0
Effective Green, g (s)	90.0
Actuated g/C Ratio	1.00
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	967
v/s Ratio Prot	
v/s Ratio Perm	0.03
v/c Ratio	0.03
Uniform Delay, d1	0.0
Progression Factor	1.00
Incremental Delay, d2	0.1
Delay (s)	0.1
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	1546	0	0	432	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1662	0	0	465	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	1662	0	0	465	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)		30				30
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		76.0			76.0	
Effective Green, g (s)		76.0			76.0	
Actuated g/C Ratio		0.84			0.84	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		2067			2547	
v/s Ratio Prot		c0.68			0.15	
v/s Ratio Perm						
v/c Ratio		0.80			0.18	
Uniform Delay, d1		3.4			1.3	
Progression Factor		1.08			1.21	
Incremental Delay, d2		1.5			0.2	
Delay (s)		5.2			1.7	
Level of Service		A			A	
Approach Delay (s)	5.2			0.0	1.7	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	4.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	64.3%	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												
Volume (vph)	10	370	90	80	200	10	80	90	230	30	100	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.88		1.00	0.97			1.00	0.62		1.00	0.37
Flpb, ped/bikes		0.99		0.74	1.00			0.76	1.00		0.93	1.00
Frt		0.97		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.99	1.00
Satd. Flow (prot)		2618		1153	1376			1030	844		1507	508
Flt Permitted		0.95		0.36	1.00			0.82	1.00		0.92	1.00
Satd. Flow (perm)		2480		435	1376			865	844		1401	508
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)	11	389	95	84	211	11	84	95	242	32	105	21
RTOR Reduction (vph)	0	27	0	0	2	0	0	0	6	0	0	8
Lane Group Flow (vph)	0	468	0	84	220	0	0	179	236	0	137	13
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		23.8		23.8	23.8			56.2	56.2		56.2	56.2
Effective Green, g (s)		23.8		23.8	23.8			56.2	56.2		56.2	56.2
Actuated g/C Ratio		0.26		0.26	0.26			0.62	0.62		0.62	0.62
Clearance Time (s)		5.5		5.5	5.5			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)		656		115	364			540	527		875	317
v/s Ratio Prot					0.16							
v/s Ratio Perm		0.19		c0.19				0.21	c0.28		0.10	0.03
v/c Ratio		0.71		0.73	0.60			0.33	0.45		0.16	0.04
Uniform Delay, d1		30.0		30.2	29.0			8.0	8.8		7.0	6.5
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		3.7		21.0	2.8			1.6	2.7		0.4	0.2
Delay (s)		33.7		51.2	31.8			9.6	11.6		7.4	6.8
Level of Service		C		D	C			A	B		A	A
Approach Delay (s)		33.7			37.1			10.7			7.3	
Approach LOS		C			D			B			A	

Intersection Summary			
HCM Average Control Delay	24.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	67.2%	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												
Volume (vph)	0	450	110	20	180	472	90	0	40	1376	110	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.98			1.00	0.96		0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		0.99		1.00	1.00	
Frt		0.97			1.00	0.85		0.96		1.00	1.00	
Flt Protected		1.00			0.99	1.00		0.97		0.95	0.96	
Satd. Flow (prot)		2786			1622	2362		1308		1477	1488	
Flt Permitted		1.00			0.65	1.00		0.19		0.67	0.67	
Satd. Flow (perm)		2786			1054	2362		262		1044	1039	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	464	113	21	186	487	93	0	41	1419	113	10
RTOR Reduction (vph)	0	24	0	0	0	0	0	16	0	0	1	0
Lane Group Flow (vph)	0	553	0	0	207	487	0	118	0	766	776	0
Confl. Peds. (#/hr)	50			50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		17.0			17.0	65.5		17.5		45.0	45.0	
Effective Green, g (s)		17.0			17.0	65.5		17.5		45.0	45.0	
Actuated g/C Ratio		0.19			0.19	0.73		0.19		0.50	0.50	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		526			199	1719		51		522	520	
v/s Ratio Prot		c0.20										
v/s Ratio Perm					0.20	0.21		c0.45		0.73	c0.75	
v/c Ratio		1.05			1.04	0.28		2.31		1.47	1.49	
Uniform Delay, d1		36.5			36.5	4.2		36.2		22.5	22.5	
Progression Factor		1.00			1.00	1.00		1.00		0.86	0.86	
Incremental Delay, d2		53.7			74.7	0.4		646.9		217.4	227.9	
Delay (s)		90.2			111.2	4.6		683.2		236.8	247.3	
Level of Service		F			F	A		F		F	F	
Approach Delay (s)		90.2			36.4			683.2			242.1	
Approach LOS		F			D			F			F	

Intersection Summary			
HCM Average Control Delay	184.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	88.3%	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												
Volume (vph)	20	1446	30	60	542	20	129	60	279	30	30	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Lane Util. Factor		0.95			0.95	1.00		0.95			1.00	1.00
Frpb, ped/bikes		0.99			1.00	0.62		0.77			1.00	0.62
Flpb, ped/bikes		1.00			1.00	1.00		0.91			0.92	1.00
Frt		1.00			1.00	0.85		0.91			1.00	0.85
Flt Protected		1.00			1.00	1.00		0.99			0.98	1.00
Satd. Flow (prot)		3069			3094	754		1829			1474	860
Flt Permitted		0.94			0.64	1.00		0.84			0.75	1.00
Satd. Flow (perm)		2895			1992	754		1567			1131	860
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	21	1506	31	62	565	21	134	62	291	31	31	31
RTOR Reduction (vph)	0	2	0	0	0	9	0	3	0	0	0	20
Lane Group Flow (vph)	0	1556	0	0	627	12	0	484	0	0	62	11
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Actuated Green, G (s)		51.3			51.3	51.3		31.7			31.7	31.7
Effective Green, g (s)		51.3			51.3	51.3		31.7			31.7	31.7
Actuated g/C Ratio		0.57			0.57	0.57		0.35			0.35	0.35
Clearance Time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)		1650			1135	430		552			398	303
v/s Ratio Prot												
v/s Ratio Perm		c0.54			0.31	0.02		c0.31			0.05	0.01
v/c Ratio		0.94			0.55	0.03		0.94dr			0.16	0.04
Uniform Delay, d1		18.0			12.1	8.5		27.3			20.0	19.1
Progression Factor		1.00			0.48	0.28		1.00			1.00	1.00
Incremental Delay, d2		11.3			0.6	0.0		17.7			0.8	0.2
Delay (s)		29.3			6.4	2.4		45.0			20.8	19.3
Level of Service		C			A	A		D			C	B
Approach Delay (s)		29.3			6.3			45.0			20.3	
Approach LOS		C			A			D			C	

Intersection Summary			
HCM Average Control Delay	26.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	106.4%	ICU Level of Service	G
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	1574	150	0	483	30	81	284	179	10	140	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.95		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.80		0.99		1.00	0.86			0.88	
Flpb, ped/bikes		1.00	1.00		1.00		0.74	1.00			0.99	
Frt		1.00	0.85		0.99		1.00	0.94			0.95	
Flt Protected		1.00	1.00		1.00		0.95	1.00			1.00	
Satd. Flow (prot)		3104	974		3047		1155	3620			3727	
Flt Permitted		0.94	1.00		1.00		0.60	1.00			0.91	
Satd. Flow (perm)		2934	974		3047		733	3620			3406	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	21	1640	156	0	503	31	84	296	186	10	146	73
RTOR Reduction (vph)	0	0	1	0	0	0	0	5	0	0	56	0
Lane Group Flow (vph)	0	1661	155	0	534	0	84	477	0	0	173	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm				Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4				2			6		
Actuated Green, G (s)		59.4	59.4		59.4		20.6	20.6			20.6	
Effective Green, g (s)		59.4	59.4		59.4		20.6	20.6			20.6	
Actuated g/C Ratio		0.66	0.66		0.66		0.23	0.23			0.23	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1936	643		2011		168	829			780	
v/s Ratio Prot					0.18			c0.13				
v/s Ratio Perm		c0.57	0.16				0.11				0.05	
v/c Ratio		0.86	0.24		0.27		0.50	0.57			0.22	
Uniform Delay, d1		12.0	6.2		6.3		30.2	30.8			28.2	
Progression Factor		0.30	0.43		1.86		1.00	1.00			1.00	
Incremental Delay, d2		1.6	0.1		0.1		10.2	2.9			0.7	
Delay (s)		5.2	2.7		11.8		40.5	33.7			28.8	
Level of Service		A	A		B		D	C			C	
Approach Delay (s)		5.0			11.8			34.7			28.8	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM Average Control Delay	13.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	108.2%	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												
Volume (vph)	0	2486	220	0	1490	60	140	149	40	90	110	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.97			0.99		1.00	0.93		1.00	0.91	
Flpb, ped/bikes		1.00			1.00		0.74	1.00		0.77	1.00	
Frt		0.99			0.99		1.00	0.97		1.00	0.96	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4283			4197		1157	1476		1191	1255	
Flt Permitted		1.00			1.00		0.65	1.00		0.59	1.00	
Satd. Flow (perm)		4283			4197		793	1476		736	1255	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	2563	227	0	1536	62	144	154	41	93	113	41
RTOR Reduction (vph)	0	8	0	0	5	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	2782	0	0	1593	0	144	195	0	93	151	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2475			2425		242	451		225	383	
v/s Ratio Prot		c0.65			0.38			0.13			0.12	
v/s Ratio Perm							c0.18			0.13		
v/c Ratio		1.12			0.66		0.60	0.43		0.41	0.39	
Uniform Delay, d1		19.0			12.9		26.5	25.0		24.8	24.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		61.8			1.4		10.3	3.0		5.5	3.0	
Delay (s)		80.8			14.3		36.9	28.0		30.4	27.7	
Level of Service		F			B		D	C		C	C	
Approach Delay (s)		80.8			14.3			31.8			28.7	
Approach LOS		F			B			C			C	

Intersection Summary			
HCM Average Control Delay	53.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	104.4%	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												
Volume (vph)	0	2426	110	0	1320	70	90	130	60	90	130	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			1.00	
Frpb, ped/bikes		0.98			0.98		1.00	0.90			0.95	
Flpb, ped/bikes		1.00			1.00		0.82	1.00			0.92	
Frt		0.99			0.99		1.00	0.95			0.98	
Flt Protected		1.00			1.00		0.95	1.00			0.98	
Satd. Flow (prot)		4370			4355		1280	1397			1378	
Flt Permitted		1.00			1.00		0.52	1.00			0.74	
Satd. Flow (perm)		4370			4355		695	1397			1041	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	2637	120	0	1435	76	98	141	65	98	141	43
RTOR Reduction (vph)	0	5	0	0	6	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	2752	0	0	1505	0	98	206	0	0	278	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2588			2579		208	418			311	
v/s Ratio Prot		c0.63			0.35			0.15				
v/s Ratio Perm							0.14				c0.27	
v/c Ratio		1.06			0.58		0.47	0.49			0.89	
Uniform Delay, d1		18.4			11.4		25.7	25.9			30.2	
Progression Factor		1.00			1.62		1.00	1.00			1.00	
Incremental Delay, d2		37.4			0.8		7.5	4.1			29.9	
Delay (s)		55.7			19.4		33.2	30.1			60.0	
Level of Service		E			B		C	C			E	
Approach Delay (s)		55.7			19.4			31.1			60.0	
Approach LOS		E			B			C			E	

Intersection Summary			
HCM Average Control Delay	43.1	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	112.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	2126	200	0	1350	50	80	80	30	50	150	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.97			0.99			0.95			0.96	
Flpb, ped/bikes		1.00			1.00			0.92			0.95	
Frt		0.99			0.99			0.98			0.98	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		4099			4206			1196			1271	
Flt Permitted		1.00			1.00			0.73			0.90	
Satd. Flow (perm)		4099			4206			894			1157	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	2262	213	0	1436	53	85	85	32	53	160	32
RTOR Reduction (vph)	0	6	0	0	4	0	0	1	0	0	4	0
Lane Group Flow (vph)	0	2469	0	0	1485	0	0	201	0	0	241	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2459			2524			268			347	
v/s Ratio Prot		c0.60			0.35							
v/s Ratio Perm								c0.23			0.21	
v/c Ratio		1.00			0.59			0.75			0.69	
Uniform Delay, d1		18.0			11.1			28.5			27.8	
Progression Factor		0.13			1.00			1.00			1.00	
Incremental Delay, d2		6.5			1.0			17.5			10.9	
Delay (s)		8.8			12.1			46.0			38.7	
Level of Service		A			B			D			D	
Approach Delay (s)		8.8			12.1			46.0			38.7	
Approach LOS		A			B			D			D	

Intersection Summary			
HCM Average Control Delay	13.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	81.6%	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		↑↑↑			↑↑↑		↰	↕				↱
Volume (vph)	0	1726	0	0	570	30	870	468	50	0	0	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.98		1.00	0.98				0.97
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.98				1.00
Satd. Flow (prot)		4282			4360		1415	2662				1373
Flt Permitted		1.00			1.00		0.95	0.98				1.00
Satd. Flow (perm)		4282			4360		1415	2662				1373
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	1817	0	0	600	32	916	493	53	0	0	63
RTOR Reduction (vph)	0	0	0	0	6	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	1817	0	0	626	0	485	973	0	0	0	63
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		43.0			29.0		37.0	37.0				11.0
Effective Green, g (s)		43.0			29.0		37.0	37.0				11.0
Actuated g/C Ratio		0.48			0.32		0.41	0.41				0.12
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		2046			1405		582	1094				168
v/s Ratio Prot		c0.42			0.14							
v/s Ratio Perm							0.34	0.37				0.05
v/c Ratio		0.89			0.45		0.83	0.89				0.38
Uniform Delay, d1		21.3			24.1		23.7	24.6				36.3
Progression Factor		1.00			0.30		1.00	1.00				1.00
Incremental Delay, d2		6.2			0.9		13.2	10.9				6.3
Delay (s)		27.5			8.1		36.9	35.5				42.6
Level of Service		C			A		D	D				D
Approach Delay (s)		27.5			8.1			36.0			42.6	
Approach LOS		C			A			D			D	

Intersection Summary			
HCM Average Control Delay	27.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	75.2%	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												
Volume (vph)	260	240	1385	0	120	30	400	283	40	0	430	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		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.93		1.00	0.94			1.00	0.67
Flpb, ped/bikes		0.87	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.97		1.00	0.98			1.00	0.85
Flt Protected		0.97	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1381	2448		1265		4385	1320			3110	815
Flt Permitted		0.75	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		1065	2448		1265		4385	1320			3110	815
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	271	250	1443	0	125	31	417	295	42	0	448	52
RTOR Reduction (vph)	0	0	2	0	10	0	0	6	0	0	0	37
Lane Group Flow (vph)	0	521	1441	0	146	0	417	331	0	0	448	15
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		40.5	55.5		40.5		11.5	41.5			26.5	26.5
Effective Green, g (s)		40.5	52.0		40.5		11.5	41.5			26.5	26.5
Actuated g/C Ratio		0.45	0.58		0.45		0.13	0.46			0.29	0.29
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		479	1414		569		560	609			916	240
v/s Ratio Prot			c0.59		0.12		0.10	c0.25			0.14	
v/s Ratio Perm		c0.49										0.02
v/c Ratio		1.09	1.02		0.26		0.74	0.54			0.49	0.06
Uniform Delay, d1		24.8	19.0		15.4		37.8	17.4			26.2	22.8
Progression Factor		0.20	0.65		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		56.0	22.0		0.2		8.7	3.5			1.9	0.5
Delay (s)		60.9	34.3		15.6		46.5	20.9			28.0	23.3
Level of Service		E	C		B		D	C			C	C
Approach Delay (s)		41.3			15.6			35.1			27.5	
Approach LOS		D			B			D			C	

Intersection Summary			
HCM Average Control Delay	36.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	97.9%	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												
Volume (vph)	0	0	0	30	100	50	20	40	0	0	50	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.70		1.00			0.98	
Flpb, ped/bikes					0.95	1.00		0.99			1.00	
Frt					1.00	0.85		1.00			0.96	
Flt Protected					0.99	1.00		0.98			1.00	
Satd. Flow (prot)					2744	954		1589			1548	
Flt Permitted					0.99	1.00		0.91			1.00	
Satd. Flow (perm)					2744	954		1471			1548	
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	0	0	0	38	128	64	26	51	0	0	64	26
RTOR Reduction (vph)	0	0	0	0	0	36	0	0	0	0	16	0
Lane Group Flow (vph)	0	0	0	0	166	28	0	77	0	0	74	0
Confl. Peds. (#/hr)				154		203	51					51
Confl. Bikes (#/hr)						14						3
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					26.0	26.0		24.0			24.0	
Effective Green, g (s)					26.0	26.0		24.0			24.0	
Actuated g/C Ratio					0.43	0.43		0.40			0.40	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1189	413		588			619	
v/s Ratio Prot											0.05	
v/s Ratio Perm					0.06	0.03		c0.05				
v/c Ratio					0.14	0.07		0.13			0.12	
Uniform Delay, d1					10.3	9.9		11.4			11.3	
Progression Factor					1.00	1.00		0.95			1.00	
Incremental Delay, d2					0.2	0.3		0.5			0.4	
Delay (s)					10.5	10.2		11.3			11.7	
Level of Service					B	B		B			B	
Approach Delay (s)		0.0			10.4			11.3			11.7	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	10.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.14		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	45.0%	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												
Volume (vph)	0	0	0	30	120	10	20	10	0	0	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.98		1.00	1.00			0.92	
Flpb, ped/bikes				1.00	1.00		0.85	1.00			1.00	
Frt				1.00	0.99		1.00	1.00			0.93	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	3007		1314	1637			1397	
Flt Permitted				0.95	1.00		0.74	1.00			1.00	
Satd. Flow (perm)				1555	3007		1024	1637			1397	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	0	0	0	39	156	13	26	13	0	0	13	13
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	39	165	0	26	13	0	0	26	0
Confl. Peds. (#/hr)						369	74					74
Confl. Bikes (#/hr)						16			1			
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				42.4	42.4		8.3	8.3			8.3	
Effective Green, g (s)				42.4	42.4		8.3	8.3			8.3	
Actuated g/C Ratio				0.71	0.71		0.14	0.14			0.14	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				1099	2125		142	226			193	
v/s Ratio Prot				0.03	c0.05			0.01			0.02	
v/s Ratio Perm							c0.03					
v/c Ratio				0.04	0.08		0.18	0.06			0.13	
Uniform Delay, d1				2.6	2.7		22.9	22.5			22.7	
Progression Factor				1.00	1.00		0.84	0.82			1.00	
Incremental Delay, d2				0.1	0.1		2.8	0.5			1.4	
Delay (s)				2.7	2.8		22.1	19.0			24.1	
Level of Service				A	A		C	B			C	
Approach Delay (s)		0.0			2.8			21.1			24.1	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	7.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.10		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	130	40	10	70	40	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	135	42	10	73	42	10
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	291					
pX, platoon unblocked						
vC, conflicting volume			577		1050	889
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			577		1050	889
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		61	93
cM capacity (veh/h)			694		106	139

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	90	87	83	52
Volume Left	0	0	10	42
Volume Right	0	42	0	10
cSH	1700	1700	694	112
Volume to Capacity	0.05	0.05	0.02	0.47
Queue Length 95th (ft)	0	0	1	51
Control Delay (s)	0.0	0.0	1.4	62.7
Lane LOS			A	F
Approach Delay (s)	0.0		1.4	62.7
Approach LOS				F

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												
Volume (vph)	20	140	20	10	100	10	14	30	16	20	50	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	
Lane Util. Factor		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.57		0.97			0.86			0.88	
Flpb, ped/bikes		0.96	1.00		0.97			0.90			0.90	
Frt		1.00	0.85		0.99			0.96			0.97	
Flt Protected		0.99	1.00		1.00			0.99			0.99	
Satd. Flow (prot)		1557	793		1327			1054			1087	
Flt Permitted		0.96	1.00		0.98			0.94			0.94	
Satd. Flow (perm)		1510	793		1304			1005			1038	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	23	161	23	11	115	11	16	34	18	23	57	23
RTOR Reduction (vph)	0	0	12	0	5	0	0	11	0	0	15	0
Lane Group Flow (vph)	0	184	11	0	132	0	0	57	0	0	88	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4			4		
Actuated Green, G (s)		29.0	29.0		29.0			22.0			22.0	
Effective Green, g (s)		29.0	29.0		29.0			22.0			22.0	
Actuated g/C Ratio		0.48	0.48		0.48			0.37			0.37	
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)		730	383		630			369			381	
v/s Ratio Prot												
v/s Ratio Perm		c0.12	0.01		0.10			0.06			c0.09	
v/c Ratio		0.25	0.03		0.21			0.15			0.23	
Uniform Delay, d1		9.1	8.1		8.9			12.8			13.2	
Progression Factor		1.00	1.00		1.00			1.00			0.84	
Incremental Delay, d2		0.8	0.1		0.8			0.9			1.4	
Delay (s)		9.9	8.3		9.7			13.6			12.5	
Level of Service		A	A		A			B			B	
Approach Delay (s)		9.8			9.7			13.6			12.5	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	10.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	77.9%	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												
Volume (vph)	0	148	20	20	170	0	10	0	14	10	10	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
Lane Util. Factor		1.00	1.00		0.95			1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.42		1.00			0.69			1.00	0.67
Flpb, ped/bikes		1.00	1.00		0.95			0.87			0.74	1.00
Frt		1.00	0.85		1.00			0.92			1.00	0.85
Flt Protected		1.00	1.00		0.99			0.98			0.98	1.00
Satd. Flow (prot)		1637	571		2948			879			1184	933
Flt Permitted		1.00	1.00		0.91			0.94			0.93	1.00
Satd. Flow (perm)		1637	571		2708			845			1132	933
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	0	174	24	24	200	0	12	0	16	12	12	12
RTOR Reduction (vph)	0	0	18	0	0	0	0	2	0	0	0	5
Lane Group Flow (vph)	0	174	6	0	224	0	0	26	0	0	24	7
Confl. Peds. (#/hr)			400	400			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	36.5
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	36.5
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	0.61
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)		396	138		654			514			689	568
v/s Ratio Prot		c0.11										
v/s Ratio Perm			0.01		0.08			c0.03			0.02	0.01
v/c Ratio		0.44	0.04		0.34			0.05			0.03	0.01
Uniform Delay, d1		19.3	17.4		18.8			4.8			4.7	4.6
Progression Factor		0.84	0.74		1.00			1.00			1.00	1.00
Incremental Delay, d2		3.5	0.6		1.4			0.2			0.0	0.0
Delay (s)		19.7	13.4		20.2			4.9			4.7	4.6
Level of Service		B	B		C			A			A	A
Approach Delay (s)		19.0			20.2			4.9			4.7	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM Average Control Delay	17.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.16		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	160	10	10	20	20	0	180	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		0.83		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		0.93		1.00			1.00
Flt Protected		1.00		0.98		1.00			0.97
Satd. Flow (prot)		942		1079		1637			3016
Flt Permitted		1.00		0.98		1.00			0.95
Satd. Flow (perm)		942		1079		1637			2970
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	184	11	11	23	23	0	207	126
RTOR Reduction (vph)	0	0	0	16	0	0	0	0	0
Lane Group Flow (vph)	0	184	0	29	0	23	0	0	333
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		306		314			891
v/s Ratio Prot						0.01			
v/s Ratio Perm		c0.20		0.03					c0.11
v/c Ratio		0.35		0.09		0.07			0.37
Uniform Delay, d1		7.3		15.8		19.9			16.6
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		1.8		0.6		0.1			1.2
Delay (s)		9.1		16.4		20.0			17.8
Level of Service		A		B		B			B
Approach Delay (s)	9.1			16.4		20.0			17.8
Approach LOS	A			B		B			B

Intersection Summary			
HCM Average Control Delay	15.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	60.0	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												
Volume (vph)	30	244	40	40	130	40	30	80	20	20	60	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.97			1.00	0.59	1.00	0.88			0.88	
Flpb, ped/bikes		0.97			1.00	1.00	0.52	1.00			0.91	
Frt		0.98			1.00	0.85	1.00	0.97			0.97	
Flt Protected		1.00			0.99	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1318			1415	722	815	1225			2385	
Flt Permitted		0.96			0.87	1.00	0.68	1.00			0.88	
Satd. Flow (perm)		1274			1248	722	585	1225			2119	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	34	274	45	45	146	45	34	90	22	22	67	22
RTOR Reduction (vph)	0	4	0	0	0	3	0	12	0	0	0	0
Lane Group Flow (vph)	0	349	0	0	191	42	34	100	0	0	111	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		68.6			68.6	68.6	11.3	11.3			11.3	
Effective Green, g (s)		68.6			68.6	68.6	11.3	11.3			11.3	
Actuated g/C Ratio		0.76			0.76	0.76	0.13	0.13			0.13	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		971			951	550	73	154			266	
v/s Ratio Prot								c0.08				
v/s Ratio Perm		c0.27			0.15	0.06	0.06				0.05	
v/c Ratio		0.36			0.20	0.08	0.47	0.65			0.42	
Uniform Delay, d1		3.5			3.0	2.7	36.5	37.5			36.3	
Progression Factor		1.00			1.00	1.00	0.62	0.66			1.00	
Incremental Delay, d2		1.0			0.5	0.3	4.6	9.0			1.1	
Delay (s)		4.5			3.5	3.0	27.4	33.9			37.4	
Level of Service		A			A	A	C	C			D	
Approach Delay (s)		4.5			3.4			32.4			37.4	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM Average Control Delay	13.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	110.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Volume (vph)	20	230	40	10	130	10	10	41	30	30	30	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.96			0.98			0.78			0.84	
Flpb, ped/bikes		0.98			0.99			0.94			0.82	
Frt		0.98			0.99			0.95			0.97	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		1319			1368			985			943	
Flt Permitted		0.98			0.98			0.96			0.87	
Satd. Flow (perm)		1293			1339			957			838	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	24	271	47	12	153	12	12	48	35	35	35	24
RTOR Reduction (vph)	0	1	0	0	1	0	0	23	0	0	13	0
Lane Group Flow (vph)	0	341	0	0	176	0	0	72	0	0	81	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.6			62.6			18.6			18.6	
Effective Green, g (s)		62.6			62.6			18.6			18.6	
Actuated g/C Ratio		0.70			0.70			0.21			0.21	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		899			931			198			173	
v/s Ratio Prot												
v/s Ratio Perm		c0.26			0.13			0.08			c0.10	
v/c Ratio		0.38			0.19			0.36			0.47	
Uniform Delay, d1		5.7			4.8			30.6			31.3	
Progression Factor		1.00			1.00			0.73			1.00	
Incremental Delay, d2		1.2			0.4			4.3			8.7	
Delay (s)		6.9			5.3			26.7			40.1	
Level of Service		A			A			C			D	
Approach Delay (s)		6.9			5.3			26.7			40.1	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM Average Control Delay	13.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	20	230	60	20	100	10	20	12	90	10	30	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.93			1.00	0.66		0.59			0.89	
Flpb, ped/bikes		0.98			0.97	1.00		0.92			0.92	
Frt		0.97			1.00	0.85		0.90			0.97	
Flt Protected		1.00			0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1276			1375	802		690			1125	
Flt Permitted		0.98			0.93	1.00		0.96			0.95	
Satd. Flow (perm)		1256			1288	802		666			1080	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	250	65	22	109	11	22	13	98	11	33	11
RTOR Reduction (vph)	0	7	0	0	0	4	0	71	0	0	8	0
Lane Group Flow (vph)	0	330	0	0	131	7	0	62	0	0	47	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		57.0			57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0			57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63			0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		795			816	508		185			300	
v/s Ratio Prot												
v/s Ratio Perm		c0.26			0.10	0.01		c0.09			0.04	
v/c Ratio		0.42			0.16	0.01		0.34			0.16	
Uniform Delay, d1		8.2			6.7	6.1		25.9			24.5	
Progression Factor		1.00			0.79	0.65		0.88			1.00	
Incremental Delay, d2		1.6			0.4	0.0		4.2			1.1	
Delay (s)		9.8			5.8	4.0		27.0			25.7	
Level of Service		A			A	A		C			C	
Approach Delay (s)		9.8			5.6			27.0			25.7	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	13.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	230	70	10	110	10	40	64	40	10	30	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.66		1.00	0.66		0.85			0.81	
Flpb, ped/bikes		0.97	1.00		0.98	1.00		0.87			0.94	
Frt		1.00	0.85		1.00	0.85		0.96			0.95	
Flt Protected		0.99	1.00		1.00	1.00		0.99			0.99	
Satd. Flow (prot)		1381	786		1402	786		995			1180	
Flt Permitted		0.96	1.00		0.97	1.00		0.91			0.95	
Satd. Flow (perm)		1337	786		1371	786		920			1137	
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)	33	256	78	11	122	11	44	71	44	11	33	22
RTOR Reduction (vph)	0	0	7	0	0	4	0	15	0	0	16	0
Lane Group Flow (vph)	0	289	71	0	133	7	0	144	0	0	50	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63	0.63		0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		847	498		868	498		256			316	
v/s Ratio Prot												
v/s Ratio Perm		c0.22	0.09		0.10	0.01		c0.16			0.04	
v/c Ratio		0.34	0.14		0.15	0.01		0.56			0.16	
Uniform Delay, d1		7.7	6.7		6.7	6.1		27.8			24.6	
Progression Factor		0.68	0.64		1.00	1.00		0.72			1.00	
Incremental Delay, d2		1.0	0.6		0.4	0.1		5.6			1.1	
Delay (s)		6.2	4.8		7.1	6.2		25.5			25.6	
Level of Service		A	A		A	A		C			C	
Approach Delay (s)		5.9			7.0			25.5			25.6	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	12.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations										
Volume (vph)	10	250	30	30	10	20	170	20	180	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				5.0		5.0		5.0	5.0
Lane Util. Factor	1.00				1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.88				0.88		0.93		1.00	1.00
Flpb, ped/bikes	1.00				0.70		1.00		1.00	1.00
Frt	0.87				0.95		0.98		1.00	1.00
Flt Protected	1.00				0.97		1.00		0.95	1.00
Satd. Flow (prot)	1256				927		2854		1555	3110
Flt Permitted	1.00				0.97		1.00		0.95	1.00
Satd. Flow (perm)	1256				927		2854		1555	3110
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	250	30	30	10	20	170	20	180	280
RTOR Reduction (vph)	5	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	285	0	0	0	60	0	190	0	180	280
Confl. Peds. (#/hr)				400	400	400		400		
Confl. Bikes (#/hr)		30	30			10		30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0
Turn Type				Perm					Split	
Protected Phases	4				3		6		2	2
Permitted Phases				3						
Actuated Green, G (s)	20.0				20.0		17.0		13.0	13.0
Effective Green, g (s)	20.0				20.0		17.0		13.0	13.0
Actuated g/C Ratio	0.22				0.22		0.19		0.14	0.14
Clearance Time (s)	5.0				5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	279				206		539		225	449
v/s Ratio Prot	c0.23						c0.07		c0.12	0.09
v/s Ratio Perm					0.06					
v/c Ratio	1.02				0.29		0.35		0.80	0.62
Uniform Delay, d1	35.0				29.1		31.7		37.2	36.2
Progression Factor	1.00				0.77		1.00		0.80	0.80
Incremental Delay, d2	59.8				0.7		1.8		24.6	6.3
Delay (s)	94.8				23.1		33.5		54.3	35.2
Level of Service	F				C		C		D	D
Approach Delay (s)	94.8				23.1		33.5			42.7
Approach LOS	F				C		C			D

Intersection Summary			
HCM Average Control Delay	54.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	78.4%	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												
Volume (vph)	0	1764	40	0	863	10	0	20	48	0	50	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			1.00			0.73			0.94	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.91			0.98	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2887			2900			948			1309	
Flt Permitted		1.00			1.00			1.00			1.00	
Satd. Flow (perm)		2887			2900			948			1309	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1917	43	0	938	11	0	22	52	0	54	11
RTOR Reduction (vph)	0	0	0	0	0	0	0	5	0	0	9	0
Lane Group Flow (vph)	0	1960	0	0	949	0	0	69	0	0	56	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type												
Protected Phases		2			6			8			4	
Permitted Phases												
Actuated Green, G (s)		70.8			70.8			10.4			10.4	
Effective Green, g (s)		70.8			70.8			10.4			10.4	
Actuated g/C Ratio		0.79			0.79			0.12			0.12	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2271			2281			110			151	
v/s Ratio Prot		c0.68			0.33			c0.07			0.04	
v/s Ratio Perm												
v/c Ratio		0.86			0.42			0.62			0.37	
Uniform Delay, d1		6.4			3.0			37.9			36.8	
Progression Factor		0.25			1.00			1.00			1.00	
Incremental Delay, d2		3.0			0.1			10.6			1.5	
Delay (s)		4.5			3.2			48.5			38.3	
Level of Service		A			A			D			D	
Approach Delay (s)		4.5			3.2			48.5			38.3	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	5.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	77.0%	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												
Volume (vph)	10	1483	390	40	567	30	127	80	70	0	120	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.77		1.00	0.77	1.00	1.00	0.67		0.97	
Flpb, ped/bikes		1.00	1.00		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	0.85		0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3109	1077		3099	1077	3016	1637	933		2800	
Flt Permitted		0.95	1.00		0.78	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		2957	1077		2431	1077	3016	1637	933		2800	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	10	1529	402	41	585	31	131	82	72	0	124	10
RTOR Reduction (vph)	0	0	62	0	0	8	0	0	2	0	7	0
Lane Group Flow (vph)	0	1539	340	0	626	23	131	82	70	0	127	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type	Perm		Perm	Perm		Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		60.4	60.4		60.4	60.4	6.7	20.6	20.6		9.4	
Effective Green, g (s)		60.4	60.4		60.4	60.4	6.7	20.6	20.6		9.4	
Actuated g/C Ratio		0.67	0.67		0.67	0.67	0.07	0.23	0.23		0.10	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		1984	723		1631	723	225	375	214		292	
v/s Ratio Prot							c0.04	0.05			c0.05	
v/s Ratio Perm		c0.52	0.32		0.26	0.02			0.07			
v/c Ratio		0.78	0.47		0.38	0.03	0.58	0.22	0.33		0.43	
Uniform Delay, d1		10.2	7.1		6.6	5.0	40.3	28.2	28.9		37.8	
Progression Factor		1.00	1.00		0.79	0.78	1.00	1.00	1.00		0.72	
Incremental Delay, d2		3.0	2.2		0.7	0.1	3.8	0.3	0.9		1.0	
Delay (s)		13.2	9.3		5.8	4.0	44.1	28.5	29.8		28.1	
Level of Service		B	A		A	A	D	C	C		C	
Approach Delay (s)		12.4			5.8			36.0			28.1	
Approach LOS		B			A			D			C	

Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	124.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	51	1363	547	40	40	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	0.98		0.83	
Flpb, ped/bikes		1.00	1.00		1.00	
Frt		1.00	0.99		0.94	
Flt Protected		1.00	1.00		0.97	
Satd. Flow (prot)		2898	3016		1092	
Flt Permitted		0.90	1.00		0.97	
Satd. Flow (perm)		2626	3016		1092	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	55	1482	595	43	43	33
RTOR Reduction (vph)	0	0	6	0	27	0
Lane Group Flow (vph)	0	1537	632	0	49	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		65.9	65.9		17.1	
Effective Green, g (s)		65.9	65.9		17.1	
Actuated g/C Ratio		0.73	0.73		0.19	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1923	2208		207	
v/s Ratio Prot			0.21		c0.05	
v/s Ratio Perm		c0.59				
v/c Ratio		0.80	0.29		0.24	
Uniform Delay, d1		7.8	4.1		30.9	
Progression Factor		0.28	1.00		0.67	
Incremental Delay, d2		1.6	0.1		2.5	
Delay (s)		3.7	4.2		23.4	
Level of Service		A	A		C	
Approach Delay (s)		3.7	4.2		23.4	
Approach LOS		A	A		C	

Intersection Summary			
HCM Average Control Delay	4.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	103.2%	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												
Volume (vph)	39	1374	40	20	387	60	30	22	60	40	50	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.96			0.81			0.91	
Flpb, ped/bikes		1.00			1.00			0.93			0.91	
Frt		1.00			0.98			0.93			0.97	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2863			2734			988			1131	
Flt Permitted		0.93			0.86			0.90			0.88	
Satd. Flow (perm)		2660			2355			902			1010	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	41	1462	43	21	412	64	32	23	64	43	53	32
RTOR Reduction (vph)	0	2	0	0	3	0	0	8	0	0	13	0
Lane Group Flow (vph)	0	1544	0	0	494	0	0	111	0	0	115	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		60.6			60.6			20.6			20.6	
Effective Green, g (s)		60.6			60.6			20.6			20.6	
Actuated g/C Ratio		0.67			0.67			0.23			0.23	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1791			1586			206			231	
v/s Ratio Prot												
v/s Ratio Perm		c0.58			0.21			c0.12			0.11	
v/c Ratio		0.86			0.31			0.54			0.50	
Uniform Delay, d1		11.4			6.1			30.5			30.2	
Progression Factor		1.00			0.40			1.00			0.79	
Incremental Delay, d2		5.8			0.4			9.7			7.3	
Delay (s)		17.2			2.8			40.2			31.2	
Level of Service		B			A			D			C	
Approach Delay (s)		17.2			2.8			40.2			31.2	
Approach LOS		B			A			D			C	

Intersection Summary			
HCM Average Control Delay	16.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	99.7%	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												
Volume (vph)	34	1430	20	40	667	80	40	30	110	40	20	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			0.97			0.78			0.83	
Flpb, ped/bikes		1.00			1.00			0.94			0.92	
Frt		1.00			0.98			0.92			0.94	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2889			2770			953			1018	
Flt Permitted		0.91			0.77			0.92			0.81	
Satd. Flow (perm)		2641			2149			885			837	
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)	38	1589	22	44	741	89	44	33	122	44	22	56
RTOR Reduction (vph)	0	1	0	0	2	0	0	7	0	0	34	0
Lane Group Flow (vph)	0	1648	0	0	872	0	0	192	0	0	88	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		61.7			61.7			19.4			19.4	
Effective Green, g (s)		61.7			61.7			19.4			19.4	
Actuated g/C Ratio		0.69			0.69			0.22			0.22	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1811			1473			191			180	
v/s Ratio Prot												
v/s Ratio Perm		c0.62			0.41			c0.22			0.11	
v/c Ratio		0.91			0.59			1.00			0.49	
Uniform Delay, d1		11.8			7.5			35.3			31.0	
Progression Factor		0.28			2.66			1.00			0.73	
Incremental Delay, d2		5.1			0.6			66.4			2.1	
Delay (s)		8.4			20.5			101.7			24.8	
Level of Service		A			C			F			C	
Approach Delay (s)		8.4			20.5			101.7			24.8	
Approach LOS		A			C			F			C	

Intersection Summary			
HCM Average Control Delay	19.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	98.3%	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												
Volume (vph)	10	1391	190	50	696	30	40	10	20	10	20	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.96			0.99			0.89			0.85	
Flpb, ped/bikes		1.00			1.00			0.81			0.94	
Frt		0.98			0.99			0.96			0.95	
Flt Protected		1.00			1.00			0.97			0.99	
Satd. Flow (prot)		2755			3040			1113			1232	
Flt Permitted		0.95			0.73			0.83			0.95	
Satd. Flow (perm)		2619			2235			950			1186	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	10	1434	196	52	718	31	41	10	21	10	21	21
RTOR Reduction (vph)	0	2	0	0	2	0	0	10	0	0	16	0
Lane Group Flow (vph)	0	1638	0	0	799	0	0	62	0	0	36	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1807			1542			204			254	
v/s Ratio Prot												
v/s Ratio Perm		c0.63			0.36			c0.07			0.03	
v/c Ratio		0.91			0.52			0.30			0.14	
Uniform Delay, d1		11.6			6.7			29.7			28.6	
Progression Factor		0.29			0.74			1.00			0.67	
Incremental Delay, d2		3.6			0.4			3.8			0.8	
Delay (s)		6.9			5.4			33.5			20.0	
Level of Service		A			A			C			C	
Approach Delay (s)		6.9			5.4			33.5			20.0	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	7.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	88.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	30	1391	716	430	450	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3037	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3037	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	1512	778	467	489	33
RTOR Reduction (vph)	0	44	0	0	6	0
Lane Group Flow (vph)	33	1468	778	467	516	0
Confl. Peds. (#/hr)						63
Confl. Bikes (#/hr)		22				160
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	27.0	54.8	23.8	53.0	25.2	
Effective Green, g (s)	27.0	54.8	23.8	53.0	25.2	
Actuated g/C Ratio	0.30	0.61	0.26	0.59	0.28	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	467	1491	798	1717	850	
v/s Ratio Prot	0.02	c0.60	0.26	0.16	c0.17	
v/s Ratio Perm						
v/c Ratio	0.07	0.98	0.97	0.27	0.61	
Uniform Delay, d1	22.5	17.2	32.8	9.1	28.1	
Progression Factor	0.69	0.36	0.89	0.58	0.68	
Incremental Delay, d2	0.0	13.1	23.6	0.3	1.0	
Delay (s)	15.6	19.3	52.9	5.6	20.1	
Level of Service	B	B	D	A	C	
Approach Delay (s)	19.2			35.2	20.1	
Approach LOS	B			D	C	

Intersection Summary			
HCM Average Control Delay	25.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	83.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	150	138	40	0	1821	0	20	137	1007
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			1.00			1.00	1.00
Flpb, ped/bikes				0.73			1.00			1.00	1.00
Frt				0.98			1.00			1.00	1.00
Flt Protected				0.96			1.00			0.95	1.00
Satd. Flow (prot)				2053			4454			1555	3110
Flt Permitted				0.96			1.00			0.95	1.00
Satd. Flow (perm)				2053			4454			1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	163	150	43	0	1979	0	22	149	1095
RTOR Reduction (vph)	0	0	0	13	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	0	0	343	0	0	2000	0	0	149	1095
Confl. Peds. (#/hr)			96	119					96		
Confl. Bikes (#/hr)					4				178		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				18.8			47.7			10.5	62.2
Effective Green, g (s)				18.8			47.7			10.5	62.2
Actuated g/C Ratio				0.21			0.53			0.12	0.69
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				429			2361			181	2149
v/s Ratio Prot							c0.45			c0.10	0.35
v/s Ratio Perm				0.17							
v/c Ratio				0.80			0.85			0.82	0.51
Uniform Delay, d1				33.8			18.0			38.8	6.6
Progression Factor				1.00			0.85			1.00	1.00
Incremental Delay, d2				10.0			1.3			24.0	0.9
Delay (s)				43.8			16.5			62.9	7.5
Level of Service				D			B			E	A
Approach Delay (s)	0.0			43.8			16.5				14.1
Approach LOS	A			D			B				B

Intersection Summary			
HCM Average Control Delay	18.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	69.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBR	EBR2	SEL	SET	SER2	NWL2	NWT	NWR	SWR2
Lane Configurations										
Volume (vph)	20	20	220	30	1240	601	111	1137	80	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		7.0	7.0	7.0	7.0	7.0		
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00	1.00	0.95		
Frpb, ped/bikes	1.00	0.93		1.00	1.00	0.96	1.00	0.96		
Flpb, ped/bikes	1.00	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	0.99		
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1555	1137		1555	3110	1336	1555	2958		
Flt Permitted	0.95	1.00		0.14	1.00	1.00	0.13	1.00		
Satd. Flow (perm)	1555	1137		223	3110	1336	212	2958		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	22	239	33	1348	653	121	1236	87	0
RTOR Reduction (vph)	0	171	0	0	0	289	0	7	0	0
Lane Group Flow (vph)	22	90	0	33	1348	364	121	1316	0	0
Confl. Peds. (#/hr)			38						1000	100
Confl. Bikes (#/hr)		10	10			30			30	10
Parking (#/hr)		5	5							
Turn Type	custom	custom		Perm		Perm	Perm			custom
Protected Phases					6			2		
Permitted Phases	4	4		6		6	2			8
Actuated Green, G (s)	22.5	22.5		44.0	44.0	44.0	44.0	44.0		
Effective Green, g (s)	22.5	22.5		44.0	44.0	44.0	44.0	44.0		
Actuated g/C Ratio	0.28	0.28		0.56	0.56	0.56	0.56	0.56		
Clearance Time (s)	5.5	5.5		7.0	7.0	7.0	7.0	7.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	443	324		124	1732	744	118	1647		
v/s Ratio Prot					0.43			0.44		
v/s Ratio Perm	0.01	c0.08		0.15		0.27	c0.57			
v/c Ratio	0.05	0.28		0.27	0.78	0.49	1.03	0.80		
Uniform Delay, d1	20.5	21.9		9.1	13.7	10.7	17.5	14.0		
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.0	0.5		5.2	3.5	2.3	89.8	4.2		
Delay (s)	20.5	22.4		14.3	17.2	12.9	107.3	18.1		
Level of Service	C	C		B	B	B	F	B		
Approach Delay (s)					15.8			25.6		
Approach LOS					B			C		

Intersection Summary			
HCM Average Control Delay	20.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	12.5
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	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	30	0	80	0	0	0	180	1220	0	0	20	1270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.76					1.00	1.00				0.98
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.90					1.00	1.00				0.99
Flt Protected		0.99					0.95	1.00				1.00
Satd. Flow (prot)		965					1555	3110				3007
Flt Permitted		0.99					0.95	1.00				0.92
Satd. Flow (perm)		965					1555	3110				2760
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)	33	0	89	0	0	0	200	1356	0	0	22	1411
RTOR Reduction (vph)	0	79	0	0	0	0	0	0	0	0	0	3
Lane Group Flow (vph)	0	43	0	0	0	0	200	1356	0	0	0	1508
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		10.0					5.0	71.0				61.0
Effective Green, g (s)		10.0					5.0	71.0				61.0
Actuated g/C Ratio		0.11					0.06	0.79				0.68
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		107					86	2453				1871
v/s Ratio Prot		c0.04					c0.13	0.44				
v/s Ratio Perm												c0.55
v/c Ratio		0.40					2.33	0.55				0.81
Uniform Delay, d1		37.2					42.5	3.6				10.3
Progression Factor		1.00					0.79	0.49				1.00
Incremental Delay, d2		2.5					625.0	0.7				3.8
Delay (s)		39.7					658.5	2.5				14.1
Level of Service		D					F	A				B
Approach Delay (s)		39.7			0.0			86.8				14.1
Approach LOS		D			A			F				B

Intersection Summary			
HCM Average Control Delay	50.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	115.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	70
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.90
Adj. Flow (vph)	78
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	254	1185	0	0	610	160	120	213	70	0	0	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				
Lane Util. Factor		0.95			0.95			0.95				
Frpb, ped/bikes		1.00			0.94			0.94				
Flpb, ped/bikes		0.99			1.00			0.91				
Frt		1.00			0.97			0.97				
Flt Protected		0.99			1.00			0.99				
Satd. Flow (prot)		2811			2629			2366				
Flt Permitted		0.63			1.00			0.99				
Satd. Flow (perm)		1794			2629			2366				
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)	259	1209	0	0	622	163	122	217	71	0	0	0
RTOR Reduction (vph)	0	0	0	0	8	0	0	22	0	0	0	0
Lane Group Flow (vph)	0	1468	0	0	777	0	0	388	0	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm					
Protected Phases		2			6			8				
Permitted Phases	2						8					
Actuated Green, G (s)		44.0			44.0			27.0				
Effective Green, g (s)		44.0			44.0			27.0				
Actuated g/C Ratio		0.55			0.55			0.34				
Clearance Time (s)		4.5			4.5			4.5				
Vehicle Extension (s)		3.0			3.0			3.0				
Lane Grp Cap (vph)		987			1446			799				
v/s Ratio Prot					0.30							
v/s Ratio Perm		c0.82						0.16				
v/c Ratio		1.49			0.54			0.49				
Uniform Delay, d1		18.0			11.5			21.0				
Progression Factor		1.00			0.37			1.00				
Incremental Delay, d2		224.7			0.9			2.1				
Delay (s)		242.7			5.1			23.1				
Level of Service		F			A			C				
Approach Delay (s)		242.7			5.1			23.1			0.0	
Approach LOS		F			A			C			A	

Intersection Summary			
HCM Average Control Delay	138.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	109.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	775	480	30	670	0	0	0	0	70	630	110
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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.88			1.00						0.96	
Flpb, ped/bikes		1.00			1.00						0.98	
Frt		0.94			1.00						0.98	
Flt Protected		1.00			1.00						1.00	
Satd. Flow (prot)		2567			3099						2679	
Flt Permitted		1.00			0.74						1.00	
Satd. Flow (perm)		2567			2292						2679	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	799	495	31	691	0	0	0	0	72	649	113
RTOR Reduction (vph)	0	9	0	0	0	0	0	0	0	0	15	0
Lane Group Flow (vph)	0	1285	0	0	722	0	0	0	0	0	819	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		33.5			33.5						37.5	
Effective Green, g (s)		33.5			33.5						37.5	
Actuated g/C Ratio		0.42			0.42						0.47	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		1075			960						1256	
v/s Ratio Prot		c0.50										
v/s Ratio Perm					0.31						0.31	
v/c Ratio		1.20			0.75						0.65	
Uniform Delay, d1		23.2			19.7						16.3	
Progression Factor		0.67			1.00						1.00	
Incremental Delay, d2		88.7			3.4						2.6	
Delay (s)		104.4			23.1						18.9	
Level of Service		F			C						B	
Approach Delay (s)		104.4			23.1			0.0			18.9	
Approach LOS		F			C			A			B	

Intersection Summary			
HCM Average Control Delay	58.8	HCM Level of Service	E
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	83.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	115	490	720	1283	0	1290	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.67	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		0.99	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	930	3016	3110		3043	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	930	3016	3110		3043	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	115	490	720	1283	0	1290	60
RTOR Reduction (vph)	0	248	0	0	0	4	0
Lane Group Flow (vph)	115	242	720	1283	0	1346	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	25.3	25.3	15.7	53.7		32.0	
Effective Green, g (s)	25.3	25.3	15.7	53.7		32.0	
Actuated g/C Ratio	0.28	0.28	0.17	0.60		0.36	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	437	261	526	1856		1082	
v/s Ratio Prot	0.07		c0.24	0.41		c0.44	
v/s Ratio Perm		c0.26					
v/c Ratio	0.26	0.93	1.37	0.69		1.24	
Uniform Delay, d1	25.1	31.5	37.1	12.5		29.0	
Progression Factor	1.00	1.00	1.00	1.00		0.72	
Incremental Delay, d2	0.3	36.3	177.8	2.1		114.7	
Delay (s)	25.4	67.8	215.0	14.6		135.5	
Level of Service	C	E	F	B		F	
Approach Delay (s)	59.7			86.6		135.5	
Approach LOS	E			F		F	

Intersection Summary			
HCM Average Control Delay	99.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	122.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	166	10	20	100	10	20	10	12	10	10	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
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.59		1.00	0.75		0.91			1.00	0.45
Flpb, ped/bikes		0.99	1.00		0.95	1.00		0.77			0.85	1.00
Frt		1.00	0.85		1.00	0.85		0.96			1.00	0.85
Flt Protected		1.00	1.00		0.99	1.00		0.98			0.98	1.00
Satd. Flow (prot)		1613	823		1542	1050		1066			1364	631
Flt Permitted		0.99	1.00		0.95	1.00		0.84			0.82	1.00
Satd. Flow (perm)		1599	823		1483	1050		916			1145	631
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	177	11	21	106	11	21	11	13	11	11	11
RTOR Reduction (vph)	0	0	3	0	0	3	0	12	0	0	0	10
Lane Group Flow (vph)	0	188	8	0	127	8	0	33	0	0	22	1
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		45.5	45.5		45.5	45.5		5.5			5.5	5.5
Effective Green, g (s)		45.5	45.5		45.5	45.5		5.5			5.5	5.5
Actuated g/C Ratio		0.76	0.76		0.76	0.76		0.09			0.09	0.09
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)		1213	624		1125	796		84			105	58
v/s Ratio Prot												
v/s Ratio Perm		c0.12	0.01		0.09	0.01		c0.04			0.02	0.00
v/c Ratio		0.15	0.01		0.11	0.01		0.40			0.21	0.02
Uniform Delay, d1		2.0	1.8		1.9	1.8		25.7			25.2	24.8
Progression Factor		1.00	1.00		0.12	0.00		1.00			0.82	0.73
Incremental Delay, d2		0.1	0.0		0.2	0.0		3.0			1.0	0.1
Delay (s)		2.0	1.8		0.4	0.0		28.7			21.7	18.3
Level of Service		A	A		A	A		C			C	B
Approach Delay (s)		2.0			0.4			28.7			20.6	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	5.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.18		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	479	10	873	410	60	60	60	20	20	20	300	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.34		0.66	1.00	0.95			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.81	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	559	3110	479		936	1555	1325			1257	1174
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (perm)	3110	559	3110	479		936	1555	1325			1259	1174
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)	504	11	919	432	63	63	63	21	21	21	316	42
RTOR Reduction (vph)	0	5	0	171	0	38	0	15	0	0	0	31
Lane Group Flow (vph)	504	6	919	324	0	25	63	27	0	0	337	11
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	43.0	43.0	43.0	43.0		20.0	20.0	20.0			20.0	20.0
Effective Green, g (s)	43.0	43.0	43.0	43.0		20.0	20.0	20.0			20.0	20.0
Actuated g/C Ratio	0.57	0.57	0.57	0.57		0.27	0.27	0.27			0.27	0.27
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1783	320	1783	275		250	415	353			336	313
v/s Ratio Prot	0.16		0.30									
v/s Ratio Perm		0.01		c0.68		0.03	0.04	0.02			c0.27	0.01
v/c Ratio	0.28	0.02	0.52	1.18		0.10	0.15	0.08			1.00	0.04
Uniform Delay, d1	8.1	6.9	9.7	16.0		20.7	21.0	20.6			27.5	20.4
Progression Factor	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	1.1	111.8		0.8	0.8	0.4			49.8	0.2
Delay (s)	8.5	7.0	10.8	127.8		21.5	21.8	21.0			77.3	20.6
Level of Service	A	A	B	F		C	C	C			E	C
Approach Delay (s)	8.5		51.7								71.1	
Approach LOS	A		D								E	

Intersection Summary			
HCM Average Control Delay	43.6	HCM Level of Service	D
HCM Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	509	70	59	1133	80	57
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	547	75	63	1218	86	61

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	365	258	470	812	147
Volume Left (vph)	0	0	63	0	86
Volume Right (vph)	0	75	0	0	61
Hadj (s)	0.02	-0.19	0.08	0.02	-0.12
Departure Headway (s)	6.4	6.2	6.0	5.9	6.6
Degree Utilization, x	0.65	0.45	0.78	1.33	0.27
Capacity (veh/h)	550	568	597	613	530
Control Delay (s)	19.4	12.9	25.5	176.9	12.0
Approach Delay (s)	16.7		121.4		12.0
Approach LOS	C		F		B

Intersection Summary			
Delay	81.8		
HCM Level of Service	F		
Intersection Capacity Utilization	79.3%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT
Lane Configurations												
Volume (vph)	10	426	110	30	10	10	1034	20	20	20	10	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4					5.4		4.0			5.0
Lane Util. Factor		0.95					0.95		1.00			1.00
Frpb, ped/bikes		0.86					0.99		0.78			1.00
Flpb, ped/bikes		1.00					1.00		1.00			1.00
Frt		0.96					1.00		0.86			1.00
Flt Protected		1.00					1.00		1.00			0.97
Satd. Flow (prot)		2412					3063		1106			1589
Flt Permitted		0.93					0.94		1.00			0.97
Satd. Flow (perm)		2246					2873		1106			1589
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	463	120	33	11	11	1124	22	22	22	11	22
RTOR Reduction (vph)	0	5	0	0	0	0	2	0	0	0	0	0
Lane Group Flow (vph)	0	622	0	0	0	0	1166	0	22	0	0	55
Confl. Peds. (#/hr)	400		400	400	400	400		400	400	400	400	
Confl. Bikes (#/hr)			30	30				30	10			
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm	Perm			Free	Split	Split	
Protected Phases		2					6			4	4	4
Permitted Phases	2				6	6			Free			
Actuated Green, G (s)		41.6					41.6		75.0			9.0
Effective Green, g (s)		41.6					41.6		75.0			9.0
Actuated g/C Ratio		0.55					0.55		1.00			0.12
Clearance Time (s)		5.4					5.4					5.0
Lane Grp Cap (vph)		1246					1594		1106			191
v/s Ratio Prot												0.03
v/s Ratio Perm		0.28					c0.41		0.02			
v/c Ratio		0.50					0.73		0.02			0.29
Uniform Delay, d1		10.3					12.5		0.0			30.1
Progression Factor		1.00					0.25		1.00			1.00
Incremental Delay, d2		1.4					2.2		0.0			3.8
Delay (s)		11.7					5.3		0.0			33.8
Level of Service		B					A		A			C
Approach Delay (s)		11.7					5.3					41.7
Approach LOS		B					A					D

Intersection Summary			
HCM Average Control Delay	11.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	88.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBR	NWL	NWR	NWR2
Lane Configurations				
Volume (vph)	50	110	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0
Lane Util. Factor	1.00	0.97		1.00
Frpb, ped/bikes	0.55	0.94		0.55
Flpb, ped/bikes	1.00	1.00		1.00
Frt	0.85	0.99		0.85
Flt Protected	1.00	0.96		1.00
Satd. Flow (prot)	768	2810		768
Flt Permitted	1.00	0.96		1.00
Satd. Flow (perm)	768	2810		768
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	120	11	11
RTOR Reduction (vph)	7	0	0	10
Lane Group Flow (vph)	47	131	0	1
Confl. Peds. (#/hr)	400	400	400	400
Confl. Bikes (#/hr)	10		10	10
Parking (#/hr)				
Turn Type	Perm			Perm
Protected Phases		8		
Permitted Phases	4			8
Actuated Green, G (s)	9.0	9.0		9.0
Effective Green, g (s)	9.0	9.0		9.0
Actuated g/C Ratio	0.12	0.12		0.12
Clearance Time (s)	5.0	5.0		5.0
Lane Grp Cap (vph)	92	337		92
v/s Ratio Prot		c0.05		
v/s Ratio Perm	c0.06			0.00
v/c Ratio	0.51	0.39		0.01
Uniform Delay, d1	30.9	30.5		29.1
Progression Factor	1.00	1.00		1.00
Incremental Delay, d2	18.8	3.4		0.3
Delay (s)	49.7	33.8		29.4
Level of Service	D	C		C
Approach Delay (s)		33.5		
Approach LOS		C		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	416	40	30	1054	40	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.97			1.00	0.86	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.99			1.00	0.94	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2786			3091	1288	
Flt Permitted	1.00			0.93	0.97	
Satd. Flow (perm)	2786			2884	1288	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	457	44	33	1158	44	33
RTOR Reduction (vph)	10	0	0	0	23	0
Lane Group Flow (vph)	491	0	0	1191	54	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1672			1730	386	
v/s Ratio Prot	0.18				c0.04	
v/s Ratio Perm				c0.41		
v/c Ratio	0.29			0.69	0.14	
Uniform Delay, d1	7.3			10.2	19.2	
Progression Factor	0.47			1.00	1.00	
Incremental Delay, d2	0.4			2.3	0.8	
Delay (s)	3.8			12.5	19.9	
Level of Service	A			B	B	
Approach Delay (s)	3.8			12.5	19.9	
Approach LOS	A			B	B	

Intersection Summary			
HCM Average Control Delay	10.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	81.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	416	20	10	1054	10	10
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	457	22	11	1158	11	11

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	305	174	397	772	22
Volume Left (vph)	0	0	11	0	11
Volume Right (vph)	0	22	0	0	11
Hadj (s)	0.02	-0.07	0.03	0.02	-0.18
Departure Headway (s)	5.7	5.6	5.1	5.1	6.3
Degree Utilization, x	0.48	0.27	0.56	1.09	0.04
Capacity (veh/h)	612	622	694	721	548
Control Delay (s)	12.8	9.5	13.2	80.1	9.5
Approach Delay (s)	11.6		57.4		9.5
Approach LOS	B		F		A

Intersection Summary			
Delay	43.6		
HCM Level of Service	E		
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL2	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	43	422	40	10	10	998	106	50	30	30	122	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5				5.5	5.5		5.5		5.5	5.5
Lane Util. Factor		0.95				0.95	1.00		1.00		0.95	0.95
Frpb, ped/bikes		0.95				1.00	0.66		0.91		1.00	0.94
Flpb, ped/bikes		0.99				1.00	1.00		0.86		0.73	0.88
Frt		0.99				1.00	0.85		0.96		1.00	0.98
Flt Protected		1.00				1.00	1.00		0.98		0.95	0.98
Satd. Flow (prot)		2695				3104	808		1057		1078	1240
Flt Permitted		0.80				0.95	1.00		0.83		0.70	0.84
Satd. Flow (perm)		2170				2948	808		898		795	1069
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	45	440	42	10	10	1040	110	52	31	31	127	42
RTOR Reduction (vph)	0	1	0	0	0	0	4	0	15	0	0	0
Lane Group Flow (vph)	0	536	0	0	0	1050	106	0	99	0	88	91
Confl. Peds. (#/hr)	400		400	400	400		400	400		400	400	
Confl. Bikes (#/hr)			10	10			10			10		
Parking (#/hr)		5	5	5			5	5	5	5		
Turn Type	Perm				Perm		Perm	Perm			Perm	
Protected Phases		2				6			8			4
Permitted Phases	2				6	6	6	8			4	
Actuated Green, G (s)		56.5				56.5	56.5		22.5		22.5	22.5
Effective Green, g (s)		56.5				56.5	56.5		22.5		22.5	22.5
Actuated g/C Ratio		0.63				0.63	0.63		0.25		0.25	0.25
Clearance Time (s)		5.5				5.5	5.5		5.5		5.5	5.5
Vehicle Extension (s)		3.0				3.0	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)		1362				1851	507		225		199	267
v/s Ratio Prot												
v/s Ratio Perm		0.25				c0.36	0.13		0.11		c0.11	0.09
v/c Ratio		0.39				0.57	0.21		0.44		0.44	0.34
Uniform Delay, d1		8.3				9.7	7.2		28.4		28.5	27.7
Progression Factor		1.00				0.28	0.23		1.00		1.00	1.00
Incremental Delay, d2		0.9				1.2	0.9		6.1		1.6	0.8
Delay (s)		9.1				3.9	2.5		34.6		30.0	28.4
Level of Service		A				A	A		C		C	C
Approach Delay (s)		9.1				3.7			34.6			28.7
Approach LOS		A				A			C			C

Intersection Summary			
HCM Average Control Delay	9.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR	SBR2	NER2
Lane Configurations			
Volume (vph)	10	56	60
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)		5.5	4.0
Lane Util. Factor		1.00	1.00
Frpb, ped/bikes		0.65	0.78
Flpb, ped/bikes		1.00	1.00
Frt		0.85	0.86
Flt Protected		1.00	1.00
Satd. Flow (prot)		911	967
Flt Permitted		1.00	1.00
Satd. Flow (perm)		911	967
Peak-hour factor, PHF	0.96	0.96	0.96
Adj. Flow (vph)	10	58	62
RTOR Reduction (vph)	0	15	0
Lane Group Flow (vph)	0	43	62
Confl. Peds. (#/hr)	400	400	400
Confl. Bikes (#/hr)	10	10	10
Parking (#/hr)			5
Turn Type		Perm	Free
Protected Phases			
Permitted Phases		4	Free
Actuated Green, G (s)		22.5	90.0
Effective Green, g (s)		22.5	90.0
Actuated g/C Ratio		0.25	1.00
Clearance Time (s)		5.5	
Vehicle Extension (s)		3.0	
Lane Grp Cap (vph)		228	967
v/s Ratio Prot			
v/s Ratio Perm		0.05	0.06
v/c Ratio		0.19	0.06
Uniform Delay, d1		26.6	0.0
Progression Factor		1.00	1.00
Incremental Delay, d2		0.4	0.1
Delay (s)		27.0	0.1
Level of Service		C	A
Approach Delay (s)			
Approach LOS			

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	575	0	0	1094	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	639	0	0	1216	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	639	0	0	1216	0
Confl. Peds. (#/hr)						
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		76.0			76.0	
Effective Green, g (s)		76.0			76.0	
Actuated g/C Ratio		0.84			0.84	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		2067			2547	
v/s Ratio Prot		0.26			c0.40	
v/s Ratio Perm						
v/c Ratio		0.31			0.48	
Uniform Delay, d1		1.5			1.8	
Progression Factor		0.69			0.22	
Incremental Delay, d2		0.4			0.4	
Delay (s)		1.4			0.8	
Level of Service		A			A	
Approach Delay (s)	1.4			0.0	0.8	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	1.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	54.2%	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												
Volume (vph)	10	190	90	180	400	30	100	270	190	20	90	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.80		1.00	0.96			1.00	0.62		1.00	0.36
Flpb, ped/bikes		0.99		0.60	1.00			0.86	1.00		0.97	1.00
Frt		0.95		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.99	1.00		0.99	1.00
Satd. Flow (prot)		2354		936	1354			1177	844		1577	507
Flt Permitted		0.94		0.55	1.00			0.88	1.00		0.91	1.00
Satd. Flow (perm)		2207		547	1354			1050	844		1447	507
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)	11	211	100	200	444	33	111	300	211	22	100	56
RTOR Reduction (vph)	0	49	0	0	3	0	0	0	23	0	0	11
Lane Group Flow (vph)	0	273	0	200	474	0	0	411	188	0	122	45
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		35.6		35.6	35.6			44.4	44.4		44.4	44.4
Effective Green, g (s)		35.6		35.6	35.6			44.4	44.4		44.4	44.4
Actuated g/C Ratio		0.40		0.40	0.40			0.49	0.49		0.49	0.49
Clearance Time (s)		5.5		5.5	5.5			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)		873		216	536			518	416		714	250
v/s Ratio Prot					0.35							
v/s Ratio Perm		0.12		c0.37				c0.39	0.22		0.08	0.09
v/c Ratio		0.31		0.93	0.88			0.79	0.45		0.17	0.18
Uniform Delay, d1		18.8		25.9	25.3			19.0	14.9		12.6	12.7
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		0.2		40.8	15.9			11.8	3.5		0.5	1.6
Delay (s)		19.0		66.8	41.2			30.8	18.4		13.1	14.3
Level of Service		B		E	D			C	B		B	B
Approach Delay (s)		19.0			48.7			26.6			13.5	
Approach LOS		B			D			C			B	

Intersection Summary			
HCM Average Control Delay	32.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	80.9%	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												
Volume (vph)	0	280	110	90	450	1244	180	0	130	575	160	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.96			1.00	0.96		0.99		1.00	1.00	
Flpb, ped/bikes		1.00			0.99	1.00		0.99		1.00	1.00	
Frt		0.96			1.00	0.85		0.94		1.00	0.99	
Flt Protected		1.00			0.99	1.00		0.97		0.95	0.97	
Satd. Flow (prot)		2688			1612	2362		1287		1477	1498	
Flt Permitted		1.00			0.80	1.00		0.18		0.57	0.67	
Satd. Flow (perm)		2688			1297	2362		240		878	1033	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	292	115	94	469	1296	188	0	135	599	167	21
RTOR Reduction (vph)	0	46	0	0	0	0	0	29	0	0	2	0
Lane Group Flow (vph)	0	361	0	0	563	1296	0	294	0	389	396	0
Confl. Peds. (#/hr)			50	50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		28.0			28.0	65.5		17.5		34.0	34.0	
Effective Green, g (s)		28.0			28.0	65.5		17.5		34.0	34.0	
Actuated g/C Ratio		0.31			0.31	0.73		0.19		0.38	0.38	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		836			404	1719		47		332	390	
v/s Ratio Prot		0.13										
v/s Ratio Perm					c0.43	0.55		c1.23		c0.44	0.38	
v/c Ratio		0.43			1.39	0.75		6.26		1.17	1.01	
Uniform Delay, d1		24.7			31.0	7.4		36.2		28.0	28.0	
Progression Factor		1.00			1.00	1.00		1.00		1.06	1.07	
Incremental Delay, d2		1.6			191.7	3.1		2409.6		104.3	48.8	
Delay (s)		26.3			222.7	10.5		2445.9		134.0	78.8	
Level of Service		C			F	B		F		F	E	
Approach Delay (s)		26.3			74.8			2445.9			106.1	
Approach LOS		C			E			F			F	

Intersection Summary			
HCM Average Control Delay	303.1	HCM Level of Service	F
HCM Volume to Capacity ratio	2.38		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	116.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	586	20	110	1593	20	197	30	171	30	40	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5			3.5			3.5	3.5
Lane Util. Factor		0.95			0.91			0.95			1.00	1.00
Frpb, ped/bikes		0.99			1.00			0.84			1.00	0.62
Flpb, ped/bikes		1.00			0.99			0.83			0.93	1.00
Frt		1.00			1.00			0.94			1.00	0.85
Flt Protected		1.00			1.00			0.98			0.98	1.00
Satd. Flow (prot)		3051			4394			1853			1487	860
Flt Permitted		0.79			0.81			0.78			0.78	1.00
Satd. Flow (perm)		2402			3572			1479			1179	860
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)	33	651	22	122	1770	22	219	33	190	33	44	56
RTOR Reduction (vph)	0	2	0	0	1	0	0	27	0	0	0	2
Lane Group Flow (vph)	0	704	0	0	1913	0	0	415	0	0	77	54
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		53.3			53.3			29.7			29.7	29.7
Effective Green, g (s)		53.3			53.3			29.7			29.7	29.7
Actuated g/C Ratio		0.59			0.59			0.33			0.33	0.33
Clearance Time (s)		3.5			3.5			3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		1423			2115			488			389	284
v/s Ratio Prot												
v/s Ratio Perm		0.29			c0.54			c0.28			0.07	0.06
v/c Ratio		0.49			0.90			0.85			0.20	0.19
Uniform Delay, d1		10.6			16.1			28.1			21.6	21.6
Progression Factor		1.00			0.46			1.00			1.00	1.00
Incremental Delay, d2		0.3			5.5			16.7			1.1	1.5
Delay (s)		10.9			12.9			44.8			22.8	23.0
Level of Service		B			B			D			C	C
Approach Delay (s)		10.9			12.9			44.8			22.9	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM Average Control Delay	17.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	99.3%	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												
Volume (vph)	20	595	171	5	1303	30	89	182	114	10	335	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.91		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.80		1.00		1.00	0.87			0.87	
Flpb, ped/bikes		1.00	1.00		1.00		0.85	1.00			1.00	
Frt		1.00	0.85		1.00		1.00	0.94			0.94	
Flt Protected		1.00	1.00		1.00		0.95	1.00			1.00	
Satd. Flow (prot)		3102	973		4430		1325	3658			3675	
Flt Permitted		0.88	1.00		0.94		0.41	1.00			0.93	
Satd. Flow (perm)		2731	973		4157		573	3658			3431	
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)	20	607	174	5	1330	31	91	186	116	10	342	204
RTOR Reduction (vph)	0	0	1	0	3	0	0	34	0	0	7	0
Lane Group Flow (vph)	0	627	173	0	1363	0	91	268	0	0	549	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		44.0	44.0		44.0		36.0	36.0			36.0	
Effective Green, g (s)		44.0	44.0		44.0		36.0	36.0			36.0	
Actuated g/C Ratio		0.49	0.49		0.49		0.40	0.40			0.40	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1335	476		2032		229	1463			1372	
v/s Ratio Prot								0.07				
v/s Ratio Perm		0.23	0.18		c0.33		0.16				c0.16	
v/c Ratio		0.47	0.36		0.67		0.40	0.18			0.40	
Uniform Delay, d1		15.3	14.3		17.5		19.3	17.5			19.3	
Progression Factor		0.68	0.68		0.90		1.00	1.00			1.00	
Incremental Delay, d2		0.2	0.4		0.8		5.1	0.3			0.9	
Delay (s)		10.6	10.1		16.5		24.3	17.8			20.2	
Level of Service		B	B		B		C	B			C	
Approach Delay (s)		10.5			16.5			19.3			20.2	
Approach LOS		B			B			B			C	

Intersection Summary			
HCM Average Control Delay	15.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1459	260	0	2459	120	290	177	30	70	159	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.95			0.98		1.00	0.95		1.00	0.93	
Flpb, ped/bikes		1.00			1.00		0.77	1.00		0.77	1.00	
Frt		0.98			0.99		1.00	0.98		1.00	0.97	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4127			4180		1198	1524		1205	1297	
Flt Permitted		1.00			1.00		0.57	1.00		0.56	1.00	
Satd. Flow (perm)		4127			4180		724	1524		711	1297	
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)	0	1489	265	0	2509	122	296	181	31	71	162	41
RTOR Reduction (vph)	0	6	0	0	5	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	1748	0	0	2626	0	296	209	0	71	203	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2384			2415		221	466		217	396	
v/s Ratio Prot		0.42			c0.63			0.14			0.16	
v/s Ratio Perm							c0.41			0.10		
v/c Ratio		0.73			1.09		1.34	0.45		0.33	0.51	
Uniform Delay, d1		13.9			19.0		31.2	25.2		24.1	25.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.0			47.0		180.0	3.1		4.0	4.7	
Delay (s)		16.0			66.0		211.2	28.3		28.1	30.4	
Level of Service		B			E		F	C		C	C	
Approach Delay (s)		16.0			66.0			134.9			29.8	
Approach LOS		B			E			F			C	

Intersection Summary			
HCM Average Control Delay	53.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	110.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1239	130	0	2169	120	100	160	40	70	200	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			0.95	
Frpb, ped/bikes		0.98			0.98		1.00	0.93			0.94	
Flpb, ped/bikes		1.00			1.00		0.81	1.00			0.95	
Frt		0.99			0.99		1.00	0.97			0.97	
Flt Protected		1.00			1.00		0.95	1.00			0.99	
Satd. Flow (prot)		4315			4351		1259	1483			2680	
Flt Permitted		1.00			1.00		0.50	1.00			0.81	
Satd. Flow (perm)		4315			4351		665	1483			2196	
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	1304	137	0	2283	126	105	168	42	74	211	63
RTOR Reduction (vph)	0	4	0	0	5	0	0	6	0	0	1	0
Lane Group Flow (vph)	0	1437	0	0	2404	0	105	204	0	0	347	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2555			2577		199	443			656	
v/s Ratio Prot		0.33			c0.55			0.14				
v/s Ratio Perm							0.16				c0.16	
v/c Ratio		0.56			0.93		0.53	0.46			0.53	
Uniform Delay, d1		11.2			16.7		26.3	25.7			26.3	
Progression Factor		1.00			0.22		1.00	1.00			1.00	
Incremental Delay, d2		0.9			3.8		9.7	3.4			3.0	
Delay (s)		12.1			7.5		35.9	29.1			29.3	
Level of Service		B			A		D	C			C	
Approach Delay (s)		12.1			7.5			31.4			29.3	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM Average Control Delay	12.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	107.3%	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												
Volume (vph)	0	1309	100	0	2069	60	60	100	30	30	170	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.98			0.99			0.95			0.93	
Flpb, ped/bikes		1.00			1.00			0.94			0.97	
Frt		0.99			1.00			0.98			0.97	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		4130			4222			1233			1262	
Flt Permitted		1.00			1.00			0.79			0.94	
Satd. Flow (perm)		4130			4222			985			1197	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1423	109	0	2249	65	65	109	33	33	185	54
RTOR Reduction (vph)	0	5	0	0	3	0	0	4	0	0	1	0
Lane Group Flow (vph)	0	1527	0	0	2311	0	0	203	0	0	271	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2478			2533			296			359	
v/s Ratio Prot		0.37			c0.55							
v/s Ratio Perm								0.21			c0.23	
v/c Ratio		0.62			0.91			0.69			0.76	
Uniform Delay, d1		11.4			15.9			27.8			28.5	
Progression Factor		1.51			1.00			1.00			1.00	
Incremental Delay, d2		1.0			6.4			12.2			13.8	
Delay (s)		18.3			22.3			39.9			42.3	
Level of Service		B			C			D			D	
Approach Delay (s)		18.3			22.3			39.9			42.3	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM Average Control Delay	23.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.1%	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		↑↑↑			↑↑↑		↰	↕				↱
Volume (vph)	0	1089	0	0	1279	60	820	447	40	0	0	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.99		1.00	0.99				0.95
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.98				1.00
Satd. Flow (prot)		4282			4371		1415	2680				1352
Flt Permitted		1.00			1.00		0.95	0.98				1.00
Satd. Flow (perm)		4282			4371		1415	2680				1352
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1171	0	0	1375	65	882	481	43	0	0	86
RTOR Reduction (vph)	0	0	0	0	5	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	1171	0	0	1435	0	459	943	0	0	0	86
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		38.0			29.0		42.0	42.0				6.0
Effective Green, g (s)		38.0			29.0		42.0	42.0				6.0
Actuated g/C Ratio		0.42			0.32		0.47	0.47				0.07
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		1808			1408		660	1251				90
v/s Ratio Prot		0.27			c0.33							
v/s Ratio Perm							0.32	0.35				c0.06
v/c Ratio		0.65			1.02		0.70	0.75				0.96
Uniform Delay, d1		20.7			30.5		19.0	19.7				41.9
Progression Factor		1.00			0.37		1.00	1.00				1.00
Incremental Delay, d2		1.8			22.7		6.0	4.2				83.3
Delay (s)		22.5			34.0		24.9	24.0				125.1
Level of Service		C			C		C	C				F
Approach Delay (s)		22.5			34.0			24.3			125.1	
Approach LOS		C			C			C			F	

Intersection Summary			
HCM Average Control Delay	29.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	81.5%	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												
Volume (vph)	140	200	857	0	190	20	1026	246	40	0	457	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		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.97		1.00	0.95			1.00	0.67
Flpb, ped/bikes		0.91	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.99		1.00	0.98			1.00	0.85
Flt Protected		0.98	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1462	2448		1329		4385	1335			3110	815
Flt Permitted		0.63	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		942	2448		1329		4385	1335			3110	815
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	151	215	922	0	204	22	1103	265	43	0	491	143
RTOR Reduction (vph)	0	0	2	0	4	0	0	7	0	0	0	4
Lane Group Flow (vph)	0	366	920	0	222	0	1103	301	0	0	491	139
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		26.5	55.5		26.5		25.5	55.5			26.5	26.5
Effective Green, g (s)		26.5	52.0		26.5		25.5	55.5			26.5	26.5
Actuated g/C Ratio		0.29	0.58		0.29		0.28	0.62			0.29	0.29
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		277	1414		391		1242	823			916	240
v/s Ratio Prot			0.38		0.17		c0.25	0.23			0.16	
v/s Ratio Perm		c0.39										c0.17
v/c Ratio		1.32	0.65		0.57		0.89	0.37			0.54	0.58
Uniform Delay, d1		31.8	12.9		26.9		30.9	8.5			26.6	27.0
Progression Factor		0.46	0.33		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		163.3	0.9		1.9		9.7	1.3			2.2	9.8
Delay (s)		177.8	5.1		28.8		40.5	9.8			28.8	36.8
Level of Service		F	A		C		D	A			C	D
Approach Delay (s)		54.2			28.8			33.8			30.6	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM Average Control Delay	40.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	102.1%	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												
Volume (vph)	0	0	0	70	230	50	40	50	0	0	60	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.29		1.00			0.92	
Flpb, ped/bikes					0.85	1.00		0.87			1.00	
Frt					1.00	0.85		1.00			0.97	
Flt Protected					0.99	1.00		0.98			1.00	
Satd. Flow (prot)					2450	400		1396			1450	
Flt Permitted					0.99	1.00		0.86			1.00	
Satd. Flow (perm)					2450	400		1232			1450	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	0	80	264	57	46	57	0	0	69	23
RTOR Reduction (vph)	0	0	0	0	0	31	0	0	0	0	1	0
Lane Group Flow (vph)	0	0	0	0	344	26	0	103	0	0	91	0
Confl. Peds. (#/hr)				945		1084	569					569
Confl. Bikes (#/hr)						76			2			4
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					34.0	34.0		31.0			31.0	
Effective Green, g (s)					34.0	34.0		31.0			31.0	
Actuated g/C Ratio					0.45	0.45		0.41			0.41	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1111	181		509			599	
v/s Ratio Prot											0.06	
v/s Ratio Perm					0.14	0.06		c0.08				
v/c Ratio					0.31	0.14		0.20			0.15	
Uniform Delay, d1					13.0	12.0		14.1			13.8	
Progression Factor					1.00	1.00		0.96			1.00	
Incremental Delay, d2					0.7	1.6		0.9			0.5	
Delay (s)					13.8	13.6		14.4			14.3	
Level of Service					B	B		B			B	
Approach Delay (s)		0.0			13.7			14.4			14.3	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	57.5%	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												
Volume (vph)	0	0	0	210	250	30	170	40	0	0	80	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.92		1.00	1.00			0.96	
Flpb, ped/bikes				1.00	1.00		0.71	1.00			1.00	
Frt				1.00	0.98		1.00	1.00			0.99	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	2816		1101	1637			1552	
Flt Permitted				0.95	1.00		0.69	1.00			1.00	
Satd. Flow (perm)				1555	2816		802	1637			1552	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	0	236	281	34	191	45	0	0	90	11
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	236	308	0	191	45	0	0	101	0
Confl. Peds. (#/hr)						1700	537					569
Confl. Bikes (#/hr)						76			2			4
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				40.4	40.4		25.3	25.3			25.3	
Effective Green, g (s)				40.4	40.4		25.3	25.3			25.3	
Actuated g/C Ratio				0.54	0.54		0.34	0.34			0.34	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				838	1517		271	552			524	
v/s Ratio Prot				c0.15	0.11			0.03			0.07	
v/s Ratio Perm							c0.24					
v/c Ratio				0.28	0.20		0.70	0.08			0.19	
Uniform Delay, d1				9.4	9.0		21.6	16.9			17.6	
Progression Factor				1.00	1.00		1.04	1.04			1.00	
Incremental Delay, d2				0.8	0.3		14.3	0.3			0.8	
Delay (s)				10.2	9.3		36.7	17.8			18.4	
Level of Service				B	A		D	B			B	
Approach Delay (s)		0.0			9.7			33.1			18.4	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM Average Control Delay	16.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	38.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	190	110	10	496	20	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	202	117	11	528	21	11
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	306					
pX, platoon unblocked						
vC, conflicting volume			719		1610	960
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			719		1610	960
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		53	91
cM capacity (veh/h)			614		46	125

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	135	184	538	32
Volume Left	0	0	11	21
Volume Right	0	117	0	11
cSH	1700	1700	614	58
Volume to Capacity	0.08	0.11	0.02	0.55
Queue Length 95th (ft)	0	0	1	55
Control Delay (s)	0.0	0.0	0.5	126.3
Lane LOS			A	F
Approach Delay (s)	0.0		0.5	126.3
Approach LOS				F

Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	160	23	26	496	10	22	50	8	30	60	30
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		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.44		0.99			0.95			0.87	
Flpb, ped/bikes		0.96	1.00		0.98			0.89			0.89	
Frt		1.00	0.85		1.00			0.99			0.97	
Flt Protected		0.99	1.00		1.00			0.99			0.99	
Satd. Flow (prot)		1556	609		1382			1176			1056	
Flt Permitted		0.83	1.00		0.98			0.91			0.92	
Satd. Flow (perm)		1310	609		1356			1088			986	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	47	188	27	31	584	12	26	59	9	35	71	35
RTOR Reduction (vph)	0	0	13	0	1	0	0	5	0	0	3	0
Lane Group Flow (vph)	0	235	14	0	626	0	0	89	0	0	138	0
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4			4		
Actuated Green, G (s)		40.0	40.0		40.0			26.0			26.0	
Effective Green, g (s)		40.0	40.0		40.0			26.0			26.0	
Actuated g/C Ratio		0.53	0.53		0.53			0.35			0.35	
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)		699	325		723			377			342	
v/s Ratio Prot												
v/s Ratio Perm		0.18	0.02		c0.46			0.08			c0.14	
v/c Ratio		0.34	0.04		0.87			0.24			0.40	
Uniform Delay, d1		10.0	8.4		15.2			17.4			18.6	
Progression Factor		1.00	1.00		1.00			1.00			0.72	
Incremental Delay, d2		1.3	0.3		13.2			1.5			3.5	
Delay (s)		11.2	8.6		28.4			18.9			16.9	
Level of Service		B	A		C			B			B	
Approach Delay (s)		11.0			28.4			18.9			16.9	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	22.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	99.6%	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												
Volume (vph)	0	229	20	18	467	0	20	0	46	20	30	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
Lane Util. Factor		1.00	1.00		0.95			1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.26		1.00			0.62			1.00	0.67
Flpb, ped/bikes		1.00	1.00		0.98			0.91			0.81	1.00
Frt		1.00	0.85		1.00			0.91			1.00	0.85
Flt Protected		1.00	1.00		1.00			0.99			0.98	1.00
Satd. Flow (prot)		1637	354		3050			818			1295	933
Flt Permitted		1.00	1.00		0.94			0.94			0.92	1.00
Satd. Flow (perm)		1637	354		2866			782			1219	933
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	244	21	19	497	0	21	0	49	21	32	21
RTOR Reduction (vph)	0	0	16	0	0	0	0	0	0	0	0	8
Lane Group Flow (vph)	0	244	5	0	516	0	0	70	0	0	53	13
Confl. Peds. (#/hr)			800	800			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	36.5
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	36.5
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	0.61
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)		396	86		693			476			742	568
v/s Ratio Prot		0.15										
v/s Ratio Perm			0.01		c0.18			c0.09			0.04	0.01
v/c Ratio		0.62	0.06		0.74			0.15			0.07	0.02
Uniform Delay, d1		20.3	17.5		21.0			5.1			4.8	4.7
Progression Factor		1.00	1.00		1.00			1.00			1.00	1.00
Incremental Delay, d2		7.0	1.3		7.1			0.7			0.0	0.0
Delay (s)		27.3	18.8		28.2			5.7			4.9	4.7
Level of Service		C	B		C			A			A	A
Approach Delay (s)		26.6			28.2			5.7			4.8	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	24.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	350	20	80	10	190	10	375	340
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		0.97		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		0.99		0.99			1.00
Flt Protected		1.00		0.96		1.00			0.97
Satd. Flow (prot)		942		1311		1619			3030
Flt Permitted		1.00		0.96		1.00			0.95
Satd. Flow (perm)		942		1311		1619			2970
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	380	22	87	11	207	11	408	370
RTOR Reduction (vph)	0	0	0	6	0	0	0	0	0
Lane Group Flow (vph)	0	380	0	114	0	218	0	0	778
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		371		310			891
v/s Ratio Prot						0.13			
v/s Ratio Perm		c0.40		0.09					c0.26
v/c Ratio		0.72		0.31		0.70			0.87
Uniform Delay, d1		9.8		16.9		22.7			19.9
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		8.3		2.1		7.1			11.6
Delay (s)		18.2		19.0		29.7			31.5
Level of Service		B		B		C			C
Approach Delay (s)	18.2			19.0		29.7			31.5
Approach LOS	B			B		C			C

Intersection Summary			
HCM Average Control Delay	26.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	77.0%	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												
Volume (vph)	30	152	50	30	311	30	70	40	30	30	80	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.95			1.00	0.59	1.00	0.77			0.81	
Flpb, ped/bikes		0.97			1.00	1.00	0.61	1.00			0.92	
Frt		0.97			1.00	0.85	1.00	0.94			0.95	
Flt Protected		0.99			1.00	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1273			1426	721	952	1029			2168	
Flt Permitted		0.93			0.96	1.00	0.63	1.00			0.89	
Satd. Flow (perm)		1185			1373	721	630	1029			1954	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	34	175	57	34	357	34	80	46	34	34	92	69
RTOR Reduction (vph)	0	7	0	0	0	7	0	27	0	0	0	0
Lane Group Flow (vph)	0	259	0	0	391	27	80	53	0	0	195	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		62.5			62.5	62.5	17.4	17.4			17.4	
Effective Green, g (s)		62.5			62.5	62.5	17.4	17.4			17.4	
Actuated g/C Ratio		0.69			0.69	0.69	0.19	0.19			0.19	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		823			953	501	122	199			378	
v/s Ratio Prot								0.05				
v/s Ratio Perm		0.22			c0.28	0.04	c0.13				0.10	
v/c Ratio		0.31			0.41	0.05	0.66	0.26			0.52	
Uniform Delay, d1		5.4			5.9	4.4	33.5	30.9			32.5	
Progression Factor		1.00			1.00	1.00	0.65	0.42			1.00	
Incremental Delay, d2		1.0			1.3	0.2	12.0	0.7			1.2	
Delay (s)		6.4			7.2	4.6	33.9	13.7			33.7	
Level of Service		A			A	A	C	B			C	
Approach Delay (s)		6.4			7.0			23.8			33.7	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	14.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	118.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Volume (vph)	30	210	30	30	316	20	20	41	70	20	48	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.95			0.98			0.68			0.77	
Flpb, ped/bikes		0.97			0.98			0.93			0.92	
Frt		0.98			0.99			0.93			0.95	
Flt Protected		0.99			1.00			0.99			0.99	
Satd. Flow (prot)		1296			1349			831			962	
Flt Permitted		0.94			0.96			0.95			0.93	
Satd. Flow (perm)		1221			1301			794			907	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	32	223	32	32	336	21	21	44	74	21	51	43
RTOR Reduction (vph)	0	1	0	0	1	0	0	45	0	0	24	0
Lane Group Flow (vph)	0	286	0	0	388	0	0	94	0	0	91	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.6			62.6			18.6			18.6	
Effective Green, g (s)		62.6			62.6			18.6			18.6	
Actuated g/C Ratio		0.70			0.70			0.21			0.21	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		849			905			164			187	
v/s Ratio Prot												
v/s Ratio Perm		0.23			c0.30			c0.12			0.10	
v/c Ratio		0.34			0.43			0.57			0.49	
Uniform Delay, d1		5.4			5.9			32.1			31.5	
Progression Factor		1.00			1.00			0.62			1.00	
Incremental Delay, d2		1.1			1.5			12.2			8.8	
Delay (s)		6.5			7.4			32.2			40.3	
Level of Service		A			A			C			D	
Approach Delay (s)		6.5			7.4			32.2			40.3	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM Average Control Delay	14.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.1%	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												
Volume (vph)	20	260	120	50	210	20	40	20	70	20	46	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.85			1.00	0.51		0.70			0.77	
Flpb, ped/bikes		0.98			0.95	1.00		0.87			0.93	
Frt		0.96			1.00	0.85		0.93			0.94	
Flt Protected		1.00			0.99	1.00		0.98			0.99	
Satd. Flow (prot)		1150			1353	617		795			960	
Flt Permitted		0.98			0.87	1.00		0.89			0.94	
Satd. Flow (perm)		1128			1183	617		714			912	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	22	292	135	56	236	22	45	22	79	22	52	52
RTOR Reduction (vph)	0	6	0	0	0	7	0	33	0	0	28	0
Lane Group Flow (vph)	0	443	0	0	292	15	0	113	0	0	98	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		57.0			57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0			57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63			0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		714			749	391		198			253	
v/s Ratio Prot												
v/s Ratio Perm		c0.39			0.25	0.02		c0.16			0.11	
v/c Ratio		0.62			0.39	0.04		0.57			0.39	
Uniform Delay, d1		10.0			8.0	6.2		27.9			26.3	
Progression Factor		1.00			0.81	0.67		0.92			1.00	
Incremental Delay, d2		4.0			1.5	0.2		10.2			4.4	
Delay (s)		14.0			8.0	4.4		36.0			30.7	
Level of Service		B			A	A		D			C	
Approach Delay (s)		14.0			7.8			36.0			30.7	
Approach LOS		B			A			D			C	

Intersection Summary			
HCM Average Control Delay	17.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	260	70	10	170	10	30	26	40	20	38	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.51		1.00	0.51		0.77			0.81	
Flpb, ped/bikes		0.97	1.00		0.98	1.00		0.86			0.90	
Frt		1.00	0.85		1.00	0.85		0.94			0.95	
Flt Protected		1.00	1.00		1.00	1.00		0.98			0.99	
Satd. Flow (prot)		1391	604		1405	604		877			1126	
Flt Permitted		0.98	1.00		0.98	1.00		0.90			0.93	
Satd. Flow (perm)		1362	604		1383	604		802			1065	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	22	292	79	11	191	11	34	29	45	22	43	34
RTOR Reduction (vph)	0	0	6	0	0	4	0	29	0	0	21	0
Lane Group Flow (vph)	0	314	73	0	202	7	0	79	0	0	78	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63	0.63		0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		863	383		876	383		223			296	
v/s Ratio Prot												
v/s Ratio Perm		c0.23	0.12		0.15	0.01		c0.10			0.07	
v/c Ratio		0.36	0.19		0.23	0.02		0.35			0.26	
Uniform Delay, d1		7.9	6.9		7.1	6.1		26.0			25.3	
Progression Factor		0.86	0.75		1.00	1.00		0.90			1.00	
Incremental Delay, d2		0.9	0.9		0.6	0.1		3.6			2.2	
Delay (s)		7.7	6.0		7.7	6.2		27.1			27.5	
Level of Service		A	A		A	A		C			C	
Approach Delay (s)		7.4			7.6			27.1			27.5	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	12.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	30	270	20	30	30	20	490	70	10	200	575
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				5.0		5.0			5.0	5.0
Lane Util. Factor	1.00				1.00		0.95			1.00	0.95
Frpb, ped/bikes	0.89				0.91		0.88			1.00	1.00
Flpb, ped/bikes	1.00				0.66		1.00			1.00	1.00
Frt	0.88				0.97		0.98			1.00	1.00
Flt Protected	1.00				0.96		1.00			0.95	1.00
Satd. Flow (prot)	1275				913		2679			1555	3110
Flt Permitted	1.00				0.96		1.00			0.95	1.00
Satd. Flow (perm)	1275				913		2679			1555	3110
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
Adj. Flow (vph)	32	284	21	32	32	21	516	74	11	211	605
RTOR Reduction (vph)	2	0	0	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	335	0	0	0	85	0	599	0	0	211	605
Confl. Peds. (#/hr)				400	400	400		400	400		
Confl. Bikes (#/hr)		30	30			10		30	30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0
Turn Type				Perm						Split	
Protected Phases	4				3		6			2	2
Permitted Phases				3							
Actuated Green, G (s)	20.0				20.0		17.0			13.0	13.0
Effective Green, g (s)	20.0				20.0		17.0			13.0	13.0
Actuated g/C Ratio	0.22				0.22		0.19			0.14	0.14
Clearance Time (s)	5.0				5.0		5.0			5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	283				203		506			225	449
v/s Ratio Prot	c0.26						c0.22			0.14	c0.19
v/s Ratio Perm					0.09						
v/c Ratio	1.18				0.42		1.18			0.94	1.35
Uniform Delay, d1	35.0				30.0		36.5			38.1	38.5
Progression Factor	1.00				1.01		1.00			0.81	0.80
Incremental Delay, d2	112.3				1.3		101.7			44.5	170.0
Delay (s)	147.3				31.7		138.2			75.2	201.0
Level of Service	F				C		F			E	F
Approach Delay (s)	147.3				31.7		138.2				168.5
Approach LOS	F				C		F				F

Intersection Summary			
HCM Average Control Delay	148.4	HCM Level of Service	F
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	86.6%	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												
Volume (vph)	0	908	40	7	1518	30	0	40	18	0	80	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.91			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.88			0.92	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.96			0.97	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2861			4244			1208			1288	
Flt Permitted		1.00			0.94			1.00			1.00	
Satd. Flow (perm)		2861			3970			1208			1288	
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)	0	1009	44	8	1687	33	0	44	20	0	89	22
RTOR Reduction (vph)	0	0	0	0	0	0	0	18	0	0	8	0
Lane Group Flow (vph)	0	1053	0	0	1728	0	0	46	0	0	103	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type				Perm								
Protected Phases		2			6			8			4	
Permitted Phases				6								
Actuated Green, G (s)		70.4			70.4			10.8			10.8	
Effective Green, g (s)		70.4			70.4			10.8			10.8	
Actuated g/C Ratio		0.78			0.78			0.12			0.12	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2238			3105			145			155	
v/s Ratio Prot		0.37						0.04			c0.08	
v/s Ratio Perm					c0.44							
v/c Ratio		0.47			0.56			0.32			0.67	
Uniform Delay, d1		3.4			3.8			36.2			37.9	
Progression Factor		0.60			1.00			1.00			1.00	
Incremental Delay, d2		0.7			0.2			1.3			10.3	
Delay (s)		2.7			4.0			37.5			48.1	
Level of Service		A			A			D			D	
Approach Delay (s)		2.7			4.0			37.5			48.1	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	5.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	0	771	227	0	1140	40	356	90	70	0	150	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.70		1.00	0.70	1.00	1.00	0.74		0.98	
Flpb, ped/bikes		1.00	1.00		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	0.85		0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3110	974		3110	974	3016	1637	1024		2816	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		3110	974		3110	974	3016	1637	1024		2816	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	820	241	0	1213	43	379	96	74	0	160	11
RTOR Reduction (vph)	0	0	70	0	0	19	0	0	3	0	6	0
Lane Group Flow (vph)	0	820	171	0	1213	24	379	96	71	0	165	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type			Perm			Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases			2			6			8			
Actuated Green, G (s)		50.1	50.1		50.1	50.1	15.8	30.9	30.9		10.6	
Effective Green, g (s)		50.1	50.1		50.1	50.1	15.8	30.9	30.9		10.6	
Actuated g/C Ratio		0.56	0.56		0.56	0.56	0.18	0.34	0.34		0.12	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		1731	542		1731	542	529	562	352		332	
v/s Ratio Prot		0.26			c0.39		c0.13	0.06			c0.06	
v/s Ratio Perm			0.18			0.02			0.07			
v/c Ratio		0.47	0.31		0.70	0.04	0.72	0.17	0.20		0.50	
Uniform Delay, d1		12.0	10.7		14.5	9.1	35.0	20.6	20.8		37.2	
Progression Factor		1.00	1.00		0.77	0.68	1.00	1.00	1.00		0.78	
Incremental Delay, d2		0.9	1.5		2.2	0.1	4.6	0.1	0.3		1.1	
Delay (s)		12.9	12.2		13.5	6.3	39.6	20.8	21.1		30.3	
Level of Service		B	B		B	A	D	C	C		C	
Approach Delay (s)		12.8			13.2			33.8			30.3	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM Average Control Delay	17.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	81	753	1101	40	90	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.91		1.00	
Frpb, ped/bikes		1.00	0.99		0.83	
Flpb, ped/bikes		1.00	1.00		1.00	
Frt		1.00	0.99		0.94	
Flt Protected		1.00	1.00		0.97	
Satd. Flow (prot)		2887	4397		1087	
Flt Permitted		0.71	1.00		0.97	
Satd. Flow (perm)		2058	4397		1087	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	86	801	1171	43	96	83
RTOR Reduction (vph)	0	0	4	0	20	0
Lane Group Flow (vph)	0	887	1210	0	159	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		64.0	64.0		19.0	
Effective Green, g (s)		64.0	64.0		19.0	
Actuated g/C Ratio		0.71	0.71		0.21	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1463	3127		229	
v/s Ratio Prot			0.28		c0.15	
v/s Ratio Perm		c0.43				
v/c Ratio		0.61	0.39		0.70	
Uniform Delay, d1		6.6	5.2		32.8	
Progression Factor		0.55	1.00		0.84	
Incremental Delay, d2		0.7	0.1		15.7	
Delay (s)		4.3	5.3		43.3	
Level of Service		A	A		D	
Approach Delay (s)		4.3	5.3		43.3	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	7.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	115.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	408	50	50	1176	40	30	46	60	70	84	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			0.99			0.84			0.91	
Flpb, ped/bikes		1.00			0.99			0.96			0.92	
Frt		0.98			1.00			0.94			0.97	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2763			2851			1073			1136	
Flt Permitted		0.85			0.91			0.90			0.83	
Satd. Flow (perm)		2358			2596			976			956	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	26	439	54	54	1265	43	32	49	65	75	90	56
RTOR Reduction (vph)	0	2	0	0	2	0	0	32	0	0	13	0
Lane Group Flow (vph)	0	517	0	0	1360	0	0	114	0	0	208	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		60.6			60.6			20.6			20.6	
Effective Green, g (s)		60.6			60.6			20.6			20.6	
Actuated g/C Ratio		0.67			0.67			0.23			0.23	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1588			1748			223			219	
v/s Ratio Prot												
v/s Ratio Perm		0.22			c0.52			0.12			c0.22	
v/c Ratio		0.33			0.78			0.51			0.95	
Uniform Delay, d1		6.2			10.1			30.3			34.2	
Progression Factor		1.00			0.11			1.00			0.82	
Incremental Delay, d2		0.5			2.4			8.1			44.6	
Delay (s)		6.7			3.5			38.4			72.5	
Level of Service		A			A			D			E	
Approach Delay (s)		6.7			3.5			38.4			72.5	
Approach LOS		A			A			D			E	

Intersection Summary			
HCM Average Control Delay	13.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	107.8%	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												
Volume (vph)	26	702	30	30	1198	40	30	30	60	50	40	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.82			0.89	
Flpb, ped/bikes		1.00			1.00			0.94			0.90	
Frt		0.99			1.00			0.93			0.96	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2853			2864			1015			1085	
Flt Permitted		0.87			0.92			0.90			0.80	
Satd. Flow (perm)		2490			2633			927			890	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	763	33	33	1302	43	33	33	65	54	43	41
RTOR Reduction (vph)	0	1	0	0	1	0	0	41	0	0	14	0
Lane Group Flow (vph)	0	823	0	0	1377	0	0	90	0	0	124	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		65.5			65.5			15.6			15.6	
Effective Green, g (s)		65.5			65.5			15.6			15.6	
Actuated g/C Ratio		0.73			0.73			0.17			0.17	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1812			1916			161			154	
v/s Ratio Prot												
v/s Ratio Perm		0.33			c0.52			0.10			c0.14	
v/c Ratio		0.45			0.72			0.56			0.80	
Uniform Delay, d1		5.0			7.0			34.0			35.7	
Progression Factor		0.77			0.31			1.00			0.74	
Incremental Delay, d2		0.8			0.9			4.1			25.1	
Delay (s)		4.6			3.0			38.2			51.5	
Level of Service		A			A			D			D	
Approach Delay (s)		4.6			3.0			38.2			51.5	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	8.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	86.1%	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												
Volume (vph)	20	723	70	40	1118	20	140	10	30	10	10	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			0.99			0.94			0.82	
Flpb, ped/bikes		1.00			1.00			0.74			0.95	
Frt		0.99			1.00			0.98			0.93	
Flt Protected		1.00			1.00			0.96			0.99	
Satd. Flow (prot)		2795			3072			1074			1171	
Flt Permitted		0.90			0.89			0.74			0.92	
Satd. Flow (perm)		2526			2743			830			1086	
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)	22	803	78	44	1242	22	156	11	33	11	11	22
RTOR Reduction (vph)	0	2	0	0	1	0	0	8	0	0	15	0
Lane Group Flow (vph)	0	901	0	0	1307	0	0	192	0	0	29	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1743			1893			178			233	
v/s Ratio Prot												
v/s Ratio Perm		0.36			c0.48			c0.23			0.03	
v/c Ratio		0.52			0.69			1.08			0.12	
Uniform Delay, d1		6.7			8.3			35.4			28.5	
Progression Factor		1.31			0.36			1.00			0.58	
Incremental Delay, d2		1.0			0.9			90.2			0.1	
Delay (s)		9.8			3.8			125.6			16.6	
Level of Service		A			A			F			B	
Approach Delay (s)		9.8			3.8			125.6			16.6	
Approach LOS		A			A			F			B	

Intersection Summary			
HCM Average Control Delay	16.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	94.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	20	743	1138	755	761	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3055	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3055	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	808	1237	821	827	43
RTOR Reduction (vph)	0	11	0	0	4	0
Lane Group Flow (vph)	22	797	1237	821	866	0
Confl. Peds. (#/hr)						95
Confl. Bikes (#/hr)		10				81
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	7.0	50.6	39.6	73.0	29.4	
Effective Green, g (s)	7.0	50.6	39.6	73.0	29.4	
Actuated g/C Ratio	0.08	0.56	0.44	0.81	0.33	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	121	1376	1327	2364	998	
v/s Ratio Prot	0.01	c0.33	c0.41	0.28	c0.28	
v/s Ratio Perm						
v/c Ratio	0.18	0.58	0.93	0.35	0.87	
Uniform Delay, d1	38.8	12.8	23.9	2.2	28.5	
Progression Factor	1.08	0.82	0.73	1.16	0.40	
Incremental Delay, d2	0.6	0.5	6.8	0.2	0.8	
Delay (s)	42.5	11.0	24.2	2.8	12.2	
Level of Service	D	B	C	A	B	
Approach Delay (s)	11.8			15.6	12.2	
Approach LOS	B			B	B	

Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	90	341	40	0	1475	0	50	33	1553
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			1.00			1.00	1.00
Flpb, ped/bikes				0.81			1.00			1.00	1.00
Frt				0.99			1.00			1.00	1.00
Flt Protected				0.96			1.00			0.95	1.00
Satd. Flow (prot)				2258			4428			1555	3110
Flt Permitted				0.96			1.00			0.95	1.00
Satd. Flow (perm)				2258			4428			1555	3110
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
Adj. Flow (vph)	0	0	100	379	44	0	1639	0	56	37	1726
RTOR Reduction (vph)	0	0	0	8	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	0	0	515	0	0	1692	0	0	37	1726
Confl. Peds. (#/hr)			125	64					125		
Confl. Bikes (#/hr)					34				86		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				24.1			48.7			4.2	56.9
Effective Green, g (s)				24.1			48.7			4.2	56.9
Actuated g/C Ratio				0.27			0.54			0.05	0.63
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				605			2396			73	1966
v/s Ratio Prot							0.38			0.02	c0.56
v/s Ratio Perm				0.23							
v/c Ratio				0.85			0.71			0.51	0.88
Uniform Delay, d1				31.2			15.3			41.9	13.7
Progression Factor				1.00			0.80			1.00	1.00
Incremental Delay, d2				11.1			0.6			2.0	5.9
Delay (s)				42.3			12.8			43.9	19.6
Level of Service				D			B			D	B
Approach Delay (s)	0.0			42.3			12.8				20.1
Approach LOS	A			D			B				C

Intersection Summary			
HCM Average Control Delay	19.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBR	EBR2	SEL	SET	SER2	NWL2	NWL	NWT	NWR	SWR2
Lane Configurations											
Volume (vph)	32	2	300	20	1089	425	176	0	1570	20	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		7.0	7.0	7.0		4.0	7.0		
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00		1.00	0.95		
Frpb, ped/bikes	1.00	0.91		1.00	1.00	0.95		1.00	0.99		
Flpb, ped/bikes	1.00	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	1.00		
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95	1.00		
Satd. Flow (prot)	1555	1105		1555	3110	1323		1555	3080		
Flt Permitted	0.95	1.00		0.13	1.00	1.00		0.40	1.00		
Satd. Flow (perm)	1555	1105		218	3110	1323		655	3080		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	2	326	22	1184	462	191	0	1707	22	0
RTOR Reduction (vph)	0	233	0	0	0	287	0	0	1	0	0
Lane Group Flow (vph)	35	95	0	22	1184	175	0	191	1728	0	0
Confl. Peds. (#/hr)			64							1000	100
Confl. Bikes (#/hr)		10	10			30				30	10
Parking (#/hr)		5	5								
Turn Type	custom	custom		Perm		Perm	custom	Prot			custom
Protected Phases					6			5	2		
Permitted Phases	4	4		6		6	5				8
Actuated Green, G (s)	22.5	22.5		30.0	30.0	30.0		10.0	44.0		
Effective Green, g (s)	22.5	22.5		30.0	30.0	30.0		10.0	44.0		
Actuated g/C Ratio	0.28	0.28		0.38	0.38	0.38		0.13	0.56		
Clearance Time (s)	5.5	5.5		7.0	7.0	7.0		4.0	7.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	443	315		83	1181	502		83	1715		
v/s Ratio Prot					0.38				c0.56		
v/s Ratio Perm	0.02	c0.09		0.10		0.13		c0.29			
v/c Ratio	0.08	0.30		0.27	1.00	0.35		2.30	1.01		
Uniform Delay, d1	20.7	22.1		16.9	24.5	17.5		34.5	17.5		
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2	0.1	0.5		7.6	26.8	1.9		621.7	23.5		
Delay (s)	20.7	22.6		24.5	51.3	19.4		656.2	41.0		
Level of Service	C	C		C	D	B		F	D		
Approach Delay (s)					42.1				102.2		
Approach LOS					D				F		

Intersection Summary			
HCM Average Control Delay	69.5	HCM Level of Service	E
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	117.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	40	0	130	0	0	0	90	1697	0	0	20	1253
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.75					1.00	1.00				0.99
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.90					1.00	1.00				1.00
Flt Protected		0.99					0.95	1.00				1.00
Satd. Flow (prot)		953					1555	3110				3077
Flt Permitted		0.99					0.95	1.00				0.86
Satd. Flow (perm)		953					1555	3110				2642
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	43	0	138	0	0	0	96	1805	0	0	21	1333
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	0	179	0	0	0	0	96	1805	0	0	0	1374
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		21.2					4.0	59.8				50.8
Effective Green, g (s)		21.2					4.0	59.8				50.8
Actuated g/C Ratio		0.24					0.04	0.66				0.56
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		224					69	2066				1491
v/s Ratio Prot		c0.19					0.06	c0.58				
v/s Ratio Perm												c0.52
v/c Ratio		0.80					1.39	0.87				0.92
Uniform Delay, d1		32.4					43.0	12.1				17.8
Progression Factor		1.00					0.70	0.21				1.00
Incremental Delay, d2		18.3					218.7	3.3				10.9
Delay (s)		50.7					248.7	5.7				28.6
Level of Service		D					F	A				C
Approach Delay (s)		50.7			0.0			18.0				28.6
Approach LOS		D			A			B				C

Intersection Summary			
HCM Average Control Delay	24.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	113.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	20
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	21
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	101	728	0	0	943	110	280	302	40	0	0	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			
Lane Util. Factor		0.95			0.95			0.95	1.00			
Frpb, ped/bikes		1.00			0.97			1.00	0.71			
Flpb, ped/bikes		0.99			1.00			0.86	1.00			
Frt		1.00			0.98			1.00	0.85			
Flt Protected		0.99			1.00			0.98	1.00			
Satd. Flow (prot)		2844			2750			2427	986			
Flt Permitted		0.60			1.00			0.98	1.00			
Satd. Flow (perm)		1707			2750			2427	986			
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)	106	766	0	0	993	116	295	318	42	0	0	0
RTOR Reduction (vph)	0	0	0	0	11	0	0	0	24	0	0	0
Lane Group Flow (vph)	0	872	0	0	1098	0	0	613	18	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm		Perm			
Protected Phases		2			6			8				
Permitted Phases	2						8		8			
Actuated Green, G (s)		37.0			37.0			34.0	34.0			
Effective Green, g (s)		37.0			37.0			34.0	34.0			
Actuated g/C Ratio		0.46			0.46			0.42	0.42			
Clearance Time (s)		4.5			4.5			4.5	4.5			
Vehicle Extension (s)		3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)		789			1272			1031	419			
v/s Ratio Prot					0.40							
v/s Ratio Perm		c0.51						0.25	0.02			
v/c Ratio		1.14dl			0.86			0.59	0.04			
Uniform Delay, d1		21.5			19.2			17.7	13.5			
Progression Factor		1.00			0.35			1.00	1.00			
Incremental Delay, d2		64.8			0.8			2.5	0.2			
Delay (s)		86.3			7.5			20.2	13.7			
Level of Service		F			A			C	B			
Approach Delay (s)		86.3			7.5			19.8			0.0	
Approach LOS		F			A			B			A	

Intersection Summary			
HCM Average Control Delay	36.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	104.2%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	488	280	50	856	0	0	0	0	70	716	206
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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.88			1.00						0.95	
Flpb, ped/bikes		1.00			1.00						0.98	
Frt		0.95			1.00						0.97	
Flt Protected		1.00			1.00						1.00	
Satd. Flow (prot)		2589			3087						2640	
Flt Permitted		1.00			0.78						1.00	
Satd. Flow (perm)		2589			2417						2640	
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)	0	498	286	51	873	0	0	0	0	71	731	210
RTOR Reduction (vph)	0	17	0	0	0	0	0	0	0	0	15	0
Lane Group Flow (vph)	0	767	0	0	924	0	0	0	0	0	997	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		27.0			27.0						44.0	
Effective Green, g (s)		27.0			27.0						44.0	
Actuated g/C Ratio		0.34			0.34						0.55	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		874			816						1452	
v/s Ratio Prot		0.30										
v/s Ratio Perm					c0.38						0.38	
v/c Ratio		0.88			1.13						0.69	
Uniform Delay, d1		25.0			26.5						13.0	
Progression Factor		0.83			1.00						1.00	
Incremental Delay, d2		1.0			74.6						2.7	
Delay (s)		21.7			101.1						15.7	
Level of Service		C			F						B	
Approach Delay (s)		21.7			101.1			0.0			15.7	
Approach LOS		C			F			A			B	

Intersection Summary			
HCM Average Control Delay	46.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	104.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	98	430	580	1698	0	1277	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.67	1.00	1.00		0.97	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		0.99	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	929	3016	3110		2996	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	929	3016	3110		2996	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	98	430	580	1698	0	1277	106
RTOR Reduction (vph)	0	212	0	0	0	7	0
Lane Group Flow (vph)	98	218	580	1698	0	1376	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	23.6	23.6	15.4	55.4		34.0	
Effective Green, g (s)	23.6	23.6	15.4	55.4		34.0	
Actuated g/C Ratio	0.26	0.26	0.17	0.62		0.38	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	408	244	516	1914		1132	
v/s Ratio Prot	0.06		c0.19	0.55		c0.46	
v/s Ratio Perm		c0.23					
v/c Ratio	0.24	0.89	1.12	0.89		1.22	
Uniform Delay, d1	26.1	32.0	37.3	14.7		28.0	
Progression Factor	1.00	1.00	1.00	1.00		0.81	
Incremental Delay, d2	0.3	31.1	78.3	6.5		100.8	
Delay (s)	26.4	63.1	115.6	21.2		123.4	
Level of Service	C	E	F	C		F	
Approach Delay (s)	56.3			45.2		123.4	
Approach LOS	E			D		F	

Intersection Summary			
HCM Average Control Delay	72.4	HCM Level of Service	E
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	115.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	168	30	4	82	10	20	20	20	50	80	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
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.46		1.00	0.67		0.89			1.00	0.43
Flpb, ped/bikes		0.98	1.00		0.98	1.00		0.85			0.89	1.00
Frt		1.00	0.85		1.00	0.85		0.95			1.00	0.85
Flt Protected		1.00	1.00		1.00	1.00		0.98			0.98	1.00
Satd. Flow (prot)		1605	635		1604	937		1162			1423	604
Flt Permitted		0.99	1.00		0.99	1.00		0.87			0.87	1.00
Satd. Flow (perm)		1593	635		1596	937		1030			1256	604
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	179	32	4	87	11	21	21	21	53	85	21
RTOR Reduction (vph)	0	0	4	0	0	3	0	17	0	0	0	18
Lane Group Flow (vph)	0	190	28	0	91	8	0	46	0	0	138	3
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		54.1	54.1		54.1	54.1		11.9			11.9	11.9
Effective Green, g (s)		54.1	54.1		54.1	54.1		11.9			11.9	11.9
Actuated g/C Ratio		0.72	0.72		0.72	0.72		0.16			0.16	0.16
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)		1149	458		1151	676		163			199	96
v/s Ratio Prot												
v/s Ratio Perm		c0.12	0.04		0.06	0.01		0.04			c0.11	0.01
v/c Ratio		0.17	0.06		0.08	0.01		0.28			0.69	0.03
Uniform Delay, d1		3.3	3.0		3.1	2.9		27.8			29.8	26.7
Progression Factor		1.00	1.00		1.00	1.00		1.00			0.73	0.60
Incremental Delay, d2		0.1	0.1		0.1	0.0		1.0			9.8	0.1
Delay (s)		3.4	3.1		3.2	3.0		28.8			31.7	16.3
Level of Service		A	A		A	A		C			C	B
Approach Delay (s)		3.3			3.2			28.8			29.6	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	104.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	492	40	543	400	90	70	50	20	40	20	390	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.34		0.67	1.00	0.96			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.81	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	558	3110	477		952	1555	1330			1264	1175
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.96	1.00
Satd. Flow (perm)	3110	558	3110	477		952	1555	1330			1280	1175
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	512	42	566	417	94	73	52	21	42	21	406	104
RTOR Reduction (vph)	0	20	0	187	0	28	0	29	0	0	0	72
Lane Group Flow (vph)	512	22	566	324	0	45	52	34	0	0	427	32
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	40.0	40.0	40.0	40.0		23.0	23.0	23.0			23.0	23.0
Effective Green, g (s)	40.0	40.0	40.0	40.0		23.0	23.0	23.0			23.0	23.0
Actuated g/C Ratio	0.53	0.53	0.53	0.53		0.31	0.31	0.31			0.31	0.31
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1659	298	1659	254		292	477	408			393	360
v/s Ratio Prot	0.16		0.18									
v/s Ratio Perm		0.04		c0.68		0.05	0.03	0.03			c0.33	0.03
v/c Ratio	0.31	0.08	0.34	1.28		0.16	0.11	0.08			1.09	0.09
Uniform Delay, d1	9.8	8.5	10.0	17.5		18.9	18.7	18.5			26.0	18.5
Progression Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	0.5	0.5	0.6	151.5		1.1	0.5	0.4			70.6	0.5
Delay (s)	10.3	9.0	10.5	169.0		20.1	19.1	18.9			96.6	19.0
Level of Service	B	A	B	F		C	B	B			F	B
Approach Delay (s)	10.2		85.7								81.4	
Approach LOS	B		F								F	

Intersection Summary			
HCM Average Control Delay	61.6	HCM Level of Service	E
HCM Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	59.4%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	732	110	59	783	140	119
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	755	113	61	807	144	123

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	503	365	330	538	267
Volume Left (vph)	0	0	61	0	144
Volume Right (vph)	0	113	0	0	123
Hadj (s)	0.02	-0.20	0.11	0.02	-0.15
Departure Headway (s)	6.8	6.6	6.9	6.9	6.8
Degree Utilization, x	0.95	0.66	0.64	1.02	0.50
Capacity (veh/h)	528	537	511	526	526
Control Delay (s)	51.5	20.4	20.1	70.6	16.4
Approach Delay (s)	38.4		51.4		16.4
Approach LOS	E		F		C

Intersection Summary			
Delay	41.1		
HCM Level of Service	E		
Intersection Capacity Utilization	84.5%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT
Lane Configurations												
Volume (vph)	100	641	90	20	10	30	663	50	40	30	20	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4					5.4		4.0			5.0
Lane Util. Factor		0.95					0.95		1.00			1.00
Frpb, ped/bikes		0.93					0.97		0.78			1.00
Flpb, ped/bikes		0.99					0.99		1.00			1.00
Frt		0.98					0.99		0.86			1.00
Flt Protected		0.99					1.00		1.00			0.98
Satd. Flow (prot)		2598					2969		1106			1600
Flt Permitted		0.74					0.86		1.00			0.98
Satd. Flow (perm)		1928					2570		1106			1600
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	106	682	96	21	11	32	705	53	43	32	21	64
RTOR Reduction (vph)	0	0	0	0	0	0	7	0	0	0	0	0
Lane Group Flow (vph)	0	905	0	0	0	0	794	0	43	0	0	117
Confl. Peds. (#/hr)	400		400	400	400	400		400	400	400	400	
Confl. Bikes (#/hr)			30	30				30	10			
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm	Perm			Free	Split	Split	
Protected Phases		2					6			4	4	4
Permitted Phases	2				6	6			Free			
Actuated Green, G (s)		41.6					41.6		75.0			9.0
Effective Green, g (s)		41.6					41.6		75.0			9.0
Actuated g/C Ratio		0.55					0.55		1.00			0.12
Clearance Time (s)		5.4					5.4					5.0
Lane Grp Cap (vph)		1069					1425		1106			192
v/s Ratio Prot												c0.07
v/s Ratio Perm		c0.47					0.31		0.04			
v/c Ratio		0.85					0.56		0.04			0.61
Uniform Delay, d1		14.0					10.8		0.0			31.3
Progression Factor		1.00					0.48		1.00			1.00
Incremental Delay, d2		8.3					1.4		0.1			13.6
Delay (s)		22.3					6.6		0.1			44.9
Level of Service		C					A		A			D
Approach Delay (s)		22.3					6.6					45.8
Approach LOS		C					A					D

Intersection Summary			
HCM Average Control Delay	19.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	113.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR	NWL	NWR	NWR2
Lane Configurations				
Volume (vph)	60	120	40	20
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0
Lane Util. Factor	1.00	0.97		1.00
Frpb, ped/bikes	0.55	0.81		0.55
Flpb, ped/bikes	1.00	1.00		1.00
Frt	0.85	0.96		0.85
Flt Protected	1.00	0.96		1.00
Satd. Flow (prot)	768	2392		768
Flt Permitted	1.00	0.96		1.00
Satd. Flow (perm)	768	2392		768
Peak-hour factor, PHF	0.94	0.94	0.94	0.94
Adj. Flow (vph)	64	128	43	21
RTOR Reduction (vph)	20	0	0	18
Lane Group Flow (vph)	44	171	0	3
Confl. Peds. (#/hr)	400	400	400	400
Confl. Bikes (#/hr)	10		10	10
Parking (#/hr)				
Turn Type	Perm			Perm
Protected Phases		8		
Permitted Phases	4			8
Actuated Green, G (s)	9.0	9.0		9.0
Effective Green, g (s)	9.0	9.0		9.0
Actuated g/C Ratio	0.12	0.12		0.12
Clearance Time (s)	5.0	5.0		5.0
Lane Grp Cap (vph)	92	287		92
v/s Ratio Prot		c0.07		
v/s Ratio Perm	0.06			0.00
v/c Ratio	0.48	0.60		0.03
Uniform Delay, d1	30.8	31.3		29.1
Progression Factor	1.00	1.00		1.00
Incremental Delay, d2	16.6	8.8		0.6
Delay (s)	47.4	40.1		29.7
Level of Service	D	D		C
Approach Delay (s)		39.0		
Approach LOS		D		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	671	60	40	673	90	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.97			1.00	0.86	
Flpb, ped/bikes	1.00			0.99	1.00	
Frt	0.99			1.00	0.94	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2795			3083	1281	
Flt Permitted	1.00			0.87	0.97	
Satd. Flow (perm)	2795			2701	1281	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	754	67	45	756	101	79
RTOR Reduction (vph)	9	0	0	0	23	0
Lane Group Flow (vph)	812	0	0	801	157	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1677			1621	384	
v/s Ratio Prot	0.29				c0.12	
v/s Ratio Perm				c0.30		
v/c Ratio	0.48			0.49	0.41	
Uniform Delay, d1	8.5			8.5	20.9	
Progression Factor	0.38			1.00	1.00	
Incremental Delay, d2	0.7			1.1	3.2	
Delay (s)	3.9			9.6	24.1	
Level of Service	A			A	C	
Approach Delay (s)	3.9			9.6	24.1	
Approach LOS	A			A	C	

Intersection Summary			
HCM Average Control Delay	8.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	79.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	671	50	30	713	20	40
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	722	54	32	767	22	43

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	481	294	288	511	65
Volume Left (vph)	0	0	32	0	22
Volume Right (vph)	0	54	0	0	43
Hadj (s)	0.02	-0.11	0.07	0.02	-0.32
Departure Headway (s)	5.7	5.5	5.7	5.6	6.4
Degree Utilization, x	0.76	0.45	0.45	0.80	0.11
Capacity (veh/h)	624	635	617	628	537
Control Delay (s)	22.7	11.8	12.1	25.8	10.2
Approach Delay (s)	18.6		20.9		10.2
Approach LOS	C		C		B

Intersection Summary			
Delay	19.4		
HCM Level of Service	C		
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	97	545	40	20	586	211	70	60	30	141	80	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frpb, ped/bikes		0.95			1.00	0.54		0.94		1.00	0.96	
Flpb, ped/bikes		0.98			1.00	1.00		0.89		0.77	0.94	
Frt		0.99			1.00	0.85		0.97		1.00	0.99	
Flt Protected		0.99			1.00	1.00		0.98		0.95	0.99	
Satd. Flow (prot)		2640			3110	657		1141		1134	1366	
Flt Permitted		0.76			1.00	1.00		0.82		0.69	0.90	
Satd. Flow (perm)		2029			3110	657		952		822	1246	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	107	599	44	22	644	232	77	66	33	155	88	11
RTOR Reduction (vph)	0	3	0	0	0	23	0	11	0	0	0	0
Lane Group Flow (vph)	0	769	0	0	644	209	0	165	0	122	132	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10	10		10			10			10
Parking (#/hr)		5	5	5		5	5	5	5			
Turn Type	Perm					Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2				6	6	8			4		
Actuated Green, G (s)		27.5			27.5	27.5		21.5		21.5	21.5	
Effective Green, g (s)		27.5			27.5	27.5		21.5		21.5	21.5	
Actuated g/C Ratio		0.46			0.46	0.46		0.36		0.36	0.36	
Clearance Time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		930			1425	301		341		295	446	
v/s Ratio Prot					0.21							
v/s Ratio Perm		c0.38				0.32		c0.17		0.15	0.11	
v/c Ratio		0.83			0.45	0.70		0.48		0.41	0.30	
Uniform Delay, d1		14.2			11.1	12.9		14.9		14.5	13.8	
Progression Factor		1.00			0.38	0.40		1.00		1.00	1.00	
Incremental Delay, d2		8.3			1.0	12.1		4.9		0.9	0.4	
Delay (s)		22.5			5.3	17.2		19.8		15.4	14.2	
Level of Service		C			A	B		B		B	B	
Approach Delay (s)		22.5			8.4			19.8			14.6	
Approach LOS		C			A			B			B	

Intersection Summary			
HCM Average Control Delay	14.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	94.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR2	NER2
Lane Configurations		
Volume (vph)	87	100
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.5	4.0
Lane Util. Factor	1.00	1.00
Frpb, ped/bikes	0.68	0.78
Flpb, ped/bikes	1.00	1.00
Frt	0.85	0.86
Flt Protected	1.00	1.00
Satd. Flow (prot)	952	967
Flt Permitted	1.00	1.00
Satd. Flow (perm)	952	967
Peak-hour factor, PHF	0.91	0.91
Adj. Flow (vph)	96	110
RTOR Reduction (vph)	10	0
Lane Group Flow (vph)	86	110
Confl. Peds. (#/hr)	400	400
Confl. Bikes (#/hr)	10	10
Parking (#/hr)		5
Turn Type	Perm	Free
Protected Phases		
Permitted Phases	4	Free
Actuated Green, G (s)	21.5	60.0
Effective Green, g (s)	21.5	60.0
Actuated g/C Ratio	0.36	1.00
Clearance Time (s)	5.5	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	341	967
v/s Ratio Prot		
v/s Ratio Perm	0.09	0.11
v/c Ratio	0.25	0.11
Uniform Delay, d1	13.6	0.0
Progression Factor	1.00	1.00
Incremental Delay, d2	0.4	0.2
Delay (s)	14.0	0.2
Level of Service	B	A
Approach Delay (s)		
Approach LOS		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	837	0	0	798	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	920	0	0	877	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	920	0	0	877	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)		30				30
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		46.0			46.0	
Effective Green, g (s)		46.0			46.0	
Actuated g/C Ratio		0.77			0.77	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1877			2312	
v/s Ratio Prot		c0.38			0.29	
v/s Ratio Perm						
v/c Ratio		0.49			0.38	
Uniform Delay, d1		2.6			2.3	
Progression Factor		1.25			0.45	
Incremental Delay, d2		0.7			0.4	
Delay (s)		4.0			1.4	
Level of Service		A			A	
Approach Delay (s)	4.0			0.0	1.4	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	2.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	36.7%	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												
Volume (vph)	20	190	140	200	200	30	90	380	260	40	160	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.77		1.00	0.93			1.00	0.66		1.00	0.44
Flpb, ped/bikes		0.98		0.67	1.00			0.92	1.00		0.98	1.00
Frt		0.94		1.00	0.98			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.99	1.00		0.99	1.00
Satd. Flow (prot)		2195		1048	1300			1270	903		1581	609
Flt Permitted		0.93		0.53	1.00			0.90	1.00		0.86	1.00
Satd. Flow (perm)		2045		583	1300			1150	903		1377	609
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	204	151	215	215	32	97	409	280	43	172	32
RTOR Reduction (vph)	0	45	0	0	9	0	0	0	13	0	0	13
Lane Group Flow (vph)	0	332	0	215	238	0	0	506	267	0	215	19
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		21.7		21.7	21.7			28.3	28.3		28.3	28.3
Effective Green, g (s)		21.7		21.7	21.7			28.3	28.3		28.3	28.3
Actuated g/C Ratio		0.36		0.36	0.36			0.47	0.47		0.47	0.47
Clearance Time (s)		5.5		5.5	5.5			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)		740		211	470			542	426		649	287
v/s Ratio Prot					0.18							
v/s Ratio Perm		0.16		c0.37				c0.44	0.30		0.16	0.03
v/c Ratio		0.45		1.02	0.51			0.93	0.63		0.33	0.07
Uniform Delay, d1		14.6		19.1	15.0			15.0	11.9		9.9	8.6
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		0.4		67.0	0.9			25.3	6.8		1.4	0.5
Delay (s)		15.0		86.1	15.8			40.2	18.7		11.3	9.1
Level of Service		B		F	B			D	B		B	A
Approach Delay (s)		15.0			48.5			32.6			11.0	
Approach LOS		B			D			C			B	

Intersection Summary			
HCM Average Control Delay	30.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
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												
Volume (vph)	0	290	120	70	310	788	170	0	110	657	150	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.94			1.00	0.96		0.99		1.00	1.00	
Flpb, ped/bikes		1.00			0.99	1.00		0.99		1.00	1.00	
Frt		0.96			1.00	0.85		0.95		1.00	0.99	
Flt Protected		1.00			0.99	1.00		0.97		0.95	0.97	
Satd. Flow (prot)		2619			1603	2357		1294		1477	1490	
Flt Permitted		1.00			0.62	1.00		0.22		0.58	0.67	
Satd. Flow (perm)		2619			1003	2357		295		904	1023	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	302	125	73	323	821	177	0	115	684	156	31
RTOR Reduction (vph)	0	75	0	0	0	0	0	39	0	0	5	0
Lane Group Flow (vph)	0	352	0	0	396	821	0	253	0	431	435	0
Confl. Peds. (#/hr)	50		50	50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		11.0			11.0	38.5		14.5		24.0	24.0	
Effective Green, g (s)		11.0			11.0	38.5		14.5		24.0	24.0	
Actuated g/C Ratio		0.18			0.18	0.64		0.24		0.40	0.40	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		480			184	1512		71		362	409	
v/s Ratio Prot		0.13										
v/s Ratio Perm					c0.39	0.35		c0.86		c0.48	0.43	
v/c Ratio		0.73			2.15	0.54		3.57		1.19	1.06	
Uniform Delay, d1		23.1			24.5	5.9		22.8		18.0	18.0	
Progression Factor		1.00			1.00	1.00		1.00		0.82	0.82	
Incremental Delay, d2		9.5			536.1	1.4		1189.8		108.5	60.9	
Delay (s)		32.7			560.6	7.3		1212.5		123.2	75.6	
Level of Service		C			F	A		F		F	E	
Approach Delay (s)		32.7			187.4			1212.5			99.2	
Approach LOS		C			F			F			F	

Intersection Summary			
HCM Average Control Delay	243.1	HCM Level of Service	F
HCM Volume to Capacity ratio	2.10		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	93.8%	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												
Volume (vph)	50	758	30	50	808	40	279	60	263	30	40	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Lane Util. Factor		0.95			0.95	1.00		0.95			1.00	1.00
Frpb, ped/bikes		0.98			1.00	0.66		0.85			1.00	0.66
Flpb, ped/bikes		1.00			0.99	1.00		0.86			0.95	1.00
Frt		0.99			1.00	0.85		0.93			1.00	0.85
Flt Protected		1.00			1.00	1.00		0.98			0.98	1.00
Satd. Flow (prot)		3010			3079	806		1956			1519	922
Flt Permitted		0.83			0.84	1.00		0.79			0.77	1.00
Satd. Flow (perm)		2494			2582	806		1576			1193	922
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	52	790	31	52	842	42	291	62	274	31	42	52
RTOR Reduction (vph)	0	4	0	0	0	23	0	3	0	0	0	2
Lane Group Flow (vph)	0	869	0	0	894	19	0	624	0	0	73	50
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Actuated Green, G (s)		23.7			23.7	23.7		29.3			29.3	29.3
Effective Green, g (s)		23.7			23.7	23.7		29.3			29.3	29.3
Actuated g/C Ratio		0.39			0.39	0.39		0.49			0.49	0.49
Clearance Time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)		985			1020	318		770			583	450
v/s Ratio Prot												
v/s Ratio Perm		c0.35			0.35	0.02		c0.40			0.06	0.05
v/c Ratio		0.88			0.88	0.06		0.81			0.13	0.11
Uniform Delay, d1		16.9			16.8	11.2		13.0			8.4	8.3
Progression Factor		1.00			0.84	1.16		1.00			1.00	1.00
Incremental Delay, d2		9.4			7.4	0.1		9.1			0.4	0.5
Delay (s)		26.2			21.5	13.1		22.1			8.8	8.8
Level of Service		C			C	B		C			A	A
Approach Delay (s)		26.2			21.2			22.1			8.8	
Approach LOS		C			C			C			A	

Intersection Summary			
HCM Average Control Delay	22.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	94.8%	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												
Volume (vph)	80	752	201	94	558	20	81	238	121	10	237	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.95		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.76		0.99		1.00	0.89			0.86	
Flpb, ped/bikes		0.99	1.00		0.99		0.83	1.00			1.00	
Frt		1.00	0.85		1.00		1.00	0.95			0.94	
Flt Protected		1.00	1.00		0.99		0.95	1.00			1.00	
Satd. Flow (prot)		3071	922		3026		1297	3777			3593	
Flt Permitted		0.81	1.00		0.69		0.48	1.00			0.93	
Satd. Flow (perm)		2490	922		2089		649	3777			3339	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	817	218	102	607	22	88	259	132	11	258	196
RTOR Reduction (vph)	0	0	6	0	4	0	0	10	0	0	17	0
Lane Group Flow (vph)	0	904	212	0	727	0	88	381	0	0	448	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		28.2	28.2		28.2		21.8	21.8			21.8	
Effective Green, g (s)		28.2	28.2		28.2		21.8	21.8			21.8	
Actuated g/C Ratio		0.47	0.47		0.47		0.36	0.36			0.36	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1170	433		982		236	1372			1213	
v/s Ratio Prot								0.10				
v/s Ratio Perm		c0.36	0.23		0.35		c0.14				0.13	
v/c Ratio		0.77	0.49		0.74		0.37	0.28			0.37	
Uniform Delay, d1		13.2	10.9		12.9		14.1	13.5			14.0	
Progression Factor		0.56	0.60		0.66		1.00	1.00			1.00	
Incremental Delay, d2		1.9	0.5		2.9		4.5	0.5			0.9	
Delay (s)		9.3	7.1		11.4		18.5	14.0			14.9	
Level of Service		A	A		B		B	B			B	
Approach Delay (s)		8.9			11.4			14.9			14.9	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	11.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	100.0%	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												
Volume (vph)	0	1453	300	0	2027	90	340	209	50	90	159	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.94			0.98		1.00	0.94		1.00	0.92	
Flpb, ped/bikes		1.00			1.00		0.78	1.00		0.80	1.00	
Frt		0.97			0.99		1.00	0.97		1.00	0.96	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4083			4189		1206	1489		1244	1272	
Flt Permitted		1.00			1.00		0.56	1.00		0.48	1.00	
Satd. Flow (perm)		4083			4189		710	1489		632	1272	
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)	0	1483	306	0	2068	92	347	213	51	92	162	51
RTOR Reduction (vph)	0	6	0	0	5	0	0	3	0	0	1	0
Lane Group Flow (vph)	0	1783	0	0	2155	0	347	261	0	92	212	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2359			2420		217	455		193	389	
v/s Ratio Prot		0.44			c0.51			0.18			0.17	
v/s Ratio Perm							c0.49			0.15		
v/c Ratio		0.76			0.89		1.60	0.57		0.48	0.55	
Uniform Delay, d1		14.2			16.5		31.2	26.3		25.4	26.0	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.3			5.4		290.2	5.2		8.2	5.4	
Delay (s)		16.6			22.0		321.4	31.5		33.6	31.5	
Level of Service		B			C		F	C		C	C	
Approach Delay (s)		16.6			22.0			196.1			32.1	
Approach LOS		B			C			F			C	

Intersection Summary			
HCM Average Control Delay	42.5	HCM Level of Service	D
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	103.3%	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												
Volume (vph)	0	1463	130	0	1667	120	140	200	30	160	180	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			1.00	
Frpb, ped/bikes		0.97			0.98		1.00	0.96			0.94	
Flpb, ped/bikes		1.00			1.00		0.88	1.00			0.92	
Frt		0.99			0.99		1.00	0.98			0.98	
Flt Protected		1.00			1.00		0.95	1.00			0.98	
Satd. Flow (prot)		4285			4318		1361	1535			1359	
Flt Permitted		1.00			1.00		0.45	1.00			0.63	
Satd. Flow (perm)		4285			4318		638	1535			876	
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	1540	137	0	1755	126	147	211	32	168	189	74
RTOR Reduction (vph)	0	5	0	0	4	0	0	4	0	0	2	0
Lane Group Flow (vph)	0	1672	0	0	1877	0	147	239	0	0	429	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2538			2557		191	459			262	
v/s Ratio Prot		0.39			c0.43			0.16				
v/s Ratio Perm							0.23				c0.49	
v/c Ratio		0.66			0.73		0.77	0.52			1.64	
Uniform Delay, d1		12.3			13.2		28.7	26.2			31.6	
Progression Factor		1.00			0.25		1.00	1.00			1.00	
Incremental Delay, d2		1.4			1.2		25.3	4.2			303.3	
Delay (s)		13.6			4.6		54.0	30.4			334.9	
Level of Service		B			A		D	C			F	
Approach Delay (s)		13.6			4.6			39.3			334.9	
Approach LOS		B			A			D			F	

Intersection Summary			
HCM Average Control Delay	43.7	HCM Level of Service	D
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	105.9%	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												
Volume (vph)	0	1443	90	0	1707	70	80	100	30	40	160	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.98			0.99			0.95			0.93	
Flpb, ped/bikes		1.00			1.00			0.93			0.97	
Frt		0.99			0.99			0.98			0.97	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		4156			4198			1221			1250	
Flt Permitted		1.00			1.00			0.72			0.92	
Satd. Flow (perm)		4156			4198			900			1165	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	1535	96	0	1816	74	85	106	32	43	170	53
RTOR Reduction (vph)	0	5	0	0	5	0	0	4	0	0	1	0
Lane Group Flow (vph)	0	1626	0	0	1885	0	0	220	0	0	265	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2494			2519			270			350	
v/s Ratio Prot		0.39			c0.45							
v/s Ratio Perm								c0.24			0.23	
v/c Ratio		0.65			0.75			0.81			0.76	
Uniform Delay, d1		11.8			13.1			29.2			28.5	
Progression Factor		1.51			1.00			1.00			1.00	
Incremental Delay, d2		0.9			2.1			22.8			14.1	
Delay (s)		18.7			15.2			52.0			42.6	
Level of Service		B			B			D			D	
Approach Delay (s)		18.7			15.2			52.0			42.6	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	20.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.8%	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		↑↑↑			↑↑↑↱		↰	↕↱				↱
Volume (vph)	0	1303	0	0	1117	70	680	623	50	0	0	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.98		1.00	0.98				0.95
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.99				1.00
Satd. Flow (prot)		4282			4343		1415	2685				1352
Flt Permitted		1.00			1.00		0.95	0.99				1.00
Satd. Flow (perm)		4282			4343		1415	2685				1352
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	1498	0	0	1284	80	782	716	57	0	0	69
RTOR Reduction (vph)	0	0	0	0	8	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	1498	0	0	1356	0	508	1042	0	0	0	69
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		42.0			33.0		38.0	38.0				6.0
Effective Green, g (s)		42.0			33.0		38.0	38.0				6.0
Actuated g/C Ratio		0.47			0.37		0.42	0.42				0.07
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		1998			1592		597	1134				90
v/s Ratio Prot		c0.35			c0.31							
v/s Ratio Perm							0.36	0.39				0.05
v/c Ratio		0.75			0.85		0.85	0.92				0.77
Uniform Delay, d1		19.7			26.3		23.4	24.6				41.3
Progression Factor		1.00			0.48		1.00	1.00				1.00
Incremental Delay, d2		2.6			4.7		14.2	13.2				45.8
Delay (s)		22.3			17.3		37.6	37.8				87.1
Level of Service		C			B		D	D				F
Approach Delay (s)		22.3			17.3			37.7			87.1	
Approach LOS		C			B			D			F	

Intersection Summary			
HCM Average Control Delay	27.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	71.0%	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												
Volume (vph)	188	250	825	0	190	10	785	269	50	0	461	142
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		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.98		1.00	0.94			1.00	0.67
Flpb, ped/bikes		0.90	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.99		1.00	0.98			1.00	0.85
Flt Protected		0.98	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1445	2448		1360		4385	1314			3110	815
Flt Permitted		0.70	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		1030	2448		1360		4385	1314			3110	815
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	194	258	851	0	196	10	809	277	52	0	475	146
RTOR Reduction (vph)	0	0	2	0	2	0	0	8	0	0	0	12
Lane Group Flow (vph)	0	452	849	0	204	0	809	321	0	0	475	134
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		32.5	55.5		32.5		19.5	49.5			26.5	26.5
Effective Green, g (s)		32.5	52.0		32.5		19.5	49.5			26.5	26.5
Actuated g/C Ratio		0.36	0.58		0.36		0.22	0.55			0.29	0.29
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		372	1414		491		950	723			916	240
v/s Ratio Prot			0.35		0.15		c0.18	0.24			0.15	
v/s Ratio Perm		c0.44										c0.16
v/c Ratio		1.22	0.60		0.42		0.85	0.44			0.52	0.56
Uniform Delay, d1		28.8	12.3		21.6		33.9	12.1			26.4	26.8
Progression Factor		0.36	0.05		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		111.8	0.5		0.6		9.5	2.0			2.1	9.1
Delay (s)		122.1	1.1		22.2		43.4	14.0			28.5	35.9
Level of Service		F	A		C		D	B			C	D
Approach Delay (s)		43.0			22.2			34.9			30.3	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM Average Control Delay	36.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	101.1%	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												
Volume (vph)	0	0	0	70	290	70	50	70	0	0	60	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.12		1.00			0.91	
Flpb, ped/bikes					0.86	1.00		0.86			1.00	
Frt					1.00	0.85		1.00			0.97	
Flt Protected					0.99	1.00		0.98			1.00	
Satd. Flow (prot)					2471	159		1381			1432	
Flt Permitted					0.99	1.00		0.86			1.00	
Satd. Flow (perm)					2471	159		1213			1432	
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)	0	0	0	78	322	78	56	78	0	0	67	22
RTOR Reduction (vph)	0	0	0	0	0	42	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	400	36	0	134	0	0	89	0
Confl. Peds. (#/hr)				1245		1700	831					831
Confl. Bikes (#/hr)						158			9			17
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					28.0	28.0		22.0			22.0	
Effective Green, g (s)					28.0	28.0		22.0			22.0	
Actuated g/C Ratio					0.47	0.47		0.37			0.37	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1153	74		445			525	
v/s Ratio Prot											0.06	
v/s Ratio Perm					0.16	c0.23		c0.11				
v/c Ratio					0.35	0.49		0.30			0.17	
Uniform Delay, d1					10.2	11.1		13.5			12.8	
Progression Factor					1.00	1.00		0.15			1.00	
Incremental Delay, d2					0.8	21.5		1.1			0.7	
Delay (s)					11.0	32.6		3.1			13.5	
Level of Service					B	C		A			B	
Approach Delay (s)		0.0			14.5			3.1			13.5	
Approach LOS		A			B			A			B	

Intersection Summary			
HCM Average Control Delay	12.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	45.0%	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												
Volume (vph)	0	0	0	290	310	40	180	50	0	0	80	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.92		1.00	1.00			0.92	
Flpb, ped/bikes				1.00	1.00		0.65	1.00			1.00	
Frt				1.00	0.98		1.00	1.00			0.97	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	2813		1008	1637			1463	
Flt Permitted				0.95	1.00		0.68	1.00			1.00	
Satd. Flow (perm)				1555	2813		726	1637			1463	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	0	326	348	45	202	56	0	0	90	22
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	326	385	0	202	56	0	0	112	0
Confl. Peds. (#/hr)						1700	585					585
Confl. Bikes (#/hr)						113			6			3
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				38.4	38.4		12.3	12.3			12.3	
Effective Green, g (s)				38.4	38.4		12.3	12.3			12.3	
Actuated g/C Ratio				0.64	0.64		0.21	0.21			0.21	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				995	1800		149	336			300	
v/s Ratio Prot				c0.21	0.14			0.03			0.08	
v/s Ratio Perm							c0.28					
v/c Ratio				0.33	0.21		1.36	0.17			0.37	
Uniform Delay, d1				4.9	4.5		23.9	19.6			20.5	
Progression Factor				1.00	1.00		0.84	0.78			1.00	
Incremental Delay, d2				0.9	0.3		197.4	1.1			3.5	
Delay (s)				5.8	4.8		217.4	16.4			24.1	
Level of Service				A	A		F	B			C	
Approach Delay (s)		0.0			5.2			173.8			24.1	
Approach LOS		A			A			F			C	

Intersection Summary			
HCM Average Control Delay	47.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	322	110	20	526	40	30
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	350	120	22	572	43	33
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	306					
pX, platoon unblocked						
vC, conflicting volume			870		1825	1035
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			870		1825	1035
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		0	71
cM capacity (veh/h)			540		32	111

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	233	236	593	76
Volume Left	0	0	22	43
Volume Right	0	120	0	33
cSH	1700	1700	540	46
Volume to Capacity	0.14	0.14	0.04	1.65
Queue Length 95th (ft)	0	0	3	188
Control Delay (s)	0.0	0.0	1.1	511.5
Lane LOS			A	F
Approach Delay (s)	0.0		1.1	511.5
Approach LOS				F

Intersection Summary			
Average Delay	34.8		
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	202	37	7	676	10	48	100	46	20	70	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	
Lane Util. Factor		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.42		0.99			0.88			0.84	
Flpb, ped/bikes		1.00	1.00		1.00			0.91			0.95	
Frt		1.00	0.85		1.00			0.97			0.96	
Flt Protected		1.00	1.00		1.00			0.99			0.99	
Satd. Flow (prot)		1637	588		1412			1087			1087	
Flt Permitted		1.00	1.00		1.00			0.89			0.93	
Satd. Flow (perm)		1637	588		1408			979			1021	
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	0	269	49	9	901	13	64	133	61	27	93	53
RTOR Reduction (vph)	0	0	21	0	1	0	0	3	0	0	1	0
Lane Group Flow (vph)	0	269	28	0	922	0	0	255	0	0	172	0
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type			Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases			2	2			4			4		
Actuated Green, G (s)		29.0	29.0		29.0			22.0			22.0	
Effective Green, g (s)		29.0	29.0		29.0			22.0			22.0	
Actuated g/C Ratio		0.48	0.48		0.48			0.37			0.37	
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)		791	284		681			359			374	
v/s Ratio Prot		0.16										
v/s Ratio Perm			0.05		c0.65			c0.26			0.17	
v/c Ratio		0.34	0.10		1.35			0.71			0.46	
Uniform Delay, d1		9.6	8.4		15.5			16.3			14.5	
Progression Factor		1.00	1.00		1.00			0.84			0.77	
Incremental Delay, d2		1.2	0.7		168.8			9.0			4.0	
Delay (s)		10.8	9.1		184.3			22.7			15.1	
Level of Service		B	A		F			C			B	
Approach Delay (s)		10.5			184.3			22.7			15.1	
Approach LOS		B			F			C			B	

Intersection Summary			
HCM Average Control Delay	108.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	94.5%	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												
Volume (vph)	0	232	40	17	540	0	60	0	64	20	40	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
Lane Util. Factor		1.00	1.00		0.95			1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.26		1.00			0.72			1.00	0.67
Flpb, ped/bikes		1.00	1.00		0.99			0.86			0.85	1.00
Frt		1.00	0.85		1.00			0.93			1.00	0.85
Flt Protected		1.00	1.00		1.00			0.98			0.98	1.00
Satd. Flow (prot)		1637	354		3062			914			1373	933
Flt Permitted		1.00	1.00		0.94			0.86			0.92	1.00
Satd. Flow (perm)		1637	354		2881			807			1280	933
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	267	46	20	621	0	69	0	74	23	46	46
RTOR Reduction (vph)	0	0	35	0	0	0	0	0	0	0	0	13
Lane Group Flow (vph)	0	267	11	0	641	0	0	143	0	0	69	33
Confl. Peds. (#/hr)			800	800			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	36.5
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	36.5
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	0.61
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)		396	86		696			491			779	568
v/s Ratio Prot		0.16										
v/s Ratio Perm			0.03		c0.22			c0.18			0.05	0.04
v/c Ratio		0.67	0.13		0.92			0.29			0.09	0.06
Uniform Delay, d1		20.6	17.8		22.2			5.6			4.9	4.8
Progression Factor		0.81	0.50		1.00			0.96			1.00	1.00
Incremental Delay, d2		8.8	3.0		19.5			1.4			0.0	0.0
Delay (s)		25.4	11.9		41.7			6.8			4.9	4.8
Level of Service		C	B		D			A			A	A
Approach Delay (s)		23.4			41.7			6.8			4.9	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM Average Control Delay	29.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	73.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	359	10	70	0	210	0	548	490
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		1.00		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		1.00		1.00			1.00
Flt Protected		1.00		0.95		1.00			0.97
Satd. Flow (prot)		942		1360		1637			3030
Flt Permitted		1.00		0.95		1.00			0.95
Satd. Flow (perm)		942		1360		1637			2970
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	378	11	74	0	221	0	577	516
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	378	0	85	0	221	0	0	1093
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		385		314			891
v/s Ratio Prot						0.14			
v/s Ratio Perm		c0.40		0.06					c0.37
v/c Ratio		0.72		0.22		0.70			1.23
Uniform Delay, d1		9.8		16.4		22.7			21.0
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		8.2		1.3		7.0			112.0
Delay (s)		18.0		17.8		29.6			133.0
Level of Service		B		B		C			F
Approach Delay (s)	18.0			17.8		29.6			133.0
Approach LOS	B			B		C			F

Intersection Summary			
HCM Average Control Delay	90.2	HCM Level of Service	F
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	88.1%	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												
Volume (vph)	40	198	60	50	202	50	50	110	40	40	80	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.95			1.00	0.56	1.00	0.86			0.74	
Flpb, ped/bikes		0.96			1.00	1.00	0.64	1.00			0.93	
Frt		0.97			1.00	0.85	1.00	0.96			0.93	
Flt Protected		0.99			0.99	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1261			1418	681	999	1176			1966	
Flt Permitted		0.93			0.89	1.00	0.59	1.00			0.88	
Satd. Flow (perm)		1184			1269	681	621	1176			1737	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	45	225	68	57	230	57	57	125	45	45	91	125
RTOR Reduction (vph)	0	12	0	0	0	13	0	25	0	0	0	0
Lane Group Flow (vph)	0	326	0	0	287	44	57	145	0	0	261	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		35.8			35.8	35.8	14.1	14.1			14.1	
Effective Green, g (s)		35.8			35.8	35.8	14.1	14.1			14.1	
Actuated g/C Ratio		0.60			0.60	0.60	0.23	0.23			0.23	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		706			757	406	146	276			408	
v/s Ratio Prot								0.12				
v/s Ratio Perm		c0.28			0.23	0.06	0.09				c0.15	
v/c Ratio		0.46			0.38	0.11	0.39	0.52			0.64	
Uniform Delay, d1		6.7			6.3	5.2	19.3	20.0			20.7	
Progression Factor		1.00			1.00	1.00	0.57	0.49			1.00	
Incremental Delay, d2		2.2			1.4	0.5	1.7	1.8			3.3	
Delay (s)		8.9			7.8	5.8	12.8	11.6			23.9	
Level of Service		A			A	A	B	B			C	
Approach Delay (s)		8.9			7.4			11.9			23.9	
Approach LOS		A			A			B			C	

Intersection Summary			
HCM Average Control Delay	12.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	100.0%	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		✣			✣			✣			✣	
Volume (vph)	60	242	50	50	186	30	20	115	100	40	55	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.92			0.94			0.77			0.84	
Flpb, ped/bikes		0.94			0.95			0.97			0.91	
Frt		0.98			0.98			0.94			0.96	
Flt Protected		0.99			0.99			1.00			0.99	
Satd. Flow (prot)		1216			1245			997			1030	
Flt Permitted		0.91			0.89			0.97			0.88	
Satd. Flow (perm)		1111			1112			971			915	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	66	266	55	55	204	33	22	126	110	44	60	44
RTOR Reduction (vph)	0	10	0	0	8	0	0	19	0	0	23	0
Lane Group Flow (vph)	0	377	0	0	284	0	0	239	0	0	125	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		32.6			32.6			18.6			18.6	
Effective Green, g (s)		32.6			32.6			18.6			18.6	
Actuated g/C Ratio		0.54			0.54			0.31			0.31	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		604			604			301			284	
v/s Ratio Prot												
v/s Ratio Perm		c0.34			0.26			c0.25			0.14	
v/c Ratio		0.62			0.47			0.79			0.44	
Uniform Delay, d1		9.5			8.4			18.9			16.5	
Progression Factor		1.00			1.00			0.66			0.83	
Incremental Delay, d2		4.8			2.6			17.2			4.5	
Delay (s)		14.3			11.0			29.6			18.2	
Level of Service		B			B			C			B	
Approach Delay (s)		14.3			11.0			29.6			18.2	
Approach LOS		B			B			C			B	

Intersection Summary			
HCM Average Control Delay	17.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
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												
Volume (vph)	30	212	100	40	132	40	50	53	170	40	60	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.84			1.00	0.46		0.67			0.86	
Flpb, ped/bikes		0.97			0.93	1.00		0.93			0.91	
Frt		0.96			1.00	0.85		0.92			0.96	
Flt Protected		1.00			0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1114			1322	565		808			1074	
Flt Permitted		0.97			0.88	1.00		0.93			0.86	
Satd. Flow (perm)		1084			1176	565		755			938	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	32	228	108	43	142	43	54	57	183	43	65	38
RTOR Reduction (vph)	0	19	0	0	0	19	0	17	0	0	21	0
Lane Group Flow (vph)	0	349	0	0	185	24	0	277	0	0	125	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		31.0			31.0	31.0		21.0			21.0	
Effective Green, g (s)		31.0			31.0	31.0		21.0			21.0	
Actuated g/C Ratio		0.52			0.52	0.52		0.35			0.35	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		560			608	292		264			328	
v/s Ratio Prot												
v/s Ratio Perm		c0.32			0.16	0.04		c0.37			0.13	
v/c Ratio		0.62			0.30	0.08		1.05			0.38	
Uniform Delay, d1		10.3			8.3	7.3		19.5			14.6	
Progression Factor		1.00			0.84	0.74		0.70			0.13	
Incremental Delay, d2		5.2			1.3	0.5		65.5			3.3	
Delay (s)		15.5			8.3	5.9		79.1			5.2	
Level of Service		B			A	A		E			A	
Approach Delay (s)		15.5			7.9			79.1			5.2	
Approach LOS		B			A			E			A	

Intersection Summary			
HCM Average Control Delay	30.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	85.2%	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												
Volume (vph)	30	232	70	20	92	20	20	54	60	20	27	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.48		1.00	0.48		0.75			0.83	
Flpb, ped/bikes		0.95	1.00		0.94	1.00		0.93			0.88	
Frt		1.00	0.85		1.00	0.85		0.94			0.96	
Flt Protected		0.99	1.00		0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1357	573		1337	573		924			1133	
Flt Permitted		0.97	1.00		0.93	1.00		0.96			0.90	
Satd. Flow (perm)		1317	573		1260	573		891			1038	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	34	267	80	23	106	23	23	62	69	23	31	23
RTOR Reduction (vph)	0	0	6	0	0	5	0	30	0	0	17	0
Lane Group Flow (vph)	0	301	74	0	129	18	0	124	0	0	60	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		36.0	36.0		36.0	36.0		16.0			16.0	
Effective Green, g (s)		36.0	36.0		36.0	36.0		16.0			16.0	
Actuated g/C Ratio		0.60	0.60		0.60	0.60		0.27			0.27	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		790	344		756	344		238			277	
v/s Ratio Prot												
v/s Ratio Perm		c0.23	0.13		0.10	0.03		c0.14			0.06	
v/c Ratio		0.38	0.22		0.17	0.05		0.52			0.22	
Uniform Delay, d1		6.2	5.5		5.3	5.0		18.7			17.1	
Progression Factor		0.74	0.68		1.00	1.00		0.81			0.93	
Incremental Delay, d2		0.8	0.9		0.5	0.3		7.0			1.7	
Delay (s)		5.5	4.6		5.8	5.2		22.2			17.6	
Level of Service		A	A		A	A		C			B	
Approach Delay (s)		5.3			5.7			22.2			17.6	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM Average Control Delay	10.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations										
Volume (vph)	30	172	60	30	40	20	379	200	152	848
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				4.0		5.0		5.0	5.0
Lane Util. Factor	1.00				1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.89				0.91		0.78		1.00	1.00
Flpb, ped/bikes	1.00				0.60		1.00		1.00	1.00
Frt	0.88				0.97		0.95		1.00	1.00
Flt Protected	0.99				0.96		1.00		0.95	1.00
Satd. Flow (prot)	1281				845		2295		1555	3110
Flt Permitted	0.99				0.96		1.00		0.95	1.00
Satd. Flow (perm)	1281				845		2295		1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	187	65	33	43	22	412	217	165	922
RTOR Reduction (vph)	12	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	273	0	0	0	98	0	629	0	165	922
Confl. Peds. (#/hr)				400	400	400		400		
Confl. Bikes (#/hr)		30	30			10		30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0
Turn Type				custom					Split	
Protected Phases	4!				8!		6		2	2
Permitted Phases				3						
Actuated Green, G (s)	20.0				46.0		17.0		13.0	13.0
Effective Green, g (s)	20.0				46.0		17.0		13.0	13.0
Actuated g/C Ratio	0.22				0.51		0.19		0.14	0.14
Clearance Time (s)	5.0				4.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	285				432		434		225	449
v/s Ratio Prot	c0.21						c0.27		0.11	c0.30
v/s Ratio Perm					0.12					
v/c Ratio	0.96				0.23		1.45		0.73	2.05
Uniform Delay, d1	34.6				12.2		36.5		36.8	38.5
Progression Factor	1.00				1.15		1.00		0.91	0.94
Incremental Delay, d2	41.7				0.2		214.8		17.3	481.0
Delay (s)	76.3				14.2		251.3		50.8	517.0
Level of Service	E				B		F		D	F
Approach Delay (s)	76.3				14.2		251.3			446.3
Approach LOS	E				B		F			F

Intersection Summary			
HCM Average Control Delay	317.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1010	30	8	683	20	0	62	28	0	102	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.90			0.90	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.96			0.96	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2873			2871			1229			1245	
Flt Permitted		1.00			0.94			1.00			1.00	
Satd. Flow (perm)		2873			2713			1229			1245	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	1052	31	8	711	21	0	65	29	0	106	42
RTOR Reduction (vph)	0	2	0	0	2	0	0	11	0	0	27	0
Lane Group Flow (vph)	0	1081	0	0	738	0	0	83	0	0	121	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type				Perm								
Protected Phases		2			6			8			4	
Permitted Phases				6								
Actuated Green, G (s)		41.3			41.3			9.9			9.9	
Effective Green, g (s)		41.3			41.3			9.9			9.9	
Actuated g/C Ratio		0.69			0.69			0.17			0.17	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1978			1867			203			205	
v/s Ratio Prot		c0.38						0.07			c0.10	
v/s Ratio Perm					0.27							
v/c Ratio		0.55			0.40			0.41			0.59	
Uniform Delay, d1		4.7			4.0			22.4			23.2	
Progression Factor		0.37			1.00			1.00			1.00	
Incremental Delay, d2		0.9			0.1			1.3			4.5	
Delay (s)		2.6			4.1			23.8			27.7	
Level of Service		A			A			C			C	
Approach Delay (s)		2.6			4.1			23.8			27.7	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	5.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	53.5%	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												
Volume (vph)	0	772	167	2	516	40	187	130	82	0	170	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.69		1.00	0.69	1.00	1.00	0.72		0.98	
Flpb, ped/bikes		1.00	1.00		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	0.85		0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3110	959		3109	959	3016	1637	1006		2837	
Flt Permitted		1.00	1.00		0.95	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		3110	959		2965	959	3016	1637	1006		2837	
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)	0	788	170	2	527	41	191	133	84	0	173	10
RTOR Reduction (vph)	0	0	75	0	0	18	0	0	2	0	7	0
Lane Group Flow (vph)	0	788	95	0	529	23	191	133	82	0	176	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type	Perm		Perm	Perm		Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		33.0	33.0		33.0	33.0	4.5	18.0	18.0		9.0	
Effective Green, g (s)		33.0	33.0		33.0	33.0	4.5	18.0	18.0		9.0	
Actuated g/C Ratio		0.55	0.55		0.55	0.55	0.08	0.30	0.30		0.15	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		1711	527		1631	527	226	491	302		426	
v/s Ratio Prot		c0.25					c0.06	0.08			c0.06	
v/s Ratio Perm			0.10		0.18	0.02			0.08			
v/c Ratio		0.46	0.18		0.32	0.04	0.85	0.27	0.27		0.41	
Uniform Delay, d1		8.1	6.7		7.4	6.2	27.4	16.0	16.0		23.1	
Progression Factor		1.00	1.00		0.76	0.62	1.00	1.00	1.00		1.07	
Incremental Delay, d2		0.9	0.7		0.5	0.1	24.0	0.3	0.5		0.6	
Delay (s)		9.0	7.5		6.1	4.0	51.4	16.3	16.5		25.3	
Level of Service		A	A		A	A	D	B	B		C	
Approach Delay (s)		8.8			6.0			32.8			25.3	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	14.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	135	728	531	70	90	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	0.96		0.81	
Flpb, ped/bikes		0.98	1.00		1.00	
Frt		1.00	0.98		0.92	
Flt Protected		0.99	1.00		0.98	
Satd. Flow (prot)		2834	2935		1050	
Flt Permitted		0.76	1.00		0.98	
Satd. Flow (perm)		2165	2935		1050	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	144	774	565	74	96	122
RTOR Reduction (vph)	0	0	18	0	39	0
Lane Group Flow (vph)	0	918	621	0	179	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		34.9	34.9		18.1	
Effective Green, g (s)		34.9	34.9		18.1	
Actuated g/C Ratio		0.58	0.58		0.30	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1259	1707		317	
v/s Ratio Prot			0.21		c0.17	
v/s Ratio Perm		c0.42				
v/c Ratio		0.73	0.36		0.56	
Uniform Delay, d1		9.1	6.7		17.6	
Progression Factor		0.45	1.00		0.84	
Incremental Delay, d2		2.0	0.1		6.6	
Delay (s)		6.1	6.8		21.5	
Level of Service		A	A		C	
Approach Delay (s)		6.1	6.8		21.5	
Approach LOS		A	A		C	

Intersection Summary			
HCM Average Control Delay	8.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	86.2%	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												
Volume (vph)	39	328	50	30	557	150	40	65	50	60	75	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.95			0.92			0.90			0.90	
Flpb, ped/bikes		0.99			0.99			0.95			0.93	
Frt		0.98			0.97			0.96			0.96	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		2680			2563			1148			1126	
Flt Permitted		0.85			0.93			0.89			0.87	
Satd. Flow (perm)		2294			2379			1031			995	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	41	349	53	32	593	160	43	69	53	64	80	69
RTOR Reduction (vph)	0	17	0	0	18	0	0	28	0	0	18	0
Lane Group Flow (vph)	0	426	0	0	767	0	0	137	0	0	195	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		30.6			30.6			20.6			20.6	
Effective Green, g (s)		30.6			30.6			20.6			20.6	
Actuated g/C Ratio		0.51			0.51			0.34			0.34	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1170			1213			354			342	
v/s Ratio Prot												
v/s Ratio Perm		0.19			c0.32			0.13			c0.20	
v/c Ratio		0.36			0.63			0.39			0.57	
Uniform Delay, d1		8.8			10.6			14.9			16.1	
Progression Factor		1.00			0.65			1.00			0.68	
Incremental Delay, d2		0.9			2.4			3.2			6.0	
Delay (s)		9.7			9.4			18.1			17.0	
Level of Service		A			A			B			B	
Approach Delay (s)		9.7			9.4			18.1			17.0	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	11.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	77.5%	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												
Volume (vph)	44	776	40	40	489	50	60	50	70	30	50	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.98			0.96			0.87			0.90	
Flpb, ped/bikes		0.99			0.99			0.92			0.94	
Frt		0.99			0.99			0.95			0.96	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		2811			2746			1068			1148	
Flt Permitted		0.90			0.86			0.86			0.89	
Satd. Flow (perm)		2547			2383			933			1041	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	45	800	41	41	504	52	62	52	72	31	52	38
RTOR Reduction (vph)	0	5	0	0	10	0	0	14	0	0	29	0
Lane Group Flow (vph)	0	881	0	0	587	0	0	173	0	0	93	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		36.1			36.1			15.0			15.0	
Effective Green, g (s)		36.1			36.1			15.0			15.0	
Actuated g/C Ratio		0.60			0.60			0.25			0.25	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1532			1434			233			260	
v/s Ratio Prot												
v/s Ratio Perm		c0.35			0.25			c0.18			0.09	
v/c Ratio		0.58			0.41			0.74			0.36	
Uniform Delay, d1		7.3			6.3			20.7			18.5	
Progression Factor		0.78			1.00			1.00			0.85	
Incremental Delay, d2		1.6			0.2			11.9			0.8	
Delay (s)		7.2			6.5			32.6			16.6	
Level of Service		A			A			C			B	
Approach Delay (s)		7.2			6.5			32.6			16.6	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM Average Control Delay	10.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	84.1%	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												
Volume (vph)	30	759	80	40	477	90	70	10	20	20	20	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			0.95			0.93			0.82	
Flpb, ped/bikes		1.00			1.00			0.79			0.93	
Frt		0.99			0.98			0.97			0.93	
Flt Protected		1.00			1.00			0.97			0.99	
Satd. Flow (prot)		2778			2879			1135			1148	
Flt Permitted		0.91			0.84			0.77			0.92	
Satd. Flow (perm)		2541			2424			905			1067	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	34	853	90	45	536	101	79	11	22	22	22	45
RTOR Reduction (vph)	0	2	0	0	2	0	0	9	0	0	35	0
Lane Group Flow (vph)	0	975	0	0	680	0	0	103	0	0	54	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1753			1673			194			229	
v/s Ratio Prot												
v/s Ratio Perm		c0.38			0.28			c0.11			0.05	
v/c Ratio		0.56			0.41			0.53			0.23	
Uniform Delay, d1		7.0			6.0			31.3			29.2	
Progression Factor		1.00			0.41			1.00			0.20	
Incremental Delay, d2		1.3			0.6			9.9			0.2	
Delay (s)		8.3			3.1			41.3			6.2	
Level of Service		A			A			D			A	
Approach Delay (s)		8.3			3.1			41.3			6.2	
Approach LOS		A			A			D			A	

Intersection Summary			
HCM Average Control Delay	8.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	76.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	50	749	537	949	529	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3009	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3009	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	52	772	554	978	545	52
RTOR Reduction (vph)	0	36	0	0	8	0
Lane Group Flow (vph)	52	736	554	978	589	0
Confl. Peds. (#/hr)						109
Confl. Bikes (#/hr)		10				64
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	21.0	53.7	28.7	59.0	26.3	
Effective Green, g (s)	21.0	53.7	28.7	59.0	26.3	
Actuated g/C Ratio	0.23	0.60	0.32	0.66	0.29	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	363	1461	962	1911	879	
v/s Ratio Prot	0.03	c0.30	c0.18	0.34	c0.20	
v/s Ratio Perm						
v/c Ratio	0.14	0.50	0.58	0.51	0.67	
Uniform Delay, d1	27.4	10.5	25.6	8.0	28.0	
Progression Factor	0.78	0.39	0.78	0.64	0.36	
Incremental Delay, d2	0.2	0.2	0.7	0.8	0.2	
Delay (s)	21.5	4.3	20.7	5.9	10.1	
Level of Service	C	A	C	A	B	
Approach Delay (s)	5.4			11.3	10.1	
Approach LOS	A			B	B	

Intersection Summary			
HCM Average Control Delay	9.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	58.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	90	237	40	0	1478	30	70	18	1178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			0.99			1.00	1.00
Flpb, ped/bikes				0.73			1.00			1.00	1.00
Frt				0.98			0.99			1.00	1.00
Flt Protected				0.96			1.00			0.95	1.00
Satd. Flow (prot)				2041			4392			1555	3110
Flt Permitted				0.96			1.00			0.95	1.00
Satd. Flow (perm)				2041			4392			1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	98	258	43	0	1607	33	76	20	1280
RTOR Reduction (vph)	0	0	0	12	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	0	0	388	0	0	1711	0	0	20	1280
Confl. Peds. (#/hr)			107	139					107		
Confl. Bikes (#/hr)					8				106		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				21.0			52.8			3.2	60.0
Effective Green, g (s)				21.0			52.8			3.2	60.0
Actuated g/C Ratio				0.23			0.59			0.04	0.67
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				476			2577			55	2073
v/s Ratio Prot							c0.39			0.01	c0.41
v/s Ratio Perm				0.19							
v/c Ratio				0.81			0.66			0.36	0.62
Uniform Delay, d1				32.7			12.6			42.4	8.5
Progression Factor				1.00			0.94			1.00	1.00
Incremental Delay, d2				10.3			0.5			1.5	1.4
Delay (s)				42.9			12.3			43.9	9.9
Level of Service				D			B			D	A
Approach Delay (s)	0.0			42.9			12.3				10.4
Approach LOS	A			D			B				B

Intersection Summary			
HCM Average Control Delay	15.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	55.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBL	EBR	EBR2	SEL	SET	SER2	NWL2	NWL	NWT	NWR	SWR2
Lane Configurations												
Volume (vph)	31	0	0	160	20	1000	228	39	0	1137	30	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5		7.0	7.0	7.0		7.0	7.0		
Lane Util. Factor		1.00	1.00		1.00	0.95	1.00		1.00	0.95		
Frpb, ped/bikes		1.00	0.86		1.00	1.00	0.96		1.00	0.98		
Flpb, ped/bikes		1.00	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	1.00		
Flt Protected		0.95	1.00		0.95	1.00	1.00		0.95	1.00		
Satd. Flow (prot)		1555	1052		1555	3110	1334		1555	3049		
Flt Permitted		0.95	1.00		0.15	1.00	1.00		0.21	1.00		
Satd. Flow (perm)		1555	1052		244	3110	1334		340	3049		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	34	0	0	174	22	1087	248	42	0	1236	33	0
RTOR Reduction (vph)	0	0	126	0	0	0	116	0	0	2	0	0
Lane Group Flow (vph)	0	34	48	0	22	1087	132	0	42	1267	0	0
Confl. Peds. (#/hr)				130							1000	100
Confl. Bikes (#/hr)			10	10			30				30	10
Parking (#/hr)			5	5								
Turn Type	Perm		Perm		Perm		Perm	Perm	Perm			custom
Protected Phases		4				6				2		
Permitted Phases	4		4		6		6	2	2			8
Actuated Green, G (s)		18.0	18.0		34.5	34.5	34.5		34.5	34.5		
Effective Green, g (s)		18.0	18.0		34.5	34.5	34.5		34.5	34.5		
Actuated g/C Ratio		0.28	0.28		0.53	0.53	0.53		0.53	0.53		
Clearance Time (s)		5.5	5.5		7.0	7.0	7.0		7.0	7.0		
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)		431	291		130	1651	708		180	1618		
v/s Ratio Prot						0.35				c0.42		
v/s Ratio Perm		0.02	c0.05		0.09		0.10		0.12			
v/c Ratio		0.08	0.17		0.17	0.66	0.19		0.23	0.78		
Uniform Delay, d1		17.4	17.8		7.9	11.0	7.9		8.2	12.2		
Progression Factor		1.00	1.00		1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2		0.1	0.3		2.8	2.1	0.6		3.0	3.9		
Delay (s)		17.5	18.1		10.7	13.1	8.5		11.2	16.1		
Level of Service		B	B		B	B	A		B	B		
Approach Delay (s)		18.0				12.2				15.9		
Approach LOS		B				B				B		

Intersection Summary			
HCM Average Control Delay	14.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	81.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	30	0	20	0	0	0	60	1177	0	0	30	1131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.87					1.00	1.00				0.99
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.95					1.00	1.00				1.00
Flt Protected		0.97					0.95	1.00				1.00
Satd. Flow (prot)		1140					1555	3110				3056
Flt Permitted		0.97					0.95	1.00				0.89
Satd. Flow (perm)		1140					1555	3110				2721
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	32	0	21	0	0	0	64	1252	0	0	32	1203
RTOR Reduction (vph)	0	3	0	0	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	0	50	0	0	0	0	64	1252	0	0	0	1266
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		6.9					4.0	74.1				65.1
Effective Green, g (s)		6.9					4.0	74.1				65.1
Actuated g/C Ratio		0.08					0.04	0.82				0.72
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		87					69	2561				1968
v/s Ratio Prot		c0.04					c0.04	0.40				
v/s Ratio Perm												c0.47
v/c Ratio		0.58					0.93	0.49				0.64
Uniform Delay, d1		40.1					42.9	2.4				6.4
Progression Factor		1.00					0.88	0.43				1.00
Incremental Delay, d2		9.0					77.5	0.6				1.6
Delay (s)		49.1					115.1	1.6				8.1
Level of Service		D					F	A				A
Approach Delay (s)		49.1			0.0			7.1				8.1
Approach LOS		D			A			A				A

Intersection Summary			
HCM Average Control Delay	8.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	93.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	30
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	32
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	93	556	0	0	512	40	150	150	20	0	0	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				
Lane Util. Factor		0.95			0.95			0.95				
Frpb, ped/bikes		1.00			0.98			0.98				
Flpb, ped/bikes		0.98			1.00			0.85				
Frt		1.00			0.99			0.99				
Flt Protected		0.99			1.00			0.98				
Satd. Flow (prot)		2811			2788			2331				
Flt Permitted		0.78			1.00			0.98				
Satd. Flow (perm)		2211			2788			2331				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	99	591	0	0	545	43	160	160	21	0	0	0
RTOR Reduction (vph)	0	0	0	0	7	0	0	6	0	0	0	0
Lane Group Flow (vph)	0	690	0	0	581	0	0	335	0	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm					
Protected Phases		2			6			8				
Permitted Phases	2						8					
Actuated Green, G (s)		43.5			43.5			27.5				
Effective Green, g (s)		43.5			43.5			27.5				
Actuated g/C Ratio		0.54			0.54			0.34				
Clearance Time (s)		4.5			4.5			4.5				
Vehicle Extension (s)		3.0			3.0			3.0				
Lane Grp Cap (vph)		1202			1516			801				
v/s Ratio Prot					0.21							
v/s Ratio Perm		c0.31						0.14				
v/c Ratio		0.57			0.38			0.42				
Uniform Delay, d1		12.1			10.5			20.1				
Progression Factor		1.00			0.29			1.00				
Incremental Delay, d2		2.0			0.6			1.6				
Delay (s)		14.1			3.7			21.7				
Level of Service		B			A			C				
Approach Delay (s)		14.1			3.7			21.7			0.0	
Approach LOS		B			A			C			A	

Intersection Summary			
HCM Average Control Delay	11.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	95.4%	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												
Volume (vph)	0	416	180	50	447	0	0	0	0	20	303	105
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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.90			1.00						0.94	
Flpb, ped/bikes		1.00			0.99						0.99	
Frt		0.95			1.00						0.96	
Flt Protected		1.00			0.99						1.00	
Satd. Flow (prot)		2674			3060						2617	
Flt Permitted		1.00			0.77						1.00	
Satd. Flow (perm)		2674			2377						2617	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	447	194	54	481	0	0	0	0	22	326	113
RTOR Reduction (vph)	0	49	0	0	0	0	0	0	0	0	37	0
Lane Group Flow (vph)	0	592	0	0	535	0	0	0	0	0	424	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		24.6			24.6						46.4	
Effective Green, g (s)		24.6			24.6						46.4	
Actuated g/C Ratio		0.31			0.31						0.58	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		822			731						1518	
v/s Ratio Prot		0.22										
v/s Ratio Perm					c0.23						0.16	
v/c Ratio		0.72			0.73						0.28	
Uniform Delay, d1		24.6			24.8						8.4	
Progression Factor		0.49			1.00						1.00	
Incremental Delay, d2		2.6			3.8						0.5	
Delay (s)		14.6			28.5						8.9	
Level of Service		B			C						A	
Approach Delay (s)		14.6			28.5			0.0			8.9	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM Average Control Delay	17.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	85.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	66	330	490	1180	0	984	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.66	1.00	1.00		0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		0.99	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	914	3016	3110		3002	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	914	3016	3110		3002	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	66	330	490	1180	0	984	77
RTOR Reduction (vph)	0	283	0	0	0	6	0
Lane Group Flow (vph)	66	47	490	1180	0	1055	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	12.7	12.7	21.0	66.3		39.3	
Effective Green, g (s)	12.7	12.7	21.0	66.3		39.3	
Actuated g/C Ratio	0.14	0.14	0.23	0.74		0.44	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	219	129	704	2291		1311	
v/s Ratio Prot	0.04		c0.16	0.38		c0.35	
v/s Ratio Perm		c0.05					
v/c Ratio	0.30	0.36	0.70	0.52		0.81	
Uniform Delay, d1	34.7	35.0	31.6	5.0		22.0	
Progression Factor	1.00	1.00	1.00	1.00		0.69	
Incremental Delay, d2	0.8	1.7	3.0	0.8		4.2	
Delay (s)	35.4	36.7	34.6	5.9		19.4	
Level of Service	D	D	C	A		B	
Approach Delay (s)	36.5			14.3		19.4	
Approach LOS	D			B		B	

Intersection Summary			
HCM Average Control Delay	18.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	95.3%	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												
Volume (vph)	20	227	10	6	124	20	10	80	13	30	110	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
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.43		1.00	0.66		0.96			1.00	0.46
Flpb, ped/bikes		0.98	1.00		0.98	1.00		0.96			0.95	1.00
Frt		1.00	0.85		1.00	0.85		0.98			1.00	0.85
Flt Protected		1.00	1.00		1.00	1.00		1.00			0.99	1.00
Satd. Flow (prot)		1594	600		1606	917		1470			1531	644
Flt Permitted		0.98	1.00		0.99	1.00		0.96			0.93	1.00
Satd. Flow (perm)		1566	600		1593	917		1418			1433	644
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	21	241	11	6	132	21	11	85	14	32	117	11
RTOR Reduction (vph)	0	0	4	0	0	7	0	6	0	0	0	8
Lane Group Flow (vph)	0	262	7	0	138	14	0	104	0	0	149	3
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		40.8	40.8		40.8	40.8		10.2			10.2	10.2
Effective Green, g (s)		40.8	40.8		40.8	40.8		10.2			10.2	10.2
Actuated g/C Ratio		0.68	0.68		0.68	0.68		0.17			0.17	0.17
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)		1065	408		1083	624		241			244	109
v/s Ratio Prot												
v/s Ratio Perm		c0.17	0.01		0.09	0.02		0.07			c0.10	0.00
v/c Ratio		0.25	0.02		0.13	0.02		0.43			0.61	0.02
Uniform Delay, d1		3.7	3.1		3.4	3.1		22.3			23.1	20.8
Progression Factor		1.00	1.00		0.27	0.05		1.21			1.03	1.17
Incremental Delay, d2		0.1	0.0		0.1	0.0		0.9			4.3	0.1
Delay (s)		3.8	3.1		1.0	0.2		28.0			28.1	24.4
Level of Service		A	A		A	A		C			C	C
Approach Delay (s)		3.8			0.9			28.0			27.8	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	12.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	1804	30	290	200	40	60	20	10	10	10	190	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.35		0.64	1.00	0.95			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.74	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	559	3110	480		904	1555	1315			1148	1172
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.98	1.00
Satd. Flow (perm)	3110	559	3110	480		904	1555	1315			1180	1172
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	2027	34	326	225	45	67	22	11	11	11	213	22
RTOR Reduction (vph)	0	4	0	101	0	2	0	9	0	0	0	17
Lane Group Flow (vph)	2027	30	326	169	0	65	22	13	0	0	224	5
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	47.0	47.0	47.0	47.0		16.0	16.0	16.0			16.0	16.0
Effective Green, g (s)	47.0	47.0	47.0	47.0		16.0	16.0	16.0			16.0	16.0
Actuated g/C Ratio	0.63	0.63	0.63	0.63		0.21	0.21	0.21			0.21	0.21
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1949	350	1949	301		193	332	281			252	250
v/s Ratio Prot	c0.65		0.10									
v/s Ratio Perm		0.05		0.35		0.07	0.01	0.01			c0.19	0.00
v/c Ratio	1.04	0.08	0.17	0.56		0.34	0.07	0.05			0.89	0.02
Uniform Delay, d1	14.0	5.5	5.8	8.1		25.0	23.5	23.4			28.6	23.3
Progression Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	31.7	0.5	0.2	7.4		4.7	0.4	0.3			34.0	0.1
Delay (s)	45.7	6.0	6.0	15.5		29.7	23.9	23.8			62.6	23.4
Level of Service	D	A	A	B		C	C	C			E	C
Approach Delay (s)	45.0		10.3								59.1	
Approach LOS	D		B								E	

Intersection Summary			
HCM Average Control Delay	38.6	HCM Level of Service	D
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	86.2%	ICU Level of Service	E
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	1834	60	20	440	90	59
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1951	64	21	468	96	63

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	1301	714	177	312	159
Volume Left (vph)	0	0	21	0	96
Volume Right (vph)	0	64	0	0	63
Hadj (s)	0.02	-0.05	0.08	0.02	-0.10
Departure Headway (s)	5.8	5.7	6.7	6.7	6.5
Degree Utilization, x	2.09	1.13	0.33	0.58	0.29
Capacity (veh/h)	626	635	528	535	538
Control Delay (s)	507.1	99.0	11.8	17.2	12.1
Approach Delay (s)	362.4		15.2		12.1
Approach LOS	F		C		B

Intersection Summary			
Delay	277.8		
HCM Level of Service	F		
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	1624	230	20	10	360	20	10	10	10	20	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4				5.4		4.0			5.0	5.0
Lane Util. Factor		0.95				0.95		1.00			1.00	1.00
Frpb, ped/bikes		0.92				0.98		0.78			1.00	0.55
Flpb, ped/bikes		1.00				1.00		1.00			1.00	1.00
Frt		0.98				0.99		0.86			1.00	0.85
Flt Protected		1.00				1.00		1.00			0.98	1.00
Satd. Flow (prot)		2633				3019		1106			1597	768
Flt Permitted		0.94				0.76		1.00			0.98	1.00
Satd. Flow (perm)		2482				2291		1106			1597	768
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	1765	250	22	11	391	22	11	11	11	22	22
RTOR Reduction (vph)	0	1	0	0	0	5	0	0	0	0	0	19
Lane Group Flow (vph)	0	2069	0	0	0	419	0	11	0	0	44	3
Confl. Peds. (#/hr)	400		400	400	400		400	400	400	400		400
Confl. Bikes (#/hr)			30	30			30	10				10
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm			Free	Split	Split		Perm
Protected Phases		2				6			4	4	4	
Permitted Phases	2				6			Free				4
Actuated Green, G (s)		41.6				41.6		75.0			9.0	9.0
Effective Green, g (s)		41.6				41.6		75.0			9.0	9.0
Actuated g/C Ratio		0.55				0.55		1.00			0.12	0.12
Clearance Time (s)		5.4				5.4					5.0	5.0
Lane Grp Cap (vph)		1377				1271		1106			192	92
v/s Ratio Prot											c0.03	
v/s Ratio Perm		c0.83				0.18		0.01				0.00
v/c Ratio		1.50				0.33		0.01			0.23	0.03
Uniform Delay, d1		16.7				9.1		0.0			29.9	29.1
Progression Factor		1.00				0.85		1.00			1.00	1.00
Incremental Delay, d2		230.0				0.7		0.0			2.8	0.6
Delay (s)		246.7				8.4		0.0			32.6	29.7
Level of Service		F				A		A			C	C
Approach Delay (s)		246.7				8.4					31.7	
Approach LOS		F				A					C	

Intersection Summary			
HCM Average Control Delay	192.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	123.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	NWL	NWR	NWR2
Lane Configurations			
Volume (vph)	90	20	10
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)	5.0		5.0
Lane Util. Factor	0.97		1.00
Frpb, ped/bikes	0.86		0.55
Flpb, ped/bikes	1.00		1.00
Frt	0.97		0.85
Flt Protected	0.96		1.00
Satd. Flow (prot)	2560		768
Flt Permitted	0.96		1.00
Satd. Flow (perm)	2560		768
Peak-hour factor, PHF	0.92	0.92	0.92
Adj. Flow (vph)	98	22	11
RTOR Reduction (vph)	0	0	1
Lane Group Flow (vph)	120	0	10
Confl. Peds. (#/hr)	400	400	400
Confl. Bikes (#/hr)		10	10
Parking (#/hr)			
Turn Type			Perm
Protected Phases	8		
Permitted Phases			8
Actuated Green, G (s)	9.0		9.0
Effective Green, g (s)	9.0		9.0
Actuated g/C Ratio	0.12		0.12
Clearance Time (s)	5.0		5.0
Lane Grp Cap (vph)	307		92
v/s Ratio Prot	c0.05		
v/s Ratio Perm			0.01
v/c Ratio	0.39		0.11
Uniform Delay, d1	30.5		29.4
Progression Factor	1.00		1.00
Incremental Delay, d2	3.7		2.4
Delay (s)	34.2		31.8
Level of Service	C		C
Approach Delay (s)	34.0		
Approach LOS	C		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1614	30	10	340	60	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.99			1.00	0.89	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	1.00			1.00	0.95	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2888			3103	1344	
Flt Permitted	1.00			0.90	0.97	
Satd. Flow (perm)	2888			2789	1344	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1699	32	11	358	63	32
RTOR Reduction (vph)	2	0	0	0	2	0
Lane Group Flow (vph)	1729	0	0	369	93	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1733			1673	403	
v/s Ratio Prot	c0.60				c0.07	
v/s Ratio Perm				0.13		
v/c Ratio	1.00			0.22	0.23	
Uniform Delay, d1	15.0			6.9	19.7	
Progression Factor	0.09			1.00	1.00	
Incremental Delay, d2	6.0			0.3	1.3	
Delay (s)	7.4			7.2	21.1	
Level of Service	A			A	C	
Approach Delay (s)	7.4			7.2	21.1	
Approach LOS	A			A	C	

Intersection Summary			
HCM Average Control Delay	8.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	76.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	1604	10	10	330	10	10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1706	11	11	351	11	11

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	1138	579	128	234	21
Volume Left (vph)	0	0	11	0	11
Volume Right (vph)	0	11	0	0	11
Hadj (s)	0.02	0.00	0.06	0.02	-0.18
Departure Headway (s)	5.0	4.9	6.0	6.0	6.2
Degree Utilization, x	1.57	0.80	0.21	0.39	0.04
Capacity (veh/h)	722	718	579	588	559
Control Delay (s)	274.4	23.1	9.5	11.6	9.4
Approach Delay (s)	189.6		10.8		9.4
Approach LOS	F		B		A

Intersection Summary			
Delay	157.0		
HCM Level of Service	F		
Intersection Capacity Utilization	69.7%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR2
Lane Configurations												
Volume (vph)	36	1488	30	10	330	92	50	30	50	20	20	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5	5.5		5.5		5.5	5.5	5.5
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	1.00
Frpb, ped/bikes		0.99			1.00	0.66		0.87		1.00	1.00	0.65
Flpb, ped/bikes		1.00			1.00	1.00		0.88		0.74	0.98	1.00
Frt		1.00			1.00	0.85		0.95		1.00	1.00	0.85
Flt Protected		1.00			1.00	1.00		0.98		0.95	1.00	1.00
Satd. Flow (prot)		2847			3110	808		1012		1097	1512	911
Flt Permitted		0.94			1.00	1.00		0.88		0.67	0.98	1.00
Satd. Flow (perm)		2674			3110	808		908		774	1490	911
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)	37	1518	31	10	337	94	51	31	51	20	20	10
RTOR Reduction (vph)	0	0	0	0	0	4	0	5	0	0	0	8
Lane Group Flow (vph)	0	1596	0	0	337	90	0	128	0	18	22	3
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10	10		10			10			10
Parking (#/hr)		5	5	5		5	5	5	5			
Turn Type	Perm					Perm	Perm			Perm		Perm
Protected Phases		2			6			8			4	
Permitted Phases	2				6	6	8			4		4
Actuated Green, G (s)		56.5			56.5	56.5		22.5		22.5	22.5	22.5
Effective Green, g (s)		56.5			56.5	56.5		22.5		22.5	22.5	22.5
Actuated g/C Ratio		0.63			0.63	0.63		0.25		0.25	0.25	0.25
Clearance Time (s)		5.5			5.5	5.5		5.5		5.5	5.5	5.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		1679			1952	507		227		194	373	228
v/s Ratio Prot					0.11							
v/s Ratio Perm		c0.60				0.11		c0.14		0.02	0.01	0.00
v/c Ratio		0.95			0.17	0.18		0.56		0.09	0.06	0.01
Uniform Delay, d1		15.5			7.0	7.0		29.5		25.9	25.7	25.4
Progression Factor		1.00			0.57	0.54		1.00		1.00	1.00	1.00
Incremental Delay, d2		13.0			0.2	0.8		9.7		0.2	0.1	0.0
Delay (s)		28.4			4.2	4.6		39.2		26.1	25.8	25.4
Level of Service		C			A	A		D		C	C	C
Approach Delay (s)		28.4			4.3			39.2			25.8	
Approach LOS		C			A			D			C	

Intersection Summary			
HCM Average Control Delay	24.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	128.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	NER2
Lane Configurations	
Volume (vph)	30
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frpb, ped/bikes	0.78
Flpb, ped/bikes	1.00
Frt	0.86
Flt Protected	1.00
Satd. Flow (prot)	967
Flt Permitted	1.00
Satd. Flow (perm)	967
Peak-hour factor, PHF	0.98
Adj. Flow (vph)	31
RTOR Reduction (vph)	0
Lane Group Flow (vph)	31
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	10
Parking (#/hr)	5
Turn Type	Free
Protected Phases	
Permitted Phases	Free
Actuated Green, G (s)	90.0
Effective Green, g (s)	90.0
Actuated g/C Ratio	1.00
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	967
v/s Ratio Prot	
v/s Ratio Perm	0.03
v/c Ratio	0.03
Uniform Delay, d1	0.0
Progression Factor	1.00
Incremental Delay, d2	0.1
Delay (s)	0.1
Level of Service	A
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	1548	0	0	432	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1665	0	0	465	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	1665	0	0	465	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)		30				30
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		76.0			76.0	
Effective Green, g (s)		76.0			76.0	
Actuated g/C Ratio		0.84			0.84	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		2067			2547	
v/s Ratio Prot		c0.68			0.15	
v/s Ratio Perm						
v/c Ratio		0.81			0.18	
Uniform Delay, d1		3.4			1.3	
Progression Factor		1.12			1.03	
Incremental Delay, d2		1.6			0.2	
Delay (s)		5.4			1.5	
Level of Service		A			A	
Approach Delay (s)	5.4			0.0	1.5	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	4.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	64.3%	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												
Volume (vph)	10	370	90	80	200	10	80	90	230	30	100	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.88		1.00	0.97			1.00	0.62		1.00	0.37
Flpb, ped/bikes		0.99		0.74	1.00			0.76	1.00		0.93	1.00
Frt		0.97		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.99	1.00
Satd. Flow (prot)		2618		1153	1376			1030	844		1507	508
Flt Permitted		0.95		0.36	1.00			0.82	1.00		0.92	1.00
Satd. Flow (perm)		2480		435	1376			865	844		1401	508
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)	11	389	95	84	211	11	84	95	242	32	105	21
RTOR Reduction (vph)	0	27	0	0	2	0	0	0	6	0	0	8
Lane Group Flow (vph)	0	468	0	84	220	0	0	179	236	0	137	13
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		23.8		23.8	23.8			56.2	56.2		56.2	56.2
Effective Green, g (s)		23.8		23.8	23.8			56.2	56.2		56.2	56.2
Actuated g/C Ratio		0.26		0.26	0.26			0.62	0.62		0.62	0.62
Clearance Time (s)		5.5		5.5	5.5			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)		656		115	364			540	527		875	317
v/s Ratio Prot					0.16							
v/s Ratio Perm		0.19		c0.19				0.21	c0.28		0.10	0.03
v/c Ratio		0.71		0.73	0.60			0.33	0.45		0.16	0.04
Uniform Delay, d1		30.0		30.2	29.0			8.0	8.8		7.0	6.5
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		3.7		21.0	2.8			1.6	2.7		0.4	0.2
Delay (s)		33.7		51.2	31.8			9.6	11.6		7.4	6.8
Level of Service		C		D	C			A	B		A	A
Approach Delay (s)		33.7			37.1			10.7			7.3	
Approach LOS		C			D			B			A	

Intersection Summary			
HCM Average Control Delay	24.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	67.2%	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												
Volume (vph)	0	450	110	20	180	472	90	0	40	1378	110	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.98			1.00	0.96		0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		0.99		1.00	1.00	
Frt		0.97			1.00	0.85		0.96		1.00	1.00	
Flt Protected		1.00			0.99	1.00		0.97		0.95	0.96	
Satd. Flow (prot)		2786			1622	2362		1308		1477	1488	
Flt Permitted		1.00			0.65	1.00		0.19		0.67	0.67	
Satd. Flow (perm)		2786			1054	2362		262		1044	1039	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	464	113	21	186	487	93	0	41	1421	113	10
RTOR Reduction (vph)	0	24	0	0	0	0	0	16	0	0	1	0
Lane Group Flow (vph)	0	553	0	0	207	487	0	118	0	767	777	0
Confl. Peds. (#/hr)	50			50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		17.0			17.0	65.5		17.5		45.0	45.0	
Effective Green, g (s)		17.0			17.0	65.5		17.5		45.0	45.0	
Actuated g/C Ratio		0.19			0.19	0.73		0.19		0.50	0.50	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		526			199	1719		51		522	520	
v/s Ratio Prot		c0.20										
v/s Ratio Perm					0.20	0.21		c0.45		0.73	c0.75	
v/c Ratio		1.05			1.04	0.28		2.31		1.47	1.49	
Uniform Delay, d1		36.5			36.5	4.2		36.2		22.5	22.5	
Progression Factor		1.00			1.00	1.00		1.00		0.91	0.91	
Incremental Delay, d2		53.7			74.7	0.4		646.9		218.2	228.8	
Delay (s)		90.2			111.2	4.6		683.2		238.6	249.1	
Level of Service		F			F	A		F		F	F	
Approach Delay (s)		90.2			36.4			683.2			243.9	
Approach LOS		F			D			F			F	

Intersection Summary			
HCM Average Control Delay	185.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	88.4%	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												
Volume (vph)	20	1448	30	60	542	20	129	60	287	30	30	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Lane Util. Factor		0.95			0.95	1.00		0.95			1.00	1.00
Frpb, ped/bikes		0.99			1.00	0.62		0.77			1.00	0.62
Flpb, ped/bikes		1.00			1.00	1.00		0.91			0.92	1.00
Frt		1.00			1.00	0.85		0.91			1.00	0.85
Flt Protected		1.00			1.00	1.00		0.99			0.98	1.00
Satd. Flow (prot)		3069			3094	754		1825			1476	860
Flt Permitted		0.94			0.64	1.00		0.85			0.75	1.00
Satd. Flow (perm)		2896			1991	754		1565			1129	860
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	21	1508	31	62	565	21	134	62	299	31	31	31
RTOR Reduction (vph)	0	2	0	0	0	9	0	3	0	0	0	20
Lane Group Flow (vph)	0	1558	0	0	627	12	0	492	0	0	62	11
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Actuated Green, G (s)		51.3			51.3	51.3		31.7			31.7	31.7
Effective Green, g (s)		51.3			51.3	51.3		31.7			31.7	31.7
Actuated g/C Ratio		0.57			0.57	0.57		0.35			0.35	0.35
Clearance Time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)		1651			1135	430		551			398	303
v/s Ratio Prot												
v/s Ratio Perm		c0.54			0.31	0.02		c0.31			0.05	0.01
v/c Ratio		0.94			0.55	0.03		0.97dr			0.16	0.04
Uniform Delay, d1		18.0			12.1	8.5		27.6			20.0	19.1
Progression Factor		1.00			0.48	0.28		1.00			1.00	1.00
Incremental Delay, d2		11.4			0.6	0.0		19.5			0.8	0.2
Delay (s)		29.4			6.4	2.4		47.1			20.8	19.3
Level of Service		C			A	A		D			C	B
Approach Delay (s)		29.4			6.2			47.1			20.3	
Approach LOS		C			A			D			C	

Intersection Summary			
HCM Average Control Delay	26.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	106.4%	ICU Level of Service	G
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	1585	150	0	483	30	81	291	189	10	140	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.95		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.80		0.99		1.00	0.86			0.88	
Flpb, ped/bikes		1.00	1.00		1.00		0.74	1.00			0.99	
Frt		1.00	0.85		0.99		1.00	0.94			0.95	
Flt Protected		1.00	1.00		1.00		0.95	1.00			1.00	
Satd. Flow (prot)		3104	974		3047		1155	3603			3728	
Flt Permitted		0.94	1.00		1.00		0.60	1.00			0.91	
Satd. Flow (perm)		2935	974		3047		733	3603			3404	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	21	1651	156	0	503	31	84	303	197	10	146	73
RTOR Reduction (vph)	0	0	1	0	0	0	0	5	0	0	56	0
Lane Group Flow (vph)	0	1672	155	0	534	0	84	495	0	0	173	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm				Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4				2			6		
Actuated Green, G (s)		59.5	59.5		59.5		20.5	20.5			20.5	
Effective Green, g (s)		59.5	59.5		59.5		20.5	20.5			20.5	
Actuated g/C Ratio		0.66	0.66		0.66		0.23	0.23			0.23	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1940	644		2014		167	821			775	
v/s Ratio Prot					0.18			c0.14				
v/s Ratio Perm		c0.57	0.16				0.11				0.05	
v/c Ratio		0.86	0.24		0.26		0.50	0.60			0.22	
Uniform Delay, d1		12.0	6.1		6.3		30.3	31.1			28.3	
Progression Factor		0.31	0.44		1.88		1.00	1.00			1.00	
Incremental Delay, d2		1.7	0.1		0.1		10.4	3.3			0.7	
Delay (s)		5.3	2.8		11.8		40.7	34.4			28.9	
Level of Service		A	A		B		D	C			C	
Approach Delay (s)		5.1			11.8			35.3			28.9	
Approach LOS		A			B			D			C	

Intersection Summary			
HCM Average Control Delay	13.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	108.5%	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												
Volume (vph)	0	2488	220	0	1490	60	140	149	40	90	110	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.97			0.99		1.00	0.93		1.00	0.91	
Flpb, ped/bikes		1.00			1.00		0.74	1.00		0.77	1.00	
Frt		0.99			0.99		1.00	0.97		1.00	0.96	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4283			4197		1157	1476		1191	1255	
Flt Permitted		1.00			1.00		0.65	1.00		0.59	1.00	
Satd. Flow (perm)		4283			4197		793	1476		736	1255	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	2565	227	0	1536	62	144	154	41	93	113	41
RTOR Reduction (vph)	0	8	0	0	5	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	2784	0	0	1593	0	144	195	0	93	151	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2475			2425		242	451		225	383	
v/s Ratio Prot		c0.65			0.38			0.13			0.12	
v/s Ratio Perm							c0.18			0.13		
v/c Ratio		1.12			0.66		0.60	0.43		0.41	0.39	
Uniform Delay, d1		19.0			12.9		26.5	25.0		24.8	24.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		62.1			1.4		10.3	3.0		5.5	3.0	
Delay (s)		81.1			14.3		36.9	28.0		30.4	27.7	
Level of Service		F			B		D	C		C	C	
Approach Delay (s)		81.1			14.3			31.8			28.7	
Approach LOS		F			B			C			C	

Intersection Summary			
HCM Average Control Delay	53.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	104.5%	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												
Volume (vph)	0	2428	110	0	1320	70	90	130	60	90	130	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			1.00	
Frpb, ped/bikes		0.98			0.98		1.00	0.90			0.95	
Flpb, ped/bikes		1.00			1.00		0.82	1.00			0.92	
Frt		0.99			0.99		1.00	0.95			0.98	
Flt Protected		1.00			1.00		0.95	1.00			0.98	
Satd. Flow (prot)		4370			4355		1280	1397			1378	
Flt Permitted		1.00			1.00		0.52	1.00			0.74	
Satd. Flow (perm)		4370			4355		695	1397			1041	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	2639	120	0	1435	76	98	141	65	98	141	43
RTOR Reduction (vph)	0	5	0	0	6	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	2754	0	0	1505	0	98	206	0	0	278	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2588			2579		208	418			311	
v/s Ratio Prot		c0.63			0.35			0.15				
v/s Ratio Perm							0.14				c0.27	
v/c Ratio		1.06			0.58		0.47	0.49			0.89	
Uniform Delay, d1		18.4			11.4		25.7	25.9			30.2	
Progression Factor		1.00			1.62		1.00	1.00			1.00	
Incremental Delay, d2		37.7			0.8		7.5	4.1			29.9	
Delay (s)		56.0			19.4		33.2	30.1			60.0	
Level of Service		E			B		C	C			E	
Approach Delay (s)		56.0			19.4			31.1			60.0	
Approach LOS		E			B			C			E	

Intersection Summary			
HCM Average Control Delay	43.3	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	112.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	2128	200	0	1350	50	80	80	30	50	150	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.97			0.99			0.95			0.96	
Flpb, ped/bikes		1.00			1.00			0.92			0.95	
Frt		0.99			0.99			0.98			0.98	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		4099			4206			1196			1271	
Flt Permitted		1.00			1.00			0.73			0.90	
Satd. Flow (perm)		4099			4206			894			1157	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	2264	213	0	1436	53	85	85	32	53	160	32
RTOR Reduction (vph)	0	6	0	0	4	0	0	1	0	0	4	0
Lane Group Flow (vph)	0	2471	0	0	1485	0	0	201	0	0	241	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2459			2524			268			347	
v/s Ratio Prot		c0.60			0.35							
v/s Ratio Perm								c0.23			0.21	
v/c Ratio		1.01			0.59			0.75			0.69	
Uniform Delay, d1		18.0			11.1			28.5			27.8	
Progression Factor		0.13			1.00			1.00			1.00	
Incremental Delay, d2		6.7			1.0			17.5			10.9	
Delay (s)		9.0			12.1			46.0			38.7	
Level of Service		A			B			D			D	
Approach Delay (s)		9.0			12.1			46.0			38.7	
Approach LOS		A			B			D			D	

Intersection Summary			
HCM Average Control Delay	13.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	81.6%	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		↑↑↑			↑↑↑↱		↰	↰↑↱				↱
Volume (vph)	0	1728	0	0	570	30	870	477	50	0	0	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.98		1.00	0.98				0.97
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.98				1.00
Satd. Flow (prot)		4282			4360		1415	2663				1373
Flt Permitted		1.00			1.00		0.95	0.98				1.00
Satd. Flow (perm)		4282			4360		1415	2663				1373
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	1819	0	0	600	32	916	502	53	0	0	63
RTOR Reduction (vph)	0	0	0	0	6	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	1819	0	0	626	0	485	982	0	0	0	63
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		43.0			29.0		37.0	37.0				11.0
Effective Green, g (s)		43.0			29.0		37.0	37.0				11.0
Actuated g/C Ratio		0.48			0.32		0.41	0.41				0.12
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		2046			1405		582	1095				168
v/s Ratio Prot		c0.42			0.14							
v/s Ratio Perm							0.34	0.37				0.05
v/c Ratio		0.89			0.45		0.83	0.90				0.38
Uniform Delay, d1		21.3			24.1		23.7	24.7				36.3
Progression Factor		1.00			0.30		1.00	1.00				1.00
Incremental Delay, d2		6.3			0.9		13.2	11.5				6.3
Delay (s)		27.6			8.1		36.9	36.2				42.6
Level of Service		C			A		D	D				D
Approach Delay (s)		27.6			8.1			36.4			42.6	
Approach LOS		C			A			D			D	

Intersection Summary			
HCM Average Control Delay	28.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	75.4%	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												
Volume (vph)	263	240	1385	0	120	30	400	295	40	0	430	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		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.93		1.00	0.94			1.00	0.67
Flpb, ped/bikes		0.87	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.97		1.00	0.98			1.00	0.85
Flt Protected		0.97	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1380	2448		1265		4385	1324			3110	815
Flt Permitted		0.75	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		1063	2448		1265		4385	1324			3110	815
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	274	250	1443	0	125	31	417	307	42	0	448	52
RTOR Reduction (vph)	0	0	2	0	10	0	0	5	0	0	0	37
Lane Group Flow (vph)	0	524	1441	0	146	0	417	344	0	0	448	15
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		40.5	55.5		40.5		11.5	41.5			26.5	26.5
Effective Green, g (s)		40.5	52.0		40.5		11.5	41.5			26.5	26.5
Actuated g/C Ratio		0.45	0.58		0.45		0.13	0.46			0.29	0.29
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		478	1414		569		560	611			916	240
v/s Ratio Prot			c0.59		0.12		0.10	c0.26			0.14	
v/s Ratio Perm		c0.49										0.02
v/c Ratio		1.10	1.02		0.26		0.74	0.56			0.49	0.06
Uniform Delay, d1		24.8	19.0		15.4		37.8	17.6			26.2	22.8
Progression Factor		0.20	0.65		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		59.1	21.9		0.2		8.7	3.7			1.9	0.5
Delay (s)		64.0	34.2		15.6		46.5	21.4			28.0	23.3
Level of Service		E	C		B		D	C			C	C
Approach Delay (s)		42.2			15.6			35.1			27.5	
Approach LOS		D			B			D			C	

Intersection Summary			
HCM Average Control Delay	37.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	98.1%	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												
Volume (vph)	0	0	0	30	100	50	20	40	0	0	50	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.70		1.00			0.98	
Flpb, ped/bikes					0.95	1.00		0.99			1.00	
Frt					1.00	0.85		1.00			0.96	
Flt Protected					0.99	1.00		0.98			1.00	
Satd. Flow (prot)					2744	954		1589			1548	
Flt Permitted					0.99	1.00		0.91			1.00	
Satd. Flow (perm)					2744	954		1471			1548	
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	0	0	0	38	128	64	26	51	0	0	64	26
RTOR Reduction (vph)	0	0	0	0	0	36	0	0	0	0	16	0
Lane Group Flow (vph)	0	0	0	0	166	28	0	77	0	0	74	0
Confl. Peds. (#/hr)				154		203	51					51
Confl. Bikes (#/hr)						14						3
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					26.0	26.0		24.0			24.0	
Effective Green, g (s)					26.0	26.0		24.0			24.0	
Actuated g/C Ratio					0.43	0.43		0.40			0.40	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1189	413		588			619	
v/s Ratio Prot											0.05	
v/s Ratio Perm					0.06	0.03		c0.05				
v/c Ratio					0.14	0.07		0.13			0.12	
Uniform Delay, d1					10.3	9.9		11.4			11.3	
Progression Factor					1.00	1.00		0.95			1.00	
Incremental Delay, d2					0.2	0.3		0.5			0.4	
Delay (s)					10.5	10.2		11.3			11.7	
Level of Service					B	B		B			B	
Approach Delay (s)		0.0			10.4			11.3			11.7	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	10.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.14		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	45.0%	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												
Volume (vph)	0	0	0	30	120	10	20	10	0	0	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.98		1.00	1.00			0.92	
Flpb, ped/bikes				1.00	1.00		0.85	1.00			1.00	
Frt				1.00	0.99		1.00	1.00			0.93	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	3007		1314	1637			1397	
Flt Permitted				0.95	1.00		0.74	1.00			1.00	
Satd. Flow (perm)				1555	3007		1024	1637			1397	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	0	0	0	39	156	13	26	13	0	0	13	13
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	39	165	0	26	13	0	0	26	0
Confl. Peds. (#/hr)						369	74					74
Confl. Bikes (#/hr)						16			1			
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				42.4	42.4		8.3	8.3			8.3	
Effective Green, g (s)				42.4	42.4		8.3	8.3			8.3	
Actuated g/C Ratio				0.71	0.71		0.14	0.14			0.14	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				1099	2125		142	226			193	
v/s Ratio Prot				0.03	c0.05			0.01			0.02	
v/s Ratio Perm							c0.03					
v/c Ratio				0.04	0.08		0.18	0.06			0.13	
Uniform Delay, d1				2.6	2.7		22.9	22.5			22.7	
Progression Factor				1.00	1.00		0.83	0.81			1.00	
Incremental Delay, d2				0.1	0.1		2.8	0.5			1.4	
Delay (s)				2.7	2.8		21.7	18.7			24.1	
Level of Service				A	A		C	B			C	
Approach Delay (s)		0.0			2.8			20.7			24.1	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	7.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.10		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	132	40	10	70	40	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	138	42	10	73	42	10
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	291					
pX, platoon unblocked						
vC, conflicting volume			579		1052	890
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			579		1052	890
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		61	93
cM capacity (veh/h)			693		106	139

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	92	88	83	52
Volume Left	0	0	10	42
Volume Right	0	42	0	10
cSH	1700	1700	693	111
Volume to Capacity	0.05	0.05	0.02	0.47
Queue Length 95th (ft)	0	0	1	52
Control Delay (s)	0.0	0.0	1.4	62.9
Lane LOS			A	F
Approach Delay (s)	0.0		1.4	62.9
Approach LOS				F

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												
Volume (vph)	20	140	20	10	102	10	21	30	18	20	50	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	
Lane Util. Factor		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.57		0.97			0.86			0.88	
Flpb, ped/bikes		0.96	1.00		0.97			0.87			0.90	
Frt		1.00	0.85		0.99			0.96			0.97	
Flt Protected		0.99	1.00		1.00			0.99			0.99	
Satd. Flow (prot)		1557	793		1329			1014			1089	
Flt Permitted		0.96	1.00		0.98			0.92			0.94	
Satd. Flow (perm)		1510	793		1306			945			1038	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	23	161	23	11	117	11	24	34	21	23	57	23
RTOR Reduction (vph)	0	0	12	0	5	0	0	13	0	0	15	0
Lane Group Flow (vph)	0	184	11	0	134	0	0	66	0	0	88	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4			4		
Actuated Green, G (s)		29.0	29.0		29.0			22.0			22.0	
Effective Green, g (s)		29.0	29.0		29.0			22.0			22.0	
Actuated g/C Ratio		0.48	0.48		0.48			0.37			0.37	
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)		730	383		631			347			381	
v/s Ratio Prot												
v/s Ratio Perm		c0.12	0.01		0.10			0.07			c0.09	
v/c Ratio		0.25	0.03		0.21			0.19			0.23	
Uniform Delay, d1		9.1	8.1		8.9			12.9			13.2	
Progression Factor		1.00	1.00		1.00			1.00			0.84	
Incremental Delay, d2		0.8	0.1		0.8			1.2			1.4	
Delay (s)		9.9	8.3		9.7			14.1			12.5	
Level of Service		A	A		A			B			B	
Approach Delay (s)		9.8			9.7			14.1			12.5	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	10.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	77.9%	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												
Volume (vph)	0	161	20	20	172	0	10	0	15	10	10	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
Lane Util. Factor		1.00	1.00		0.95			1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.42		1.00			0.67			1.00	0.67
Flpb, ped/bikes		1.00	1.00		0.96			0.88			0.74	1.00
Frt		1.00	0.85		1.00			0.92			1.00	0.85
Flt Protected		1.00	1.00		0.99			0.98			0.98	1.00
Satd. Flow (prot)		1637	571		2954			865			1185	933
Flt Permitted		1.00	1.00		0.91			0.94			0.93	1.00
Satd. Flow (perm)		1637	571		2711			834			1132	933
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	0	189	24	24	202	0	12	0	18	12	12	12
RTOR Reduction (vph)	0	0	18	0	0	0	0	2	0	0	0	5
Lane Group Flow (vph)	0	189	6	0	226	0	0	28	0	0	24	7
Confl. Peds. (#/hr)			400	400			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	36.5
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	36.5
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	0.61
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)		396	138		655			507			689	568
v/s Ratio Prot		c0.12										
v/s Ratio Perm			0.01		0.08			c0.03			0.02	0.01
v/c Ratio		0.48	0.04		0.35			0.06			0.03	0.01
Uniform Delay, d1		19.5	17.4		18.8			4.8			4.7	4.6
Progression Factor		0.84	0.71		1.00			1.00			1.00	1.00
Incremental Delay, d2		4.1	0.6		1.4			0.2			0.0	0.0
Delay (s)		20.4	12.9		20.3			5.0			4.7	4.6
Level of Service		C	B		C			A			A	A
Approach Delay (s)		19.6			20.3			5.0			4.7	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM Average Control Delay	18.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.18		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	160	10	10	20	20	0	183	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		0.83		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		0.93		1.00			1.00
Flt Protected		1.00		0.98		1.00			0.97
Satd. Flow (prot)		942		1079		1637			3015
Flt Permitted		1.00		0.98		1.00			0.95
Satd. Flow (perm)		942		1079		1637			2970
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	184	11	11	23	23	0	210	126
RTOR Reduction (vph)	0	0	0	16	0	0	0	0	0
Lane Group Flow (vph)	0	184	0	29	0	23	0	0	336
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		306		314			891
v/s Ratio Prot						0.01			
v/s Ratio Perm		c0.20		0.03					c0.11
v/c Ratio		0.35		0.09		0.07			0.38
Uniform Delay, d1		7.3		15.8		19.9			16.6
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		1.8		0.6		0.1			1.2
Delay (s)		9.1		16.4		20.0			17.8
Level of Service		A		B		B			B
Approach Delay (s)	9.1			16.4		20.0			17.8
Approach LOS	A			B		B			B

Intersection Summary			
HCM Average Control Delay	15.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	55.4%	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												
Volume (vph)	30	251	40	40	130	40	30	80	20	20	60	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.97			1.00	0.59	1.00	0.88			0.88	
Flpb, ped/bikes		0.97			1.00	1.00	0.52	1.00			0.91	
Frt		0.98			1.00	0.85	1.00	0.97			0.97	
Flt Protected		1.00			0.99	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1321			1415	722	815	1225			2385	
Flt Permitted		0.96			0.87	1.00	0.68	1.00			0.88	
Satd. Flow (perm)		1278			1246	722	585	1225			2119	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	34	282	45	45	146	45	34	90	22	22	67	22
RTOR Reduction (vph)	0	4	0	0	0	3	0	12	0	0	0	0
Lane Group Flow (vph)	0	357	0	0	191	42	34	100	0	0	111	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		68.6			68.6	68.6	11.3	11.3			11.3	
Effective Green, g (s)		68.6			68.6	68.6	11.3	11.3			11.3	
Actuated g/C Ratio		0.76			0.76	0.76	0.13	0.13			0.13	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		974			950	550	73	154			266	
v/s Ratio Prot								c0.08				
v/s Ratio Perm		c0.28			0.15	0.06	0.06				0.05	
v/c Ratio		0.37			0.20	0.08	0.47	0.65			0.42	
Uniform Delay, d1		3.5			3.0	2.7	36.5	37.5			36.3	
Progression Factor		1.00			1.00	1.00	0.63	0.67			1.00	
Incremental Delay, d2		1.1			0.5	0.3	4.6	9.0			1.1	
Delay (s)		4.6			3.5	3.0	27.5	33.9			37.4	
Level of Service		A			A	A	C	C			D	
Approach Delay (s)		4.6			3.4			32.4			37.4	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM Average Control Delay	13.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	110.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Volume (vph)	20	230	40	10	132	10	10	50	30	30	30	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.96			0.98			0.80			0.84	
Flpb, ped/bikes		0.98			0.99			0.95			0.83	
Frt		0.98			0.99			0.96			0.97	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		1319			1368			1028			950	
Flt Permitted		0.98			0.98			0.97			0.87	
Satd. Flow (perm)		1292			1340			1001			841	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	24	271	47	12	155	12	12	59	35	35	35	24
RTOR Reduction (vph)	0	1	0	0	1	0	0	20	0	0	13	0
Lane Group Flow (vph)	0	341	0	0	178	0	0	86	0	0	81	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.6			62.6			18.6			18.6	
Effective Green, g (s)		62.6			62.6			18.6			18.6	
Actuated g/C Ratio		0.70			0.70			0.21			0.21	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		899			932			207			174	
v/s Ratio Prot												
v/s Ratio Perm		c0.26			0.13			0.09			c0.10	
v/c Ratio		0.38			0.19			0.42			0.46	
Uniform Delay, d1		5.7			4.8			31.0			31.3	
Progression Factor		1.00			1.00			0.76			1.00	
Incremental Delay, d2		1.2			0.5			4.9			8.6	
Delay (s)		6.9			5.3			28.4			39.9	
Level of Service		A			A			C			D	
Approach Delay (s)		6.9			5.3			28.4			39.9	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	20	230	60	20	102	10	20	22	90	10	30	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.93			1.00	0.66		0.62			0.89	
Flpb, ped/bikes		0.98			0.97	1.00		0.92			0.92	
Frt		0.97			1.00	0.85		0.91			0.97	
Flt Protected		1.00			0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1276			1376	802		738			1128	
Flt Permitted		0.98			0.93	1.00		0.96			0.95	
Satd. Flow (perm)		1256			1290	802		715			1081	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	250	65	22	111	11	22	24	98	11	33	11
RTOR Reduction (vph)	0	7	0	0	0	4	0	71	0	0	8	0
Lane Group Flow (vph)	0	330	0	0	133	7	0	73	0	0	47	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		57.0			57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0			57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63			0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		795			817	508		199			300	
v/s Ratio Prot												
v/s Ratio Perm		c0.26			0.10	0.01		c0.10			0.04	
v/c Ratio		0.42			0.16	0.01		0.37			0.16	
Uniform Delay, d1		8.2			6.7	6.1		26.1			24.5	
Progression Factor		1.00			0.78	0.64		0.90			1.00	
Incremental Delay, d2		1.6			0.4	0.0		4.4			1.1	
Delay (s)		9.8			5.7	3.9		28.0			25.7	
Level of Service		A			A	A		C			C	
Approach Delay (s)		9.8			5.5			28.0			25.7	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	230	70	10	112	10	40	65	40	10	30	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.66		1.00	0.66		0.85			0.81	
Flpb, ped/bikes		0.97	1.00		0.98	1.00		0.87			0.94	
Frt		1.00	0.85		1.00	0.85		0.96			0.95	
Flt Protected		0.99	1.00		1.00	1.00		0.99			0.99	
Satd. Flow (prot)		1381	786		1402	786		997			1181	
Flt Permitted		0.96	1.00		0.97	1.00		0.91			0.95	
Satd. Flow (perm)		1337	786		1372	786		922			1137	
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)	33	256	78	11	124	11	44	72	44	11	33	22
RTOR Reduction (vph)	0	0	7	0	0	4	0	15	0	0	16	0
Lane Group Flow (vph)	0	289	71	0	135	7	0	145	0	0	50	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63	0.63		0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		847	498		869	498		256			316	
v/s Ratio Prot												
v/s Ratio Perm		c0.22	0.09		0.10	0.01		c0.16			0.04	
v/c Ratio		0.34	0.14		0.16	0.01		0.57			0.16	
Uniform Delay, d1		7.7	6.7		6.7	6.1		27.8			24.6	
Progression Factor		0.69	0.64		1.00	1.00		0.70			1.00	
Incremental Delay, d2		1.0	0.6		0.4	0.1		5.6			1.1	
Delay (s)		6.3	4.8		7.1	6.2		25.2			25.6	
Level of Service		A	A		A	A		C			C	
Approach Delay (s)		6.0			7.0			25.2			25.6	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	12.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations										
Volume (vph)	10	250	30	30	10	20	170	20	182	283
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				5.0		5.0		5.0	5.0
Lane Util. Factor	1.00				1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.88				0.88		0.93		1.00	1.00
Flpb, ped/bikes	1.00				0.70		1.00		1.00	1.00
Frt	0.87				0.95		0.98		1.00	1.00
Flt Protected	1.00				0.97		1.00		0.95	1.00
Satd. Flow (prot)	1256				927		2854		1555	3110
Flt Permitted	1.00				0.97		1.00		0.95	1.00
Satd. Flow (perm)	1256				927		2854		1555	3110
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	250	30	30	10	20	170	20	182	283
RTOR Reduction (vph)	5	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	285	0	0	0	60	0	190	0	182	283
Confl. Peds. (#/hr)				400	400	400		400		
Confl. Bikes (#/hr)		30	30			10		30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0
Turn Type				Perm					Split	
Protected Phases	4				3		6		2	2
Permitted Phases				3						
Actuated Green, G (s)	20.0				20.0		17.0		13.0	13.0
Effective Green, g (s)	20.0				20.0		17.0		13.0	13.0
Actuated g/C Ratio	0.22				0.22		0.19		0.14	0.14
Clearance Time (s)	5.0				5.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	279				206		539		225	449
v/s Ratio Prot	c0.23						c0.07		c0.12	0.09
v/s Ratio Perm					0.06					
v/c Ratio	1.02				0.29		0.35		0.81	0.63
Uniform Delay, d1	35.0				29.1		31.7		37.3	36.2
Progression Factor	1.00				0.80		1.00		0.82	0.83
Incremental Delay, d2	59.8				0.7		1.8		25.5	6.4
Delay (s)	94.8				23.9		33.5		56.3	36.5
Level of Service	F				C		C		E	D
Approach Delay (s)	94.8				23.9		33.5			44.2
Approach LOS	F				C		C			D

Intersection Summary			
HCM Average Control Delay	55.6	HCM Level of Service	E
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	78.6%	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												
Volume (vph)	0	1783	40	0	863	10	0	22	48	0	50	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			1.00			0.74			0.94	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.91			0.98	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2887			2900			960			1309	
Flt Permitted		1.00			1.00			1.00			1.00	
Satd. Flow (perm)		2887			2900			960			1309	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1938	43	0	938	11	0	24	52	0	54	11
RTOR Reduction (vph)	0	0	0	0	0	0	0	5	0	0	9	0
Lane Group Flow (vph)	0	1981	0	0	949	0	0	71	0	0	56	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type												
Protected Phases		2			6			8			4	
Permitted Phases												
Actuated Green, G (s)		70.8			70.8			10.4			10.4	
Effective Green, g (s)		70.8			70.8			10.4			10.4	
Actuated g/C Ratio		0.79			0.79			0.12			0.12	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2271			2281			111			151	
v/s Ratio Prot		c0.69			0.33			c0.07			0.04	
v/s Ratio Perm												
v/c Ratio		0.87			0.42			0.64			0.37	
Uniform Delay, d1		6.5			3.0			38.0			36.8	
Progression Factor		0.27			1.00			1.00			1.00	
Incremental Delay, d2		3.1			0.1			11.4			1.5	
Delay (s)		4.9			3.2			49.4			38.3	
Level of Service		A			A			D			D	
Approach Delay (s)		4.9			3.2			49.4			38.3	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	6.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	77.5%	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												
Volume (vph)	10	1505	390	40	567	30	127	80	72	0	120	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.77		1.00	0.77	1.00	1.00	0.67		0.97	
Flpb, ped/bikes		1.00	1.00		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	0.85		0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3109	1077		3099	1077	3016	1637	933		2800	
Flt Permitted		0.95	1.00		0.78	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		2957	1077		2420	1077	3016	1637	933		2800	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	10	1552	402	41	585	31	131	82	74	0	124	10
RTOR Reduction (vph)	0	0	61	0	0	8	0	0	2	0	7	0
Lane Group Flow (vph)	0	1562	341	0	626	23	131	82	72	0	127	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type	Perm		Perm	Perm		Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		60.4	60.4		60.4	60.4	6.7	20.6	20.6		9.4	
Effective Green, g (s)		60.4	60.4		60.4	60.4	6.7	20.6	20.6		9.4	
Actuated g/C Ratio		0.67	0.67		0.67	0.67	0.07	0.23	0.23		0.10	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		1984	723		1624	723	225	375	214		292	
v/s Ratio Prot							c0.04	0.05			c0.05	
v/s Ratio Perm		c0.53	0.32		0.26	0.02			0.08			
v/c Ratio		0.79	0.47		0.39	0.03	0.58	0.22	0.33		0.43	
Uniform Delay, d1		10.3	7.1		6.6	5.0	40.3	28.2	29.0		37.8	
Progression Factor		1.00	1.00		0.80	0.78	1.00	1.00	1.00		0.72	
Incremental Delay, d2		3.2	2.2		0.7	0.1	3.8	0.3	0.9		1.0	
Delay (s)		13.6	9.3		5.9	4.0	44.1	28.5	29.9		28.1	
Level of Service		B	A		A	A	D	C	C		C	
Approach Delay (s)		12.7			5.8			36.0			28.1	
Approach LOS		B			A			D			C	

Intersection Summary			
HCM Average Control Delay	14.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	124.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	60	1376	547	40	40	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	0.98		0.83	
Flpb, ped/bikes		1.00	1.00		1.00	
Frt		1.00	0.99		0.94	
Flt Protected		1.00	1.00		0.97	
Satd. Flow (prot)		2895	3016		1092	
Flt Permitted		0.89	1.00		0.97	
Satd. Flow (perm)		2589	3016		1092	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	1496	595	43	43	33
RTOR Reduction (vph)	0	0	6	0	27	0
Lane Group Flow (vph)	0	1561	632	0	49	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		66.4	66.4		16.6	
Effective Green, g (s)		66.4	66.4		16.6	
Actuated g/C Ratio		0.74	0.74		0.18	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1910	2225		201	
v/s Ratio Prot			0.21		c0.04	
v/s Ratio Perm		c0.60				
v/c Ratio		0.82	0.28		0.24	
Uniform Delay, d1		7.8	3.9		31.3	
Progression Factor		0.31	1.00		0.67	
Incremental Delay, d2		1.8	0.1		2.7	
Delay (s)		4.2	4.0		23.7	
Level of Service		A	A		C	
Approach Delay (s)		4.2	4.0		23.7	
Approach LOS		A	A		C	

Intersection Summary			
HCM Average Control Delay	4.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	111.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	43	1383	40	20	387	60	30	27	60	40	50	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.96			0.82			0.91	
Flpb, ped/bikes		1.00			1.00			0.93			0.91	
Frt		1.00			0.98			0.93			0.97	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2861			2734			1007			1133	
Flt Permitted		0.92			0.86			0.90			0.88	
Satd. Flow (perm)		2646			2352			923			1017	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	46	1471	43	21	412	64	32	29	64	43	53	32
RTOR Reduction (vph)	0	2	0	0	2	0	0	8	0	0	13	0
Lane Group Flow (vph)	0	1558	0	0	495	0	0	117	0	0	115	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		60.6			60.6			20.6			20.6	
Effective Green, g (s)		60.6			60.6			20.6			20.6	
Actuated g/C Ratio		0.67			0.67			0.23			0.23	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1782			1584			211			233	
v/s Ratio Prot												
v/s Ratio Perm		c0.59			0.21			c0.13			0.11	
v/c Ratio		0.87			0.31			0.55			0.49	
Uniform Delay, d1		11.7			6.1			30.6			30.2	
Progression Factor		1.00			0.36			1.00			0.80	
Incremental Delay, d2		6.3			0.4			10.0			7.1	
Delay (s)		18.0			2.6			40.7			31.2	
Level of Service		B			A			D			C	
Approach Delay (s)		18.0			2.6			40.7			31.2	
Approach LOS		B			A			D			C	

Intersection Summary			
HCM Average Control Delay	16.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	103.3%	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												
Volume (vph)	35	1437	20	40	667	80	40	30	110	40	20	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			0.97			0.78			0.83	
Flpb, ped/bikes		1.00			1.00			0.94			0.92	
Frt		1.00			0.98			0.92			0.94	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2888			2770			953			1018	
Flt Permitted		0.91			0.77			0.92			0.81	
Satd. Flow (perm)		2637			2143			885			837	
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)	39	1597	22	44	741	89	44	33	122	44	22	56
RTOR Reduction (vph)	0	1	0	0	2	0	0	7	0	0	34	0
Lane Group Flow (vph)	0	1657	0	0	872	0	0	192	0	0	88	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		61.7			61.7			19.4			19.4	
Effective Green, g (s)		61.7			61.7			19.4			19.4	
Actuated g/C Ratio		0.69			0.69			0.22			0.22	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1808			1469			191			180	
v/s Ratio Prot												
v/s Ratio Perm		c0.63			0.41			c0.22			0.11	
v/c Ratio		0.92			0.59			1.00			0.49	
Uniform Delay, d1		12.0			7.5			35.3			31.0	
Progression Factor		0.27			2.78			1.00			0.74	
Incremental Delay, d2		5.3			0.6			66.4			2.1	
Delay (s)		8.6			21.5			101.7			25.0	
Level of Service		A			C			F			C	
Approach Delay (s)		8.6			21.5			101.7			25.0	
Approach LOS		A			C			F			C	

Intersection Summary			
HCM Average Control Delay	19.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	99.4%	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												
Volume (vph)	10	1391	190	50	704	30	40	10	20	10	20	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.96			0.99			0.89			0.85	
Flpb, ped/bikes		1.00			1.00			0.81			0.94	
Frt		0.98			0.99			0.96			0.95	
Flt Protected		1.00			1.00			0.97			0.99	
Satd. Flow (prot)		2755			3041			1113			1232	
Flt Permitted		0.95			0.73			0.83			0.95	
Satd. Flow (perm)		2618			2238			950			1186	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	10	1434	196	52	726	31	41	10	21	10	21	21
RTOR Reduction (vph)	0	2	0	0	2	0	0	10	0	0	16	0
Lane Group Flow (vph)	0	1638	0	0	807	0	0	62	0	0	36	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1806			1544			204			254	
v/s Ratio Prot												
v/s Ratio Perm		c0.63			0.36			c0.07			0.03	
v/c Ratio		0.91			0.52			0.30			0.14	
Uniform Delay, d1		11.6			6.8			29.7			28.6	
Progression Factor		0.29			0.74			1.00			0.67	
Incremental Delay, d2		3.5			0.4			3.8			0.8	
Delay (s)		6.9			5.4			33.5			20.0	
Level of Service		A			A			C			C	
Approach Delay (s)		6.9			5.4			33.5			20.0	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	7.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	88.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	30	1391	724	434	450	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3037	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3037	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	1512	787	472	489	33
RTOR Reduction (vph)	0	44	0	0	6	0
Lane Group Flow (vph)	33	1468	787	472	516	0
Confl. Peds. (#/hr)						63
Confl. Bikes (#/hr)		22				160
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	27.0	54.8	23.8	53.0	25.2	
Effective Green, g (s)	27.0	54.8	23.8	53.0	25.2	
Actuated g/C Ratio	0.30	0.61	0.26	0.59	0.28	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	467	1491	798	1717	850	
v/s Ratio Prot	0.02	c0.60	0.26	0.16	c0.17	
v/s Ratio Perm						
v/c Ratio	0.07	0.98	0.99	0.27	0.61	
Uniform Delay, d1	22.5	17.2	32.9	9.1	28.1	
Progression Factor	0.68	0.35	0.89	0.59	0.67	
Incremental Delay, d2	0.0	13.1	26.1	0.3	1.0	
Delay (s)	15.3	19.1	55.3	5.7	19.9	
Level of Service	B	B	E	A	B	
Approach Delay (s)	19.1			36.7	19.9	
Approach LOS	B			D	B	

Intersection Summary				
HCM Average Control Delay	25.9	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.87			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	83.2%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	150	141	40	0	1821	0	20	150	1020
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			1.00			1.00	1.00
Flpb, ped/bikes				0.73			1.00			1.00	1.00
Frt				0.98			1.00			1.00	1.00
Flt Protected				0.96			1.00			0.95	1.00
Satd. Flow (prot)				2053			4454			1555	3110
Flt Permitted				0.96			1.00			0.95	1.00
Satd. Flow (perm)				2053			4454			1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	163	153	43	0	1979	0	22	163	1109
RTOR Reduction (vph)	0	0	0	13	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	0	0	346	0	0	2000	0	0	163	1109
Confl. Peds. (#/hr)			96	119					96		
Confl. Bikes (#/hr)					4				178		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				18.9			48.1			10.0	62.1
Effective Green, g (s)				18.9			48.1			10.0	62.1
Actuated g/C Ratio				0.21			0.53			0.11	0.69
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				431			2380			173	2146
v/s Ratio Prot							c0.45			c0.10	0.36
v/s Ratio Perm				0.17							
v/c Ratio				0.80			0.84			0.94	0.52
Uniform Delay, d1				33.8			17.7			39.7	6.7
Progression Factor				1.00			0.81			1.00	1.00
Incremental Delay, d2				10.3			1.2			51.1	0.9
Delay (s)				44.1			15.6			90.8	7.6
Level of Service				D			B			F	A
Approach Delay (s)	0.0			44.1			15.6				18.3
Approach LOS	A			D			B				B

Intersection Summary			
HCM Average Control Delay	19.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBR	EBR2	SEL	SET	SER2	NWL2	NWT	NWR	SWR2
Lane Configurations										
Volume (vph)	20	20	220	30	1240	601	111	1150	80	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		7.0	7.0	7.0	7.0	7.0		
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00	1.00	0.95		
Frpb, ped/bikes	1.00	0.93		1.00	1.00	0.96	1.00	0.96		
Flpb, ped/bikes	1.00	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	0.99		
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1555	1137		1555	3110	1336	1555	2960		
Flt Permitted	0.95	1.00		0.13	1.00	1.00	0.13	1.00		
Satd. Flow (perm)	1555	1137		217	3110	1336	212	2960		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	22	239	33	1348	653	121	1250	87	0
RTOR Reduction (vph)	0	171	0	0	0	289	0	7	0	0
Lane Group Flow (vph)	22	90	0	33	1348	364	121	1330	0	0
Confl. Peds. (#/hr)			38						1000	100
Confl. Bikes (#/hr)		10	10			30			30	10
Parking (#/hr)		5	5							
Turn Type	custom	custom		Perm		Perm	Perm			custom
Protected Phases					6			2		
Permitted Phases	4	4		6		6	2			8
Actuated Green, G (s)	22.5	22.5		44.0	44.0	44.0	44.0	44.0		
Effective Green, g (s)	22.5	22.5		44.0	44.0	44.0	44.0	44.0		
Actuated g/C Ratio	0.28	0.28		0.56	0.56	0.56	0.56	0.56		
Clearance Time (s)	5.5	5.5		7.0	7.0	7.0	7.0	7.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	443	324		121	1732	744	118	1649		
v/s Ratio Prot					0.43			0.45		
v/s Ratio Perm	0.01	c0.08		0.15		0.27	c0.57			
v/c Ratio	0.05	0.28		0.27	0.78	0.49	1.03	0.81		
Uniform Delay, d1	20.5	21.9		9.1	13.7	10.7	17.5	14.1		
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.0	0.5		5.5	3.5	2.3	89.8	4.3		
Delay (s)	20.5	22.4		14.6	17.2	12.9	107.3	18.4		
Level of Service	C	C		B	B	B	F	B		
Approach Delay (s)					15.8			25.8		
Approach LOS					B			C		

Intersection Summary			
HCM Average Control Delay	20.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	105.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	30	0	80	0	0	0	180	1233	0	0	20	1270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.76					1.00	1.00				0.98
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.90					1.00	1.00				0.99
Flt Protected		0.99					0.95	1.00				1.00
Satd. Flow (prot)		965					1555	3110				3007
Flt Permitted		0.99					0.95	1.00				0.92
Satd. Flow (perm)		965					1555	3110				2758
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)	33	0	89	0	0	0	200	1370	0	0	22	1411
RTOR Reduction (vph)	0	79	0	0	0	0	0	0	0	0	0	3
Lane Group Flow (vph)	0	43	0	0	0	0	200	1370	0	0	0	1508
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		10.0					5.0	71.0				61.0
Effective Green, g (s)		10.0					5.0	71.0				61.0
Actuated g/C Ratio		0.11					0.06	0.79				0.68
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		107					86	2453				1869
v/s Ratio Prot		c0.04					c0.13	0.44				
v/s Ratio Perm												c0.55
v/c Ratio		0.40					2.33	0.56				0.81
Uniform Delay, d1		37.2					42.5	3.6				10.3
Progression Factor		1.00					0.79	0.47				1.00
Incremental Delay, d2		2.5					624.9	0.7				3.9
Delay (s)		39.7					658.4	2.4				14.2
Level of Service		D					F	A				B
Approach Delay (s)		39.7			0.0			86.0				14.2
Approach LOS		D			A			F				B

Intersection Summary			
HCM Average Control Delay	50.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	115.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	70
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.90
Adj. Flow (vph)	78
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	254	1187	0	0	610	160	120	214	70	0	0	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				
Lane Util. Factor		0.95			0.95			0.95				
Frpb, ped/bikes		1.00			0.94			0.94				
Flpb, ped/bikes		0.99			1.00			0.91				
Frt		1.00			0.97			0.97				
Flt Protected		0.99			1.00			0.99				
Satd. Flow (prot)		2811			2629			2367				
Flt Permitted		0.63			1.00			0.99				
Satd. Flow (perm)		1795			2629			2367				
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)	259	1211	0	0	622	163	122	218	71	0	0	0
RTOR Reduction (vph)	0	0	0	0	8	0	0	22	0	0	0	0
Lane Group Flow (vph)	0	1470	0	0	777	0	0	389	0	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm					
Protected Phases		2			6			8				
Permitted Phases	2						8					
Actuated Green, G (s)		44.0			44.0			27.0				
Effective Green, g (s)		44.0			44.0			27.0				
Actuated g/C Ratio		0.55			0.55			0.34				
Clearance Time (s)		4.5			4.5			4.5				
Vehicle Extension (s)		3.0			3.0			3.0				
Lane Grp Cap (vph)		987			1446			799				
v/s Ratio Prot					0.30							
v/s Ratio Perm		c0.82						0.16				
v/c Ratio		1.49			0.54			0.49				
Uniform Delay, d1		18.0			11.5			21.0				
Progression Factor		1.00			0.37			1.00				
Incremental Delay, d2		225.6			0.9			2.1				
Delay (s)		243.6			5.2			23.1				
Level of Service		F			A			C				
Approach Delay (s)		243.6			5.2			23.1			0.0	
Approach LOS		F			A			C			A	

Intersection Summary			
HCM Average Control Delay	139.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	109.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	777	480	30	670	0	0	0	0	70	630	110
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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.88			1.00						0.96	
Flpb, ped/bikes		1.00			1.00						0.98	
Frt		0.94			1.00						0.98	
Flt Protected		1.00			1.00						1.00	
Satd. Flow (prot)		2568			3099						2679	
Flt Permitted		1.00			0.74						1.00	
Satd. Flow (perm)		2568			2290						2679	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	801	495	31	691	0	0	0	0	72	649	113
RTOR Reduction (vph)	0	9	0	0	0	0	0	0	0	0	15	0
Lane Group Flow (vph)	0	1287	0	0	722	0	0	0	0	0	819	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		33.5			33.5						37.5	
Effective Green, g (s)		33.5			33.5						37.5	
Actuated g/C Ratio		0.42			0.42						0.47	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		1075			959						1256	
v/s Ratio Prot		c0.50										
v/s Ratio Perm					0.32						0.31	
v/c Ratio		1.20			0.75						0.65	
Uniform Delay, d1		23.2			19.7						16.3	
Progression Factor		0.67			1.00						1.00	
Incremental Delay, d2		89.5			3.4						2.6	
Delay (s)		105.2			23.1						18.9	
Level of Service		F			C						B	
Approach Delay (s)		105.2			23.1			0.0			18.9	
Approach LOS		F			C			A			B	

Intersection Summary			
HCM Average Control Delay	59.2	HCM Level of Service	E
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	83.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	117	490	720	1292	0	1290	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.67	1.00	1.00		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		0.99	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	930	3016	3110		3043	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	930	3016	3110		3043	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	117	490	720	1292	0	1290	60
RTOR Reduction (vph)	0	248	0	0	0	4	0
Lane Group Flow (vph)	117	242	720	1292	0	1346	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	25.3	25.3	15.7	53.7		32.0	
Effective Green, g (s)	25.3	25.3	15.7	53.7		32.0	
Actuated g/C Ratio	0.28	0.28	0.17	0.60		0.36	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	437	261	526	1856		1082	
v/s Ratio Prot	0.08		c0.24	0.42		c0.44	
v/s Ratio Perm		c0.26					
v/c Ratio	0.27	0.93	1.37	0.70		1.24	
Uniform Delay, d1	25.1	31.5	37.1	12.5		29.0	
Progression Factor	1.00	1.00	1.00	1.00		0.72	
Incremental Delay, d2	0.3	36.3	177.8	2.2		114.7	
Delay (s)	25.5	67.8	215.0	14.7		135.7	
Level of Service	C	E	F	B		F	
Approach Delay (s)	59.6			86.4		135.7	
Approach LOS	E			F		F	

Intersection Summary			
HCM Average Control Delay	99.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	122.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	168	10	20	102	10	20	10	22	10	10	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
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.59		1.00	0.75		0.86			1.00	0.45
Flpb, ped/bikes		0.99	1.00		0.95	1.00		0.81			0.86	1.00
Frt		1.00	0.85		1.00	0.85		0.94			1.00	0.85
Flt Protected		1.00	1.00		0.99	1.00		0.98			0.98	1.00
Satd. Flow (prot)		1613	823		1544	1050		1057			1367	632
Flt Permitted		0.99	1.00		0.95	1.00		0.87			0.81	1.00
Satd. Flow (perm)		1599	823		1486	1050		932			1140	632
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	179	11	21	109	11	21	11	23	11	11	11
RTOR Reduction (vph)	0	0	3	0	0	3	0	21	0	0	0	10
Lane Group Flow (vph)	0	190	8	0	130	8	0	34	0	0	22	1
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		45.4	45.4		45.4	45.4		5.6			5.6	5.6
Effective Green, g (s)		45.4	45.4		45.4	45.4		5.6			5.6	5.6
Actuated g/C Ratio		0.76	0.76		0.76	0.76		0.09			0.09	0.09
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)		1210	623		1124	795		87			106	59
v/s Ratio Prot												
v/s Ratio Perm		c0.12	0.01		0.09	0.01		c0.04			0.02	0.00
v/c Ratio		0.16	0.01		0.12	0.01		0.39			0.21	0.02
Uniform Delay, d1		2.0	1.8		1.9	1.8		25.6			25.1	24.7
Progression Factor		1.00	1.00		0.12	0.00		1.00			0.82	0.74
Incremental Delay, d2		0.1	0.0		0.2	0.0		2.9			1.0	0.1
Delay (s)		2.1	1.8		0.4	0.0		28.5			21.6	18.3
Level of Service		A	A		A	A		C			C	B
Approach Delay (s)		2.1			0.4			28.5			20.5	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	6.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.18		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	479	10	875	410	60	60	60	20	20	20	300	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.34		0.66	1.00	0.95			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.81	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	559	3110	479		936	1555	1325			1257	1174
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (perm)	3110	559	3110	479		936	1555	1325			1259	1174
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)	504	11	921	432	63	63	63	21	21	21	316	42
RTOR Reduction (vph)	0	5	0	171	0	38	0	15	0	0	0	31
Lane Group Flow (vph)	504	6	921	324	0	25	63	27	0	0	337	11
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	43.0	43.0	43.0	43.0		20.0	20.0	20.0			20.0	20.0
Effective Green, g (s)	43.0	43.0	43.0	43.0		20.0	20.0	20.0			20.0	20.0
Actuated g/C Ratio	0.57	0.57	0.57	0.57		0.27	0.27	0.27			0.27	0.27
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1783	320	1783	275		250	415	353			336	313
v/s Ratio Prot	0.16		0.30									
v/s Ratio Perm		0.01		c0.68		0.03	0.04	0.02			c0.27	0.01
v/c Ratio	0.28	0.02	0.52	1.18		0.10	0.15	0.08			1.00	0.04
Uniform Delay, d1	8.1	6.9	9.7	16.0		20.7	21.0	20.6			27.5	20.4
Progression Factor	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	1.1	111.8		0.8	0.8	0.4			49.8	0.2
Delay (s)	8.5	7.0	10.8	127.8		21.5	21.8	21.0			77.3	20.6
Level of Service	A	A	B	F		C	C	C			E	C
Approach Delay (s)	8.5		51.7								71.1	
Approach LOS	A		D								E	

Intersection Summary			
HCM Average Control Delay	43.6	HCM Level of Service	D
HCM Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	509	70	59	1135	80	54
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	547	75	63	1220	86	58

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	365	258	470	814	144
Volume Left (vph)	0	0	63	0	86
Volume Right (vph)	0	75	0	0	58
Hadj (s)	0.02	-0.19	0.08	0.02	-0.11
Departure Headway (s)	6.4	6.2	5.9	5.9	6.6
Degree Utilization, x	0.65	0.44	0.78	1.33	0.26
Capacity (veh/h)	551	569	599	624	529
Control Delay (s)	19.3	12.9	25.4	176.4	11.9
Approach Delay (s)	16.6		121.1		11.9
Approach LOS	C		F		B

Intersection Summary			
Delay	81.7		
HCM Level of Service	F		
Intersection Capacity Utilization	79.3%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT
Lane Configurations												
Volume (vph)	10	423	110	30	10	10	1035	20	20	20	10	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4					5.4		4.0			5.0
Lane Util. Factor		0.95					0.95		1.00			1.00
Frpb, ped/bikes		0.86					0.99		0.78			1.00
Flpb, ped/bikes		1.00					1.00		1.00			1.00
Frt		0.96					1.00		0.86			1.00
Flt Protected		1.00					1.00		1.00			0.97
Satd. Flow (prot)		2410					3062		1106			1589
Flt Permitted		0.93					0.94		1.00			0.97
Satd. Flow (perm)		2243					2873		1106			1589
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	460	120	33	11	11	1125	22	22	22	11	22
RTOR Reduction (vph)	0	5	0	0	0	0	2	0	0	0	0	0
Lane Group Flow (vph)	0	619	0	0	0	0	1167	0	22	0	0	55
Confl. Peds. (#/hr)	400		400	400	400	400		400	400	400	400	
Confl. Bikes (#/hr)			30	30				30	10			
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm	Perm			Free	Split	Split	
Protected Phases		2					6			4	4	4
Permitted Phases	2				6	6			Free			
Actuated Green, G (s)		41.6					41.6		75.0			9.0
Effective Green, g (s)		41.6					41.6		75.0			9.0
Actuated g/C Ratio		0.55					0.55		1.00			0.12
Clearance Time (s)		5.4					5.4					5.0
Lane Grp Cap (vph)		1244					1594		1106			191
v/s Ratio Prot												0.03
v/s Ratio Perm		0.28					c0.41		0.02			
v/c Ratio		0.50					0.73		0.02			0.29
Uniform Delay, d1		10.3					12.5		0.0			30.1
Progression Factor		1.00					0.25		1.00			1.00
Incremental Delay, d2		1.4					2.2		0.0			3.8
Delay (s)		11.7					5.4		0.0			33.8
Level of Service		B					A		A			C
Approach Delay (s)		11.7					5.4					41.7
Approach LOS		B					A					D

Intersection Summary			
HCM Average Control Delay	11.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	88.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR	NWL	NWR	NWR2
Lane Configurations				
Volume (vph)	50	110	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0
Lane Util. Factor	1.00	0.97		1.00
Frpb, ped/bikes	0.55	0.94		0.55
Flpb, ped/bikes	1.00	1.00		1.00
Frt	0.85	0.99		0.85
Flt Protected	1.00	0.96		1.00
Satd. Flow (prot)	768	2810		768
Flt Permitted	1.00	0.96		1.00
Satd. Flow (perm)	768	2810		768
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	120	11	11
RTOR Reduction (vph)	7	0	0	10
Lane Group Flow (vph)	47	131	0	1
Confl. Peds. (#/hr)	400	400	400	400
Confl. Bikes (#/hr)	10		10	10
Parking (#/hr)				
Turn Type	Perm			Perm
Protected Phases		8		
Permitted Phases	4			8
Actuated Green, G (s)	9.0	9.0		9.0
Effective Green, g (s)	9.0	9.0		9.0
Actuated g/C Ratio	0.12	0.12		0.12
Clearance Time (s)	5.0	5.0		5.0
Lane Grp Cap (vph)	92	337		92
v/s Ratio Prot		c0.05		
v/s Ratio Perm	c0.06			0.00
v/c Ratio	0.51	0.39		0.01
Uniform Delay, d1	30.9	30.5		29.1
Progression Factor	1.00	1.00		1.00
Incremental Delay, d2	18.8	3.4		0.3
Delay (s)	49.7	33.8		29.4
Level of Service	D	C		C
Approach Delay (s)		33.5		
Approach LOS		C		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	413	40	30	1055	40	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.97			1.00	0.86	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.99			1.00	0.94	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2785			3091	1288	
Flt Permitted	1.00			0.93	0.97	
Satd. Flow (perm)	2785			2884	1288	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	454	44	33	1159	44	33
RTOR Reduction (vph)	10	0	0	0	23	0
Lane Group Flow (vph)	488	0	0	1192	54	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1671			1730	386	
v/s Ratio Prot	0.18				c0.04	
v/s Ratio Perm				c0.41		
v/c Ratio	0.29			0.69	0.14	
Uniform Delay, d1	7.3			10.2	19.2	
Progression Factor	0.47			1.00	1.00	
Incremental Delay, d2	0.4			2.3	0.8	
Delay (s)	3.8			12.5	19.9	
Level of Service	A			B	B	
Approach Delay (s)	3.8			12.5	19.9	
Approach LOS	A			B	B	

Intersection Summary			
HCM Average Control Delay	10.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	81.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	413	20	10	1055	10	10
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	454	22	11	1159	11	11

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	303	173	397	773	22
Volume Left (vph)	0	0	11	0	11
Volume Right (vph)	0	22	0	0	11
Hadj (s)	0.02	-0.07	0.03	0.02	-0.18
Departure Headway (s)	5.7	5.6	5.1	5.1	6.3
Degree Utilization, x	0.48	0.27	0.56	1.09	0.04
Capacity (veh/h)	612	622	695	721	549
Control Delay (s)	12.7	9.5	13.2	80.2	9.5
Approach Delay (s)	11.6		57.4		9.5
Approach LOS	B		F		A

Intersection Summary			
Delay	43.7		
HCM Level of Service	E		
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL2	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	39	424	40	10	10	999	99	50	30	30	122	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5				5.5	5.5		5.5		5.5	5.5
Lane Util. Factor		0.95				0.95	1.00		1.00		0.95	0.95
Frpb, ped/bikes		0.95				1.00	0.66		0.91		1.00	0.94
Flpb, ped/bikes		0.99				1.00	1.00		0.86		0.73	0.88
Frt		0.99				1.00	0.85		0.96		1.00	0.98
Flt Protected		1.00				1.00	1.00		0.98		0.95	0.98
Satd. Flow (prot)		2697				3104	808		1057		1078	1240
Flt Permitted		0.82				0.95	1.00		0.83		0.70	0.84
Satd. Flow (perm)		2209				2948	808		898		795	1069
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	41	442	42	10	10	1041	103	52	31	31	127	42
RTOR Reduction (vph)	0	1	0	0	0	0	4	0	15	0	0	0
Lane Group Flow (vph)	0	534	0	0	0	1051	99	0	99	0	88	91
Confl. Peds. (#/hr)	400		400	400	400		400	400		400	400	
Confl. Bikes (#/hr)			10	10			10			10		
Parking (#/hr)		5	5	5			5	5	5	5		
Turn Type	Perm				Perm		Perm	Perm			Perm	
Protected Phases		2				6			8			4
Permitted Phases	2				6	6	6	8			4	
Actuated Green, G (s)		56.5				56.5	56.5		22.5		22.5	22.5
Effective Green, g (s)		56.5				56.5	56.5		22.5		22.5	22.5
Actuated g/C Ratio		0.63				0.63	0.63		0.25		0.25	0.25
Clearance Time (s)		5.5				5.5	5.5		5.5		5.5	5.5
Vehicle Extension (s)		3.0				3.0	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)		1387				1851	507		225		199	267
v/s Ratio Prot												
v/s Ratio Perm		0.24				c0.36	0.12		0.11		c0.11	0.09
v/c Ratio		0.38				0.57	0.20		0.44		0.44	0.34
Uniform Delay, d1		8.2				9.7	7.1		28.4		28.5	27.7
Progression Factor		1.00				0.28	0.23		1.00		1.00	1.00
Incremental Delay, d2		0.8				1.2	0.8		6.1		1.6	0.8
Delay (s)		9.0				3.9	2.4		34.6		30.0	28.4
Level of Service		A				A	A		C		C	C
Approach Delay (s)		9.0				3.7			34.6			28.7
Approach LOS		A				A			C			C

Intersection Summary			
HCM Average Control Delay	9.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR	SBR2	NER2
Lane Configurations			
Volume (vph)	10	56	60
Ideal Flow (vphpl)	1900	1900	1900
Total Lost time (s)		5.5	4.0
Lane Util. Factor		1.00	1.00
Frpb, ped/bikes		0.65	0.78
Flpb, ped/bikes		1.00	1.00
Frt		0.85	0.86
Flt Protected		1.00	1.00
Satd. Flow (prot)		911	967
Flt Permitted		1.00	1.00
Satd. Flow (perm)		911	967
Peak-hour factor, PHF	0.96	0.96	0.96
Adj. Flow (vph)	10	58	62
RTOR Reduction (vph)	0	15	0
Lane Group Flow (vph)	0	43	62
Confl. Peds. (#/hr)	400	400	400
Confl. Bikes (#/hr)	10	10	10
Parking (#/hr)			5
Turn Type		Perm	Free
Protected Phases			
Permitted Phases		4	Free
Actuated Green, G (s)		22.5	90.0
Effective Green, g (s)		22.5	90.0
Actuated g/C Ratio		0.25	1.00
Clearance Time (s)		5.5	
Vehicle Extension (s)		3.0	
Lane Grp Cap (vph)		228	967
v/s Ratio Prot			
v/s Ratio Perm		0.05	0.06
v/c Ratio		0.19	0.06
Uniform Delay, d1		26.6	0.0
Progression Factor		1.00	1.00
Incremental Delay, d2		0.4	0.1
Delay (s)		27.0	0.1
Level of Service		C	A
Approach Delay (s)			
Approach LOS			

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	576	0	0	1089	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	640	0	0	1210	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	640	0	0	1210	0
Confl. Peds. (#/hr)						
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		76.0			76.0	
Effective Green, g (s)		76.0			76.0	
Actuated g/C Ratio		0.84			0.84	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		2067			2547	
v/s Ratio Prot		0.26			c0.40	
v/s Ratio Perm						
v/c Ratio		0.31			0.48	
Uniform Delay, d1		1.5			1.8	
Progression Factor		0.69			0.22	
Incremental Delay, d2		0.4			0.4	
Delay (s)		1.4			0.8	
Level of Service		A			A	
Approach Delay (s)	1.4			0.0	0.8	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	1.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	54.2%	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												
Volume (vph)	10	190	90	180	400	30	100	270	190	20	90	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.80		1.00	0.96			1.00	0.62		1.00	0.36
Flpb, ped/bikes		0.99		0.60	1.00			0.86	1.00		0.97	1.00
Frt		0.95		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.99	1.00		0.99	1.00
Satd. Flow (prot)		2354		936	1354			1177	844		1577	507
Flt Permitted		0.94		0.55	1.00			0.88	1.00		0.91	1.00
Satd. Flow (perm)		2207		547	1354			1050	844		1447	507
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)	11	211	100	200	444	33	111	300	211	22	100	56
RTOR Reduction (vph)	0	49	0	0	3	0	0	0	23	0	0	11
Lane Group Flow (vph)	0	273	0	200	474	0	0	411	188	0	122	45
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		35.6		35.6	35.6			44.4	44.4		44.4	44.4
Effective Green, g (s)		35.6		35.6	35.6			44.4	44.4		44.4	44.4
Actuated g/C Ratio		0.40		0.40	0.40			0.49	0.49		0.49	0.49
Clearance Time (s)		5.5		5.5	5.5			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)		873		216	536			518	416		714	250
v/s Ratio Prot					0.35							
v/s Ratio Perm		0.12		c0.37				c0.39	0.22		0.08	0.09
v/c Ratio		0.31		0.93	0.88			0.79	0.45		0.17	0.18
Uniform Delay, d1		18.8		25.9	25.3			19.0	14.9		12.6	12.7
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		0.2		40.8	15.9			11.8	3.5		0.5	1.6
Delay (s)		19.0		66.8	41.2			30.8	18.4		13.1	14.3
Level of Service		B		E	D			C	B		B	B
Approach Delay (s)		19.0			48.7			26.6			13.5	
Approach LOS		B			D			C			B	

Intersection Summary			
HCM Average Control Delay	32.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	80.9%	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												
Volume (vph)	0	280	110	90	450	1239	180	0	130	576	160	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.96			1.00	0.96		0.99		1.00	1.00	
Flpb, ped/bikes		1.00			0.99	1.00		0.99		1.00	1.00	
Frt		0.96			1.00	0.85		0.94		1.00	0.99	
Flt Protected		1.00			0.99	1.00		0.97		0.95	0.97	
Satd. Flow (prot)		2688			1612	2362		1287		1477	1498	
Flt Permitted		1.00			0.80	1.00		0.18		0.57	0.67	
Satd. Flow (perm)		2688			1297	2362		240		878	1033	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	292	115	94	469	1291	188	0	135	600	167	21
RTOR Reduction (vph)	0	46	0	0	0	0	0	29	0	0	2	0
Lane Group Flow (vph)	0	361	0	0	563	1291	0	294	0	390	396	0
Confl. Peds. (#/hr)			50	50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		28.0			28.0	65.5		17.5		34.0	34.0	
Effective Green, g (s)		28.0			28.0	65.5		17.5		34.0	34.0	
Actuated g/C Ratio		0.31			0.31	0.73		0.19		0.38	0.38	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		836			404	1719		47		332	390	
v/s Ratio Prot		0.13										
v/s Ratio Perm					c0.43	0.55		c1.23		c0.44	0.38	
v/c Ratio		0.43			1.39	0.75		6.26		1.17	1.01	
Uniform Delay, d1		24.7			31.0	7.4		36.2		28.0	28.0	
Progression Factor		1.00			1.00	1.00		1.00		1.06	1.07	
Incremental Delay, d2		1.6			191.7	3.1		2409.6		105.4	48.8	
Delay (s)		26.3			222.7	10.4		2445.9		135.1	78.8	
Level of Service		C			F	B		F		F	E	
Approach Delay (s)		26.3			74.9			2445.9			106.7	
Approach LOS		C			E			F			F	

Intersection Summary			
HCM Average Control Delay	303.6	HCM Level of Service	F
HCM Volume to Capacity ratio	2.38		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	116.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	586	20	110	1600	20	194	30	174	30	40	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5			3.5			3.5	3.5
Lane Util. Factor		0.95			0.91			0.95			1.00	1.00
Frpb, ped/bikes		0.99			1.00			0.83			1.00	0.62
Flpb, ped/bikes		1.00			0.99			0.84			0.93	1.00
Frt		1.00			1.00			0.93			1.00	0.85
Flt Protected		1.00			1.00			0.98			0.98	1.00
Satd. Flow (prot)		3051			4395			1851			1487	860
Flt Permitted		0.78			0.81			0.78			0.78	1.00
Satd. Flow (perm)		2400			3574			1479			1179	860
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)	33	651	22	122	1778	22	216	33	193	33	44	56
RTOR Reduction (vph)	0	2	0	0	1	0	0	28	0	0	0	2
Lane Group Flow (vph)	0	704	0	0	1921	0	0	414	0	0	77	54
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		53.4			53.4			29.6			29.6	29.6
Effective Green, g (s)		53.4			53.4			29.6			29.6	29.6
Actuated g/C Ratio		0.59			0.59			0.33			0.33	0.33
Clearance Time (s)		3.5			3.5			3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		1424			2121			486			388	283
v/s Ratio Prot												
v/s Ratio Perm		0.29			c0.54			c0.28			0.07	0.06
v/c Ratio		0.49			0.91			0.85			0.20	0.19
Uniform Delay, d1		10.5			16.1			28.2			21.7	21.6
Progression Factor		1.00			0.45			1.00			1.00	1.00
Incremental Delay, d2		0.3			5.6			17.1			1.1	1.5
Delay (s)		10.8			12.9			45.2			22.8	23.1
Level of Service		B			B			D			C	C
Approach Delay (s)		10.8			12.9			45.2			22.9	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM Average Control Delay	17.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	99.4%	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												
Volume (vph)	20	600	171	5	1314	30	88	186	119	10	342	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.91		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.80		1.00		1.00	0.87			0.88	
Flpb, ped/bikes		1.00	1.00		1.00		0.85	1.00			1.00	
Frt		1.00	0.85		1.00		1.00	0.94			0.95	
Flt Protected		1.00	1.00		1.00		0.95	1.00			1.00	
Satd. Flow (prot)		3102	973		4431		1328	3648			3684	
Flt Permitted		0.88	1.00		0.94		0.41	1.00			0.93	
Satd. Flow (perm)		2731	973		4157		567	3648			3440	
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)	20	612	174	5	1341	31	90	190	121	10	349	204
RTOR Reduction (vph)	0	0	1	0	3	0	0	33	0	0	6	0
Lane Group Flow (vph)	0	632	173	0	1374	0	90	278	0	0	557	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		44.4	44.4		44.4		35.6	35.6			35.6	
Effective Green, g (s)		44.4	44.4		44.4		35.6	35.6			35.6	
Actuated g/C Ratio		0.49	0.49		0.49		0.40	0.40			0.40	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1347	480		2051		224	1443			1361	
v/s Ratio Prot								0.08				
v/s Ratio Perm		0.23	0.18		c0.33		0.16				c0.16	
v/c Ratio		0.47	0.36		0.67		0.40	0.19			0.41	
Uniform Delay, d1		15.0	14.0		17.3		19.5	17.8			19.6	
Progression Factor		0.68	0.68		0.90		1.00	1.00			1.00	
Incremental Delay, d2		0.2	0.4		0.7		5.3	0.3			0.9	
Delay (s)		10.4	10.0		16.3		24.8	18.1			20.5	
Level of Service		B	A		B		C	B			C	
Approach Delay (s)		10.3			16.3			19.6			20.5	
Approach LOS		B			B			B			C	

Intersection Summary			
HCM Average Control Delay	16.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1459	260	0	2460	120	290	174	30	70	159	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.95			0.98		1.00	0.95		1.00	0.93	
Flpb, ped/bikes		1.00			1.00		0.77	1.00		0.77	1.00	
Frt		0.98			0.99		1.00	0.98		1.00	0.97	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4127			4180		1198	1522		1203	1297	
Flt Permitted		1.00			1.00		0.57	1.00		0.57	1.00	
Satd. Flow (perm)		4127			4180		724	1522		715	1297	
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)	0	1489	265	0	2510	122	296	178	31	71	162	41
RTOR Reduction (vph)	0	6	0	0	6	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	1748	0	0	2626	0	296	206	0	71	203	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2384			2415		221	465		218	396	
v/s Ratio Prot		0.42			c0.63			0.14			0.16	
v/s Ratio Perm							c0.41			0.10		
v/c Ratio		0.73			1.09		1.34	0.44		0.33	0.51	
Uniform Delay, d1		13.9			19.0		31.2	25.1		24.1	25.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.0			47.1		180.0	3.0		3.9	4.7	
Delay (s)		16.0			66.1		211.2	28.2		28.0	30.4	
Level of Service		B			E		F	C		C	C	
Approach Delay (s)		16.0			66.1			135.5			29.8	
Approach LOS		B			E			F			C	

Intersection Summary			
HCM Average Control Delay	53.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	110.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1239	130	0	2170	120	100	160	40	70	200	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			0.95	
Frpb, ped/bikes		0.98			0.98		1.00	0.93			0.94	
Flpb, ped/bikes		1.00			1.00		0.81	1.00			0.95	
Frt		0.99			0.99		1.00	0.97			0.97	
Flt Protected		1.00			1.00		0.95	1.00			0.99	
Satd. Flow (prot)		4315			4351		1259	1483			2680	
Flt Permitted		1.00			1.00		0.50	1.00			0.81	
Satd. Flow (perm)		4315			4351		665	1483			2196	
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	1304	137	0	2284	126	105	168	42	74	211	63
RTOR Reduction (vph)	0	4	0	0	5	0	0	6	0	0	1	0
Lane Group Flow (vph)	0	1437	0	0	2405	0	105	204	0	0	347	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2555			2577		199	443			656	
v/s Ratio Prot		0.33			c0.55			0.14				
v/s Ratio Perm							0.16				c0.16	
v/c Ratio		0.56			0.93		0.53	0.46			0.53	
Uniform Delay, d1		11.2			16.7		26.3	25.7			26.3	
Progression Factor		1.00			0.22		1.00	1.00			1.00	
Incremental Delay, d2		0.9			3.8		9.7	3.4			3.0	
Delay (s)		12.1			7.5		35.9	29.1			29.3	
Level of Service		B			A		D	C			C	
Approach Delay (s)		12.1			7.5			31.4			29.3	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM Average Control Delay	12.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	107.3%	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												
Volume (vph)	0	1309	100	0	2070	60	60	100	30	30	170	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.98			0.99			0.95			0.93	
Flpb, ped/bikes		1.00			1.00			0.94			0.97	
Frt		0.99			1.00			0.98			0.97	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		4130			4222			1233			1262	
Flt Permitted		1.00			1.00			0.79			0.94	
Satd. Flow (perm)		4130			4222			985			1197	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1423	109	0	2250	65	65	109	33	33	185	54
RTOR Reduction (vph)	0	5	0	0	3	0	0	4	0	0	1	0
Lane Group Flow (vph)	0	1527	0	0	2312	0	0	203	0	0	271	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2478			2533			296			359	
v/s Ratio Prot		0.37			c0.55							
v/s Ratio Perm								0.21			c0.23	
v/c Ratio		0.62			0.91			0.69			0.76	
Uniform Delay, d1		11.4			15.9			27.8			28.5	
Progression Factor		1.51			1.00			1.00			1.00	
Incremental Delay, d2		1.0			6.4			12.2			13.8	
Delay (s)		18.3			22.3			39.9			42.3	
Level of Service		B			C			D			D	
Approach Delay (s)		18.3			22.3			39.9			42.3	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM Average Control Delay	23.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.2%	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		↑↑↑			↑↑↑↱		↰	↰↑↑↱				↱
Volume (vph)	0	1089	0	0	1280	60	820	448	40	0	0	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.99		1.00	0.99				0.95
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.98				1.00
Satd. Flow (prot)		4282			4371		1415	2680				1352
Flt Permitted		1.00			1.00		0.95	0.98				1.00
Satd. Flow (perm)		4282			4371		1415	2680				1352
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1171	0	0	1376	65	882	482	43	0	0	86
RTOR Reduction (vph)	0	0	0	0	5	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	1171	0	0	1436	0	467	936	0	0	0	86
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		38.0			29.0		42.0	42.0				6.0
Effective Green, g (s)		38.0			29.0		42.0	42.0				6.0
Actuated g/C Ratio		0.42			0.32		0.47	0.47				0.07
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		1808			1408		660	1251				90
v/s Ratio Prot		0.27			c0.33							
v/s Ratio Perm							0.33	0.35				c0.06
v/c Ratio		0.65			1.02		0.71	0.75				0.96
Uniform Delay, d1		20.7			30.5		19.1	19.7				41.9
Progression Factor		1.00			0.37		1.00	1.00				1.00
Incremental Delay, d2		1.8			22.9		6.3	4.1				83.3
Delay (s)		22.5			34.2		25.4	23.8				125.1
Level of Service		C			C		C	C				F
Approach Delay (s)		22.5			34.2			24.3			125.1	
Approach LOS		C			C			C			F	

Intersection Summary			
HCM Average Control Delay	29.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	81.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

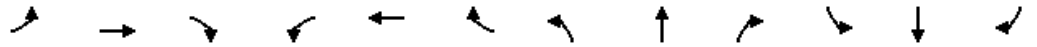
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	200	857	0	190	20	1026	251	40	0	466	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.97		1.00	0.95			1.00	0.67
Flpb, ped/bikes		0.91	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.99		1.00	0.98			1.00	0.85
Flt Protected		0.98	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1462	2448		1329		4385	1337			3110	815
Flt Permitted		0.63	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		942	2448		1329		4385	1337			3110	815
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	151	215	922	0	204	22	1103	270	43	0	501	144
RTOR Reduction (vph)	0	0	2	0	4	0	0	7	0	0	0	4
Lane Group Flow (vph)	0	366	920	0	222	0	1103	306	0	0	501	140
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		26.5	55.5		26.5		25.5	55.5			26.5	26.5
Effective Green, g (s)		26.5	52.0		26.5		25.5	55.5			26.5	26.5
Actuated g/C Ratio		0.29	0.58		0.29		0.28	0.62			0.29	0.29
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		277	1414		391		1242	824			916	240
v/s Ratio Prot			0.38		0.17		c0.25	0.23			0.16	
v/s Ratio Perm		c0.39										c0.17
v/c Ratio		1.32	0.65		0.57		0.89	0.37			0.55	0.58
Uniform Delay, d1		31.8	12.9		26.9		30.9	8.6			26.7	27.0
Progression Factor		0.46	0.33		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		163.3	0.9		1.9		9.7	1.3			2.3	9.9
Delay (s)		177.8	5.1		28.8		40.5	9.9			29.0	37.0
Level of Service		F	A		C		D	A			C	D
Approach Delay (s)		54.2			28.8			33.8			30.8	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM Average Control Delay	40.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	102.1%	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												
Volume (vph)	0	0	0	70	230	50	40	50	0	0	60	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.29		1.00			0.92	
Flpb, ped/bikes					0.85	1.00		0.87			1.00	
Frt					1.00	0.85		1.00			0.97	
Flt Protected					0.99	1.00		0.98			1.00	
Satd. Flow (prot)					2450	400		1396			1450	
Flt Permitted					0.99	1.00		0.86			1.00	
Satd. Flow (perm)					2450	400		1232			1450	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	0	80	264	57	46	57	0	0	69	23
RTOR Reduction (vph)	0	0	0	0	0	31	0	0	0	0	1	0
Lane Group Flow (vph)	0	0	0	0	344	26	0	103	0	0	91	0
Confl. Peds. (#/hr)				945		1084	569					569
Confl. Bikes (#/hr)						76			2			4
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					34.0	34.0		31.0			31.0	
Effective Green, g (s)					34.0	34.0		31.0			31.0	
Actuated g/C Ratio					0.45	0.45		0.41			0.41	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1111	181		509			599	
v/s Ratio Prot											0.06	
v/s Ratio Perm					0.14	0.06		c0.08				
v/c Ratio					0.31	0.14		0.20			0.15	
Uniform Delay, d1					13.0	12.0		14.1			13.8	
Progression Factor					1.00	1.00		0.96			1.00	
Incremental Delay, d2					0.7	1.6		0.8			0.5	
Delay (s)					13.8	13.6		14.4			14.3	
Level of Service					B	B		B			B	
Approach Delay (s)		0.0			13.7			14.4			14.3	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	57.5%	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												
Volume (vph)	0	0	0	210	250	30	170	40	0	0	80	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.92		1.00	1.00			0.96	
Flpb, ped/bikes				1.00	1.00		0.71	1.00			1.00	
Frt				1.00	0.98		1.00	1.00			0.99	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	2816		1101	1637			1552	
Flt Permitted				0.95	1.00		0.69	1.00			1.00	
Satd. Flow (perm)				1555	2816		802	1637			1552	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	0	236	281	34	191	45	0	0	90	11
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	236	308	0	191	45	0	0	101	0
Confl. Peds. (#/hr)						1700	537					569
Confl. Bikes (#/hr)						76			2			4
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				40.4	40.4		25.3	25.3			25.3	
Effective Green, g (s)				40.4	40.4		25.3	25.3			25.3	
Actuated g/C Ratio				0.54	0.54		0.34	0.34			0.34	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				838	1517		271	552			524	
v/s Ratio Prot				c0.15	0.11			0.03			0.07	
v/s Ratio Perm							c0.24					
v/c Ratio				0.28	0.20		0.70	0.08			0.19	
Uniform Delay, d1				9.4	9.0		21.6	16.9			17.6	
Progression Factor				1.00	1.00		1.03	1.04			1.00	
Incremental Delay, d2				0.8	0.3		14.3	0.3			0.8	
Delay (s)				10.2	9.3		36.7	17.9			18.4	
Level of Service				B	A		D	B			B	
Approach Delay (s)		0.0			9.7			33.1			18.4	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM Average Control Delay	16.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	38.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	190	110	10	497	20	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	202	117	11	529	21	11
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	306					
pX, platoon unblocked						
vC, conflicting volume			719		1611	960
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			719		1611	960
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		53	91
cM capacity (veh/h)			614		46	125

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	135	184	539	32
Volume Left	0	0	11	21
Volume Right	0	117	0	11
cSH	1700	1700	614	58
Volume to Capacity	0.08	0.11	0.02	0.55
Queue Length 95th (ft)	0	0	1	55
Control Delay (s)	0.0	0.0	0.5	126.6
Lane LOS			A	F
Approach Delay (s)	0.0		0.5	126.6
Approach LOS				F

Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	54.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	162	29	28	497	10	26	50	11	30	60	30
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		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.44		0.99			0.93			0.87	
Flpb, ped/bikes		0.96	1.00		0.98			0.88			0.89	
Frt		1.00	0.85		1.00			0.98			0.97	
Flt Protected		0.99	1.00		1.00			0.99			0.99	
Satd. Flow (prot)		1557	609		1381			1137			1058	
Flt Permitted		0.83	1.00		0.98			0.90			0.92	
Satd. Flow (perm)		1313	609		1352			1040			986	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	47	191	34	33	585	12	31	59	13	35	71	35
RTOR Reduction (vph)	0	0	16	0	1	0	0	7	0	0	3	0
Lane Group Flow (vph)	0	238	18	0	629	0	0	96	0	0	138	0
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4			4		
Actuated Green, G (s)		40.0	40.0		40.0			26.0			26.0	
Effective Green, g (s)		40.0	40.0		40.0			26.0			26.0	
Actuated g/C Ratio		0.53	0.53		0.53			0.35			0.35	
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)		700	325		721			361			342	
v/s Ratio Prot												
v/s Ratio Perm		0.18	0.03		c0.47			0.09			c0.14	
v/c Ratio		0.34	0.06		0.87			0.27			0.40	
Uniform Delay, d1		10.0	8.4		15.3			17.6			18.6	
Progression Factor		1.00	1.00		1.00			1.00			0.72	
Incremental Delay, d2		1.3	0.3		13.8			1.8			3.5	
Delay (s)		11.3	8.7		29.0			19.4			16.9	
Level of Service		B	A		C			B			B	
Approach Delay (s)		11.0			29.0			19.4			16.9	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	22.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	99.6%	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												
Volume (vph)	0	236	20	18	477	0	20	0	46	20	30	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
Lane Util. Factor		1.00	1.00		0.95			1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.26		1.00			0.62			1.00	0.67
Flpb, ped/bikes		1.00	1.00		0.98			0.91			0.81	1.00
Frt		1.00	0.85		1.00			0.91			1.00	0.85
Flt Protected		1.00	1.00		1.00			0.99			0.98	1.00
Satd. Flow (prot)		1637	354		3052			818			1295	933
Flt Permitted		1.00	1.00		0.94			0.94			0.92	1.00
Satd. Flow (perm)		1637	354		2868			782			1219	933
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	251	21	19	507	0	21	0	49	21	32	21
RTOR Reduction (vph)	0	0	16	0	0	0	0	0	0	0	0	8
Lane Group Flow (vph)	0	251	5	0	526	0	0	70	0	0	53	13
Confl. Peds. (#/hr)			800	800			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	36.5
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	36.5
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	0.61
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)		396	86		693			476			742	568
v/s Ratio Prot		0.15										
v/s Ratio Perm			0.01		c0.18			c0.09			0.04	0.01
v/c Ratio		0.63	0.06		0.76			0.15			0.07	0.02
Uniform Delay, d1		20.4	17.5		21.1			5.1			4.8	4.7
Progression Factor		1.00	1.00		1.00			1.00			1.00	1.00
Incremental Delay, d2		7.5	1.3		7.6			0.7			0.0	0.0
Delay (s)		27.9	18.8		28.8			5.7			4.9	4.7
Level of Service		C	B		C			A			A	A
Approach Delay (s)		27.2			28.8			5.7			4.8	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	24.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	71.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	354	20	80	10	190	10	376	340
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		0.97		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		0.99		0.99			1.00
Flt Protected		1.00		0.96		1.00			0.97
Satd. Flow (prot)		942		1311		1619			3030
Flt Permitted		1.00		0.96		1.00			0.95
Satd. Flow (perm)		942		1311		1619			2970
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	385	22	87	11	207	11	409	370
RTOR Reduction (vph)	0	0	0	6	0	0	0	0	0
Lane Group Flow (vph)	0	385	0	114	0	218	0	0	779
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		371		310			891
v/s Ratio Prot						0.13			
v/s Ratio Perm		c0.41		0.09					c0.26
v/c Ratio		0.73		0.31		0.70			0.87
Uniform Delay, d1		9.9		16.9		22.7			19.9
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		8.7		2.1		7.1			11.7
Delay (s)		18.6		19.0		29.7			31.6
Level of Service		B		B		C			C
Approach Delay (s)	18.6			19.0		29.7			31.6
Approach LOS	B			B		C			C

Intersection Summary			
HCM Average Control Delay	27.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	77.0%	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												
Volume (vph)	30	156	50	30	316	30	70	40	30	30	80	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.95			1.00	0.59	1.00	0.77			0.81	
Flpb, ped/bikes		0.97			1.00	1.00	0.61	1.00			0.92	
Frt		0.97			1.00	0.85	1.00	0.94			0.95	
Flt Protected		0.99			1.00	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1275			1426	721	952	1029			2168	
Flt Permitted		0.93			0.96	1.00	0.63	1.00			0.89	
Satd. Flow (perm)		1188			1373	721	630	1029			1954	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	34	179	57	34	363	34	80	46	34	34	92	69
RTOR Reduction (vph)	0	7	0	0	0	6	0	27	0	0	0	0
Lane Group Flow (vph)	0	263	0	0	397	28	80	53	0	0	195	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		62.5			62.5	62.5	17.4	17.4			17.4	
Effective Green, g (s)		62.5			62.5	62.5	17.4	17.4			17.4	
Actuated g/C Ratio		0.69			0.69	0.69	0.19	0.19			0.19	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		825			953	501	122	199			378	
v/s Ratio Prot								0.05				
v/s Ratio Perm		0.22			c0.29	0.04	c0.13				0.10	
v/c Ratio		0.32			0.42	0.06	0.66	0.26			0.52	
Uniform Delay, d1		5.4			5.9	4.4	33.5	30.9			32.5	
Progression Factor		1.00			1.00	1.00	0.66	0.42			1.00	
Incremental Delay, d2		1.0			1.3	0.2	12.0	0.7			1.2	
Delay (s)		6.4			7.3	4.6	34.0	13.8			33.7	
Level of Service		A			A	A	C	B			C	
Approach Delay (s)		6.4			7.0			23.9			33.7	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	14.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	118.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Volume (vph)	30	212	30	30	317	20	20	46	70	20	58	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.95			0.98			0.69			0.79	
Flpb, ped/bikes		0.97			0.98			0.94			0.93	
Frt		0.99			0.99			0.93			0.95	
Flt Protected		0.99			1.00			0.99			0.99	
Satd. Flow (prot)		1297			1349			852			1000	
Flt Permitted		0.94			0.96			0.95			0.94	
Satd. Flow (perm)		1223			1301			813			946	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	32	226	32	32	337	21	21	49	74	21	62	43
RTOR Reduction (vph)	0	1	0	0	1	0	0	42	0	0	21	0
Lane Group Flow (vph)	0	289	0	0	389	0	0	102	0	0	105	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.6			62.6			18.6			18.6	
Effective Green, g (s)		62.6			62.6			18.6			18.6	
Actuated g/C Ratio		0.70			0.70			0.21			0.21	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		851			905			168			196	
v/s Ratio Prot												
v/s Ratio Perm		0.24			c0.30			c0.13			0.11	
v/c Ratio		0.34			0.43			0.61			0.54	
Uniform Delay, d1		5.5			5.9			32.4			31.9	
Progression Factor		1.00			1.00			0.63			1.00	
Incremental Delay, d2		1.1			1.5			13.4			10.2	
Delay (s)		6.5			7.4			33.9			42.0	
Level of Service		A			A			C			D	
Approach Delay (s)		6.5			7.4			33.9			42.0	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM Average Control Delay	15.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.5%	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												
Volume (vph)	20	262	120	50	210	20	40	25	70	20	54	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.85			1.00	0.51		0.71			0.78	
Flpb, ped/bikes		0.98			0.95	1.00		0.88			0.94	
Frt		0.96			1.00	0.85		0.93			0.95	
Flt Protected		1.00			0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1151			1354	617		819			986	
Flt Permitted		0.98			0.87	1.00		0.89			0.95	
Satd. Flow (perm)		1129			1183	617		737			939	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	22	294	135	56	236	22	45	28	79	22	61	53
RTOR Reduction (vph)	0	6	0	0	0	7	0	33	0	0	25	0
Lane Group Flow (vph)	0	445	0	0	292	15	0	119	0	0	111	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		57.0			57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0			57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63			0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		715			749	391		205			261	
v/s Ratio Prot												
v/s Ratio Perm		c0.39			0.25	0.02		c0.16			0.12	
v/c Ratio		0.62			0.39	0.04		0.58			0.42	
Uniform Delay, d1		10.0			8.0	6.2		28.0			26.6	
Progression Factor		1.00			0.82	0.69		0.93			1.00	
Incremental Delay, d2		4.1			1.5	0.2		10.2			5.0	
Delay (s)		14.0			8.1	4.5		36.1			31.6	
Level of Service		B			A	A		D			C	
Approach Delay (s)		14.0			7.9			36.1			31.6	
Approach LOS		B			A			D			C	

Intersection Summary			
HCM Average Control Delay	17.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	262	70	10	170	10	30	26	40	20	38	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.51		1.00	0.51		0.77			0.81	
Flpb, ped/bikes		0.98	1.00		0.98	1.00		0.86			0.90	
Frt		1.00	0.85		1.00	0.85		0.94			0.95	
Flt Protected		1.00	1.00		1.00	1.00		0.98			0.99	
Satd. Flow (prot)		1392	604		1405	604		877			1126	
Flt Permitted		0.98	1.00		0.98	1.00		0.90			0.93	
Satd. Flow (perm)		1363	604		1383	604		802			1065	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	22	294	79	11	191	11	34	29	45	22	43	34
RTOR Reduction (vph)	0	0	6	0	0	4	0	29	0	0	21	0
Lane Group Flow (vph)	0	316	73	0	202	7	0	79	0	0	78	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Effective Green, g (s)		57.0	57.0		57.0	57.0		25.0			25.0	
Actuated g/C Ratio		0.63	0.63		0.63	0.63		0.28			0.28	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		863	383		876	383		223			296	
v/s Ratio Prot												
v/s Ratio Perm		c0.23	0.12		0.15	0.01		c0.10			0.07	
v/c Ratio		0.37	0.19		0.23	0.02		0.35			0.26	
Uniform Delay, d1		7.9	6.9		7.1	6.1		26.0			25.3	
Progression Factor		0.62	0.60		1.00	1.00		0.80			1.00	
Incremental Delay, d2		0.9	0.9		0.6	0.1		3.6			2.2	
Delay (s)		5.9	5.0		7.7	6.2		24.5			27.5	
Level of Service		A	A		A	A		C			C	
Approach Delay (s)		5.7			7.6			24.5			27.5	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	11.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	30	272	20	30	30	20	494	70	10	200	576
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				5.0		5.0			5.0	5.0
Lane Util. Factor	1.00				1.00		0.95			1.00	0.95
Frpb, ped/bikes	0.89				0.91		0.88			1.00	1.00
Flpb, ped/bikes	1.00				0.66		1.00			1.00	1.00
Frt	0.88				0.97		0.98			1.00	1.00
Flt Protected	1.00				0.96		1.00			0.95	1.00
Satd. Flow (prot)	1274				913		2681			1555	3110
Flt Permitted	1.00				0.96		1.00			0.95	1.00
Satd. Flow (perm)	1274				913		2681			1555	3110
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
Adj. Flow (vph)	32	286	21	32	32	21	520	74	11	211	606
RTOR Reduction (vph)	2	0	0	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	337	0	0	0	85	0	603	0	0	211	606
Confl. Peds. (#/hr)				400	400	400		400	400		
Confl. Bikes (#/hr)		30	30			10		30	30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0
Turn Type				Perm						Split	
Protected Phases	4				3		6			2	2
Permitted Phases				3							
Actuated Green, G (s)	20.0				20.0		17.0			13.0	13.0
Effective Green, g (s)	20.0				20.0		17.0			13.0	13.0
Actuated g/C Ratio	0.22				0.22		0.19			0.14	0.14
Clearance Time (s)	5.0				5.0		5.0			5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	283				203		506			225	449
v/s Ratio Prot	c0.26						c0.23			0.14	c0.19
v/s Ratio Perm					0.09						
v/c Ratio	1.19				0.42		1.19			0.94	1.35
Uniform Delay, d1	35.0				30.0		36.5			38.1	38.5
Progression Factor	1.00				1.02		1.00			0.81	0.80
Incremental Delay, d2	115.0				1.3		104.8			44.5	171.0
Delay (s)	150.0				31.8		141.3			75.2	201.9
Level of Service	F				C		F			E	F
Approach Delay (s)	150.0				31.8		141.3				169.2
Approach LOS	F				C		F				F

Intersection Summary			
HCM Average Control Delay	150.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	86.8%	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												
Volume (vph)	0	918	40	8	1533	30	0	40	21	0	82	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.91			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.87			0.93	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.95			0.97	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2862			4245			1187			1291	
Flt Permitted		1.00			0.93			1.00			1.00	
Satd. Flow (perm)		2862			3966			1187			1291	
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)	0	1020	44	9	1703	33	0	44	23	0	91	22
RTOR Reduction (vph)	0	0	0	0	0	0	0	20	0	0	8	0
Lane Group Flow (vph)	0	1064	0	0	1745	0	0	47	0	0	105	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type				Perm								
Protected Phases		2			6			8			4	
Permitted Phases				6								
Actuated Green, G (s)		70.4			70.4			10.8			10.8	
Effective Green, g (s)		70.4			70.4			10.8			10.8	
Actuated g/C Ratio		0.78			0.78			0.12			0.12	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2239			3102			142			155	
v/s Ratio Prot		0.37						0.04			c0.08	
v/s Ratio Perm					c0.44							
v/c Ratio		0.48			0.56			0.33			0.68	
Uniform Delay, d1		3.4			3.8			36.3			37.9	
Progression Factor		0.60			1.00			1.00			1.00	
Incremental Delay, d2		0.7			0.2			1.4			11.2	
Delay (s)		2.8			4.0			37.6			49.1	
Level of Service		A			A			D			D	
Approach Delay (s)		2.8			4.0			37.6			49.1	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	6.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	75.0%	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												
Volume (vph)	0	782	227	2	1158	40	354	90	70	0	150	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.70		1.00	0.70	1.00	1.00	0.74		0.98	
Flpb, ped/bikes		1.00	1.00		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	0.85		0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3110	974		3109	974	3016	1637	1024		2816	
Flt Permitted		1.00	1.00		0.95	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		3110	974		2968	974	3016	1637	1024		2816	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	832	241	2	1232	43	377	96	74	0	160	11
RTOR Reduction (vph)	0	0	69	0	0	19	0	0	3	0	6	0
Lane Group Flow (vph)	0	832	172	0	1234	24	377	96	71	0	165	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type			Perm	Perm		Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases			2	6		6			8			
Actuated Green, G (s)		50.2	50.2		50.2	50.2	15.7	30.8	30.8		10.6	
Effective Green, g (s)		50.2	50.2		50.2	50.2	15.7	30.8	30.8		10.6	
Actuated g/C Ratio		0.56	0.56		0.56	0.56	0.17	0.34	0.34		0.12	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		1735	543		1655	543	526	560	350		332	
v/s Ratio Prot		0.27					c0.12	0.06			c0.06	
v/s Ratio Perm			0.18		c0.42	0.02			0.07			
v/c Ratio		0.48	0.32		0.75	0.04	0.72	0.17	0.20		0.50	
Uniform Delay, d1		12.0	10.7		15.1	9.0	35.1	20.7	20.9		37.2	
Progression Factor		1.00	1.00		0.78	0.67	1.00	1.00	1.00		0.79	
Incremental Delay, d2		1.0	1.5		2.9	0.1	4.6	0.1	0.3		1.1	
Delay (s)		13.0	12.2		14.6	6.2	39.7	20.8	21.2		30.5	
Level of Service		B	B		B	A	D	C	C		C	
Approach Delay (s)		12.8			14.3			33.9			30.5	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM Average Control Delay	18.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	93.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	86	758	1110	40	90	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.91		1.00	
Frpb, ped/bikes		1.00	0.99		0.82	
Flpb, ped/bikes		0.99	1.00		1.00	
Frt		1.00	0.99		0.93	
Flt Protected		0.99	1.00		0.98	
Satd. Flow (prot)		2886	4398		1069	
Flt Permitted		0.70	1.00		0.98	
Satd. Flow (perm)		2022	4398		1069	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	91	806	1181	43	96	94
RTOR Reduction (vph)	0	0	4	0	20	0
Lane Group Flow (vph)	0	897	1220	0	170	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		64.0	64.0		19.0	
Effective Green, g (s)		64.0	64.0		19.0	
Actuated g/C Ratio		0.71	0.71		0.21	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1438	3127		226	
v/s Ratio Prot			0.28		c0.16	
v/s Ratio Perm		c0.44				
v/c Ratio		0.62	0.39		0.75	
Uniform Delay, d1		6.7	5.2		33.3	
Progression Factor		0.58	1.00		0.82	
Incremental Delay, d2		0.8	0.1		19.9	
Delay (s)		4.7	5.3		47.3	
Level of Service		A	A		D	
Approach Delay (s)		4.7	5.3		47.3	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	8.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	120.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	26	410	50	50	1182	40	30	48	60	70	87	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			0.99			0.85			0.91	
Flpb, ped/bikes		1.00			0.99			0.96			0.92	
Frt		0.98			1.00			0.94			0.96	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2764			2851			1081			1136	
Flt Permitted		0.84			0.91			0.90			0.83	
Satd. Flow (perm)		2333			2596			979			957	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	28	441	54	54	1271	43	32	52	65	75	94	60
RTOR Reduction (vph)	0	2	0	0	2	0	0	31	0	0	12	0
Lane Group Flow (vph)	0	521	0	0	1366	0	0	118	0	0	217	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		60.6			60.6			20.6			20.6	
Effective Green, g (s)		60.6			60.6			20.6			20.6	
Actuated g/C Ratio		0.67			0.67			0.23			0.23	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1571			1748			224			219	
v/s Ratio Prot												
v/s Ratio Perm		0.22			c0.53			0.12			c0.23	
v/c Ratio		0.33			0.78			0.53			0.99	
Uniform Delay, d1		6.2			10.1			30.4			34.6	
Progression Factor		1.00			0.11			1.00			0.84	
Incremental Delay, d2		0.6			2.4			8.6			53.5	
Delay (s)		6.8			3.6			39.1			82.4	
Level of Service		A			A			D			F	
Approach Delay (s)		6.8			3.6			39.1			82.4	
Approach LOS		A			A			D			F	

Intersection Summary			
HCM Average Control Delay	14.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	108.5%	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												
Volume (vph)	26	704	30	30	1205	40	30	30	60	50	40	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.82			0.89	
Flpb, ped/bikes		1.00			1.00			0.94			0.90	
Frt		0.99			1.00			0.93			0.96	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		2853			2864			1015			1085	
Flt Permitted		0.87			0.92			0.90			0.81	
Satd. Flow (perm)		2489			2633			928			892	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	765	33	33	1310	43	33	33	65	54	43	41
RTOR Reduction (vph)	0	1	0	0	1	0	0	41	0	0	13	0
Lane Group Flow (vph)	0	825	0	0	1385	0	0	90	0	0	125	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		65.4			65.4			15.7			15.7	
Effective Green, g (s)		65.4			65.4			15.7			15.7	
Actuated g/C Ratio		0.73			0.73			0.17			0.17	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1809			1913			162			156	
v/s Ratio Prot												
v/s Ratio Perm		0.33			c0.53			0.10			c0.14	
v/c Ratio		0.46			0.72			0.55			0.80	
Uniform Delay, d1		5.0			7.1			33.9			35.6	
Progression Factor		0.77			0.29			1.00			0.85	
Incremental Delay, d2		0.8			0.9			4.1			23.9	
Delay (s)		4.7			3.0			38.0			54.1	
Level of Service		A			A			D			D	
Approach Delay (s)		4.7			3.0			38.0			54.1	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	8.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	86.3%	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												
Volume (vph)	20	731	70	40	1120	20	140	10	30	10	10	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			0.99			0.94			0.82	
Flpb, ped/bikes		1.00			1.00			0.74			0.95	
Frt		0.99			1.00			0.98			0.93	
Flt Protected		1.00			1.00			0.96			0.99	
Satd. Flow (prot)		2796			3073			1074			1171	
Flt Permitted		0.90			0.89			0.74			0.92	
Satd. Flow (perm)		2528			2741			830			1086	
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)	22	812	78	44	1244	22	156	11	33	11	11	22
RTOR Reduction (vph)	0	2	0	0	1	0	0	8	0	0	15	0
Lane Group Flow (vph)	0	910	0	0	1309	0	0	192	0	0	29	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1744			1891			178			233	
v/s Ratio Prot												
v/s Ratio Perm		0.36			c0.48			c0.23			0.03	
v/c Ratio		0.52			0.69			1.08			0.12	
Uniform Delay, d1		6.8			8.3			35.4			28.5	
Progression Factor		1.35			0.36			1.00			0.62	
Incremental Delay, d2		1.0			0.9			90.2			0.1	
Delay (s)		10.1			3.8			125.6			17.7	
Level of Service		B			A			F			B	
Approach Delay (s)		10.1			3.8			125.6			17.7	
Approach LOS		B			A			F			B	

Intersection Summary			
HCM Average Control Delay	16.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	94.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	20	751	1140	757	764	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3055	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3055	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	816	1239	823	830	43
RTOR Reduction (vph)	0	11	0	0	4	0
Lane Group Flow (vph)	22	805	1239	823	869	0
Confl. Peds. (#/hr)						95
Confl. Bikes (#/hr)		10				81
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	7.0	50.6	39.6	73.0	29.4	
Effective Green, g (s)	7.0	50.6	39.6	73.0	29.4	
Actuated g/C Ratio	0.08	0.56	0.44	0.81	0.33	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	121	1376	1327	2364	998	
v/s Ratio Prot	0.01	c0.33	c0.41	0.28	c0.28	
v/s Ratio Perm						
v/c Ratio	0.18	0.59	0.93	0.35	0.87	
Uniform Delay, d1	38.8	12.9	24.0	2.2	28.5	
Progression Factor	1.06	0.81	0.72	1.15	0.40	
Incremental Delay, d2	0.6	0.5	6.9	0.2	0.9	
Delay (s)	41.9	11.0	24.2	2.8	12.3	
Level of Service	D	B	C	A	B	
Approach Delay (s)	11.8			15.7	12.3	
Approach LOS	B			B	B	

Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	78.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	90	341	40	0	1486	0	50	38	1558
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			1.00			1.00	1.00
Flpb, ped/bikes				0.81			1.00			1.00	1.00
Frt				0.99			1.00			1.00	1.00
Flt Protected				0.96			1.00			0.95	1.00
Satd. Flow (prot)				2258			4428			1555	3110
Flt Permitted				0.96			1.00			0.95	1.00
Satd. Flow (perm)				2258			4428			1555	3110
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
Adj. Flow (vph)	0	0	100	379	44	0	1651	0	56	42	1731
RTOR Reduction (vph)	0	0	0	8	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	0	0	515	0	0	1704	0	0	42	1731
Confl. Peds. (#/hr)			125	64					125		
Confl. Bikes (#/hr)					34				86		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				24.1			48.7			4.2	56.9
Effective Green, g (s)				24.1			48.7			4.2	56.9
Actuated g/C Ratio				0.27			0.54			0.05	0.63
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				605			2396			73	1966
v/s Ratio Prot							0.38			0.03	c0.56
v/s Ratio Perm				0.23							
v/c Ratio				0.85			0.71			0.58	0.88
Uniform Delay, d1				31.2			15.4			42.0	13.7
Progression Factor				1.00			0.79			1.00	1.00
Incremental Delay, d2				11.1			0.6			6.7	6.1
Delay (s)				42.3			12.7			48.7	19.8
Level of Service				D			B			D	B
Approach Delay (s)	0.0			42.3			12.7				20.5
Approach LOS	A			D			B				C

Intersection Summary			
HCM Average Control Delay	20.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	70.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBR	EBR2	SEL	SET	SER2	NWL2	NWL	NWT	NWR	SWR2
Lane Configurations											
Volume (vph)	32	2	300	20	1100	426	176	0	1575	20	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		7.0	7.0	7.0		4.0	7.0		
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00		1.00	0.95		
Frpb, ped/bikes	1.00	0.91		1.00	1.00	0.95		1.00	0.99		
Flpb, ped/bikes	1.00	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	1.00		
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95	1.00		
Satd. Flow (prot)	1555	1105		1555	3110	1323		1555	3080		
Flt Permitted	0.95	1.00		0.13	1.00	1.00		0.40	1.00		
Satd. Flow (perm)	1555	1105		218	3110	1323		655	3080		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	2	326	22	1196	463	191	0	1712	22	0
RTOR Reduction (vph)	0	233	0	0	0	287	0	0	1	0	0
Lane Group Flow (vph)	35	95	0	22	1196	176	0	191	1733	0	0
Confl. Peds. (#/hr)			64							1000	100
Confl. Bikes (#/hr)		10	10			30				30	10
Parking (#/hr)		5	5								
Turn Type	custom	custom		Perm		Perm	custom	Prot			custom
Protected Phases					6			5	2		
Permitted Phases	4	4		6		6	5				8
Actuated Green, G (s)	22.5	22.5		30.0	30.0	30.0		10.0	44.0		
Effective Green, g (s)	22.5	22.5		30.0	30.0	30.0		10.0	44.0		
Actuated g/C Ratio	0.28	0.28		0.38	0.38	0.38		0.13	0.56		
Clearance Time (s)	5.5	5.5		7.0	7.0	7.0		4.0	7.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	443	315		83	1181	502		83	1715		
v/s Ratio Prot					0.38				c0.56		
v/s Ratio Perm	0.02	c0.09		0.10		0.13		c0.29			
v/c Ratio	0.08	0.30		0.27	1.01	0.35		2.30	1.01		
Uniform Delay, d1	20.7	22.1		16.9	24.5	17.5		34.5	17.5		
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2	0.1	0.5		7.6	29.4	1.9		621.7	24.3		
Delay (s)	20.7	22.6		24.5	53.9	19.4		656.2	41.8		
Level of Service	C	C		C	D	B		F	D		
Approach Delay (s)					44.0				102.7		
Approach LOS					D				F		

Intersection Summary			
HCM Average Control Delay	70.5	HCM Level of Service	E
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	117.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	40	0	130	0	0	0	90	1702	0	0	20	1264
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.75					1.00	1.00				0.99
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.90					1.00	1.00				1.00
Flt Protected		0.99					0.95	1.00				1.00
Satd. Flow (prot)		953					1555	3110				3078
Flt Permitted		0.99					0.95	1.00				0.86
Satd. Flow (perm)		953					1555	3110				2637
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	43	0	138	0	0	0	96	1811	0	0	21	1345
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	0	179	0	0	0	0	96	1811	0	0	0	1386
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		21.2					4.0	59.8				50.8
Effective Green, g (s)		21.2					4.0	59.8				50.8
Actuated g/C Ratio		0.24					0.04	0.66				0.56
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		224					69	2066				1488
v/s Ratio Prot		c0.19					0.06	c0.58				
v/s Ratio Perm												c0.53
v/c Ratio		0.80					1.39	0.88				0.93
Uniform Delay, d1		32.4					43.0	12.1				18.0
Progression Factor		1.00					0.69	0.18				1.00
Incremental Delay, d2		18.3					218.5	3.3				11.9
Delay (s)		50.7					248.3	5.5				29.9
Level of Service		D					F	A				C
Approach Delay (s)		50.7			0.0			17.7				29.9
Approach LOS		D			A			B				C

Intersection Summary			
HCM Average Control Delay	24.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	113.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	20
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	21
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	101	731	0	0	945	110	280	302	40	0	0	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			
Lane Util. Factor		0.95			0.95			0.95	1.00			
Frpb, ped/bikes		1.00			0.97			1.00	0.71			
Flpb, ped/bikes		0.99			1.00			0.86	1.00			
Frt		1.00			0.98			1.00	0.85			
Flt Protected		0.99			1.00			0.98	1.00			
Satd. Flow (prot)		2844			2750			2427	986			
Flt Permitted		0.60			1.00			0.98	1.00			
Satd. Flow (perm)		1706			2750			2427	986			
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)	106	769	0	0	995	116	295	318	42	0	0	0
RTOR Reduction (vph)	0	0	0	0	11	0	0	0	24	0	0	0
Lane Group Flow (vph)	0	875	0	0	1100	0	0	613	18	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm		Perm			
Protected Phases		2			6			8				
Permitted Phases	2						8		8			
Actuated Green, G (s)		37.0			37.0			34.0	34.0			
Effective Green, g (s)		37.0			37.0			34.0	34.0			
Actuated g/C Ratio		0.46			0.46			0.42	0.42			
Clearance Time (s)		4.5			4.5			4.5	4.5			
Vehicle Extension (s)		3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)		789			1272			1031	419			
v/s Ratio Prot					0.40							
v/s Ratio Perm		c0.51						0.25	0.02			
v/c Ratio		1.15dl			0.86			0.59	0.04			
Uniform Delay, d1		21.5			19.3			17.7	13.5			
Progression Factor		1.00			0.35			1.00	1.00			
Incremental Delay, d2		66.2			0.8			2.5	0.2			
Delay (s)		87.7			7.5			20.2	13.7			
Level of Service		F			A			C	B			
Approach Delay (s)		87.7			7.5			19.8			0.0	
Approach LOS		F			A			B			A	

Intersection Summary			
HCM Average Control Delay	37.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	104.3%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	491	280	50	858	0	0	0	0	70	718	206
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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.88			1.00						0.95	
Flpb, ped/bikes		1.00			1.00						0.98	
Frt		0.95			1.00						0.97	
Flt Protected		1.00			1.00						1.00	
Satd. Flow (prot)		2591			3087						2641	
Flt Permitted		1.00			0.78						1.00	
Satd. Flow (perm)		2591			2413						2641	
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)	0	501	286	51	876	0	0	0	0	71	733	210
RTOR Reduction (vph)	0	17	0	0	0	0	0	0	0	0	15	0
Lane Group Flow (vph)	0	770	0	0	927	0	0	0	0	0	999	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		27.0			27.0						44.0	
Effective Green, g (s)		27.0			27.0						44.0	
Actuated g/C Ratio		0.34			0.34						0.55	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		874			814						1453	
v/s Ratio Prot		0.30										
v/s Ratio Perm					c0.38						0.38	
v/c Ratio		0.88			1.14						0.69	
Uniform Delay, d1		25.0			26.5						13.0	
Progression Factor		0.83			1.00						1.00	
Incremental Delay, d2		1.1			77.2						2.7	
Delay (s)		21.9			103.7						15.7	
Level of Service		C			F						B	
Approach Delay (s)		21.9			103.7			0.0			15.7	
Approach LOS		C			F			A			B	

Intersection Summary			
HCM Average Control Delay	47.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	104.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	101	430	580	1702	0	1285	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.67	1.00	1.00		0.97	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		0.99	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	929	3016	3110		2995	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	929	3016	3110		2995	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	101	430	580	1702	0	1285	108
RTOR Reduction (vph)	0	212	0	0	0	7	0
Lane Group Flow (vph)	101	218	580	1702	0	1386	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	23.6	23.6	15.4	55.4		34.0	
Effective Green, g (s)	23.6	23.6	15.4	55.4		34.0	
Actuated g/C Ratio	0.26	0.26	0.17	0.62		0.38	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	408	244	516	1914		1131	
v/s Ratio Prot	0.06		c0.19	0.55		c0.46	
v/s Ratio Perm		c0.23					
v/c Ratio	0.25	0.89	1.12	0.89		1.23	
Uniform Delay, d1	26.2	32.0	37.3	14.7		28.0	
Progression Factor	1.00	1.00	1.00	1.00		0.83	
Incremental Delay, d2	0.3	31.1	78.3	6.7		105.0	
Delay (s)	26.5	63.1	115.6	21.4		128.2	
Level of Service	C	E	F	C		F	
Approach Delay (s)	56.2			45.3		128.2	
Approach LOS	E			D		F	

Intersection Summary			
HCM Average Control Delay	74.1	HCM Level of Service	E
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	115.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	171	30	12	86	10	20	20	25	50	80	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
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.46		1.00	0.67		0.87			1.00	0.43
Flpb, ped/bikes		0.98	1.00		0.95	1.00		0.87			0.89	1.00
Frt		1.00	0.85		1.00	0.85		0.95			1.00	0.85
Flt Protected		1.00	1.00		0.99	1.00		0.99			0.98	1.00
Satd. Flow (prot)		1606	635		1544	937		1146			1426	604
Flt Permitted		0.99	1.00		0.97	1.00		0.88			0.87	1.00
Satd. Flow (perm)		1593	635		1505	937		1025			1271	604
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	182	32	13	91	11	21	21	27	53	85	21
RTOR Reduction (vph)	0	0	4	0	0	3	0	17	0	0	0	18
Lane Group Flow (vph)	0	193	28	0	104	8	0	52	0	0	138	3
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		54.1	54.1		54.1	54.1		11.9			11.9	11.9
Effective Green, g (s)		54.1	54.1		54.1	54.1		11.9			11.9	11.9
Actuated g/C Ratio		0.72	0.72		0.72	0.72		0.16			0.16	0.16
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)		1149	458		1086	676		163			202	96
v/s Ratio Prot												
v/s Ratio Perm		c0.12	0.04		0.07	0.01		0.05			c0.11	0.01
v/c Ratio		0.17	0.06		0.10	0.01		0.32			0.68	0.03
Uniform Delay, d1		3.3	3.0		3.1	2.9		28.0			29.8	26.7
Progression Factor		1.00	1.00		1.00	1.00		1.00			0.73	0.60
Incremental Delay, d2		0.1	0.1		0.2	0.0		1.1			9.0	0.1
Delay (s)		3.4	3.1		3.3	3.0		29.1			30.8	16.3
Level of Service		A	A		A	A		C			C	B
Approach Delay (s)		3.3			3.3			29.1			28.9	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	13.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	104.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBT	WBR	WBR2	NBR	SBL	SBR	SBR2	SEL2	SEL	SER2
Lane Configurations												
Volume (vph)	493	40	544	400	90	70	50	20	40	20	390	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Util. Factor	0.95	1.00	0.95	1.00		1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	0.40	1.00	0.34		0.67	1.00	0.96			1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00	1.00			0.81	1.00
Frt	1.00	0.85	1.00	0.85		0.86	1.00	0.85			1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3110	558	3110	477		952	1555	1330			1264	1175
Flt Permitted	1.00	1.00	1.00	1.00		1.00	0.95	1.00			0.96	1.00
Satd. Flow (perm)	3110	558	3110	477		952	1555	1330			1280	1175
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	514	42	567	417	94	73	52	21	42	21	406	104
RTOR Reduction (vph)	0	20	0	187	0	28	0	29	0	0	0	72
Lane Group Flow (vph)	514	22	567	324	0	45	52	34	0	0	427	32
Confl. Peds. (#/hr)		400		100	400	400				400	100	100
Confl. Bikes (#/hr)		10		30	30	10		10	10			10
Turn Type		Perm		Perm		custom	custom	custom		Perm		Perm
Protected Phases	2		6								7!	
Permitted Phases	2	2	6	6		4	4!	4!		7!		7
Actuated Green, G (s)	40.0	40.0	40.0	40.0		23.0	23.0	23.0			23.0	23.0
Effective Green, g (s)	40.0	40.0	40.0	40.0		23.0	23.0	23.0			23.0	23.0
Actuated g/C Ratio	0.53	0.53	0.53	0.53		0.31	0.31	0.31			0.31	0.31
Clearance Time (s)	7.0	7.0	7.0	7.0		5.0	5.0	5.0			5.0	5.0
Lane Grp Cap (vph)	1659	298	1659	254		292	477	408			393	360
v/s Ratio Prot	0.17		0.18									
v/s Ratio Perm		0.04		c0.68		0.05	0.03	0.03			c0.33	0.03
v/c Ratio	0.31	0.08	0.34	1.28		0.16	0.11	0.08			1.09	0.09
Uniform Delay, d1	9.8	8.5	10.0	17.5		18.9	18.7	18.5			26.0	18.5
Progression Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	0.5	0.5	0.6	151.5		1.1	0.5	0.4			70.6	0.5
Delay (s)	10.3	9.0	10.5	169.0		20.1	19.1	18.9			96.6	19.0
Level of Service	B	A	B	F		C	B	B			F	B
Approach Delay (s)	10.2		85.7								81.4	
Approach LOS	B		F								F	

Intersection Summary			
HCM Average Control Delay	61.6	HCM Level of Service	E
HCM Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	59.4%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	733	110	59	784	140	119
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	756	113	61	808	144	123

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	504	365	330	539	267
Volume Left (vph)	0	0	61	0	144
Volume Right (vph)	0	113	0	0	123
Hadj (s)	0.02	-0.20	0.11	0.02	-0.15
Departure Headway (s)	6.8	6.6	6.9	6.9	6.8
Degree Utilization, x	0.95	0.67	0.64	1.03	0.50
Capacity (veh/h)	528	537	501	526	526
Control Delay (s)	51.8	20.4	20.2	71.1	16.4
Approach Delay (s)	38.6		51.8		16.4
Approach LOS	E		F		C

Intersection Summary			
Delay	41.3		
HCM Level of Service	E		
Intersection Capacity Utilization	84.6%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBR2	SBL2	SBL	SBT
Lane Configurations												
Volume (vph)	100	643	90	20	10	30	664	50	40	30	20	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4					5.4		4.0			5.0
Lane Util. Factor		0.95					0.95		1.00			1.00
Frpb, ped/bikes		0.93					0.97		0.78			1.00
Flpb, ped/bikes		0.99					0.99		1.00			1.00
Frt		0.98					0.99		0.86			1.00
Flt Protected		0.99					1.00		1.00			0.98
Satd. Flow (prot)		2598					2969		1106			1600
Flt Permitted		0.74					0.86		1.00			0.98
Satd. Flow (perm)		1928					2570		1106			1600
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	106	684	96	21	11	32	706	53	43	32	21	64
RTOR Reduction (vph)	0	0	0	0	0	0	7	0	0	0	0	0
Lane Group Flow (vph)	0	907	0	0	0	0	795	0	43	0	0	117
Confl. Peds. (#/hr)	400		400	400	400	400		400	400	400	400	
Confl. Bikes (#/hr)			30	30				30	10			
Parking (#/hr)		5	5	5								
Turn Type	Perm				Perm	Perm			Free	Split	Split	
Protected Phases		2					6			4	4	4
Permitted Phases	2				6	6			Free			
Actuated Green, G (s)		41.6					41.6		75.0			9.0
Effective Green, g (s)		41.6					41.6		75.0			9.0
Actuated g/C Ratio		0.55					0.55		1.00			0.12
Clearance Time (s)		5.4					5.4					5.0
Lane Grp Cap (vph)		1069					1425		1106			192
v/s Ratio Prot												c0.07
v/s Ratio Perm		c0.47					0.31		0.04			
v/c Ratio		0.85					0.56		0.04			0.61
Uniform Delay, d1		14.0					10.8		0.0			31.3
Progression Factor		1.00					0.48		1.00			1.00
Incremental Delay, d2		8.4					1.4		0.1			13.6
Delay (s)		22.4					6.6		0.1			44.9
Level of Service		C					A		A			D
Approach Delay (s)		22.4					6.6					45.8
Approach LOS		C					A					D

Intersection Summary			
HCM Average Control Delay	19.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	113.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR	NWL	NWR	NWR2
Lane Configurations				
Volume (vph)	60	120	40	20
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0
Lane Util. Factor	1.00	0.97		1.00
Frpb, ped/bikes	0.55	0.81		0.55
Flpb, ped/bikes	1.00	1.00		1.00
Frt	0.85	0.96		0.85
Flt Protected	1.00	0.96		1.00
Satd. Flow (prot)	768	2392		768
Flt Permitted	1.00	0.96		1.00
Satd. Flow (perm)	768	2392		768
Peak-hour factor, PHF	0.94	0.94	0.94	0.94
Adj. Flow (vph)	64	128	43	21
RTOR Reduction (vph)	20	0	0	18
Lane Group Flow (vph)	44	171	0	3
Confl. Peds. (#/hr)	400	400	400	400
Confl. Bikes (#/hr)	10		10	10
Parking (#/hr)				
Turn Type	Perm			Perm
Protected Phases		8		
Permitted Phases	4			8
Actuated Green, G (s)	9.0	9.0		9.0
Effective Green, g (s)	9.0	9.0		9.0
Actuated g/C Ratio	0.12	0.12		0.12
Clearance Time (s)	5.0	5.0		5.0
Lane Grp Cap (vph)	92	287		92
v/s Ratio Prot		c0.07		
v/s Ratio Perm	0.06			0.00
v/c Ratio	0.48	0.60		0.03
Uniform Delay, d1	30.8	31.3		29.1
Progression Factor	1.00	1.00		1.00
Incremental Delay, d2	16.6	8.8		0.6
Delay (s)	47.4	40.1		29.7
Level of Service	D	D		C
Approach Delay (s)		39.0		
Approach LOS		D		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	673	60	40	674	90	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	3.5	
Lane Util. Factor	0.95			0.95	1.00	
Frpb, ped/bikes	0.97			1.00	0.86	
Flpb, ped/bikes	1.00			0.99	1.00	
Frt	0.99			1.00	0.94	
Flt Protected	1.00			1.00	0.97	
Satd. Flow (prot)	2795			3084	1281	
Flt Permitted	1.00			0.87	0.97	
Satd. Flow (perm)	2795			2701	1281	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	756	67	45	757	101	79
RTOR Reduction (vph)	9	0	0	0	23	0
Lane Group Flow (vph)	814	0	0	802	157	0
Confl. Peds. (#/hr)		400	400		400	400
Confl. Bikes (#/hr)		30				10
Parking (#/hr)	5	5				
Turn Type			Perm			
Protected Phases	4			8	2	
Permitted Phases			8			
Actuated Green, G (s)	45.0			45.0	22.5	
Effective Green, g (s)	45.0			45.0	22.5	
Actuated g/C Ratio	0.60			0.60	0.30	
Clearance Time (s)	4.0			4.0	3.5	
Lane Grp Cap (vph)	1677			1621	384	
v/s Ratio Prot	0.29				c0.12	
v/s Ratio Perm				c0.30		
v/c Ratio	0.49			0.49	0.41	
Uniform Delay, d1	8.5			8.5	20.9	
Progression Factor	0.38			1.00	1.00	
Incremental Delay, d2	0.7			1.1	3.2	
Delay (s)	3.9			9.6	24.1	
Level of Service	A			A	C	
Approach Delay (s)	3.9			9.6	24.1	
Approach LOS	A			A	C	

Intersection Summary			
HCM Average Control Delay	8.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	7.5
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	673	50	30	714	20	40
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	724	54	32	768	22	43

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total (vph)	482	295	288	512	65
Volume Left (vph)	0	0	32	0	22
Volume Right (vph)	0	54	0	0	43
Hadj (s)	0.02	-0.11	0.07	0.02	-0.32
Departure Headway (s)	5.7	5.5	5.7	5.6	6.4
Degree Utilization, x	0.76	0.45	0.45	0.80	0.11
Capacity (veh/h)	623	635	617	628	537
Control Delay (s)	22.9	11.8	12.1	25.9	10.2
Approach Delay (s)	18.7		21.0		10.2
Approach LOS	C		C		B

Intersection Summary			
Delay	19.5		
HCM Level of Service	C		
Intersection Capacity Utilization	66.4%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	97	546	40	20	586	211	70	60	30	141	80	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frpb, ped/bikes		0.95			1.00	0.54		0.94		1.00	0.96	
Flpb, ped/bikes		0.98			1.00	1.00		0.89		0.77	0.94	
Frt		0.99			1.00	0.85		0.97		1.00	0.99	
Flt Protected		0.99			1.00	1.00		0.98		0.95	0.99	
Satd. Flow (prot)		2641			3110	657		1141		1134	1366	
Flt Permitted		0.76			1.00	1.00		0.82		0.69	0.90	
Satd. Flow (perm)		2029			3110	657		952		822	1246	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	107	600	44	22	644	232	77	66	33	155	88	11
RTOR Reduction (vph)	0	3	0	0	0	23	0	11	0	0	0	0
Lane Group Flow (vph)	0	770	0	0	644	209	0	165	0	122	132	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10	10		10			10			10
Parking (#/hr)		5	5	5		5	5	5	5			
Turn Type	Perm					Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2				6	6	8			4		
Actuated Green, G (s)		27.5			27.5	27.5		21.5		21.5	21.5	
Effective Green, g (s)		27.5			27.5	27.5		21.5		21.5	21.5	
Actuated g/C Ratio		0.46			0.46	0.46		0.36		0.36	0.36	
Clearance Time (s)		5.5			5.5	5.5		5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		930			1425	301		341		295	446	
v/s Ratio Prot					0.21							
v/s Ratio Perm		c0.38				0.32		c0.17		0.15	0.11	
v/c Ratio		0.83			0.45	0.70		0.48		0.41	0.30	
Uniform Delay, d1		14.2			11.1	12.9		14.9		14.5	13.8	
Progression Factor		1.00			0.38	0.40		1.00		1.00	1.00	
Incremental Delay, d2		8.4			1.0	12.1		4.9		0.9	0.4	
Delay (s)		22.6			5.3	17.2		19.8		15.4	14.2	
Level of Service		C			A	B		B		B	B	
Approach Delay (s)		22.6			8.4			19.8			14.6	
Approach LOS		C			A			B			B	

Intersection Summary			
HCM Average Control Delay	14.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	94.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR2	NER2
Lane Configurations		
Volume (vph)	87	100
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.5	4.0
Lane Util. Factor	1.00	1.00
Frpb, ped/bikes	0.68	0.78
Flpb, ped/bikes	1.00	1.00
Frt	0.85	0.86
Flt Protected	1.00	1.00
Satd. Flow (prot)	952	967
Flt Permitted	1.00	1.00
Satd. Flow (perm)	952	967
Peak-hour factor, PHF	0.91	0.91
Adj. Flow (vph)	96	110
RTOR Reduction (vph)	10	0
Lane Group Flow (vph)	86	110
Confl. Peds. (#/hr)	400	400
Confl. Bikes (#/hr)	10	10
Parking (#/hr)		5
Turn Type	Perm	Free
Protected Phases		
Permitted Phases	4	Free
Actuated Green, G (s)	21.5	60.0
Effective Green, g (s)	21.5	60.0
Actuated g/C Ratio	0.36	1.00
Clearance Time (s)	5.5	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	341	967
v/s Ratio Prot		
v/s Ratio Perm	0.09	0.11
v/c Ratio	0.25	0.11
Uniform Delay, d1	13.6	0.0
Progression Factor	1.00	1.00
Incremental Delay, d2	0.4	0.2
Delay (s)	14.0	0.2
Level of Service	B	A
Approach Delay (s)		
Approach LOS		

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	0	838	0	0	799	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	
Lane Util. Factor		0.88			0.97	
Frpb, ped/bikes		1.00			1.00	
Flpb, ped/bikes		1.00			1.00	
Frt		0.85			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		2448			3016	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		2448			3016	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	921	0	0	878	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	921	0	0	878	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)		30				30
Turn Type		Over				
Protected Phases		2			2	
Permitted Phases						
Actuated Green, G (s)		46.0			46.0	
Effective Green, g (s)		46.0			46.0	
Actuated g/C Ratio		0.77			0.77	
Clearance Time (s)		5.0			5.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1877			2312	
v/s Ratio Prot		c0.38			0.29	
v/s Ratio Perm						
v/c Ratio		0.49			0.38	
Uniform Delay, d1		2.6			2.3	
Progression Factor		1.24			0.45	
Incremental Delay, d2		0.7			0.4	
Delay (s)		4.0			1.4	
Level of Service		A			A	
Approach Delay (s)	4.0			0.0	1.4	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	2.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	36.7%	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												
Volume (vph)	20	190	140	200	200	30	90	380	260	40	160	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		5.5	5.5			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95		1.00	1.00			1.00	1.00		1.00	1.00
Frpb, ped/bikes		0.77		1.00	0.93			1.00	0.66		1.00	0.44
Flpb, ped/bikes		0.98		0.67	1.00			0.92	1.00		0.98	1.00
Frt		0.94		1.00	0.98			1.00	0.85		1.00	0.85
Flt Protected		1.00		0.95	1.00			0.99	1.00		0.99	1.00
Satd. Flow (prot)		2195		1048	1300			1270	903		1581	609
Flt Permitted		0.93		0.53	1.00			0.90	1.00		0.86	1.00
Satd. Flow (perm)		2045		583	1300			1150	903		1377	609
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	204	151	215	215	32	97	409	280	43	172	32
RTOR Reduction (vph)	0	45	0	0	9	0	0	0	13	0	0	13
Lane Group Flow (vph)	0	332	0	215	238	0	0	506	267	0	215	19
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)					5	5		10				
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		21.7		21.7	21.7			28.3	28.3		28.3	28.3
Effective Green, g (s)		21.7		21.7	21.7			28.3	28.3		28.3	28.3
Actuated g/C Ratio		0.36		0.36	0.36			0.47	0.47		0.47	0.47
Clearance Time (s)		5.5		5.5	5.5			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)		740		211	470			542	426		649	287
v/s Ratio Prot					0.18							
v/s Ratio Perm		0.16		c0.37				c0.44	0.30		0.16	0.03
v/c Ratio		0.45		1.02	0.51			0.93	0.63		0.33	0.07
Uniform Delay, d1		14.6		19.1	15.0			15.0	11.9		9.9	8.6
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		0.4		67.0	0.9			25.3	6.8		1.4	0.5
Delay (s)		15.0		86.1	15.8			40.2	18.7		11.3	9.1
Level of Service		B		F	B			D	B		B	A
Approach Delay (s)		15.0			48.5			32.6			11.0	
Approach LOS		B			D			C			B	

Intersection Summary			
HCM Average Control Delay	30.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
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												
Volume (vph)	0	290	120	70	310	789	170	0	110	658	150	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5		3.5	3.5	
Lane Util. Factor		0.95			1.00	0.88		1.00		0.95	0.95	
Frpb, ped/bikes		0.94			1.00	0.96		0.99		1.00	1.00	
Flpb, ped/bikes		1.00			0.99	1.00		0.99		1.00	1.00	
Frt		0.96			1.00	0.85		0.95		1.00	0.99	
Flt Protected		1.00			0.99	1.00		0.97		0.95	0.97	
Satd. Flow (prot)		2619			1603	2357		1294		1477	1490	
Flt Permitted		1.00			0.62	1.00		0.22		0.58	0.67	
Satd. Flow (perm)		2619			1003	2357		295		904	1023	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	302	125	73	323	822	177	0	115	685	156	31
RTOR Reduction (vph)	0	75	0	0	0	0	0	39	0	0	5	0
Lane Group Flow (vph)	0	352	0	0	396	822	0	253	0	432	435	0
Confl. Peds. (#/hr)	50		50	50			50					50
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		5	5				5	5	5			
Turn Type				Perm		custom	Perm			Perm		
Protected Phases		4			8			2			1	
Permitted Phases				8		8 1	2			1		
Actuated Green, G (s)		11.0			11.0	38.5		14.5		24.0	24.0	
Effective Green, g (s)		11.0			11.0	38.5		14.5		24.0	24.0	
Actuated g/C Ratio		0.18			0.18	0.64		0.24		0.40	0.40	
Clearance Time (s)		3.5			3.5			3.5		3.5	3.5	
Lane Grp Cap (vph)		480			184	1512		71		362	409	
v/s Ratio Prot		0.13										
v/s Ratio Perm					c0.39	0.35		c0.86		c0.48	0.43	
v/c Ratio		0.73			2.15	0.54		3.57		1.19	1.06	
Uniform Delay, d1		23.1			24.5	5.9		22.8		18.0	18.0	
Progression Factor		1.00			1.00	1.00		1.00		0.82	0.82	
Incremental Delay, d2		9.5			536.1	1.4		1189.8		109.6	60.9	
Delay (s)		32.7			560.6	7.3		1212.5		124.3	75.6	
Level of Service		C			F	A		F		F	E	
Approach Delay (s)		32.7			187.2			1212.5			99.7	
Approach LOS		C			F			F			F	

Intersection Summary			
HCM Average Control Delay	243.1	HCM Level of Service	F
HCM Volume to Capacity ratio	2.10		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	93.8%	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												
Volume (vph)	50	759	30	50	816	40	279	60	270	30	40	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Lane Util. Factor		0.95			0.95	1.00		0.95			1.00	1.00
Frpb, ped/bikes		0.98			1.00	0.66		0.85			1.00	0.66
Flpb, ped/bikes		1.00			0.99	1.00		0.86			0.95	1.00
Frt		0.99			1.00	0.85		0.93			1.00	0.85
Flt Protected		1.00			1.00	1.00		0.98			0.98	1.00
Satd. Flow (prot)		3010			3080	806		1953			1520	922
Flt Permitted		0.82			0.84	1.00		0.79			0.77	1.00
Satd. Flow (perm)		2484			2582	806		1576			1191	922
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	52	791	31	52	850	42	291	62	281	31	42	52
RTOR Reduction (vph)	0	4	0	0	0	23	0	3	0	0	0	2
Lane Group Flow (vph)	0	870	0	0	902	19	0	631	0	0	73	50
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)						5		5	5			
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		6
Actuated Green, G (s)		23.7			23.7	23.7		29.3			29.3	29.3
Effective Green, g (s)		23.7			23.7	23.7		29.3			29.3	29.3
Actuated g/C Ratio		0.39			0.39	0.39		0.49			0.49	0.49
Clearance Time (s)		3.5			3.5	3.5		3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)		981			1020	318		770			582	450
v/s Ratio Prot												
v/s Ratio Perm		c0.35			0.35	0.02		c0.40			0.06	0.05
v/c Ratio		0.89			0.88	0.06		0.82			0.13	0.11
Uniform Delay, d1		16.9			16.9	11.2		13.1			8.4	8.3
Progression Factor		1.00			0.83	1.15		1.00			1.00	1.00
Incremental Delay, d2		9.7			7.8	0.1		9.5			0.4	0.5
Delay (s)		26.6			21.8	13.0		22.6			8.8	8.8
Level of Service		C			C	B		C			A	A
Approach Delay (s)		26.6			21.4			22.6			8.8	
Approach LOS		C			C			C			A	

Intersection Summary			
HCM Average Control Delay	22.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	95.0%	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												
Volume (vph)	80	758	201	98	567	20	81	242	128	10	242	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Lane Util. Factor		0.95	1.00		0.95		1.00	0.91			0.91	
Frpb, ped/bikes		1.00	0.76		0.99		1.00	0.89			0.86	
Flpb, ped/bikes		0.99	1.00		0.99		0.84	1.00			1.00	
Frt		1.00	0.85		1.00		1.00	0.95			0.94	
Flt Protected		1.00	1.00		0.99		0.95	1.00			1.00	
Satd. Flow (prot)		3072	922		3026		1299	3761			3602	
Flt Permitted		0.81	1.00		0.67		0.47	1.00			0.93	
Satd. Flow (perm)		2486	922		2053		647	3761			3347	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	824	218	107	616	22	88	263	139	11	263	196
RTOR Reduction (vph)	0	0	6	0	4	0	0	10	0	0	17	0
Lane Group Flow (vph)	0	911	212	0	741	0	88	392	0	0	453	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Parking (#/hr)			5									
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		28.3	28.3		28.3		21.7	21.7			21.7	
Effective Green, g (s)		28.3	28.3		28.3		21.7	21.7			21.7	
Actuated g/C Ratio		0.47	0.47		0.47		0.36	0.36			0.36	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1173	435		968		234	1360			1210	
v/s Ratio Prot								0.10				
v/s Ratio Perm		c0.37	0.23		0.36		c0.14				0.14	
v/c Ratio		0.78	0.49		0.77		0.38	0.29			0.37	
Uniform Delay, d1		13.2	10.9		13.1		14.1	13.6			14.1	
Progression Factor		0.61	0.65		0.66		1.00	1.00			1.00	
Incremental Delay, d2		1.9	0.5		3.5		4.6	0.5			0.9	
Delay (s)		9.9	7.6		12.1		18.7	14.2			15.0	
Level of Service		A	A		B		B	B			B	
Approach Delay (s)		9.5			12.1			15.0			15.0	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	12.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	100.0%	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												
Volume (vph)	0	1456	300	0	2028	90	340	209	50	90	159	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Lane Util. Factor		0.91			0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.94			0.98		1.00	0.94		1.00	0.92	
Flpb, ped/bikes		1.00			1.00		0.78	1.00		0.80	1.00	
Frt		0.97			0.99		1.00	0.97		1.00	0.96	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4083			4189		1206	1489		1244	1272	
Flt Permitted		1.00			1.00		0.56	1.00		0.48	1.00	
Satd. Flow (perm)		4083			4189		710	1489		632	1272	
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)	0	1486	306	0	2069	92	347	213	51	92	162	51
RTOR Reduction (vph)	0	6	0	0	5	0	0	3	0	0	1	0
Lane Group Flow (vph)	0	1786	0	0	2156	0	347	261	0	92	212	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Parking (#/hr)					5	5					5	5
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Effective Green, g (s)		52.0			52.0		27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.58			0.58		0.31	0.31		0.31	0.31	
Clearance Time (s)		5.0			5.0		5.5	5.5		5.5	5.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2359			2420		217	455		193	389	
v/s Ratio Prot		0.44			c0.51			0.18			0.17	
v/s Ratio Perm							c0.49			0.15		
v/c Ratio		0.76			0.89		1.60	0.57		0.48	0.55	
Uniform Delay, d1		14.3			16.5		31.2	26.3		25.4	26.0	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.3			5.5		290.2	5.2		8.2	5.4	
Delay (s)		16.6			22.0		321.4	31.5		33.6	31.5	
Level of Service		B			C		F	C		C	C	
Approach Delay (s)		16.6			22.0			196.1			32.1	
Approach LOS		B			C			F			C	

Intersection Summary			
HCM Average Control Delay	42.5	HCM Level of Service	D
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	103.3%	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												
Volume (vph)	0	1466	130	0	1668	120	140	200	30	160	180	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7			4.7		5.1	5.1			5.1	
Lane Util. Factor		0.91			0.91		1.00	1.00			1.00	
Frpb, ped/bikes		0.97			0.98		1.00	0.96			0.94	
Flpb, ped/bikes		1.00			1.00		0.88	1.00			0.92	
Frt		0.99			0.99		1.00	0.98			0.98	
Flt Protected		1.00			1.00		0.95	1.00			0.98	
Satd. Flow (prot)		4286			4318		1361	1535			1359	
Flt Permitted		1.00			1.00		0.45	1.00			0.63	
Satd. Flow (perm)		4286			4318		638	1535			876	
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	1543	137	0	1756	126	147	211	32	168	189	74
RTOR Reduction (vph)	0	5	0	0	4	0	0	3	0	0	2	0
Lane Group Flow (vph)	0	1675	0	0	1878	0	147	240	0	0	429	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)						5						
Turn Type							Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)		53.3			53.3		26.9	26.9			26.9	
Effective Green, g (s)		53.3			53.3		26.9	26.9			26.9	
Actuated g/C Ratio		0.59			0.59		0.30	0.30			0.30	
Clearance Time (s)		4.7			4.7		5.1	5.1			5.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		2538			2557		191	459			262	
v/s Ratio Prot		0.39			c0.43			0.16				
v/s Ratio Perm							0.23				c0.49	
v/c Ratio		0.66			0.73		0.77	0.52			1.64	
Uniform Delay, d1		12.3			13.2		28.7	26.2			31.6	
Progression Factor		1.00			0.25		1.00	1.00			1.00	
Incremental Delay, d2		1.4			1.2		25.3	4.2			303.3	
Delay (s)		13.6			4.6		54.0	30.4			334.9	
Level of Service		B			A		D	C			F	
Approach Delay (s)		13.6			4.6			39.3			334.9	
Approach LOS		B			A			D			F	

Intersection Summary			
HCM Average Control Delay	43.6	HCM Level of Service	D
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	105.9%	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												
Volume (vph)	0	1446	90	0	1708	70	80	100	30	40	160	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frpb, ped/bikes		0.98			0.99			0.95			0.93	
Flpb, ped/bikes		1.00			1.00			0.93			0.97	
Frt		0.99			0.99			0.98			0.97	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		4157			4198			1221			1250	
Flt Permitted		1.00			1.00			0.72			0.92	
Satd. Flow (perm)		4157			4198			900			1165	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	1538	96	0	1817	74	85	106	32	43	170	53
RTOR Reduction (vph)	0	5	0	0	5	0	0	4	0	0	1	0
Lane Group Flow (vph)	0	1629	0	0	1886	0	0	220	0	0	265	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		54.0			54.0			27.0			27.0	
Effective Green, g (s)		54.0			54.0			27.0			27.0	
Actuated g/C Ratio		0.60			0.60			0.30			0.30	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2494			2519			270			350	
v/s Ratio Prot		0.39			c0.45							
v/s Ratio Perm								c0.24			0.23	
v/c Ratio		0.65			0.75			0.81			0.76	
Uniform Delay, d1		11.8			13.1			29.2			28.5	
Progression Factor		1.51			1.00			1.00			1.00	
Incremental Delay, d2		0.9			2.1			22.8			14.1	
Delay (s)		18.7			15.2			52.0			42.6	
Level of Service		B			B			D			D	
Approach Delay (s)		18.7			15.2			52.0			42.6	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	20.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.8%	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		↑↑↑			↑↑↑		↰	↕				↱
Volume (vph)	0	1306	0	0	1118	70	680	629	50	0	0	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0				3.0
Lane Util. Factor		0.91			0.91		0.91	0.91				1.00
Frpb, ped/bikes		1.00			0.98		1.00	0.98				0.95
Flpb, ped/bikes		1.00			1.00		1.00	1.00				1.00
Frt		1.00			0.99		1.00	0.99				0.86
Flt Protected		1.00			1.00		0.95	0.99				1.00
Satd. Flow (prot)		4282			4343		1415	2686				1352
Flt Permitted		1.00			1.00		0.95	0.99				1.00
Satd. Flow (perm)		4282			4343		1415	2686				1352
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	1501	0	0	1285	80	782	723	57	0	0	69
RTOR Reduction (vph)	0	0	0	0	8	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	1501	0	0	1357	0	508	1049	0	0	0	69
Confl. Peds. (#/hr)						400			400			
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5						5	5			
Turn Type							Perm					custom
Protected Phases		2			6			8				
Permitted Phases							8					5
Actuated Green, G (s)		42.0			33.0		38.0	38.0				6.0
Effective Green, g (s)		42.0			33.0		38.0	38.0				6.0
Actuated g/C Ratio		0.47			0.37		0.42	0.42				0.07
Clearance Time (s)		5.0			5.0		5.0	5.0				3.0
Vehicle Extension (s)		3.0			3.0		3.0	3.0				3.0
Lane Grp Cap (vph)		1998			1592		597	1134				90
v/s Ratio Prot		c0.35			c0.31							
v/s Ratio Perm							0.36	0.39				0.05
v/c Ratio		0.75			0.85		0.85	0.93				0.77
Uniform Delay, d1		19.7			26.3		23.4	24.7				41.3
Progression Factor		1.00			0.48		1.00	1.00				1.00
Incremental Delay, d2		2.7			4.7		14.2	13.9				45.8
Delay (s)		22.4			17.3		37.6	38.6				87.1
Level of Service		C			B		D	D				F
Approach Delay (s)		22.4			17.3			38.3			87.1	
Approach LOS		C			B			D			F	

Intersection Summary			
HCM Average Control Delay	27.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	71.1%	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												
Volume (vph)	191	250	825	0	190	10	785	278	50	0	467	143
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		3.5	3.5			3.5	3.5
Lane Util. Factor		1.00	0.88		1.00		0.94	1.00			0.95	1.00
Frpb, ped/bikes		1.00	1.00		0.98		1.00	0.94			1.00	0.67
Flpb, ped/bikes		0.90	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.99		1.00	0.98			1.00	0.85
Flt Protected		0.98	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1444	2448		1360		4385	1317			3110	815
Flt Permitted		0.70	1.00		1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)		1027	2448		1360		4385	1317			3110	815
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	197	258	851	0	196	10	809	287	52	0	481	147
RTOR Reduction (vph)	0	0	2	0	2	0	0	7	0	0	0	12
Lane Group Flow (vph)	0	455	849	0	204	0	809	332	0	0	481	135
Confl. Peds. (#/hr)	400					400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)					10	10		5	5			5
Turn Type	Perm		pt+ov				Prot					Perm
Protected Phases		4	4 5		8		5	2			6	
Permitted Phases	4											6
Actuated Green, G (s)		32.5	55.5		32.5		19.5	49.5			26.5	26.5
Effective Green, g (s)		32.5	52.0		32.5		19.5	49.5			26.5	26.5
Actuated g/C Ratio		0.36	0.58		0.36		0.22	0.55			0.29	0.29
Clearance Time (s)		4.5			4.5		3.5	3.5			3.5	3.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		371	1414		491		950	724			916	240
v/s Ratio Prot			0.35		0.15		c0.18	0.25			0.15	
v/s Ratio Perm		c0.44										c0.17
v/c Ratio		1.23	0.60		0.42		0.85	0.46			0.53	0.56
Uniform Delay, d1		28.8	12.3		21.6		33.9	12.2			26.5	26.8
Progression Factor		0.36	0.05		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		116.4	0.5		0.6		9.5	2.1			2.2	9.2
Delay (s)		126.7	1.1		22.2		43.4	14.3			28.6	36.1
Level of Service		F	A		C		D	B			C	D
Approach Delay (s)		44.8			22.2			34.8			30.4	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM Average Control Delay	37.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.5
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												
Volume (vph)	0	0	0	70	290	70	50	70	0	0	60	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0	5.0		5.0			5.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.12		1.00			0.91	
Flpb, ped/bikes					0.86	1.00		0.86			1.00	
Frt					1.00	0.85		1.00			0.97	
Flt Protected					0.99	1.00		0.98			1.00	
Satd. Flow (prot)					2471	159		1381			1432	
Flt Permitted					0.99	1.00		0.86			1.00	
Satd. Flow (perm)					2471	159		1213			1432	
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)	0	0	0	78	322	78	56	78	0	0	67	22
RTOR Reduction (vph)	0	0	0	0	0	42	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	400	36	0	134	0	0	89	0
Confl. Peds. (#/hr)				1245		1700	831					831
Confl. Bikes (#/hr)						158			9			17
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0	0	0
Parking (#/hr)				5	5							
Turn Type				Perm		Perm	Perm					
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Actuated Green, G (s)					28.0	28.0		22.0			22.0	
Effective Green, g (s)					28.0	28.0		22.0			22.0	
Actuated g/C Ratio					0.47	0.47		0.37			0.37	
Clearance Time (s)					5.0	5.0		5.0			5.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1153	74		445			525	
v/s Ratio Prot											0.06	
v/s Ratio Perm					0.16	c0.23		c0.11				
v/c Ratio					0.35	0.49		0.30			0.17	
Uniform Delay, d1					10.2	11.1		13.5			12.8	
Progression Factor					1.00	1.00		0.15			1.00	
Incremental Delay, d2					0.8	21.5		1.0			0.7	
Delay (s)					11.0	32.6		3.0			13.5	
Level of Service					B	C		A			B	
Approach Delay (s)		0.0			14.5			3.0			13.5	
Approach LOS		A			B			A			B	

Intersection Summary			
HCM Average Control Delay	12.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	45.0%	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												
Volume (vph)	0	0	0	290	310	40	180	50	0	0	80	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.6	4.6		4.7	4.7			4.7	
Lane Util. Factor				1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes				1.00	0.92		1.00	1.00			0.92	
Flpb, ped/bikes				1.00	1.00		0.65	1.00			1.00	
Frt				1.00	0.98		1.00	1.00			0.97	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1555	2813		1008	1637			1463	
Flt Permitted				0.95	1.00		0.68	1.00			1.00	
Satd. Flow (perm)				1555	2813		726	1637			1463	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	0	326	348	45	202	56	0	0	90	22
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	326	385	0	202	56	0	0	112	0
Confl. Peds. (#/hr)						1700	585					585
Confl. Bikes (#/hr)						113			6			3
Turn Type				Split			Perm					
Protected Phases				2	2			4			8	
Permitted Phases							4					
Actuated Green, G (s)				38.4	38.4		12.3	12.3			12.3	
Effective Green, g (s)				38.4	38.4		12.3	12.3			12.3	
Actuated g/C Ratio				0.64	0.64		0.21	0.21			0.21	
Clearance Time (s)				4.6	4.6		4.7	4.7			4.7	
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)				995	1800		149	336			300	
v/s Ratio Prot				c0.21	0.14			0.03			0.08	
v/s Ratio Perm							c0.28					
v/c Ratio				0.33	0.21		1.36	0.17			0.37	
Uniform Delay, d1				4.9	4.5		23.9	19.6			20.5	
Progression Factor				1.00	1.00		0.82	0.87			1.00	
Incremental Delay, d2				0.9	0.3		197.3	1.1			3.5	
Delay (s)				5.8	4.8		216.8	18.1			24.1	
Level of Service				A	A		F	B			C	
Approach Delay (s)		0.0			5.2			173.7			24.1	
Approach LOS		A			A			F			C	

Intersection Summary			
HCM Average Control Delay	47.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.3
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	322	110	20	527	40	30
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	350	120	22	573	43	33
Pedestrians	400			400	400	
Lane Width (ft)	11.0			11.0	11.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	31			31	31	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	306					
pX, platoon unblocked						
vC, conflicting volume			870		1826	1035
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			870		1826	1035
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		0	71
cM capacity (veh/h)			540		32	111

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	233	236	595	76
Volume Left	0	0	22	43
Volume Right	0	120	0	33
cSH	1700	1700	540	46
Volume to Capacity	0.14	0.14	0.04	1.65
Queue Length 95th (ft)	0	0	3	189
Control Delay (s)	0.0	0.0	1.1	512.7
Lane LOS			A	F
Approach Delay (s)	0.0		1.1	512.7
Approach LOS				F

Intersection Summary			
Average Delay	34.8		
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	202	41	8	677	10	52	100	49	20	70	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	
Lane Util. Factor		1.00	1.00		1.00			1.00			1.00	
Frpb, ped/bikes		1.00	0.42		0.99			0.87			0.84	
Flpb, ped/bikes		1.00	1.00		1.00			0.90			0.95	
Frt		1.00	0.85		1.00			0.97			0.96	
Flt Protected		1.00	1.00		1.00			0.99			0.99	
Satd. Flow (prot)		1637	588		1410			1076			1088	
Flt Permitted		1.00	1.00		1.00			0.88			0.93	
Satd. Flow (perm)		1637	588		1406			962			1021	
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	0	269	55	11	903	13	69	133	65	27	93	53
RTOR Reduction (vph)	0	0	21	0	1	0	0	3	0	0	1	0
Lane Group Flow (vph)	0	269	34	0	926	0	0	264	0	0	172	0
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)				5	5	5	5	5	5	5	5	5
Turn Type			Perm	Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases			2	2			4			4		
Actuated Green, G (s)		29.0	29.0		29.0			22.0			22.0	
Effective Green, g (s)		29.0	29.0		29.0			22.0			22.0	
Actuated g/C Ratio		0.48	0.48		0.48			0.37			0.37	
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)		791	284		680			353			374	
v/s Ratio Prot		0.16										
v/s Ratio Perm			0.06		c0.66			c0.27			0.17	
v/c Ratio		0.34	0.12		1.36			0.75			0.46	
Uniform Delay, d1		9.6	8.5		15.5			16.6			14.5	
Progression Factor		1.00	1.00		1.00			0.81			0.77	
Incremental Delay, d2		1.2	0.9		172.2			10.8			4.0	
Delay (s)		10.8	9.4		187.7			24.2			15.1	
Level of Service		B	A		F			C			B	
Approach Delay (s)		10.5			187.7			24.2			15.1	
Approach LOS		B			F			C			B	

Intersection Summary			
HCM Average Control Delay	110.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	94.7%	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												
Volume (vph)	0	241	40	17	547	0	60	0	64	20	40	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
Lane Util. Factor		1.00	1.00		0.95			1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.26		1.00			0.72			1.00	0.67
Flpb, ped/bikes		1.00	1.00		0.99			0.86			0.85	1.00
Frt		1.00	0.85		1.00			0.93			1.00	0.85
Flt Protected		1.00	1.00		1.00			0.98			0.98	1.00
Satd. Flow (prot)		1637	354		3063			914			1373	933
Flt Permitted		1.00	1.00		0.94			0.86			0.92	1.00
Satd. Flow (perm)		1637	354		2882			807			1280	933
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	277	46	20	629	0	69	0	74	23	46	46
RTOR Reduction (vph)	0	0	35	0	0	0	0	0	0	0	0	13
Lane Group Flow (vph)	0	277	11	0	649	0	0	143	0	0	69	33
Confl. Peds. (#/hr)			800	800			400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	5	0	0	0	0	0	0	0	0	0
Turn Type			Perm	Perm			Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases			6	2			4			8		8
Actuated Green, G (s)		14.5	14.5		14.5			36.5			36.5	36.5
Effective Green, g (s)		14.5	14.5		14.5			36.5			36.5	36.5
Actuated g/C Ratio		0.24	0.24		0.24			0.61			0.61	0.61
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)		396	86		696			491			779	568
v/s Ratio Prot		0.17										
v/s Ratio Perm			0.03		c0.23			c0.18			0.05	0.04
v/c Ratio		0.70	0.13		0.93			0.29			0.09	0.06
Uniform Delay, d1		20.8	17.8		22.3			5.6			4.9	4.8
Progression Factor		0.82	0.50		1.00			0.93			1.00	1.00
Incremental Delay, d2		9.7	3.0		21.1			1.4			0.0	0.0
Delay (s)		26.7	12.0		43.4			6.7			4.9	4.8
Level of Service		C	B		D			A			A	A
Approach Delay (s)		24.6			43.4			6.7			4.9	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM Average Control Delay	30.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations									
Volume (vph)	0	360	10	70	0	210	0	550	490
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5		4.0		5.5			4.0
Lane Util. Factor		1.00		1.00		1.00			0.95
Frpb, ped/bikes		0.67		1.00		1.00			1.00
Flpb, ped/bikes		1.00		1.00		1.00			1.00
Frt		0.86		1.00		1.00			1.00
Flt Protected		1.00		0.95		1.00			0.97
Satd. Flow (prot)		942		1360		1637			3030
Flt Permitted		1.00		0.95		1.00			0.95
Satd. Flow (perm)		942		1360		1637			2970
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	379	11	74	0	221	0	579	516
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	379	0	85	0	221	0	0	1095
Confl. Peds. (#/hr)		400			400				
Confl. Bikes (#/hr)		10			10		30		
Parking (#/hr)			5	5	5				
Turn Type		custom	Perm					Perm	
Protected Phases				8		5			6
Permitted Phases		2	8					6	
Actuated Green, G (s)		33.5		17.0		11.5			18.0
Effective Green, g (s)		33.5		17.0		11.5			18.0
Actuated g/C Ratio		0.56		0.28		0.19			0.30
Clearance Time (s)		5.5		4.0		5.5			4.0
Vehicle Extension (s)		3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		526		385		314			891
v/s Ratio Prot						0.14			
v/s Ratio Perm		c0.40		0.06					c0.37
v/c Ratio		0.72		0.22		0.70			1.23
Uniform Delay, d1		9.8		16.4		22.7			21.0
Progression Factor		1.00		1.00		1.00			1.00
Incremental Delay, d2		8.3		1.3		7.0			112.9
Delay (s)		18.1		17.8		29.6			133.9
Level of Service		B		B		C			F
Approach Delay (s)	18.1			17.8		29.6			133.9
Approach LOS	B			B		C			F

Intersection Summary			
HCM Average Control Delay	90.8	HCM Level of Service	F
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	88.2%	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												
Volume (vph)	40	202	60	50	206	50	50	110	40	40	80	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes		0.95			1.00	0.56	1.00	0.86			0.74	
Flpb, ped/bikes		0.96			1.00	1.00	0.64	1.00			0.93	
Frt		0.97			1.00	0.85	1.00	0.96			0.93	
Flt Protected		0.99			0.99	1.00	0.95	1.00			0.99	
Satd. Flow (prot)		1264			1418	681	999	1176			1966	
Flt Permitted		0.93			0.89	1.00	0.59	1.00			0.88	
Satd. Flow (perm)		1187			1270	681	621	1176			1737	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	45	230	68	57	234	57	57	125	45	45	91	125
RTOR Reduction (vph)	0	11	0	0	0	13	0	25	0	0	0	0
Lane Group Flow (vph)	0	332	0	0	291	44	57	145	0	0	261	0
Confl. Peds. (#/hr)	400		400			400	400		400	400		400
Confl. Bikes (#/hr)			30			30			30			30
Parking (#/hr)		5	5		5	5		5	5			5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		35.8			35.8	35.8	14.1	14.1			14.1	
Effective Green, g (s)		35.8			35.8	35.8	14.1	14.1			14.1	
Actuated g/C Ratio		0.60			0.60	0.60	0.23	0.23			0.23	
Clearance Time (s)		5.3			5.3	5.3	4.8	4.8			4.8	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		708			758	406	146	276			408	
v/s Ratio Prot								0.12				
v/s Ratio Perm		c0.28			0.23	0.06	0.09				c0.15	
v/c Ratio		0.47			0.38	0.11	0.39	0.52			0.64	
Uniform Delay, d1		6.8			6.3	5.2	19.3	20.0			20.7	
Progression Factor		1.00			1.00	1.00	0.57	0.49			1.00	
Incremental Delay, d2		2.2			1.5	0.5	1.7	1.8			3.3	
Delay (s)		9.0			7.8	5.8	12.8	11.6			23.9	
Level of Service		A			A	A	B	B			C	
Approach Delay (s)		9.0			7.5			11.9			23.9	
Approach LOS		A			A			B			C	

Intersection Summary			
HCM Average Control Delay	12.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	100.0%	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		✣			✣			✣			✣	
Volume (vph)	60	242	50	50	187	30	20	121	100	40	60	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.92			0.94			0.77			0.84	
Flpb, ped/bikes		0.94			0.95			0.97			0.91	
Frt		0.98			0.98			0.94			0.96	
Flt Protected		0.99			0.99			1.00			0.99	
Satd. Flow (prot)		1216			1245			1008			1046	
Flt Permitted		0.91			0.89			0.97			0.88	
Satd. Flow (perm)		1111			1113			982			933	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	66	266	55	55	205	33	22	133	110	44	66	44
RTOR Reduction (vph)	0	10	0	0	8	0	0	19	0	0	23	0
Lane Group Flow (vph)	0	377	0	0	285	0	0	246	0	0	131	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		32.6			32.6			18.6			18.6	
Effective Green, g (s)		32.6			32.6			18.6			18.6	
Actuated g/C Ratio		0.54			0.54			0.31			0.31	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		604			605			304			289	
v/s Ratio Prot												
v/s Ratio Perm		c0.34			0.26			c0.25			0.14	
v/c Ratio		0.62			0.47			0.81			0.45	
Uniform Delay, d1		9.5			8.4			19.1			16.6	
Progression Factor		1.00			1.00			0.68			0.87	
Incremental Delay, d2		4.8			2.6			18.1			4.7	
Delay (s)		14.3			11.0			31.1			19.1	
Level of Service		B			B			C			B	
Approach Delay (s)		14.3			11.0			31.1			19.1	
Approach LOS		B			B			C			B	

Intersection Summary			
HCM Average Control Delay	18.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	59.2%	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												
Volume (vph)	30	212	100	40	132	40	50	59	170	40	65	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.84			1.00	0.46		0.68			0.86	
Flpb, ped/bikes		0.97			0.93	1.00		0.93			0.92	
Frt		0.96			1.00	0.85		0.92			0.97	
Flt Protected		1.00			0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1114			1322	565		820			1083	
Flt Permitted		0.97			0.88	1.00		0.93			0.87	
Satd. Flow (perm)		1084			1176	565		766			952	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	32	228	108	43	142	43	54	63	183	43	70	39
RTOR Reduction (vph)	0	18	0	0	0	19	0	17	0	0	21	0
Lane Group Flow (vph)	0	350	0	0	185	24	0	283	0	0	131	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		31.0			31.0	31.0		21.0			21.0	
Effective Green, g (s)		31.0			31.0	31.0		21.0			21.0	
Actuated g/C Ratio		0.52			0.52	0.52		0.35			0.35	
Clearance Time (s)		4.0			4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		560			608	292		268			333	
v/s Ratio Prot												
v/s Ratio Perm		c0.32			0.16	0.04		c0.37			0.14	
v/c Ratio		0.62			0.30	0.08		1.06			0.39	
Uniform Delay, d1		10.3			8.3	7.3		19.5			14.7	
Progression Factor		1.00			0.88	0.74		0.70			0.24	
Incremental Delay, d2		5.2			1.3	0.6		67.1			3.4	
Delay (s)		15.5			8.6	5.9		80.7			7.0	
Level of Service		B			A	A		F			A	
Approach Delay (s)		15.5			8.1			80.7			7.0	
Approach LOS		B			A			F			A	

Intersection Summary			
HCM Average Control Delay	31.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	85.5%	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												
Volume (vph)	30	232	70	20	92	20	20	54	60	20	27	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00	0.48		1.00	0.48		0.75			0.83	
Flpb, ped/bikes		0.95	1.00		0.94	1.00		0.93			0.88	
Frt		1.00	0.85		1.00	0.85		0.94			0.96	
Flt Protected		0.99	1.00		0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1357	573		1337	573		924			1133	
Flt Permitted		0.97	1.00		0.93	1.00		0.96			0.90	
Satd. Flow (perm)		1317	573		1260	573		891			1038	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	34	267	80	23	106	23	23	62	69	23	31	23
RTOR Reduction (vph)	0	0	6	0	0	5	0	30	0	0	17	0
Lane Group Flow (vph)	0	301	74	0	129	18	0	124	0	0	60	0
Confl. Peds. (#/hr)	600		600	600		600	400		400	400		400
Confl. Bikes (#/hr)			30			30			10			10
Bus Blockages (#/hr)	0	0	5	0	0	5	0	0	0	0	0	0
Parking (#/hr)	5	5	5	5	5	5	5	5	5			
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)		36.0	36.0		36.0	36.0		16.0			16.0	
Effective Green, g (s)		36.0	36.0		36.0	36.0		16.0			16.0	
Actuated g/C Ratio		0.60	0.60		0.60	0.60		0.27			0.27	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		790	344		756	344		238			277	
v/s Ratio Prot												
v/s Ratio Perm		c0.23	0.13		0.10	0.03		c0.14			0.06	
v/c Ratio		0.38	0.22		0.17	0.05		0.52			0.22	
Uniform Delay, d1		6.2	5.5		5.3	5.0		18.7			17.1	
Progression Factor		0.71	0.69		1.00	1.00		0.86			0.77	
Incremental Delay, d2		0.8	0.9		0.5	0.3		6.9			1.7	
Delay (s)		5.3	4.6		5.8	5.2		23.1			15.0	
Level of Service		A	A		A	A		C			B	
Approach Delay (s)		5.1			5.7			23.1			15.0	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM Average Control Delay	9.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	EBR2	NBL2	NBL	NBR	SET	SER	NWL	NWT
Lane Configurations										
Volume (vph)	30	172	60	30	40	20	380	200	152	850
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0				4.0		5.0		5.0	5.0
Lane Util. Factor	1.00				1.00		0.95		1.00	0.95
Frpb, ped/bikes	0.89				0.91		0.78		1.00	1.00
Flpb, ped/bikes	1.00				0.60		1.00		1.00	1.00
Frt	0.88				0.97		0.95		1.00	1.00
Flt Protected	0.99				0.96		1.00		0.95	1.00
Satd. Flow (prot)	1281				845		2296		1555	3110
Flt Permitted	0.99				0.96		1.00		0.95	1.00
Satd. Flow (perm)	1281				845		2296		1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	187	65	33	43	22	413	217	165	924
RTOR Reduction (vph)	12	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	273	0	0	0	98	0	630	0	165	924
Confl. Peds. (#/hr)				400	400	400		400		
Confl. Bikes (#/hr)		30	30			10		30		
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	0	0
Turn Type				custom					Split	
Protected Phases	4!				8!		6		2	2
Permitted Phases				3						
Actuated Green, G (s)	20.0				46.0		17.0		13.0	13.0
Effective Green, g (s)	20.0				46.0		17.0		13.0	13.0
Actuated g/C Ratio	0.22				0.51		0.19		0.14	0.14
Clearance Time (s)	5.0				4.0		5.0		5.0	5.0
Vehicle Extension (s)	3.0				3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	285				432		434		225	449
v/s Ratio Prot	c0.21						c0.27		0.11	c0.30
v/s Ratio Perm					0.12					
v/c Ratio	0.96				0.23		1.45		0.73	2.06
Uniform Delay, d1	34.6				12.2		36.5		36.8	38.5
Progression Factor	1.00				1.16		1.00		0.88	0.90
Incremental Delay, d2	41.7				0.2		215.8		17.3	483.0
Delay (s)	76.3				14.4		252.3		49.8	517.7
Level of Service	E				B		F		D	F
Approach Delay (s)	76.3				14.4		252.3			446.8
Approach LOS	E				B		F			F

Intersection Summary			
HCM Average Control Delay	318.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1024	30	8	694	20	0	62	31	0	102	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.89			0.90	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.96			0.96	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		2873			2871			1216			1245	
Flt Permitted		1.00			0.94			1.00			1.00	
Satd. Flow (perm)		2873			2714			1216			1245	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	1067	31	8	723	21	0	65	32	0	106	42
RTOR Reduction (vph)	0	2	0	0	2	0	0	11	0	0	26	0
Lane Group Flow (vph)	0	1096	0	0	750	0	0	86	0	0	122	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5		5	5		5	5
Turn Type				Perm								
Protected Phases		2			6			8			4	
Permitted Phases				6								
Actuated Green, G (s)		41.3			41.3			9.9			9.9	
Effective Green, g (s)		41.3			41.3			9.9			9.9	
Actuated g/C Ratio		0.69			0.69			0.17			0.17	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1978			1868			201			205	
v/s Ratio Prot		c0.38						0.07			c0.10	
v/s Ratio Perm					0.28							
v/c Ratio		0.55			0.40			0.43			0.60	
Uniform Delay, d1		4.7			4.0			22.5			23.2	
Progression Factor		0.36			1.00			1.00			1.00	
Incremental Delay, d2		0.9			0.1			1.5			4.6	
Delay (s)		2.6			4.2			24.0			27.8	
Level of Service		A			A			C			C	
Approach Delay (s)		2.6			4.2			24.0			27.8	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	5.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
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												
Volume (vph)	0	788	167	2	527	40	187	130	82	0	170	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Lane Util. Factor		0.95	1.00		0.95	1.00	0.97	1.00	1.00		0.95	
Frpb, ped/bikes		1.00	0.69		1.00	0.69	1.00	1.00	0.72		0.98	
Flpb, ped/bikes		1.00	1.00		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	0.85		0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (prot)		3110	959		3109	959	3016	1637	1006		2837	
Flt Permitted		1.00	1.00		0.95	1.00	0.95	1.00	1.00		1.00	
Satd. Flow (perm)		3110	959		2965	959	3016	1637	1006		2837	
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)	0	804	170	2	538	41	191	133	84	0	173	10
RTOR Reduction (vph)	0	0	74	0	0	18	0	0	2	0	7	0
Lane Group Flow (vph)	0	804	96	0	540	23	191	133	82	0	176	0
Confl. Peds. (#/hr)			400			400			400			400
Confl. Bikes (#/hr)			10			10			30			30
Parking (#/hr)											5	5
Turn Type	Perm		Perm	Perm		Perm	Prot		Perm			
Protected Phases		2			6		3	8			4	
Permitted Phases	2		2	6		6			8			
Actuated Green, G (s)		33.0	33.0		33.0	33.0	4.5	18.0	18.0		9.0	
Effective Green, g (s)		33.0	33.0		33.0	33.0	4.5	18.0	18.0		9.0	
Actuated g/C Ratio		0.55	0.55		0.55	0.55	0.08	0.30	0.30		0.15	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.5	5.0	5.0		5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		1711	527		1631	527	226	491	302		426	
v/s Ratio Prot		c0.26					c0.06	0.08			c0.06	
v/s Ratio Perm			0.10		0.18	0.02			0.08			
v/c Ratio		0.47	0.18		0.33	0.04	0.85	0.27	0.27		0.41	
Uniform Delay, d1		8.2	6.8		7.4	6.2	27.4	16.0	16.0		23.1	
Progression Factor		1.00	1.00		0.76	0.62	1.00	1.00	1.00		1.07	
Incremental Delay, d2		0.9	0.8		0.5	0.1	24.0	0.3	0.5		0.6	
Delay (s)		9.1	7.5		6.2	4.0	51.4	16.3	16.5		25.3	
Level of Service		A	A		A	A	D	B	B		C	
Approach Delay (s)		8.8			6.0			32.8			25.3	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	77.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	141	737	538	70	90	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.5	3.5		3.5	
Lane Util. Factor		0.95	0.95		1.00	
Frpb, ped/bikes		1.00	0.96		0.81	
Flpb, ped/bikes		0.98	1.00		1.00	
Frt		1.00	0.98		0.92	
Flt Protected		0.99	1.00		0.98	
Satd. Flow (prot)		2833	2936		1043	
Flt Permitted		0.75	1.00		0.98	
Satd. Flow (perm)		2145	2936		1043	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	150	784	572	74	96	128
RTOR Reduction (vph)	0	0	18	0	39	0
Lane Group Flow (vph)	0	934	628	0	185	0
Confl. Peds. (#/hr)	400			400	400	400
Confl. Bikes (#/hr)				10		10
Parking (#/hr)		5			5	5
Turn Type	Perm					
Protected Phases		4	4		8	
Permitted Phases	4					
Actuated Green, G (s)		35.1	35.1		17.9	
Effective Green, g (s)		35.1	35.1		17.9	
Actuated g/C Ratio		0.59	0.59		0.30	
Clearance Time (s)		3.5	3.5		3.5	
Vehicle Extension (s)		3.0	3.0		3.0	
Lane Grp Cap (vph)		1255	1718		311	
v/s Ratio Prot			0.21		c0.18	
v/s Ratio Perm		c0.44				
v/c Ratio		0.74	0.37		0.60	
Uniform Delay, d1		9.2	6.6		18.0	
Progression Factor		0.46	1.00		0.83	
Incremental Delay, d2		2.3	0.1		7.6	
Delay (s)		6.5	6.7		22.4	
Level of Service		A	A		C	
Approach Delay (s)		6.5	6.7		22.4	
Approach LOS		A	A		C	

Intersection Summary			
HCM Average Control Delay	8.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	87.1%	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												
Volume (vph)	41	334	50	30	562	150	40	68	50	60	77	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4			4.4			4.4			4.4	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.95			0.92			0.90			0.90	
Flpb, ped/bikes		0.99			0.99			0.95			0.93	
Frt		0.98			0.97			0.96			0.96	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		2681			2566			1153			1126	
Flt Permitted		0.84			0.93			0.89			0.87	
Satd. Flow (perm)		2275			2381			1037			996	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	44	355	53	32	598	160	43	72	53	64	82	71
RTOR Reduction (vph)	0	17	0	0	17	0	0	28	0	0	18	0
Lane Group Flow (vph)	0	435	0	0	773	0	0	140	0	0	199	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		30.6			30.6			20.6			20.6	
Effective Green, g (s)		30.6			30.6			20.6			20.6	
Actuated g/C Ratio		0.51			0.51			0.34			0.34	
Clearance Time (s)		4.4			4.4			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1160			1214			356			342	
v/s Ratio Prot												
v/s Ratio Perm		0.19			c0.32			0.14			c0.20	
v/c Ratio		0.38			0.64			0.39			0.58	
Uniform Delay, d1		8.9			10.7			15.0			16.2	
Progression Factor		1.00			0.65			1.00			0.68	
Incremental Delay, d2		0.9			2.5			3.3			6.2	
Delay (s)		9.8			9.4			18.2			17.2	
Level of Service		A			A			B			B	
Approach Delay (s)		9.8			9.4			18.2			17.2	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	11.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.8
Intersection Capacity Utilization	78.0%	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												
Volume (vph)	44	781	40	40	494	50	60	50	70	30	50	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.3			4.3			4.6			4.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.98			0.96			0.87			0.90	
Flpb, ped/bikes		0.99			0.99			0.92			0.94	
Frt		0.99			0.99			0.95			0.96	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		2811			2748			1068			1148	
Flt Permitted		0.90			0.86			0.86			0.89	
Satd. Flow (perm)		2547			2384			933			1041	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	45	805	41	41	509	52	62	52	72	31	52	38
RTOR Reduction (vph)	0	5	0	0	10	0	0	13	0	0	29	0
Lane Group Flow (vph)	0	886	0	0	592	0	0	173	0	0	93	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5		5	5	5	5	5	5	5	5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		36.1			36.1			15.0			15.0	
Effective Green, g (s)		36.1			36.1			15.0			15.0	
Actuated g/C Ratio		0.60			0.60			0.25			0.25	
Clearance Time (s)		4.3			4.3			4.6			4.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1532			1434			233			260	
v/s Ratio Prot												
v/s Ratio Perm		c0.35			0.25			c0.19			0.09	
v/c Ratio		0.58			0.41			0.74			0.36	
Uniform Delay, d1		7.3			6.3			20.7			18.5	
Progression Factor		0.77			1.00			1.00			0.86	
Incremental Delay, d2		1.6			0.2			12.1			0.8	
Delay (s)		7.2			6.5			32.8			16.8	
Level of Service		A			A			C			B	
Approach Delay (s)		7.2			6.5			32.8			16.8	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.9
Intersection Capacity Utilization	84.3%	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												
Volume (vph)	30	764	80	40	484	90	70	10	20	20	20	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.9			3.9			4.7			4.7	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.97			0.95			0.93			0.82	
Flpb, ped/bikes		1.00			1.00			0.79			0.93	
Frt		0.99			0.98			0.97			0.93	
Flt Protected		1.00			1.00			0.97			0.99	
Satd. Flow (prot)		2779			2882			1135			1148	
Flt Permitted		0.91			0.84			0.77			0.92	
Satd. Flow (perm)		2541			2427			905			1067	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	34	858	90	45	544	101	79	11	22	22	22	45
RTOR Reduction (vph)	0	2	0	0	2	0	0	9	0	0	35	0
Lane Group Flow (vph)	0	980	0	0	688	0	0	103	0	0	54	0
Confl. Peds. (#/hr)	400		400	400		400	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Parking (#/hr)		5	5									
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		62.1			62.1			19.3			19.3	
Effective Green, g (s)		62.1			62.1			19.3			19.3	
Actuated g/C Ratio		0.69			0.69			0.21			0.21	
Clearance Time (s)		3.9			3.9			4.7			4.7	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1753			1675			194			229	
v/s Ratio Prot												
v/s Ratio Perm		c0.39			0.28			c0.11			0.05	
v/c Ratio		0.56			0.41			0.53			0.23	
Uniform Delay, d1		7.0			6.0			31.3			29.2	
Progression Factor		1.00			0.37			1.00			0.50	
Incremental Delay, d2		1.3			0.6			9.9			0.2	
Delay (s)		8.3			2.9			41.3			15.0	
Level of Service		A			A			D			B	
Approach Delay (s)		8.3			2.9			41.3			15.0	
Approach LOS		A			A			D			B	

Intersection Summary			
HCM Average Control Delay	8.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	50	754	544	951	531	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	0.88	0.97	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1555	2448	3016	2915	3009	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1555	2448	3016	2915	3009	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	52	777	561	980	547	52
RTOR Reduction (vph)	0	35	0	0	8	0
Lane Group Flow (vph)	52	742	561	980	591	0
Confl. Peds. (#/hr)						109
Confl. Bikes (#/hr)		10				64
Parking (#/hr)				5		
Turn Type		custom	Prot			
Protected Phases	4	7 5	5	2	6	
Permitted Phases						
Actuated Green, G (s)	21.0	53.7	28.7	59.0	26.3	
Effective Green, g (s)	21.0	53.7	28.7	59.0	26.3	
Actuated g/C Ratio	0.23	0.60	0.32	0.66	0.29	
Clearance Time (s)	4.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	363	1461	962	1911	879	
v/s Ratio Prot	0.03	c0.30	c0.19	0.34	c0.20	
v/s Ratio Perm						
v/c Ratio	0.14	0.51	0.58	0.51	0.67	
Uniform Delay, d1	27.4	10.5	25.6	8.0	28.0	
Progression Factor	0.78	0.37	0.80	0.84	0.36	
Incremental Delay, d2	0.2	0.2	0.7	0.8	0.2	
Delay (s)	21.5	4.1	21.2	7.5	10.2	
Level of Service	C	A	C	A	B	
Approach Delay (s)	5.2			12.5	10.2	
Approach LOS	A			B	B	

Intersection Summary			
HCM Average Control Delay	10.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	58.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL2	NBL	NBR	SEU	SET	SER	SER2	NWL	NWT
Lane Configurations											
Volume (vph)	0	0	90	239	40	0	1486	30	70	27	1187
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0			5.0			4.0	5.0
Lane Util. Factor				0.97			0.91			1.00	0.95
Frpb, ped/bikes				1.00			0.99			1.00	1.00
Flpb, ped/bikes				0.73			1.00			1.00	1.00
Frt				0.98			0.99			1.00	1.00
Flt Protected				0.96			1.00			0.95	1.00
Satd. Flow (prot)				2040			4392			1555	3110
Flt Permitted				0.96			1.00			0.95	1.00
Satd. Flow (perm)				2040			4392			1555	3110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	98	260	43	0	1615	33	76	29	1290
RTOR Reduction (vph)	0	0	0	12	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	0	0	390	0	0	1719	0	0	29	1290
Confl. Peds. (#/hr)			107	139					107		
Confl. Bikes (#/hr)					8				106		
Parking (#/hr)				5	5						
Turn Type			Perm			Prot				Prot	
Protected Phases				4		1	6			5	2
Permitted Phases			4								
Actuated Green, G (s)				21.0			52.2			3.8	60.0
Effective Green, g (s)				21.0			52.2			3.8	60.0
Actuated g/C Ratio				0.23			0.58			0.04	0.67
Clearance Time (s)				4.0			5.0			4.0	5.0
Vehicle Extension (s)				3.0			0.2			2.0	0.2
Lane Grp Cap (vph)				476			2547			66	2073
v/s Ratio Prot							c0.39			0.02	c0.41
v/s Ratio Perm				0.19							
v/c Ratio				0.82			0.68			0.44	0.62
Uniform Delay, d1				32.7			13.0			42.1	8.5
Progression Factor				1.00			0.80			1.00	1.00
Incremental Delay, d2				10.5			0.5			1.7	1.4
Delay (s)				43.2			10.9			43.8	10.0
Level of Service				D			B			D	A
Approach Delay (s)	0.0			43.2			10.9				10.7
Approach LOS	A			D			B				B

Intersection Summary			
HCM Average Control Delay	14.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBL	EBR	EBR2	SEL	SET	SER2	NWL2	NWL	NWT	NWR	SWR2
Lane Configurations												
Volume (vph)	31	0	0	160	20	1006	229	39	0	1146	30	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5		7.0	7.0	7.0		7.0	7.0		
Lane Util. Factor		1.00	1.00		1.00	0.95	1.00		1.00	0.95		
Frpb, ped/bikes		1.00	0.86		1.00	1.00	0.96		1.00	0.98		
Flpb, ped/bikes		1.00	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	1.00		
Flt Protected		0.95	1.00		0.95	1.00	1.00		0.95	1.00		
Satd. Flow (prot)		1555	1052		1555	3110	1334		1555	3049		
Flt Permitted		0.95	1.00		0.15	1.00	1.00		0.21	1.00		
Satd. Flow (perm)		1555	1052		239	3110	1334		337	3049		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	34	0	0	174	22	1093	249	42	0	1246	33	0
RTOR Reduction (vph)	0	0	126	0	0	0	117	0	0	2	0	0
Lane Group Flow (vph)	0	34	48	0	22	1093	132	0	42	1277	0	0
Confl. Peds. (#/hr)				130							1000	100
Confl. Bikes (#/hr)			10	10			30				30	10
Parking (#/hr)			5	5								
Turn Type	Perm		Perm		Perm		Perm	Perm	Perm			custom
Protected Phases		4				6				2		
Permitted Phases	4		4		6		6	2	2			8
Actuated Green, G (s)		18.0	18.0		34.5	34.5	34.5		34.5	34.5		
Effective Green, g (s)		18.0	18.0		34.5	34.5	34.5		34.5	34.5		
Actuated g/C Ratio		0.28	0.28		0.53	0.53	0.53		0.53	0.53		
Clearance Time (s)		5.5	5.5		7.0	7.0	7.0		7.0	7.0		
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)		431	291		127	1651	708		179	1618		
v/s Ratio Prot						0.35				c0.42		
v/s Ratio Perm		0.02	c0.05		0.09		0.10		0.12			
v/c Ratio		0.08	0.17		0.17	0.66	0.19		0.23	0.79		
Uniform Delay, d1		17.4	17.8		7.9	11.0	7.9		8.2	12.3		
Progression Factor		1.00	1.00		1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2		0.1	0.3		2.9	2.1	0.6		3.1	4.0		
Delay (s)		17.5	18.1		10.8	13.1	8.5		11.2	16.3		
Level of Service		B	B		B	B	A		B	B		
Approach Delay (s)		18.0				12.3				16.1		
Approach LOS		B				B				B		

Intersection Summary			
HCM Average Control Delay	14.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	82.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	30	0	20	0	0	0	60	1185	0	0	30	1138
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0					5.0	5.0				5.0
Lane Util. Factor		1.00					1.00	0.95				0.95
Frpb, ped/bikes		0.87					1.00	1.00				0.99
Flpb, ped/bikes		1.00					1.00	1.00				1.00
Frt		0.95					1.00	1.00				1.00
Flt Protected		0.97					0.95	1.00				1.00
Satd. Flow (prot)		1140					1555	3110				3057
Flt Permitted		0.97					0.95	1.00				0.89
Satd. Flow (perm)		1140					1555	3110				2720
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	32	0	21	0	0	0	64	1261	0	0	32	1211
RTOR Reduction (vph)	0	3	0	0	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	0	50	0	0	0	0	64	1261	0	0	0	1274
Confl. Peds. (#/hr)			400			1000	400		400			
Confl. Bikes (#/hr)			10		10	10			30			
Parking (#/hr)	5	5	5									
Turn Type	Split					custom	Prot			Prot	Perm	
Protected Phases	4	4					5	2		1		6
Permitted Phases						8					6	
Actuated Green, G (s)		6.9					4.0	74.1				65.1
Effective Green, g (s)		6.9					4.0	74.1				65.1
Actuated g/C Ratio		0.08					0.04	0.82				0.72
Clearance Time (s)		4.0					5.0	5.0				5.0
Vehicle Extension (s)		3.0					3.0	3.0				3.0
Lane Grp Cap (vph)		87					69	2561				1967
v/s Ratio Prot		c0.04					c0.04	0.41				
v/s Ratio Perm												c0.47
v/c Ratio		0.58					0.93	0.49				0.65
Uniform Delay, d1		40.1					42.9	2.4				6.5
Progression Factor		1.00					0.88	0.46				1.00
Incremental Delay, d2		9.0					77.4	0.6				1.7
Delay (s)		49.1					115.0	1.7				8.1
Level of Service		D					F	A				A
Approach Delay (s)		49.1			0.0			7.2				8.1
Approach LOS		D			A			A				A

Intersection Summary			
HCM Average Control Delay	8.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	93.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	30
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	32
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	400
Confl. Bikes (#/hr)	30
Parking (#/hr)	
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	93	559	0	0	513	40	150	152	20	0	0	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				
Lane Util. Factor		0.95			0.95			0.95				
Frpb, ped/bikes		1.00			0.98			0.98				
Flpb, ped/bikes		0.98			1.00			0.85				
Frt		1.00			0.99			0.99				
Flt Protected		0.99			1.00			0.98				
Satd. Flow (prot)		2811			2788			2334				
Flt Permitted		0.78			1.00			0.98				
Satd. Flow (perm)		2212			2788			2334				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	99	595	0	0	546	43	160	162	21	0	0	0
RTOR Reduction (vph)	0	0	0	0	7	0	0	6	0	0	0	0
Lane Group Flow (vph)	0	694	0	0	582	0	0	337	0	0	0	0
Confl. Peds. (#/hr)	400					400	400		400			
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)		10			10	10	10	10				
Turn Type	Perm						Perm					
Protected Phases		2			6			8				
Permitted Phases	2						8					
Actuated Green, G (s)		43.5			43.5			27.5				
Effective Green, g (s)		43.5			43.5			27.5				
Actuated g/C Ratio		0.54			0.54			0.34				
Clearance Time (s)		4.5			4.5			4.5				
Vehicle Extension (s)		3.0			3.0			3.0				
Lane Grp Cap (vph)		1203			1516			802				
v/s Ratio Prot					0.21							
v/s Ratio Perm		c0.31						0.14				
v/c Ratio		0.58			0.38			0.42				
Uniform Delay, d1		12.1			10.5			20.1				
Progression Factor		1.00			0.29			1.00				
Incremental Delay, d2		2.0			0.6			1.6				
Delay (s)		14.2			3.7			21.8				
Level of Service		B			A			C				
Approach Delay (s)		14.2			3.7			21.8			0.0	
Approach LOS		B			A			C			A	

Intersection Summary			
HCM Average Control Delay	12.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	95.4%	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												
Volume (vph)	0	419	180	50	448	0	0	0	0	20	304	105
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	
Lane Util. Factor		0.95			0.95						0.95	
Frpb, ped/bikes		0.90			1.00						0.94	
Flpb, ped/bikes		1.00			0.99						0.99	
Frt		0.95			1.00						0.96	
Flt Protected		1.00			0.99						1.00	
Satd. Flow (prot)		2677			3061						2618	
Flt Permitted		1.00			0.77						1.00	
Satd. Flow (perm)		2677			2371						2618	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	451	194	54	482	0	0	0	0	22	327	113
RTOR Reduction (vph)	0	49	0	0	0	0	0	0	0	0	37	0
Lane Group Flow (vph)	0	596	0	0	536	0	0	0	0	0	425	0
Confl. Peds. (#/hr)			400	400						400		400
Confl. Bikes (#/hr)			30			30			10			10
Parking (#/hr)											5	5
Turn Type				Perm						Perm		
Protected Phases		4			4						8	
Permitted Phases				4						8		
Actuated Green, G (s)		24.6			24.6						46.4	
Effective Green, g (s)		24.6			24.6						46.4	
Actuated g/C Ratio		0.31			0.31						0.58	
Clearance Time (s)		4.5			4.5						4.5	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		823			729						1518	
v/s Ratio Prot		0.22										
v/s Ratio Perm					c0.23						0.16	
v/c Ratio		0.72			0.74						0.28	
Uniform Delay, d1		24.7			24.8						8.4	
Progression Factor		0.48			1.00						1.00	
Incremental Delay, d2		2.7			3.9						0.5	
Delay (s)		14.7			28.7						8.9	
Level of Service		B			C						A	
Approach Delay (s)		14.7			28.7			0.0			8.9	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM Average Control Delay	17.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	85.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	69	330	490	1186	0	989	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00	0.97	0.95		0.95	
Frpb, ped/bikes	1.00	0.66	1.00	1.00		0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	0.85	1.00	1.00		0.99	
Flt Protected	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (prot)	1555	915	3016	3110		3001	
Flt Permitted	0.95	1.00	0.95	1.00		1.00	
Satd. Flow (perm)	1555	915	3016	3110		3001	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	69	330	490	1186	0	989	78
RTOR Reduction (vph)	0	283	0	0	0	6	0
Lane Group Flow (vph)	69	47	490	1186	0	1061	0
Confl. Peds. (#/hr)	400	400					400
Confl. Bikes (#/hr)		30					30
Turn Type		Perm	Prot		Prot		
Protected Phases	4		5	2	1	6	
Permitted Phases		4					
Actuated Green, G (s)	12.8	12.8	21.0	66.2		39.2	
Effective Green, g (s)	12.8	12.8	21.0	66.2		39.2	
Actuated g/C Ratio	0.14	0.14	0.23	0.74		0.44	
Clearance Time (s)	5.0	5.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	221	130	704	2288		1307	
v/s Ratio Prot	0.04		c0.16	0.38		c0.35	
v/s Ratio Perm		c0.05					
v/c Ratio	0.31	0.36	0.70	0.52		0.81	
Uniform Delay, d1	34.6	34.9	31.6	5.1		22.2	
Progression Factor	1.00	1.00	1.00	1.00		0.69	
Incremental Delay, d2	0.8	1.7	3.0	0.8		4.4	
Delay (s)	35.5	36.6	34.6	5.9		19.7	
Level of Service	D	D	C	A		B	
Approach Delay (s)	36.4			14.3		19.7	
Approach LOS	D			B		B	

Intersection Summary			
HCM Average Control Delay	18.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	17.0
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												
Volume (vph)	20	229	10	11	126	20	10	80	19	30	110	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
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	1.00
Frpb, ped/bikes		1.00	0.43		1.00	0.66		0.94			1.00	0.46
Flpb, ped/bikes		0.98	1.00		0.97	1.00		0.96			0.95	1.00
Frt		1.00	0.85		1.00	0.85		0.98			1.00	0.85
Flt Protected		1.00	1.00		1.00	1.00		1.00			0.99	1.00
Satd. Flow (prot)		1595	600		1578	917		1443			1532	644
Flt Permitted		0.98	1.00		0.98	1.00		0.96			0.93	1.00
Satd. Flow (perm)		1567	600		1547	917		1394			1437	644
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	21	244	11	12	134	21	11	85	20	32	117	11
RTOR Reduction (vph)	0	0	4	0	0	7	0	6	0	0	0	8
Lane Group Flow (vph)	0	265	7	0	146	14	0	110	0	0	149	3
Confl. Peds. (#/hr)	800		800	800		800	400		400	400		400
Confl. Bikes (#/hr)			10			10			10			10
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	5	0	0	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		Perm
Protected Phases		6			2			4			8	
Permitted Phases	6		6	2		2	4			8		8
Actuated Green, G (s)		40.8	40.8		40.8	40.8		10.2			10.2	10.2
Effective Green, g (s)		40.8	40.8		40.8	40.8		10.2			10.2	10.2
Actuated g/C Ratio		0.68	0.68		0.68	0.68		0.17			0.17	0.17
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)		1066	408		1052	624		237			244	109
v/s Ratio Prot												
v/s Ratio Perm		c0.17	0.01		0.09	0.02		0.08			c0.10	0.00
v/c Ratio		0.25	0.02		0.14	0.02		0.46			0.61	0.02
Uniform Delay, d1		3.7	3.1		3.4	3.1		22.4			23.1	20.8
Progression Factor		1.00	1.00		0.25	0.05		1.19			1.02	1.28
Incremental Delay, d2		0.1	0.0		0.1	0.0		1.1			4.3	0.1
Delay (s)		3.8	3.1		1.0	0.2		27.9			27.8	26.7
Level of Service		A	A		A	A		C			C	C
Approach Delay (s)		3.8			0.9			27.9			27.7	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	12.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX C
VISITOR FLOW COUNTS

VISITOR FLOW SURVEY REPORT – FALL 2011

ALCATRAZ TRANSPORTATION STUDY AND EIS/EIR

GOLDEN GATE NATIONAL RECREATION AREA
CALIFORNIA

REVIEW ONLY — NOT FOR PUBLIC DISTRIBUTION

REPORT
JANUARY 2012

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INTRODUCTION

The National Park Service is conducting the Alcatraz Transportation Study to consider alternative sites on the San Francisco waterfront for a new embarkation facility for ferry service serving Alcatraz Island. One important factor that will help identify a preferred site will be the ease with which travelers by all modes can access each site, including the effects of existing bicycle and pedestrian congestion. This report documents existing pedestrian and bicycle activity in several areas along the waterfront. The data will establish a baseline understanding of existing activity for use in evaluating various site opportunities and constraints. Additional data will be collected in 2012 to better understand travel behavior, including mode choice, of visitors to the new Alcatraz Embarkation Facility alternative sites.

Fehr & Peers conducted pedestrian and bicycle counts at five representative sites between Saturday, October 8, 2011 and Thursday, October 20, 2011. October is generally a popular month for tourism in San Francisco due to reliably good weather and several special events and, therefore, these counts represent typical high-use conditions along San Francisco's waterfront. In addition to a full week of counts collected during normal October conditions, the counts also include one weekend day during the annual Fleet Week events, which represent uniquely crowded conditions for purposes of comparison. These counts have been supplemented by counts collected by ORCA Consulting as part of ongoing work preparing for the 34th America's Cup race and by Gehl Architects as part of a study of the public realm in the Fisherman's Wharf area. Together, these counts provide an understanding of the level of activity in the areas surrounding each of the potential sites and will assist in the analysis for determining the feasibility of a new embarkation site.

At the time these counts were collected, nine potential sites were being considered as part of the Alcatraz Transportation Study (see **Figure 1**). Although some of these sites are likely to be determined infeasible for a variety of reasons, this report describes pedestrian and bicycle conditions surrounding each of the nine sites to fully document the results of the data collection.

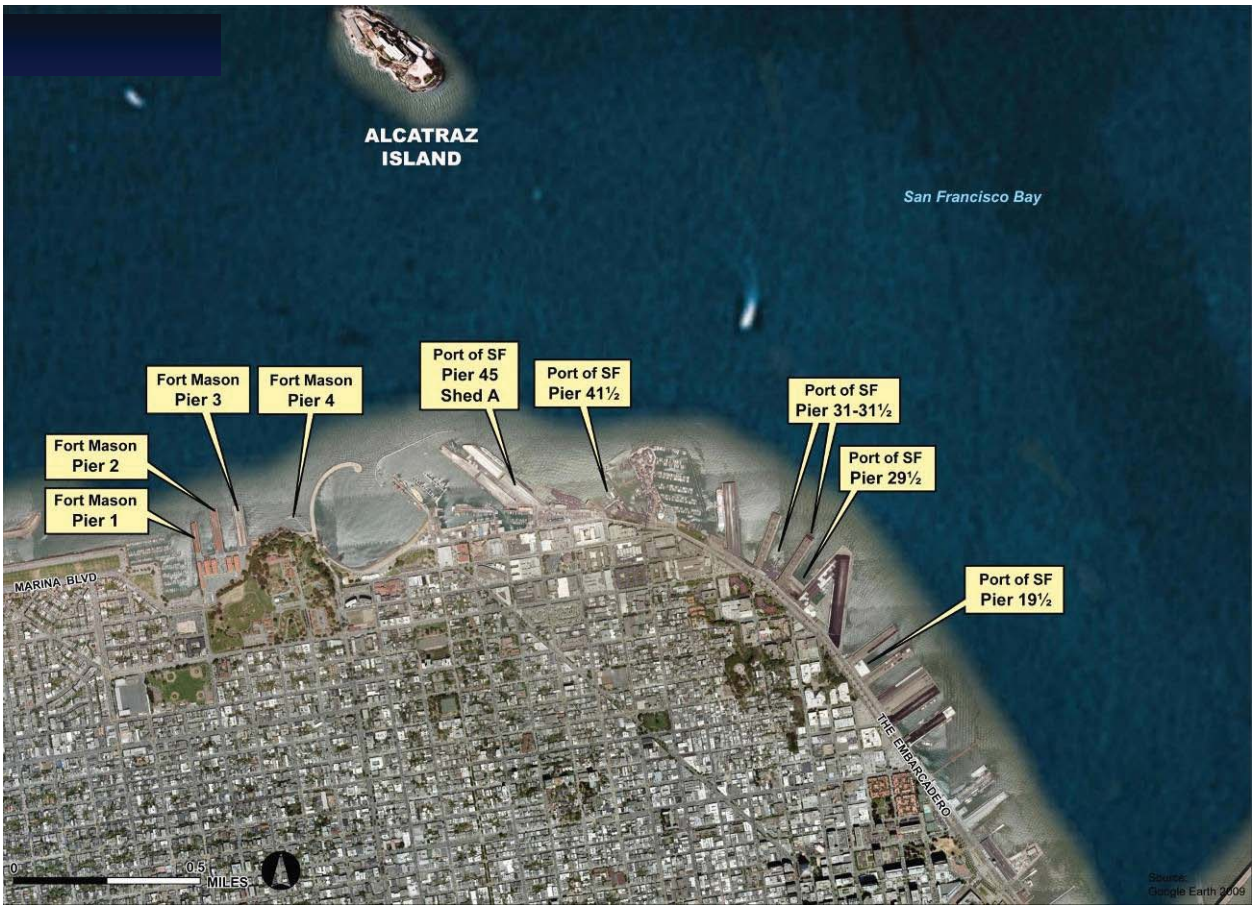


Figure 1 – Potential Site Alternatives (Source: Alcatraz Ferry Embarkation and Education Site Feasibility Study, URS, May 2001)

METHODOLOGY

This chapter discusses the methodology by which counts were collected, adjusted, and post-processed into a useful format. Three types of data were collected: Visitor Flow Counts, which describe the volume of people moving past a given point over a given duration; People at One Time Counts, which describe the number of people in a given area at a single point in time; and Vehicular Counts, which were collected at three locations as part of this effort.

VISITOR FLOW COUNTS

This section describes the methods used to collect visitor flow counts. Fehr & Peers collected a substantial amount of new counts, augmented with counts previously collected by ORCA Consulting and Gehl Architects.

FEHR & PEERS COUNTS

Pedestrian and bicycle volume counts were conducted at five different locations along the waterfront. The count locations were:

- North side of The Embarcadero at *Pier 19½*
- North side of The Embarcadero at *Pier 31½*
- Fisherman's Wharf, between *Pier 45 and Pier 41½*
- Pathway in front of Fort Mason *Pier 4*
- Access points to Fort Mason *Piers 1, 2, and 3,* including stairway from Upper Fort Mason, entrance to Lower Fort Mason gated/paid parking lot area, and vehicular entrance at Beach Street/Marina Boulevard/Buchanan Street intersection

Maps of the count locations are provided in the Results section next to their respective discussions.

Pedestrians and bicycles were counted over fifteen minute periods during the AM peak (between 9 AM and 11 AM), the midday peak (between 1 PM and 3 PM), and the PM peak (between 4:45 PM and 6:45 PM). Westbound and eastbound travel was counted separately. All pedestrians and off-street bicyclists (i.e., on the Embarcadero multi-use path, near piers or in parking lots, but not on street) were counted at each of the locations.

For each of the three time periods, a peak hour was derived for each mode at each location. The peak hour was defined as the one hour window in each peak period where the sum of eastbound and westbound volume was highest. The peak hour was calculated separately for each location and also separately for pedestrian and bicycle travel.

Counts were conducted at each location described above during each peak period on the following eight days:

- Saturday, October 8, 2011 (during Fleet Week)
- Friday, October 14, 2011
- Saturday, October 15, 2011
- Sunday, October 16, 2011
- Monday, October 17, 2011
- Tuesday, October 18, 2011
- Wednesday, October 19, 2011
- Thursday, October 20, 2011

The counts were grouped into three categories: midweek[1] (Tuesday-Thursday), weekend[2] (Friday-Sunday), and peak event weekend (Saturday during Fleet Week). Peak volumes from each day within a particular group were averaged, resulting in an average midweek peak hour volume, an average weekend peak volume, and an average peak event weekend volume. Counts collected during Fleet Week were summarized separately because Fleet Week typically draws large crowds to the Embarcadero to watch the air show and participate in other aspects of the event, such as boarding military ships docked on the Embarcadero. The Saturday of Fleet Week is one of the busiest days of the year on the Embarcadero, and thus the volumes on this day indicate volumes that could be expected on a special event day.

GEHL COUNTS

As part of a study of the public realm in the Fisherman's Wharf area, Gehl Architects was retained by the City to collect extensive data regarding existing pedestrian activity in the area. The Gehl study includes counts at 19 sites in the Fisherman's Wharf area. Pedestrians were counted on Wednesday, July 30 and Saturday, August 2, 2008. Of the 19 sites, three are close to potential Alcatraz sites that are under consideration and have been incorporated into this report:

- Taylor Street, just south of Pier 45 (between The Embarcadero and Lincoln Highway)
- The Embarcadero, just west of Powell Street and near Pier 43
- The Embarcadero, at Pier 39

ORCA COUNTS

ORCA Consulting was retained by the National Park Service to collect extensive data near existing Golden Gate National Recreation Area (GGNRA) sites as part of a study evaluating the potential effects of the 34th

[1] Monday counts were disregarded because there was an unexplained spike in pedestrian and bicycle activity on Monday at only two of the six locations: Pier 19½ and Pier 29½.

[2] Friday counts were similar to Saturday and Sunday counts and were therefore grouped with the other weekend counts. Specifically, Friday counts exhibited generally higher overall volumes than during Monday through Thursday. This is expected due to increased tourist and visitor activity on Friday associated with the upcoming weekend.

America's Cup yacht race, expected to be held in the San Francisco Bay in 2012 and 2013. Eight sites were counted for the ORCA Study. Pedestrian and bicycle counts were conducted on weekdays and weekends during an 11-day period (August 24-28 and September 7-11, 2011). Of the eight sites, three are close to potential Alcatraz sites that are under consideration:

- Laguna Street, by Fort Mason (all passing pedestrians were counted, including those not entering Fort Mason)
- Jefferson Street, west of Hyde Street – midway between Fort Mason and Pier 45
- Taylor Street, between The Embarcadero and Jefferson Street – just south of Pier 45

The ORCA counts were presented as daily flow estimates. Counts from the Gehl study, which were hourly between 8 AM and 10 PM, were used to calculate a peak hour factor. For each count location in the Gehl study, the maximum hourly count was divided by the 8 AM to 10 PM "all-day" count to deliver a peak hour factor. Averaging over all 19 count locations in the Gehl Study, and weighting by overall volume, the composite peak hour factor was found to be 12.9 percent for weekdays and 12.4 percent for weekends. As a simplification, a 13 percent peak hour factor was applied to all ORCA daily counts to estimate a peak hour count from the daily volumes. Based on the Gehl study observations, the peak hour counts were assumed to occur during the midday period.

PEOPLE AT ONE TIME (PAOT) COUNTS

In addition to the bicycle and pedestrian flow counts, "people at one time" pedestrian activity counts were taken at four zones located close to Piers 45 and 41½. These counts were taken once an hour in the peak periods and the number of people located in the two-dimensional area is counted. These counts were taken on the Saturday of Fleet Week (October 8), Thursday, October 20, and Saturday, October 15, 2011.

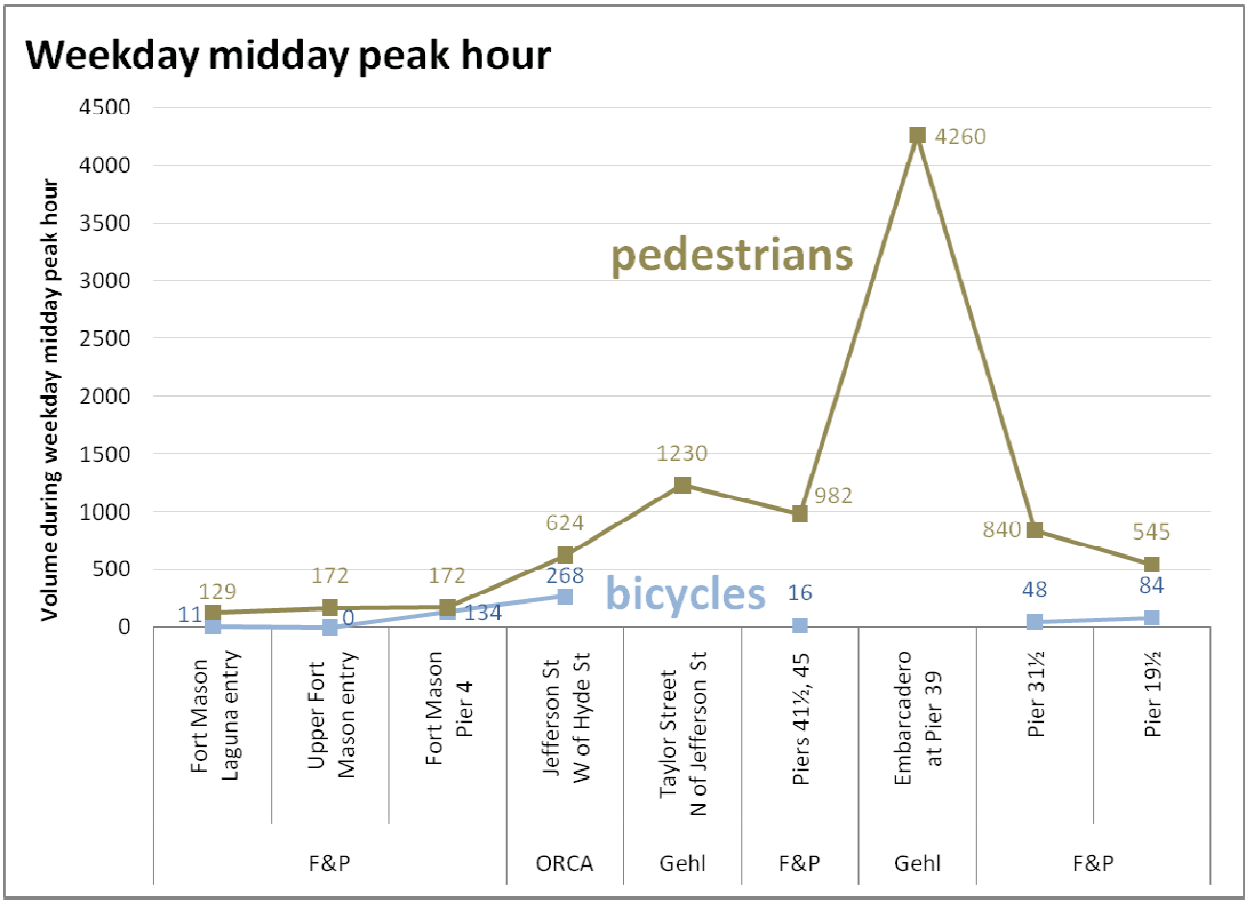
AUTOMOBILE VOLUME COUNTS

The third count component is automobile turning movement counts at three locations. Similar to the activity counts, these counts were taken on the Saturday of Fleet Week (October 8), Thursday, October 20, and Saturday, October 15, 2011, representing special event, weekday, and weekend respectively. These turning movement counts took place over three count periods (AM peak, midday peak, and PM peak), and they were segmented into 15 minute periods to enable the determination of the peak hour within each of the three periods. The three count locations were:

- Intersection of Buchanan Street/Marina Boulevard/Beach Street
- Fort Mason vehicle entry/exit gate
- Intersection of The Embarcadero/Powell Street

RESULTS

A comparison of bicycle and pedestrian volumes across the six sites is presented in **Figure 2.** The weekday midday peak hour is chosen as a representative time period for overall travel, particularly because the midday hours are a popular visit time for the Alcatraz tours. The sites are displayed in geographical order of their location, from west to east. Bicycles were not counted at some sites where counts were obtained from other studies.



Note: at Fort Mason Pier 4, ORCA recorded 342 pedestrians, and at Piers 41½, 45, Gehl recorded 2292 pedestrians

Figure 2 – Weekday Midday Peak Hour Pedestrian and Bicycle Volumes Along the Waterfront

At all visitor flow count locations, pedestrians outnumbered cyclists, often by a large margin. The largest pedestrian flows are typically at the pier locations on The Embarcadero, where flows are much larger than those at the three Fort Mason sites. Pier 39, as a major visitor attraction, experiences the largest pedestrian volumes. In comparison, the largest bicycle volume was recorded at Jefferson Street, west of Hyde Street (at Maritime Park). Bicycle volumes are also relatively high at all sites west of the Fisherman's Wharf area. This is likely because of the many bicycle rental companies located in this area, and the large number of cyclists traveling between the rental locations and the Golden Gate Bridge.

In reviewing these counts, it is important to note that, while they have been normalized to all be reflective of weekday midday peak hours, they have been compiled from different studies, and were collected at different times of the year.

SITE-BY-SITE ANALYSIS

While **Figure 2** gives a snapshot of typical volumes along the waterfront, allowing a broad comparison of sites, the data collected is of sufficient quality to allow a more detailed analysis. To this effect, a series of charts has been produced to allow a more detailed analysis of conditions around each of the potential Alcatraz Embarkation Sites, by time of day and day of the week. Each site is examined in turn below.

Because many of the potential sites are situated in close proximity to one another, the discussion in some cases includes a group of potential sites. For example, the pedestrian conditions observed near Lower Fort Mason are applicable to Piers 1, 2, and 3. Therefore, the discussion of these potential sites is consolidated into a single section.

FORT MASON PIERS 1, 2, AND 3

Counts were conducted at three locations near Fort Mason Piers 1, 2, and 3 (see **Figure 3**).

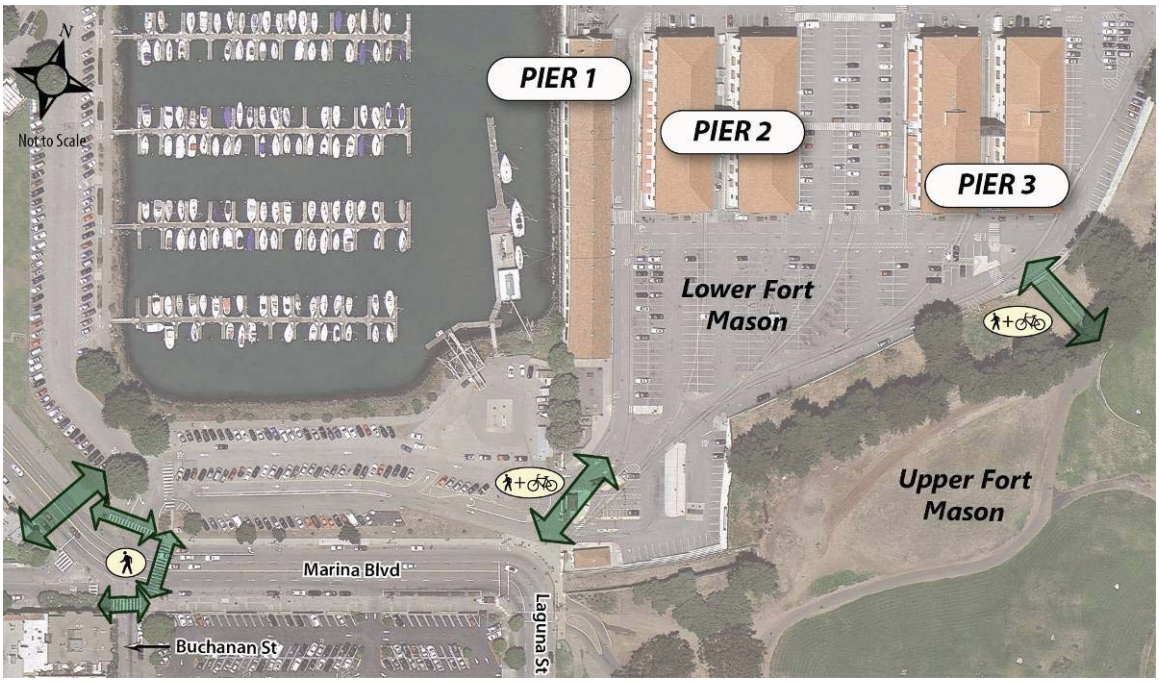


Figure 3 - Count Locations Near Fort Mason Piers 1, 2, and 3

Marina Boulevard/Buchanan Street

The first set of counts was taken at the intersection of Buchanan Street and Marina Boulevard (see **Figure 4**). Counts included volumes of pedestrians crossing all crosswalks at this intersection. Note that there is no crosswalk across Marina Boulevard on the west side of this intersection (i.e., "W crossing"). While crossing volumes at this leg are considerable given the lack of crosswalk facility, this leg does experience

the lowest crossing volume of the four legs. Weekday crossing totals are typically less than a quarter of those at weekends. Crossing totals during Fleet Week Saturday in most cases doubled those during a regular weekend day. Pedestrian crossing totals on all legs are fairly similar to each other except for on Fleet Week Saturday, where the east crossing (i.e. north-south across Marina Boulevard, at the eastern leg of the intersection) featured more than double the number of crossing pedestrians than any of the other crossings.

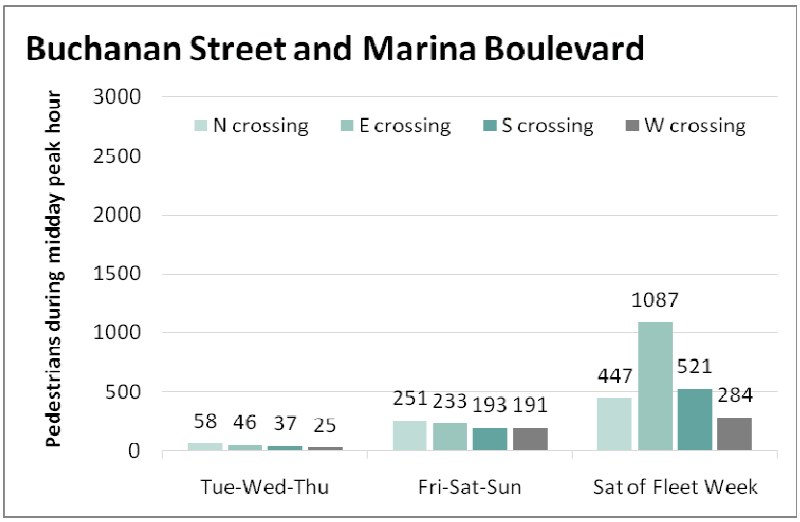


Figure 4 - Midday Peak Hour Pedestrian Counts at Buchanan Street and Marina Boulevard

Lower Fort Mason Parking Lot Entrance

Pedestrian volumes entering Lower Fort Mason at the gated entrance to the Lower Fort Mason parking lot, near the Marina Boulevard/Laguna Street intersection, are much higher during weekends than during the week (see **Figure 5**). There is a clear temporal spike on weekends during the midday period, which may be due to programmed activities in the Fort Mason area.

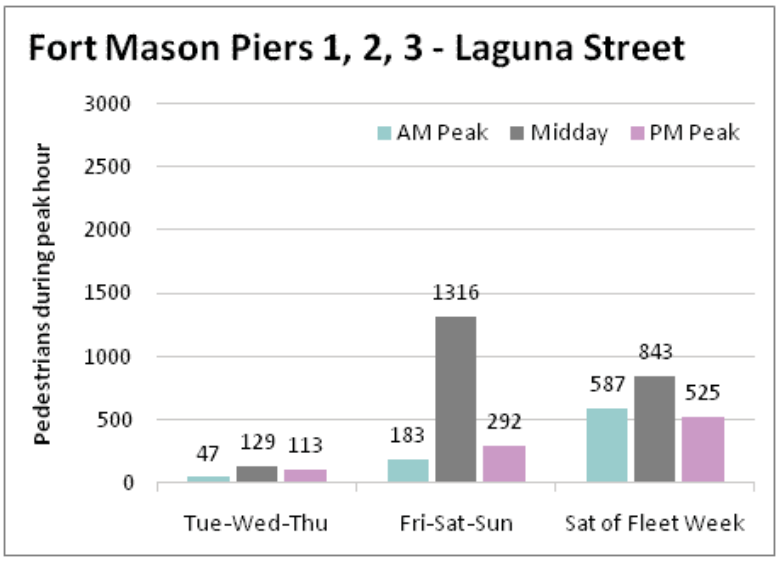


Figure 5 – Peak Hour Pedestrian Volumes at Entrance to Lower Fort Mason Parking Lot

Bicycle volumes are slightly higher on weekends than during the week at the entrance to the Lower Fort Mason parking lot. Interestingly, bicycle volumes were similar during Fleet Week and during a typical weekend (see **Figure 6**).

Note that all pedestrian charts are displayed at the same scale to each other, and all bicycle volume charts are displayed at the same scale to each other, although the bicycle scale is different to the pedestrian scale.

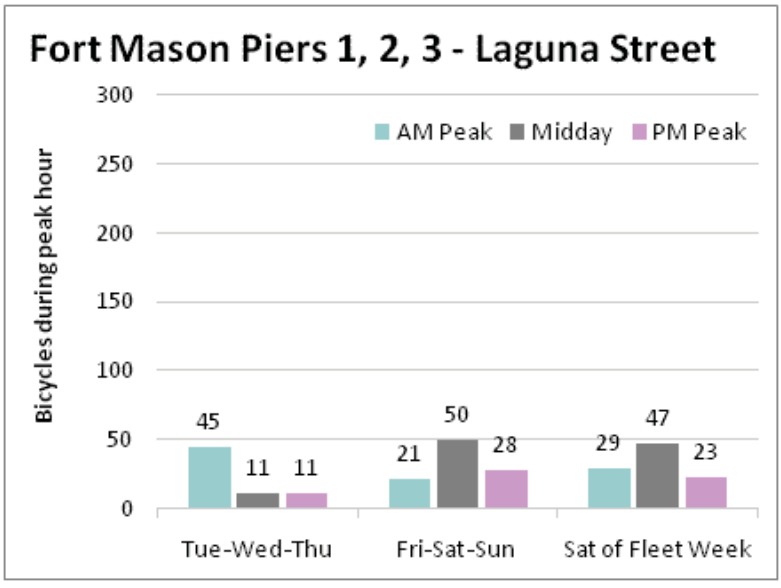


Figure 6 - Peak Hour Bicycle Volumes at Entrance to Lower Fort Mason Parking Lot

There is only one vehicular access point to the parking lot for Fort Mason Piers 1, 2, and 3. Vehicles must pass in and out through the gate in the southwestern corner of the parking lot. To access this gate from the street network, cars enter at the intersection of Marina Boulevard and Buchanan Street. By taking counts at both of these locations, we have been able to determine what proportion of vehicles exiting and

entering the parking lot at Marina Boulevard/Buchanan Street enter or exit Lower Fort Mason also. The remainder presumably find parking in the numerous adjacent lots available along the shoreline. In this analysis, we assume that no vehicles park both within Fort Mason and in a different lot during their visit.

A comparison of cars that enter and exit at Marina/Buchanan and access Fort Mason with those that do not access Fort Mason is presented in **Figure 7**. The results shown are for a typical weekday. Note that the peak hour is determined as the hour with most combined entries and exits from the parking lot at the Buchanan/Marina intersection. It is also assumed that all motorists are able to park in their first-choice location.

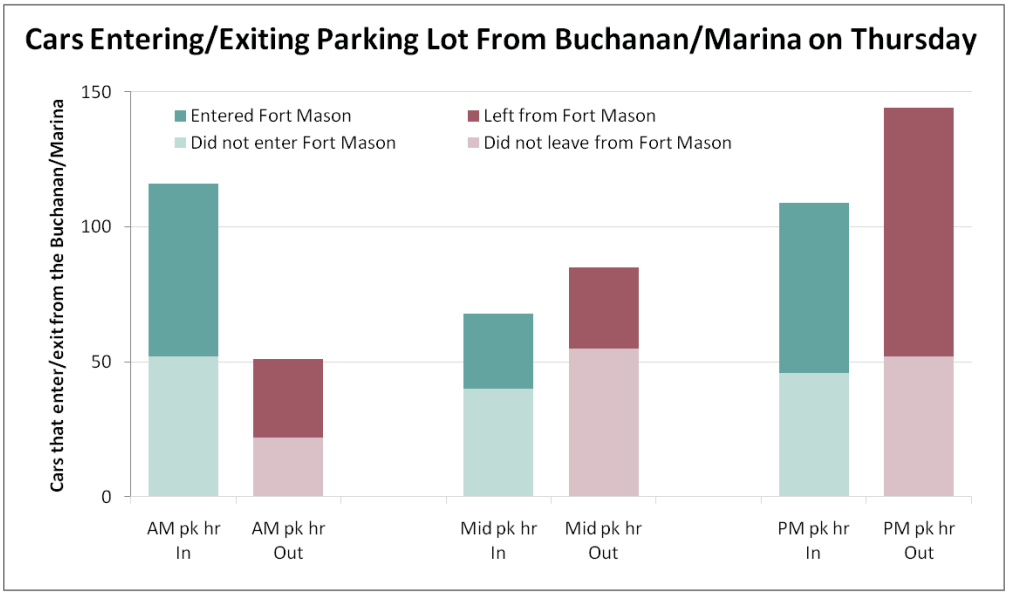


Figure 7 - Vehicles Entering/Exiting Parking Lots from Marina Boulevard/Buchanan Street

A few key points can be obtained from the count data. First, overall, the majority of vehicles that enter from Buchanan/Marina proceed to park within Lower Fort Mason. In contrast, the midday peak features more non-Fort Mason activity. Secondly, as expected, the AM peak is the most popular for entering vehicles and the PM peak is the most popular for exiting vehicles, suggesting that some typical commuter trip activities (i.e., all-day parking) occur at Lower Fort Mason. The midday peak is fairly balanced, although there are slightly more exits than entries.

Upper Fort Mason Stairway

Pedestrian volumes entering Lower Fort Mason from the stairway connecting to Upper Fort Mason are higher on weekends than during the week (see **Figure 8**). During the week, the numbers are roughly double those from the Laguna Street entrance, suggesting that this is a well-patronized entryway. On weekends, many more enter at Laguna Street during the midday period.

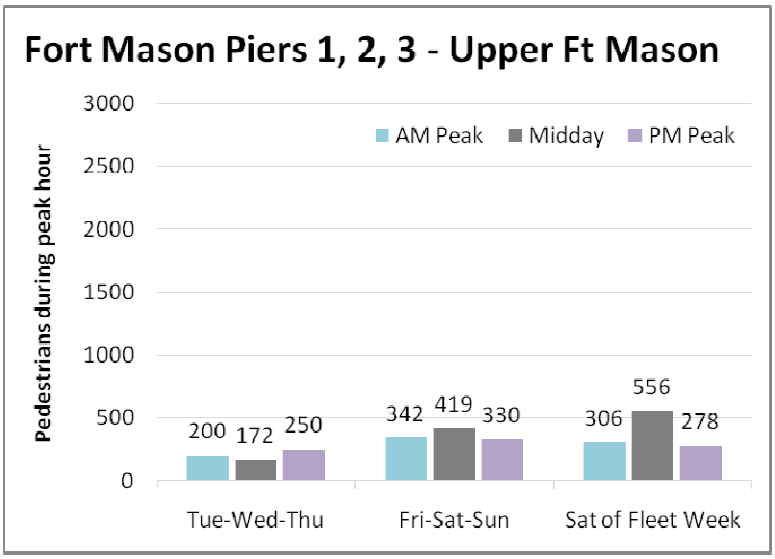


Figure 8 - Peak Hour Pedestrian Volumes on Upper Fort Mason Stairway

Upper Fort Mason

ORCA conducted People at One Time (PAOT) counts on Upper Fort Mason (see **Figure 9**). Note that activity density calculations are a composite of all four count areas. These areas are shown separately in the figure to indicate that people using paths were not included.



Figure 9 – People at One Time Count Zones in Upper Fort Mason

The resulting counts are shown in **Figure 10**. Note that this PAOT chart is at the same scale as a later PAOT chart for Maritime Park. The activity density is at a low level, especially during weekdays. The

open space on Upper Fort Mason is extensive at well over ten acres, explaining the low activity density. Activity is over three times higher at weekends than during the week, and Fleet Week exacerbated this effect significantly.

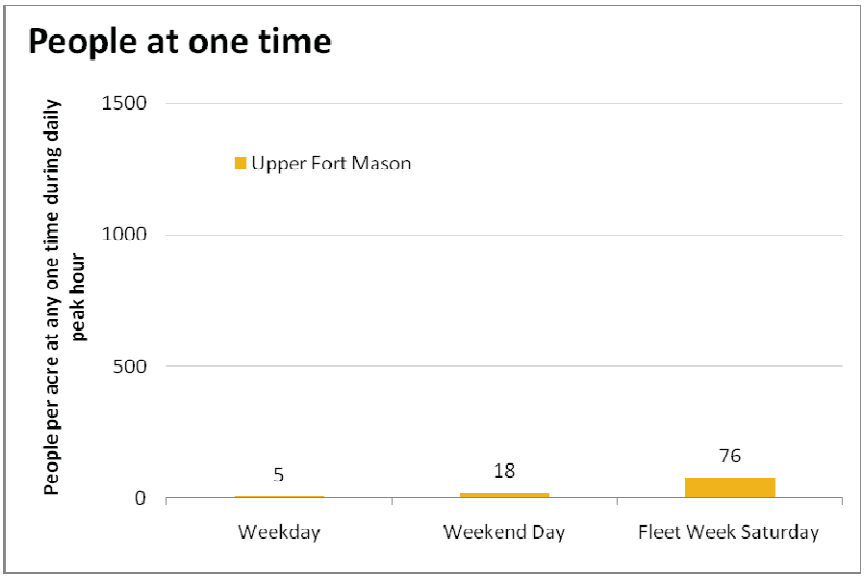


Figure 10 – People at One Time Activity Density at Upper Fort Mason

Summary of Pedestrian and Bicycle Volumes Near Piers 1, 2, and 3

The pedestrian and bicycle corridor through Upper Fort Mason and along Marina Boulevard is a busy one, which generally experiences higher pedestrian and bicycle activity during weekends, and whose activity increased significantly during Fleet Week. On a typical weekday, more pedestrians access Piers 1, 2, and 3 from the pathway from Upper Fort Mason than via the Laguna Street gate. All bicycles use the Laguna Street gate, since they cannot use the long staircase. During the weekday peak, around three people cross the intersection of Buchanan Street and Marina Boulevard per minute, whereas at weekends this rises to around 15 people per minute. Pedestrian activity density at Upper Fort Mason is quite low compared to other sites along the Embarcadero, likely because it is such an expansive area.

FORT MASON PIER 4

Pedestrian and bicycle volumes were counted on the promenade adjacent to Fort Mason Pier 4 (see **Figure 11**).



Figure 11 - Count Location Near Fort Mason Pier 4

Pedestrian and bicycle facilities adjacent to Pier 4 are somewhat challenging. To the east, pedestrians and bicyclists are provided with a relatively flat Class I facility (dedicated, multi-use path) through San Francisco Maritime National Historic Park that offers sweeping views of Aquatic Park and the San Francisco Bay, with relatively limited conflicts. However, to the west, the Class I facility climbs a rather steep hill to Upper Fort Mason. This hill creates challenges for cyclists and pedestrians traveling up hill. To make matters more complicated, cyclists traveling downhill are often traveling at high speeds, creating conflicts with pedestrians and slower cyclists. Pier 4 sits at the base of this hill, which forms the interface between the somewhat more chaotic experience to the west and the more serene experience to the east.

Pedestrian volumes passing this point are relatively constant over the course of the day. As expected, weekend volumes are much higher than weekday volumes. In fact, counts showed that weekend volumes were almost double the weekday volumes, and Fleet Week volumes are significantly higher still (see **Figure 12**).

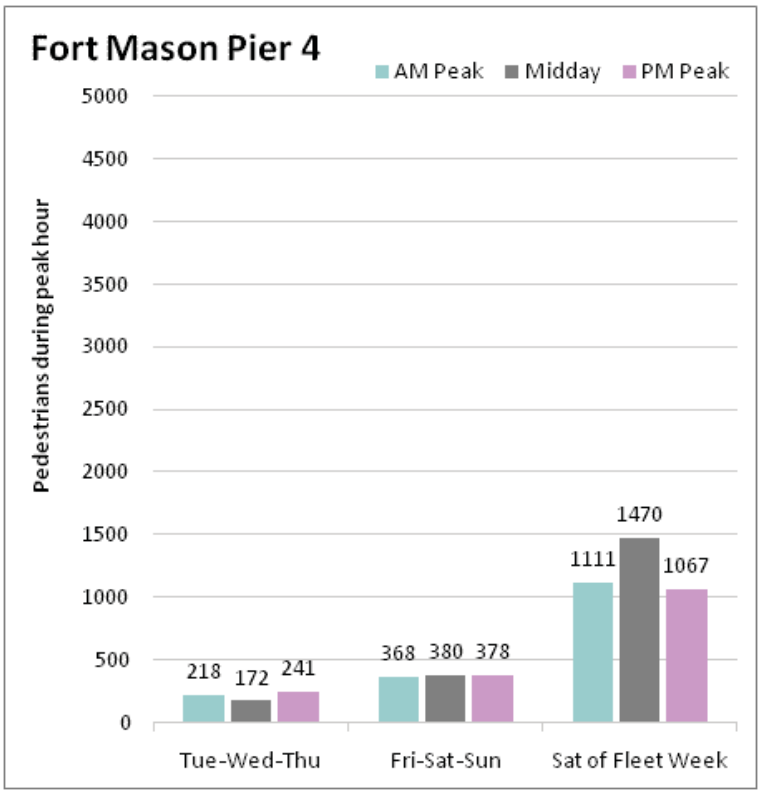


Figure 12 - Peak Hour Pedestrian Volumes Near Fort Mason Pier 4

Recorded bicycle volumes at this location are also relatively high (see **Figure 13**).

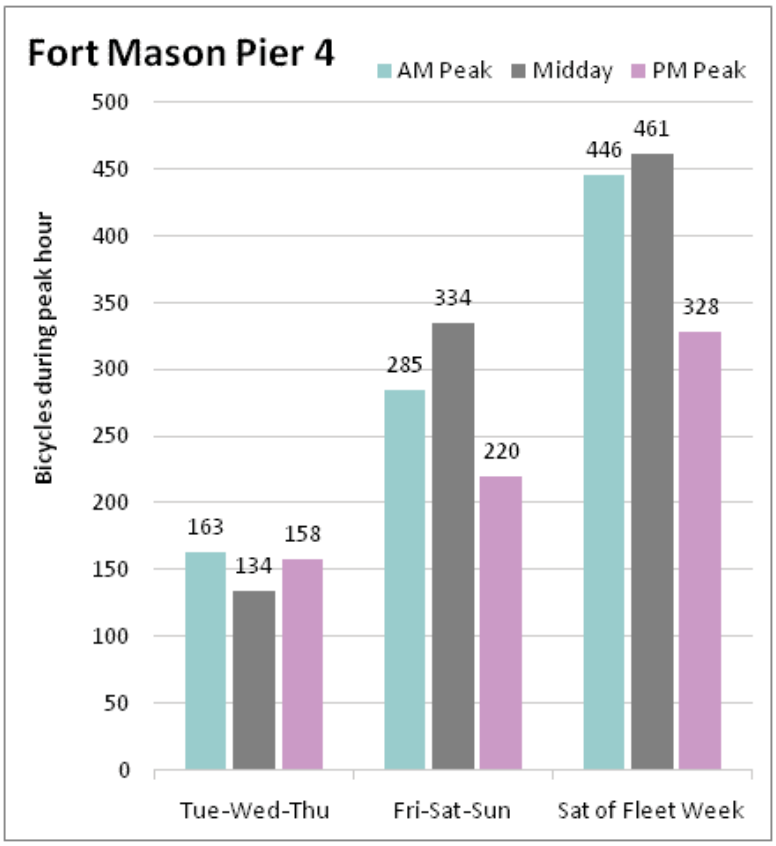


Figure 13 - Peak Hour Bicycle Volumes at Fort Mason Pier 4

Because of the level of conflicts between cyclists and pedestrians, including a large speed differential between those traveling uphill and those traveling downhill, additional analysis of the count data was conducted. A comparison of eastbound and westbound pedestrian and bicycle volumes is shown in **Figure 14**. The split of pedestrian travel eastbound and westbound is about even. In sharp contrast, bicycle distribution is dominated by westbound travel.

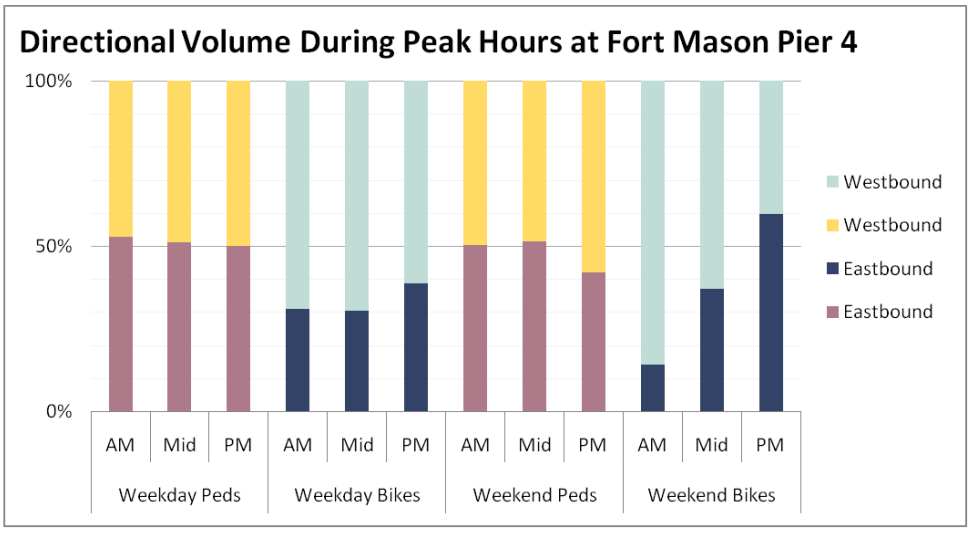


Figure 14 - Directional Pedestrian and Bicycle Volume at Fort Mason Pier 4

Bicycling westwards from many of the bicycle rental facilities near Fisherman's Wharf, across the Golden Gate Bridge, and returning to San Francisco via a ferry from Sausalito in Marin County is a popular visitor pursuit. This clockwise travel explains why westbound bicycle volumes are substantially larger than eastbound volumes throughout the day. In addition to substantial numbers of cyclists who appear to be making this clockwise rotation around the bay, counts show that on weekends, a substantial number of cyclists travel from San Francisco toward Marin County in the AM and then return during the PM peak hour, although at all times, the number of cyclists traveling westbound is larger than the number traveling eastbound.

San Francisco Maritime National Historic Park

ORCA conducted PAOT counts at San Francisco Maritime National Historic Park (Maritime Park), which is midway between Fort Mason Pier 4 and the Port of San Francisco Pier 45 (see **Figure 15**).



Figure 15 – People at One Time Count Zone in San Francisco Maritime National Historic Park

The resulting counts are shown in **Figure 16**. In Maritime Park, the beach areas have a similar activity density to the non-beach areas. Activity density is higher at the weekend than weekday, and rose tenfold during Fleet Week.

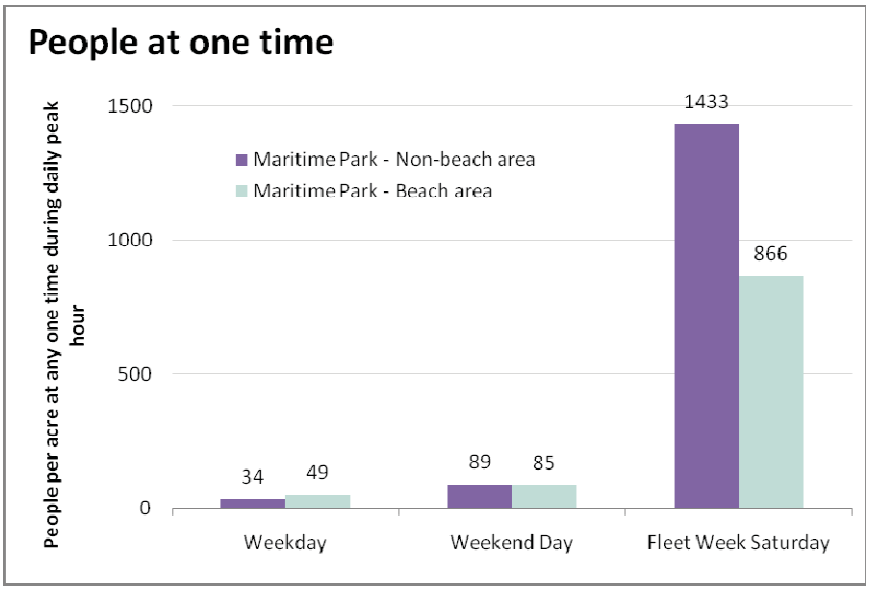


Figure 16 - People at One Time Activity Density at Maritime Park

PIERS 41½ AND 45

Piers 41-1/2 and 45 are situated in the midst of Fisherman's Wharf, one of the most active tourist areas of San Francisco. Pedestrian and bicycle counts were undertaken midway between Piers 41½ and 45 (see **Figure 17**).



Figure 17 - Count Location Near Piers 45 and 41½

Pedestrian volumes at this location are amongst the highest collected along the waterfront. As might be expected, there is a distinct peaking of foot traffic in the midday period, and traffic is typically higher at weekend than during the week (see **Figure 18**).

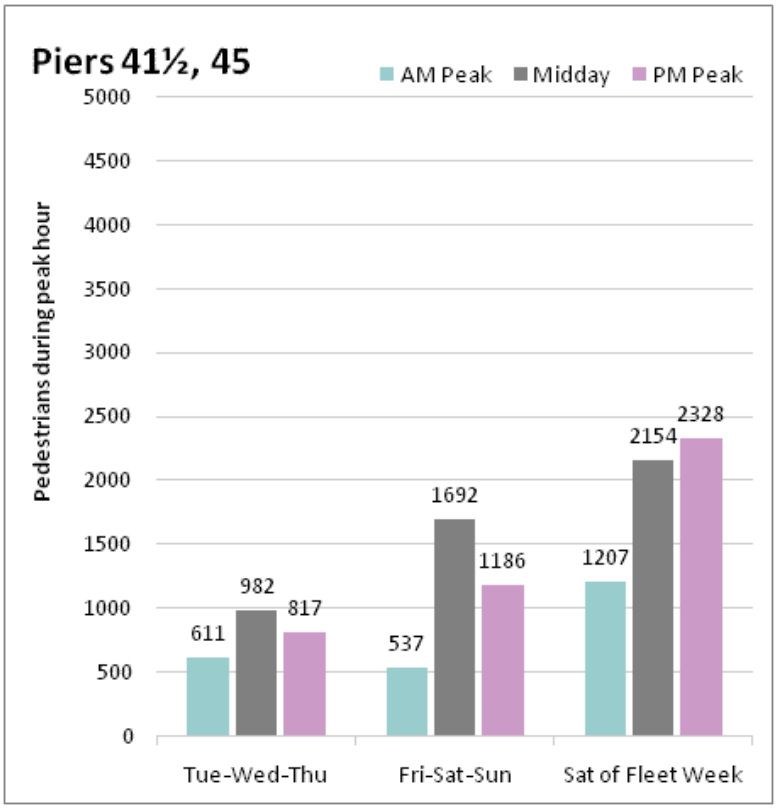


Figure 18 - Peak Hour Pedestrian Volumes at Piers 41½ and 45

Bicycle volumes are fairly low at this location, likely because the count location is not on an east-west through route (see **Figure 19**) and due to the high volumes of pedestrians, which can impede bicycle travel. Despite their relatively low volumes overall, bicycle volumes were markedly higher during the weekend, although they were minimal during the Saturday of Fleet Week. Cyclists may have been dissuaded from traveling past this point due to the larger activity associated with Fleet Week.

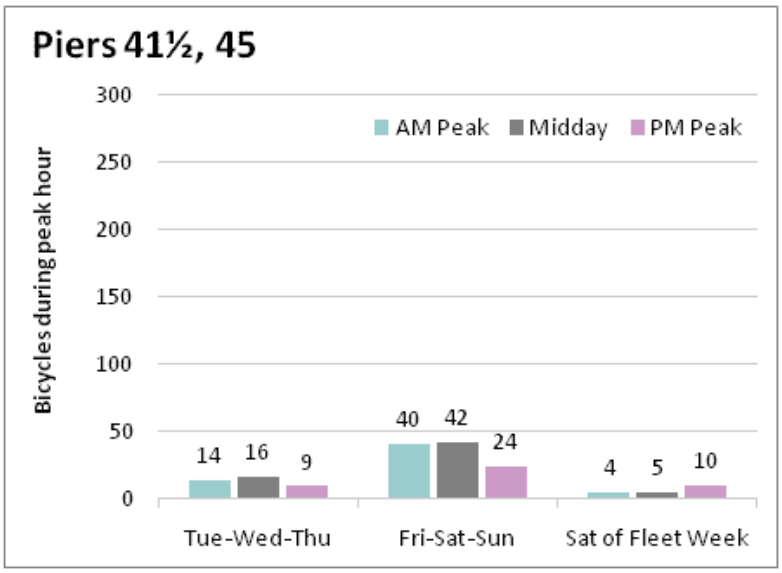


Figure 19 - Peak Hour Bicycle Volumes at Piers 41½ and 45

In addition to the bicycle and pedestrian flow counts, "People at One Time" pedestrian activity counts were taken at four zones located close to Piers 45 and 41½ (see **Figure 20).** Whereas the flow counts observe volumes over a fixed duration, the People at One Time counts represent a snapshot in time, taken once an hour in the peak periods. The number of people located in the two-dimensional area is counted for each snapshot. These counts were taken on the Saturday of Fleet Week (October 8), Thursday, October 20, and Saturday, October 15, 2011. Counts were divided by the area in acres to deliver a measure of activity density, which allows fair comparison of zones with different areas.



Figure 20 - People at One Time Count Zones in Fisherman's Wharf (A, C, D, and E)

Figure 21, on the following page, presents the results of the People at One Time counts.

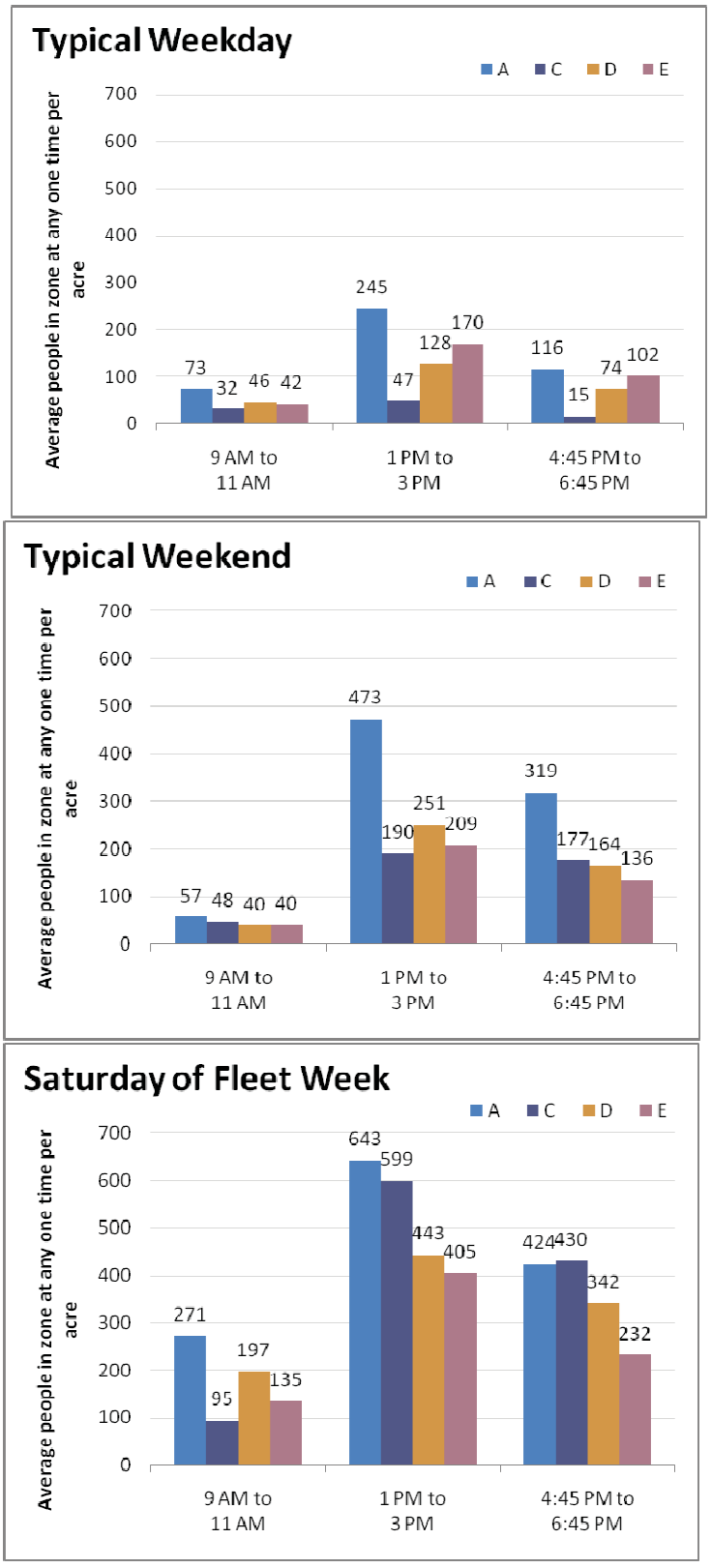


Figure 21 – People at One Time Activity Density Within Zones A, B, C and E

The People at One Time counts, summarized in **Figure 21,** suggest a number of findings. First, in almost every time period surveyed, Zone A, adjacent to Pier 45, has the highest pedestrian activity density. Zone C, on the water side of Pier 31-1/2, typically experiences the lowest pedestrian activity density. This may be because it is around a corner from the main thoroughfare and therefore does not attract much through traffic. Secondly, for all zones, the midday period is the busiest, followed by the PM period, then the AM period. This corresponds with the findings in the Gehl report. This likely reflects the respective presence of tourists during these periods. Additionally, Fleet Week had a substantial effect at increasing activity during the AM and midday periods, but less so during the PM period. Finally, as might be expected, Midday and PM peak periods on weekends are much busier than their weekday counterparts; however, the difference is slight during the AM period.

PIER 31½

Pier 31-1/2 is adjacent to Pier 31, the current location of the Alcatraz Embarkation Site. Pedestrians and bicycles were counted along the north side of the Embarcadero adjacent to Pier 31½ (see **Figure 22**).

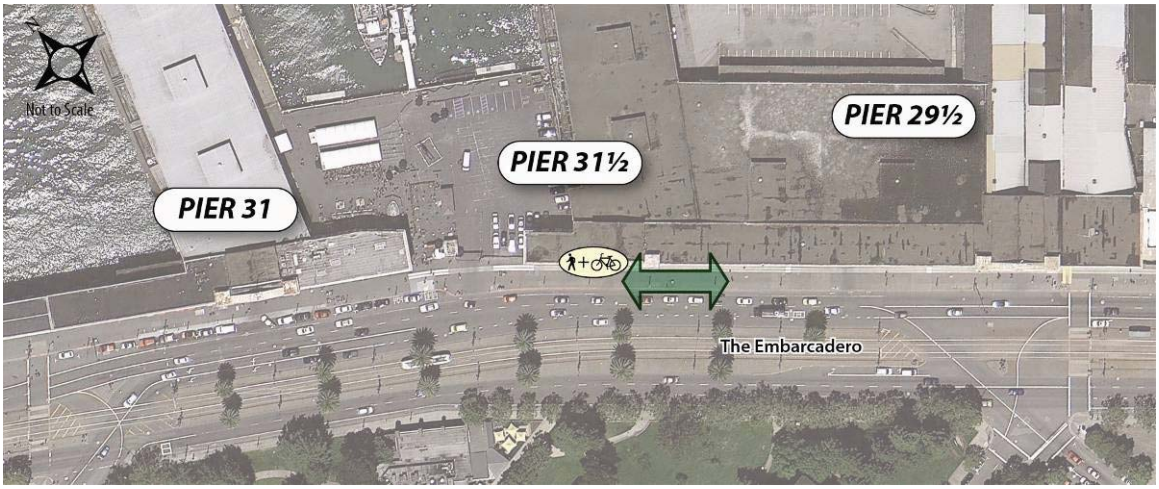


Figure 22 - Count Location Near Pier 31½

Figure 23 summarizes the pedestrian flows adjacent to Pier 31-1/2. As shown, pedestrian volumes are largely stable throughout the day on both a typical weekday and weekend day. During Fleet Week Saturday, volumes surged during the midday and PM periods; the midday peak Fleet Week count was the largest pedestrian flow measured in this entire study, totaling 4,533 pedestrians per hour.

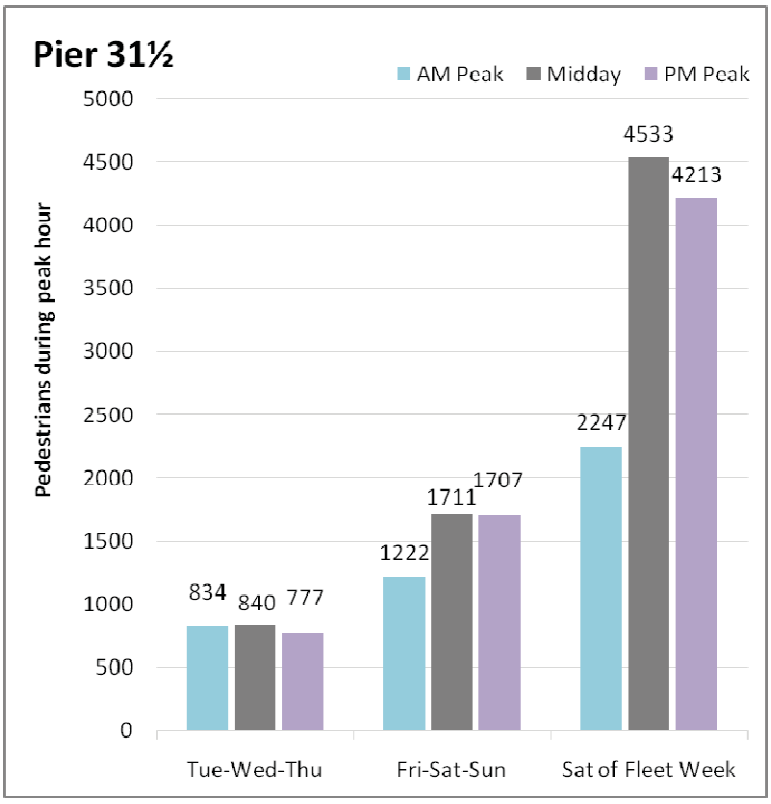


Figure 23 - Peak Hour Pedestrian Volumes Near Pier 31½

The bicycle counts are displayed in **Figure 24**, which shows that the overall volumes are moderate and that weekend volumes are somewhat higher than weekday volumes. It should be repeated that these counts only include bicycles traveling on the Embarcadero Promenade and does not include those traveling in the marked bicycle lane on the roadway.

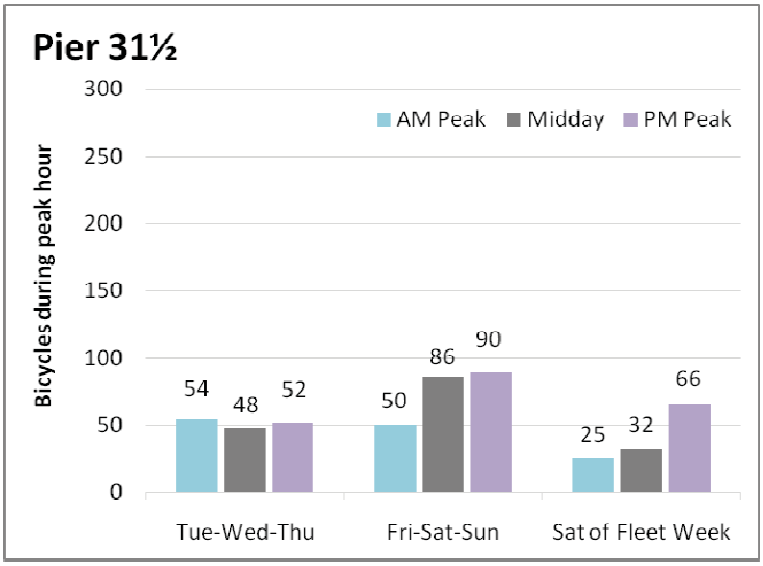


Figure 24 - Peak Hour Bicycle Volumes Near Pier 31½

PIER 19½

Pedestrians and bicycles were counted along the north side of the Embarcadero in front of Pier 19½ (see **Figure 25**).

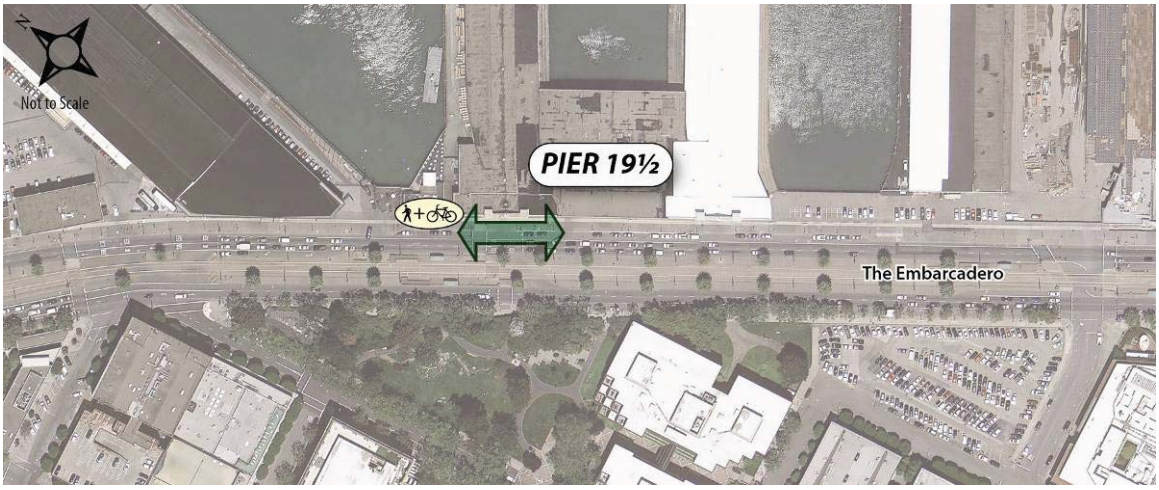


Figure 25 - Count Location Near Pier 19½

Pedestrian volumes recorded at Pier 19½ are amongst the highest recorded in the study (see **Figure 26**). Volumes are much higher on weekends than during the week, and Fleet Week volumes were even higher.

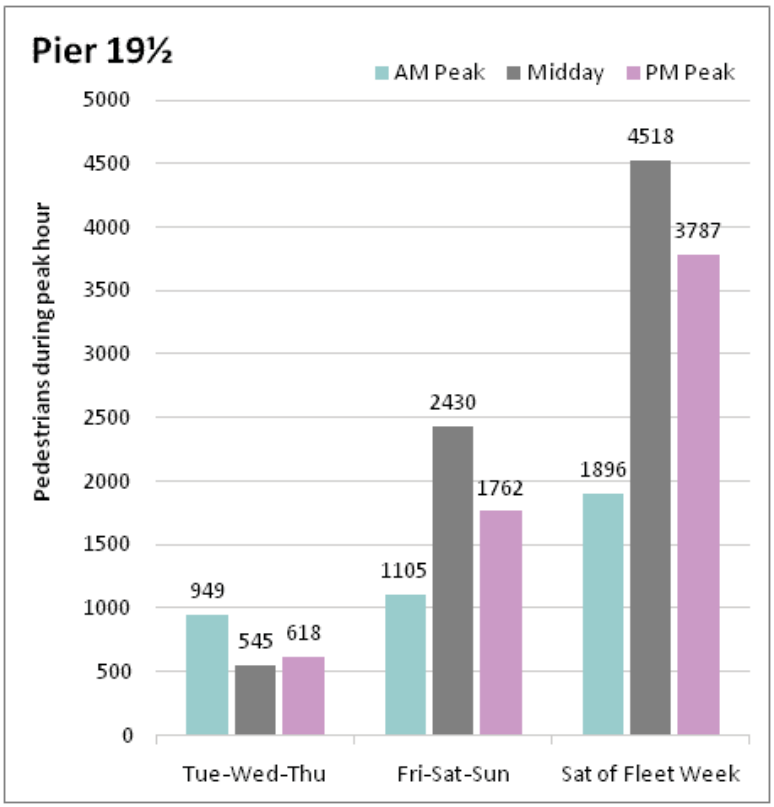


Figure 26 - Peak Hour Pedestrian Volumes Near Pier 19½

The corresponding bicycle volumes can be seen in **Figure 27**. In contrast to all other sites, bicycle volumes were lower at the weekend than during the week.

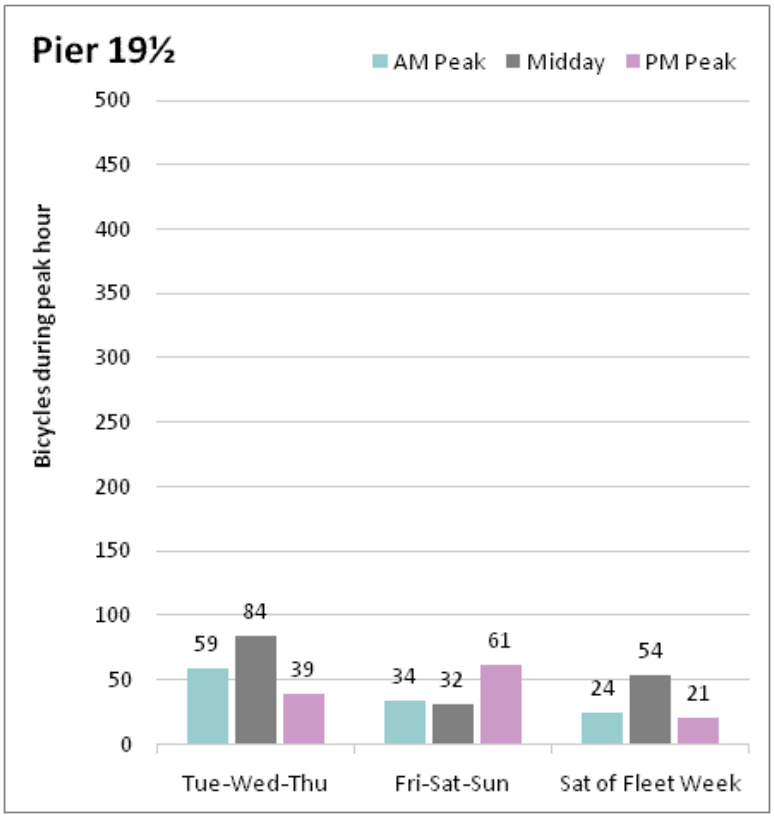


Figure 27 - Peak Hour Bicycle Volumes Near Pier 19½

SUMMARY OF FINDINGS

As noted earlier, this report is intended to summarize data collected in Fall 2011 related to existing bicycle and pedestrian activity, and does not include a substantial amount of technical analysis. Analysis of this data will be performed in the future to answer specific questions about site feasibility and as part of later environmental review.

Overall, along the San Francisco waterfront, pedestrian volumes during Fleet Week are around double those of a regular weekend day, except for people accessing the Fort Mason Piers 1, 2, and 3 from Upper Fort Mason where there is little deviation. Typical weekend volumes are almost uniformly larger than weekday volumes, in some cases by more than double. Pedestrian volumes usually peak during the midday. Finally, Fleet Week aside, more people access Fort Mason Piers 1, 2, and 3 from the pathway from the stairway connecting to Upper Fort Mason than from the vehicle entry gate.

With respect to bicycles, activity is by far the highest at Fort Mason Pier 4, where counted volumes reach over 300 bicycles per hour (more than one bicycle every ten seconds). At the count locations on The

Embarcadero, bicycles have the option of traveling in the road on bike lanes, which are not included in the counts. The weekly and daily peak varies across sites, although weekend travel is typically higher than weekday travel.

Pedestrian activity density was also measured at three general areas, and it can be seen in **Figure 28** that the area along the Embarcadero between Piers 45 and 41½ experienced significantly more activity per acre during the typical weekday and weekend day than Maritime Park and Upper Fort Mason. During Fleet Week, Maritime Park experienced a huge surge in activity, with nearly 1,500 people per acre at any one time at the peak.

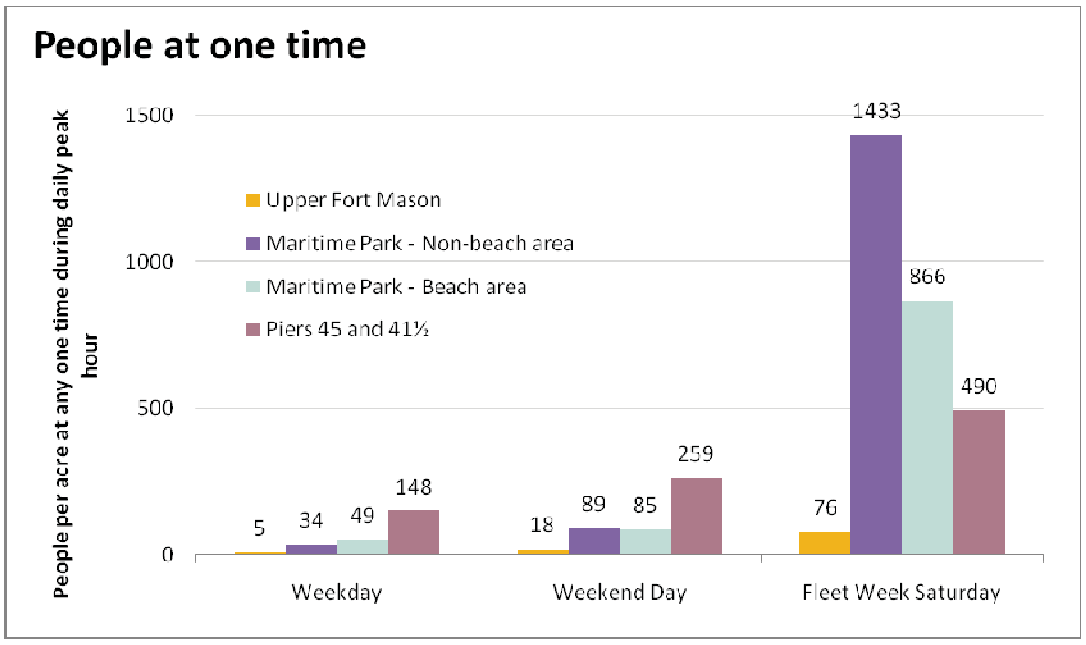


Figure 28 - Comparison of people at one time counts across four different locations

APPENDIX D
VISITOR SURVEY AND TRAVEL DEMAND ANALYSIS

ANCHOR QEA

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MEMORANDUM

To:	Patricia Sacks and Steven Culver, National Park Service	**Date:**	December 10, 2012
From:	Joshua Burnam, MPH, D.Env.	**Project:**	110772-01.01
Cc:	Brian Aviles, National Park Service		
Re:	Alcatraz Ferry Embarkation EIS: Task 9 2012 Visitor Flow Survey Analysis		

Attached is the final Task 9 2012 Visitor Flow Survey Analysis which summarizes the results of the visitor survey conducted along the San Francisco waterfront. The attached version incorporates comments received from NPS staff on the previous draft submitted on October 5, 2012.

MEMORANDUM

To:	Patricia Sacks and Steven Culver, National Park Service	**Date:**	December 10, 2012
From:	Joshua Burnam, MPH, D.Env., and Katie Chamberlin, Anchor QEA, L.P.	**Project:**	110772-01.01
Cc:	Brian Aviles, National Park Service; Chris Mitchell and Nikki Foletta, Fehr & Peers		
Re:	Task 9 2012 Visitor Flow Survey Analysis OMB Control Number: 1024-0224, Expiration Date: 8-31-2014		

This memorandum summarizes the results of the visitor survey conducted along the San Francisco waterfront in support of the Alcatraz Ferry Embarkation Environmental Impact Statement (EIS). Survey results were used to forecast mode split for travel to each potential Alcatraz ferry embarkation site alternative. A general discussion of potential sites, survey methodology, and survey data analysis is provided herein.

SURVEY METHODOLOGY

SAMPLING PROCEDURES

An on-site survey (included as Attachment A) was conducted at the current Alcatraz ferry embarkation site at Pier 31½ and at Fisherman's Wharf to assess travel behavior specific to each location. The survey sampling period ran from July 14 through July 22, 2012, and included 5 week days and 4 weekend days. On each sampling day, two surveyors were located at each site and collected responses between 9AM and 5PM.

At Pier 31½, surveyors interviewed people waiting in line to board the ferry to Alcatraz Island. Each surveyor started at a different location in the line and asked the first visitor they encountered to participate in the survey. If the visitor agreed and was part of a group, then the surveyor interviewed the person in the group who was older than 18 years old and whose birthday was closest to the current date and recorded answers on a printed copy of the survey. Those who had already been surveyed were skipped. After completing contact with the group, the surveyor moved to the next visitor or group of visitors in the line. This process was continued throughout the sampling period. Those who refused to answer the survey were asked if they would be willing to answer three non-response bias questions. If they agreed, their answers were recorded. If they refused, they were counted as a refusal.

At Fisherman's Wharf, surveyors were located in different sides of the plaza between Taylor Street, Jefferson Street, and The Embarcadero. Surveyors approached the first person they saw in the plaza and followed the same procedures outlined for Pier 31½. After completing each contact, the surveyor

approached the next visitor or group of visitors they saw and continued this process throughout the sampling period.

SAMPLE SIZE

A total of 1,440 completed surveys—comprised of 400 week day surveys and 320 weekend day surveys at each site—was needed to achieve results within the specified margin of error, as described in the Programmatic Approval for National Park Service- (NPS-) Sponsored Public Surveys. Based on completion rates of similar visitor intercept surveys, about 50 percent of visitors approached were projected to participate and complete the survey. The actual response rates at both sites were much higher than expected, as shown in Table 1. The response rate at Pier 31½ was much higher than at Fisherman's Wharf, which is likely due to people waiting in line. People standing in line are a "captive audience" and are considered more likely to agree to take a survey than people standing or sitting in a plaza. Overall, 2,152 visitors were approached and 1,646 visitors completed the survey, equaling a response rate of 76 percent. Seventy-two visitors initially refused to take the survey but agreed to complete a partial survey, answering three non-response bias questions, and 434 visitors refused to participate in the survey altogether. Thus, an adequate number of surveys were completed at each site during week and weekend days to achieve the required confidence intervals.

TABLE 1: SURVEY SAMPLE SIZE

	Visitors Approached	Refusals	Partials	Completes	Response Rate
Pier 31½					
Week Day	485	54	8	423	87%
Weekend Day	470	52	15	403	86%
Fisherman's Wharf					
Week Day	580	142	19	419	72%
Weekend Day	617	186	30	401	65%
Total	**2,152**	**434**	**72**	**1,646**	**76%**

ANALYZING POTENTIAL NON-RESPONSE BIAS

The previously detailed sampling procedures are unbiased, and therefore, the population of refusals should match the population of those who completed the survey. No statistical bias is anticipated to occur between these populations due to the survey implementation methodology. To ensure a non-biased survey, those who initially refused to participate in the survey were asked to answer the following three non-response bias questions:

- How many people are in your [personal, organized, tour] group?
- Where do you live?
- On this visit, which forms of transportation did you and your personal group use to arrive here?

These partial survey responses were analyzed to determine whether there was a significant difference between those who refused to take the survey (but were willing to provide answers to three non-response bias questions) and those who completed the survey. Results are shown in Table 2. Locals were anticipated to be less likely to respond to the survey than tourists, but partial responses did not indicate a lack of participation. Surveyors noted that language barriers led to many survey refusals. The average group size and percent of tourists were very similar between the partial and completed surveys. Partial respondents were more likely to arrive by car than complete survey respondents. However, this difference could be due to random variation, because the number of partial surveys completed is so small. No statistical justification for adjusting the completed survey responses was needed based on these findings and the high survey response rate. Therefore, no survey analysis adjustments were made to account for refusals.

TABLE 2: COMPARISON OF PARTIAL AND COMPLETED SURVEYS

	Pier 31½		Fisherman's Wharf	
	Partial	**Complete**	**Partial**	**Complete**
Average Group Size	3.3	3.8	4.6	4.5
Locals	4%	9%	12%	17%
Tourists	96%	91%	88%	83%
Car Mode Share	36%	28%	53%	37%
Taxi Mode Share	18%	13%	6%	6%
Public Transit Mode Share	23%	28%	23%	28%
Tour Bus Mode Share	0%	7%	6%	8%
Walk Mode Share	23%	23%	12%	19%
Number of Surveys	23	826	49	820

SURVEY DATA ANALYSIS

The survey data analysis was divided into two parts. The first part analyzed mode of access to potential Alcatraz ferry embarkation site alternatives and parking demand at each site. The second part analyzed interest in an NPS ferry service from San Francisco to Sausalito with a connecting shuttle to Muir Woods.

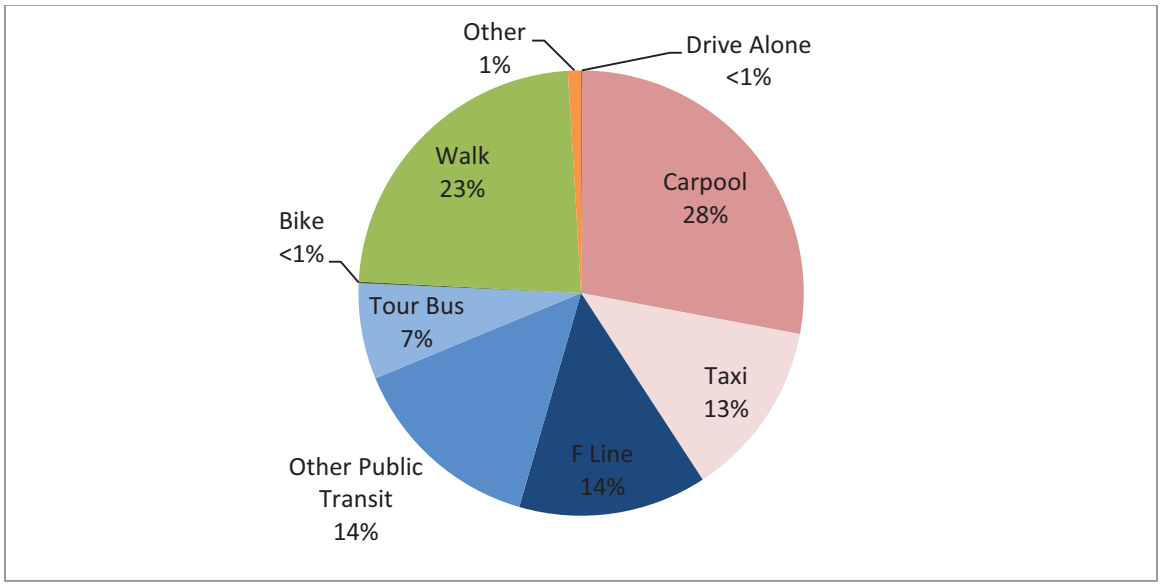
MODE OF ACCESS TO ALCATRAZ FERRY EMBARKATION SITE

Several locations are currently being considered for the Alcatraz ferry embarkation site, including Piers 31½, 41, and 45 at the Port of San Francisco and Piers 1 and 3 at Fort Mason. These locations fall into three distinct areas along the waterfront due to their relative proximity. Mode share is anticipated to be similar for trips to all sites within a given geographic area. Therefore, three mode split estimates were generated for the potential ferry embarkation site alternatives—one for each of the three general waterfront areas: 1) the eastern waterfront (Pier 31½), 2) Fisherman's Wharf (Piers 41 and 45), and 3) Fort Mason (Piers 1 and 3).

Mode Split for Trips to Pier 31½

The Alcatraz ferry currently departs from Pier 31½, also known as Alcatraz Landing. Alcatraz Cruises, the current Alcatraz ferry operator, distributes a survey to all ferry riders asking questions about their ferry experience, including transportation access. Specifically, one of the questions asks "How did you arrive at Alcatraz Landing?" NPS's July 2012 survey also asked visitors which form of transportation they used to arrive at Pier 31½ on the day of the survey. Figure 1 shows the overall estimated mode split to Pier 31½ based on survey results. Results are similar between the two surveys; however, Alcatraz Cruises' results show a higher walking mode share. Because all visitors walk for the final portion of their trip, it is possible that some of Alcatraz Cruises' survey respondents replied "walk" when they actually used another mode prior to walking. In NPS's July 2012 survey, information about all modes used to access the ferry embarkation site was carefully captured in order to not over-represent the "walk" mode. Therefore, only the results of the visitor survey conducted in NPS's July 2012 survey was used in this analysis.

FIGURE 1: MODE SPLITS TO PIER 31½



Visitors to Pier 31½ were surveyed on both week and weekends days. Figure 2 shows the week day mode split, and Figure 3 shows the weekend day mode split. The carpool, taxi, and tour bus mode shares are slightly higher on weekend days, while the public transit mode share is higher on week days.

FIGURE 2: WEEK DAY MODE SPLIT TO PIER 31½

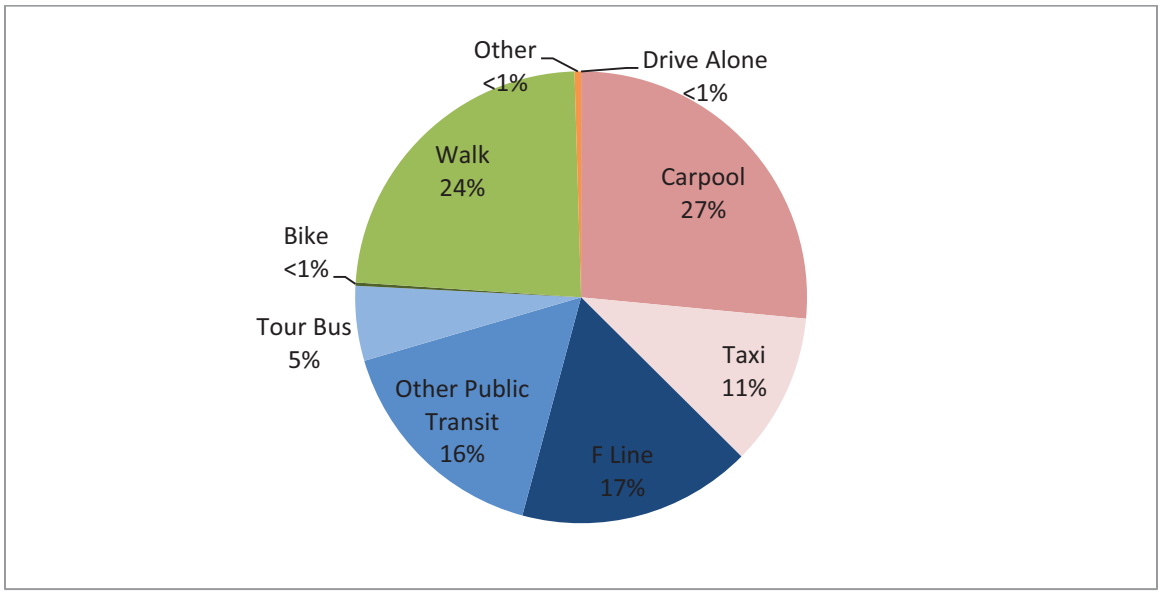
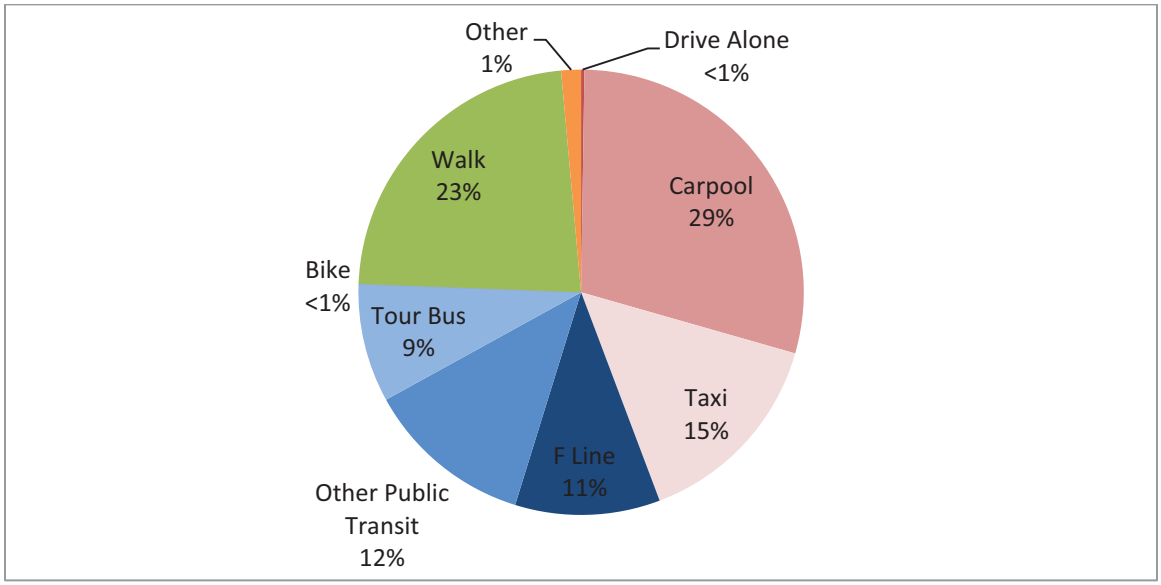


FIGURE 3: WEEKEND DAY MODE SPLIT TO PIER 31½



Mode Split for Trips to Piers 41 and 45

Survey results from current visitors to Fisherman's Wharf were used to estimate the mode share of trips to the Alcatraz ferry embarkation site if it were located at Piers 41 or 45. Upon analyzing survey results, it was noted that a higher percentage of those visiting Fisherman's Wharf are locals than those visiting Pier 31½, as is shown in Table 3. Furthermore, the mode split of locals is somewhat different from the mode split of tourists surveyed. In particular, locals are much more likely to arrive by carpool.

Because the goal of this survey effort is to project mode split for Alcatraz Island visitors if the ferry embarkation site was located at Fisherman's Wharf, data collected at Fisherman's Wharf were adjusted by weighting the responses of visitors higher than the responses of locals to reflect a more representative mix of typical Alcatraz Island visitors based on what was observed at Pier 31½. The adjustment weights were calculated by taking the percent of survey respondents in each respondent category from the Pier 31½ surveys and dividing by the percent of respondents per category from the Fisherman's Wharf surveys. The resulting weights are shown in Table 4.

TABLE 3: COMPARISON OF TOURIST AND LOCAL RESPONSE RATES

Type of Respondent	Pier 31½		Fisherman's Wharf	
	Week Day	Weekend Day	Week Day	Weekend Day
Tourist	95%	87%	88%	77%
Local	5%	13%	12%	23%

Note:
A local is anyone who lives in the nine-county Bay Area and stayed at a place of residence the night before the survey date (i.e., did not stay in a hotel as part of a visit to San Francisco).

TABLE 4: FISHERMAN'S WHARF SURVEY WEIGHTS

Type of Respondent	Week Day	Weekend Day
Tourist	1.07	1.12
Local	0.44	0.57

Note:
A local is anyone who lives in the nine-county Bay Area and stayed at a place of residence the night before the survey date (i.e., did not stay in a hotel as part of a visit to San Francisco).

Figure 4 shows the overall weighted mode split from all surveys conducted at Fisherman's Wharf. Figure 5 shows the weighted week day mode split, and Figure 6 shows the weighted weekend day mode split. Unlike Pier 31½, the week day and weekend day mode splits are quite different at Fisherman's Wharf. Visitors are much more likely to carpool and less likely to take public transit on weekend days than on week days.

FIGURE 4: WEIGHTED MODE SPLIT TO FISHERMAN'S WHARF

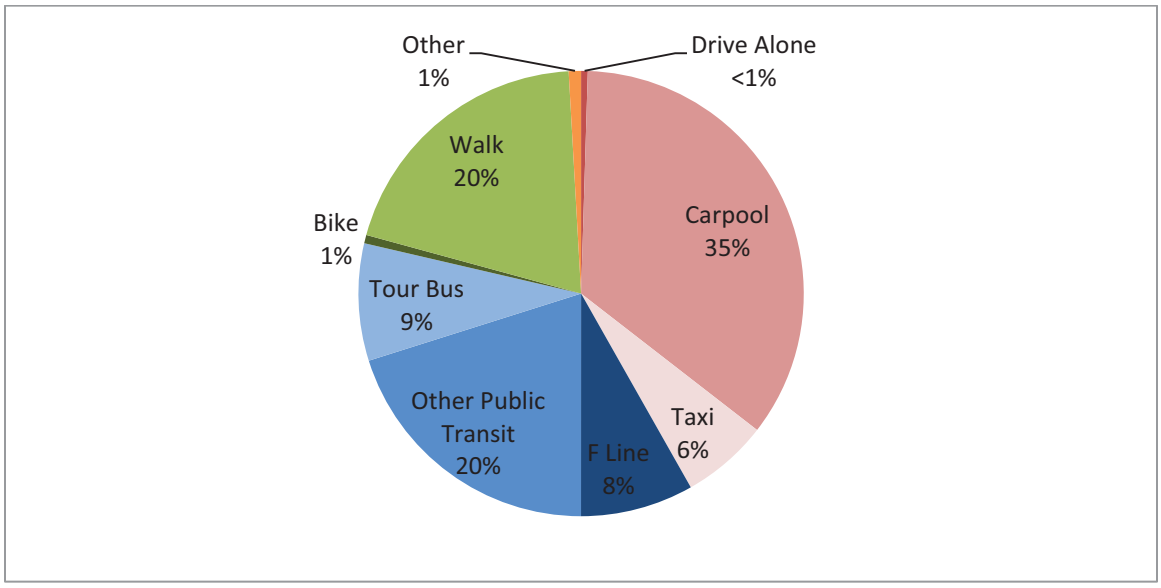


FIGURE 5: WEIGHTED WEEK DAY MODE SPLIT TO FISHERMAN'S WHARF

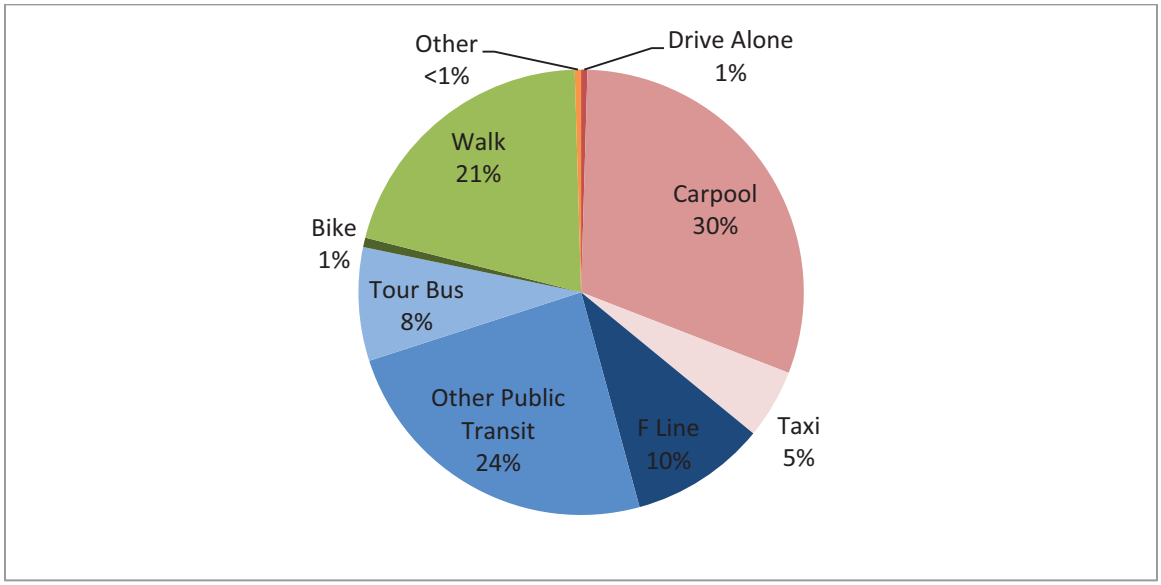
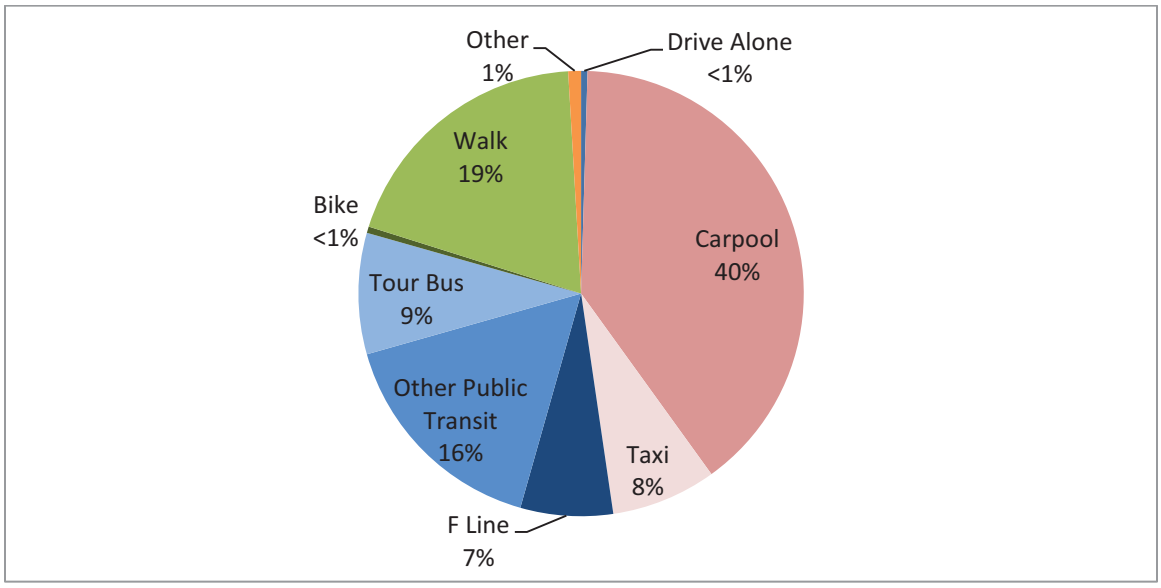


FIGURE 6: WEIGHTED WEEKEND DAY MODE SPLIT TO FISHERMAN'S WHARF



Mode Split for Trips to Fort Mason Piers 1 and 3

The mode split for Fort Mason was estimated for the following three scenarios:

- **No F-Market Line Extension or Shuttle.** This scenario assumed current transit provision to the area, without extension of the F-Market line or a shuttle.
- **F-Market Line Extension Only.** This scenario assumed that the F-Market line would be extended to Fort Mason but that no shuttle would be provided.
- **Shuttle Only.** This scenario assumed that a low/no-cost NPS shuttle would be provided with service between Fisherman's Wharf and Fort Mason but that the F-Market line would not be extended.

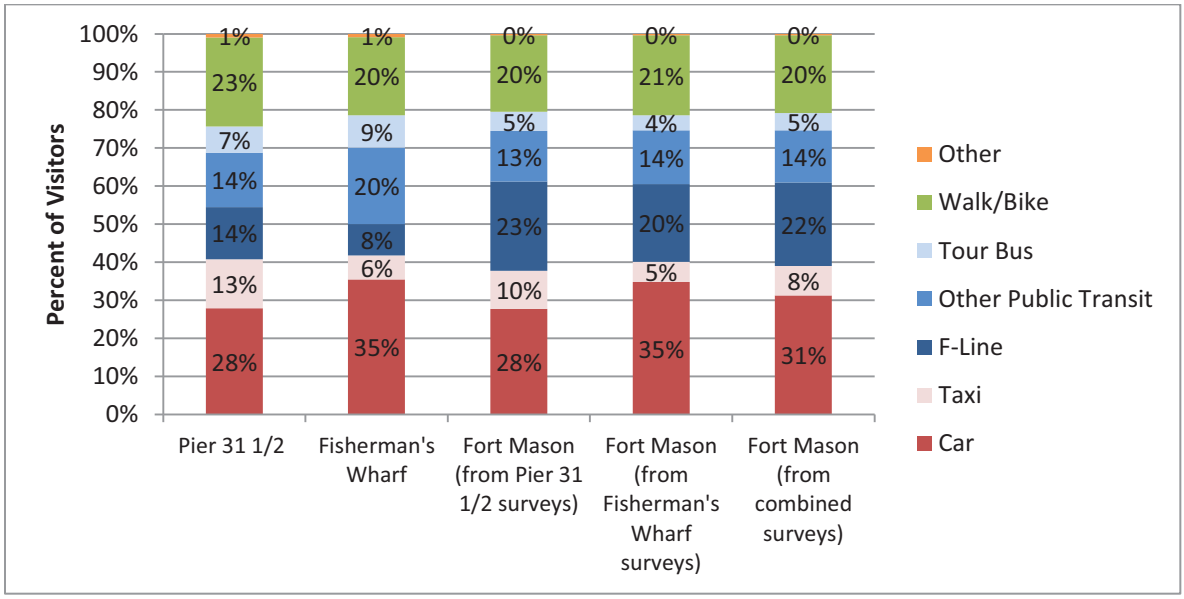
The mode splits for each scenario were estimated based on a combination of survey analysis and mode split data provided by the City of San Francisco Planning Department, as described below.

Fort Mason does not currently generate a large number of visitors on a daily basis, unlike Fisherman's Wharf, and therefore, a survey at this location was not conducted. The population currently traveling to Fort Mason is substantially different from the population of tourists visiting Pier 31½ and Fisherman's Wharf. Because Fort Mason is somewhat more auto-oriented and less transit-rich than Fisherman's Wharf, visitors currently traveling by car or taxi to Fisherman's Wharf are anticipated to use the same mode of transportation to access Fort Mason to take the Alcatraz ferry. However, those who currently walk or take public transportation to Fisherman's Wharf might shift to a different mode of transportation due to the hilly terrain and lower transit accessibility at Fort Mason. To estimate the effect of moving the Alcatraz ferry embarkation site to Fort Mason, current visitors to Pier 31½ and Fisherman's Wharf were asked how they would get to Fort Mason if the Alcatraz ferry embarkation site were located there under two scenarios (questions 5 and 6 in attachment A): 1) if the F-Market line

were extended through a tunnel to Fort Mason, and 2) if a shuttle service was provided between Fisherman's Wharf and Fort Mason instead of the F-Market line extension.

Figure 7 shows a comparison of survey data of mode split to different potential ferry embarkation sites. The first and second bars show the mode of transportation used to Pier 31½ and Fisherman's Wharf, respectively, by surveyed visitors (consistent with Figures 1 and 4, respectively). The third and fourth bars show visitors' preferred mode of transportation to Fort Mason (assuming extension of the F-Market line) from visitors currently at Pier 31½ and Fisherman's Wharf, respectively. The fifth bar shows the average stated mode of transportation to access Fort Mason for all visitors surveyed. Many stated that they would use the same mode to access Fort Mason as they did to access to their current location. Several said that they would switch from their current mode to taking the F-Market line, and as a result, the public transit mode share estimate for Fort Mason is higher than for Pier 31½ and Fisherman's Wharf. Both of these results are somewhat counter-intuitive. Although the survey provided information about how potential visitors may respond to the hilly terrain in the Fort Mason area, many surveyed were unfamiliar with the area and the potential difficulties in accessing the site. Therefore, the stated mode choice results may not accurately represent what mode visitors would actually choose in accessing Fort Mason.

FIGURE 7: SURVEY DATA MODE SPLIT COMPARISON



The City of San Francisco Planning Department published *Transportation Impact Analysis Guidelines for Environmental Review*[1] (*SF Guidelines*) for use in conducting transportation impact analyses. While these guidelines are not intended for such a unique use as the Alcatraz ferry embarkation site, they do contain useful data regarding general travel behavior in different parts of San Francisco based on surveys conducted throughout the city. The *SF Guidelines* define four quadrants of San Francisco as Superdistricts, which are consistent with the travel analysis zones established by the Metropolitan

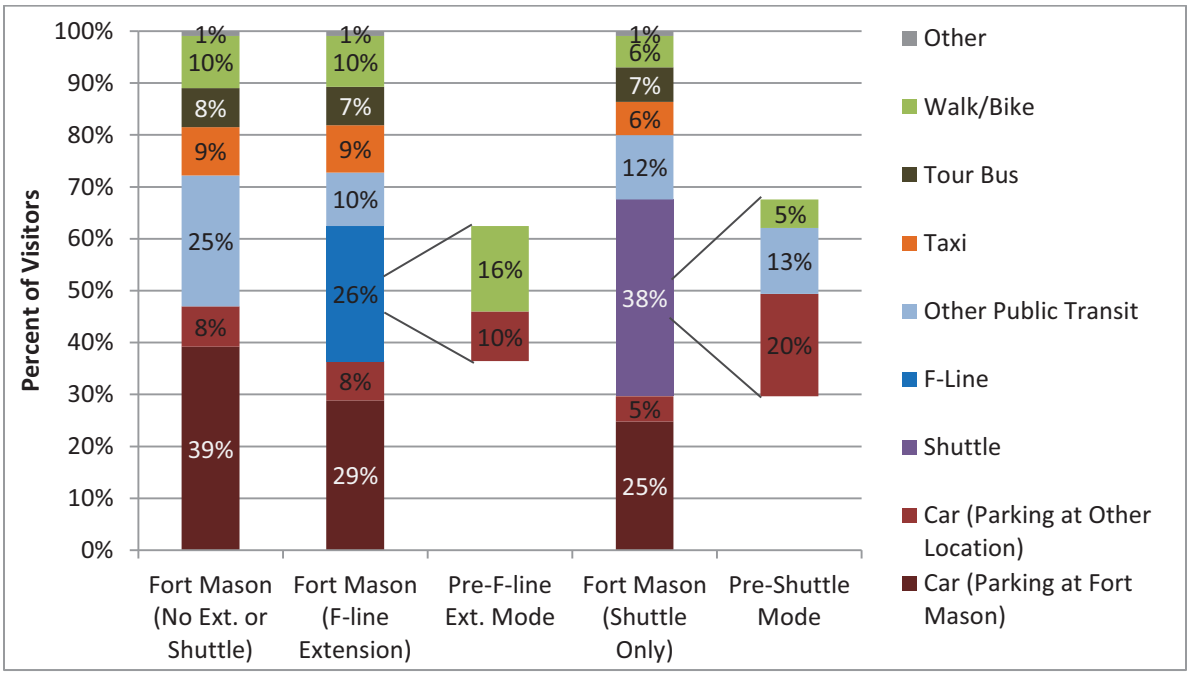
[1] City and County of San Francisco Planning Department, 2002. *Transportation Impact Analysis Guidelines for Environmental Review*. October 2002.

Transportation Commission (MTC). The northeastern quadrant is referred to as Superdistrict 1, which includes Pier 31½ and Fisherman's Wharf, and the northwestern quadrant is referred to as Superdistrict 2, which includes Fort Mason.

No F-Market Line Extension or Shuttle Scenario. Current mode split data from the Pier 31½ and Fisherman's Wharf surveys were used to calculate the mode split under the "no F-Market line extension or shuttle" scenario. The values were adjusted using the *SF Guidelines* data to better represent conditions at Fort Mason. Mode split data for Superdistrict 1 were compared with mode split data from Superdistrict 2. Trips to Superdistrict 2 have a higher auto mode share, a slightly lower transit mode share, and a lower walk mode share than trips to Superdistrict 1. The percent increase or decrease in each mode share from Superdistrict 1 to Superdistrict 2 from the *SF Guidelines* was calculated, and adjustment factors were applied to the average mode share from the combined Pier 31½ and Fisherman's Wharf surveys to obtain an estimate of the mode share to Fort Mason. The surveyed mode splits at Pier 31½ and Fisherman's Wharf were generally similar with the mode splits identified in the *SF Guidelines*, although the non-auto mode share was slightly higher, which is understandable given the higher portion of tourists who are likely staying at hotels downtown and who do not rent cars. In order to estimate parking demand for both the on-site (off-street) parking and on-street parking in the adjacent neighborhoods, responses to question 7 on the survey (see Attachment A), which asked where drivers visiting Fisherman's Wharf and Pier 31½ parked, were reviewed. The analysis assumes the same percent of drivers currently preferring to park off-street or in a parking lot or garage would first try to park in the Fort Mason parking lots, while the remaining portion would look for on-street parking.

Applying the adjustments previously described better captures both the unique features of the more tourist-oriented population that would use the Alcatraz ferry embarkation site and the distinctions between transportation environments at Pier 31½, Fisherman's Wharf, and Fort Mason. This approach is based on the existing transportation infrastructure, which means it does not account for the proposed addition of a new Bus Rapid Transit (BRT) system along Van Ness Avenue, with a terminus adjacent to Upper Fort Mason, the extension of the F-Market line, or implementation of a shuttle service to Fort Mason. The resulting adjusted mode share, which can be seen in the first bar on Figure 8, is the proposed estimate for Fort Mason under the "no F-Market line extension or shuttle" scenario.

FIGURE 8: ADJUSTED FORT MASON MODE SPLIT ESTIMATES



Note:
The other public transit category for the Fort Mason "no F-Market line extension or shuttle" and "shuttle only" scenarios may include visitors who take the F-Market line to Fisherman's Wharf and then walk or take the shuttle to Fort Mason. Other public transit options include the cable cars and other Muni lines.

F-Market Line Extension Only Scenario. To estimate the effect of adding the F-Market line extension, the extension was assumed in combination with other planned transit investments in the area, such as the Van Ness BRT line, which would make public transportation access at Fort Mason similar to Fisherman's Wharf and Pier 31½. For example, both the Fort Mason and the Fisherman's Wharf locations would be near an F-Market line stop and within 0.5 mile of a Powell-Hyde cable car stop and seven other Muni bus lines. Therefore, the mode share estimates from the surveys at Fisherman's Wharf and Pier 31½ were adjusted using the *SF Guidelines* adjustment factors for auto and walk mode shares but not the public transit mode share for this future condition. Adjustments resulted in an increase in public transit riders and an incremental reduction in those arriving by car as compared to the "no F-Market line extension or shuttle" scenario.

The same ratio of F-Market line to other public transportation users from surveyed visitors' stated mode of transportation to Fort Mason (question 5 in Attachment A) was used to estimate the percent of visitors taking the F-Market line to Fort Mason. Those using other public transportation would likely take other adjacent routes, such as the Powell Street cable car, the Van Ness BRT, or other local bus routes.

In order to estimate the percent of drivers parking in Fort Mason parking lots, the percent of drivers who responded in question 5 of the survey (see Attachment A) that they would drive and park at Fort Mason under the "F-Market line extension only" scenario was used. The remaining drivers would park elsewhere and either walk to Fort Mason or park somewhere where they could access the F-Market line extension (e.g., Fisherman's Wharf). The study assumes the same percent of drivers to Fisherman's

Wharf or Pier 31½ who responded to question 7 of the survey that they parked on the street would first look to park elsewhere in the surrounding streets and walk to Fort Mason under the "F-Market line extension only" scenario and the remaining drivers would park elsewhere (e.g., Fisherman's Wharf) and then take the F-Market line to Fort Mason. The "F-Market line extension only" scenario is summarized in the second bar on Figure 8. The third bar shows the mode of transportation visitors would use to access the F-Market line.

Shuttle Only Scenario. In NPS's July 2012 survey, visitors were asked about their preferred travel method both under conditions with only the F-Market line extended into Fort Mason and with a shuttle service running between the F-Market line terminus in Fisherman's Wharf and Fort Mason. Generally, more people stated they would use the shuttle for some portion of their trip than would use the F-Market line. Some visitors would first drive to Fisherman's Wharf and then get on the shuttle.

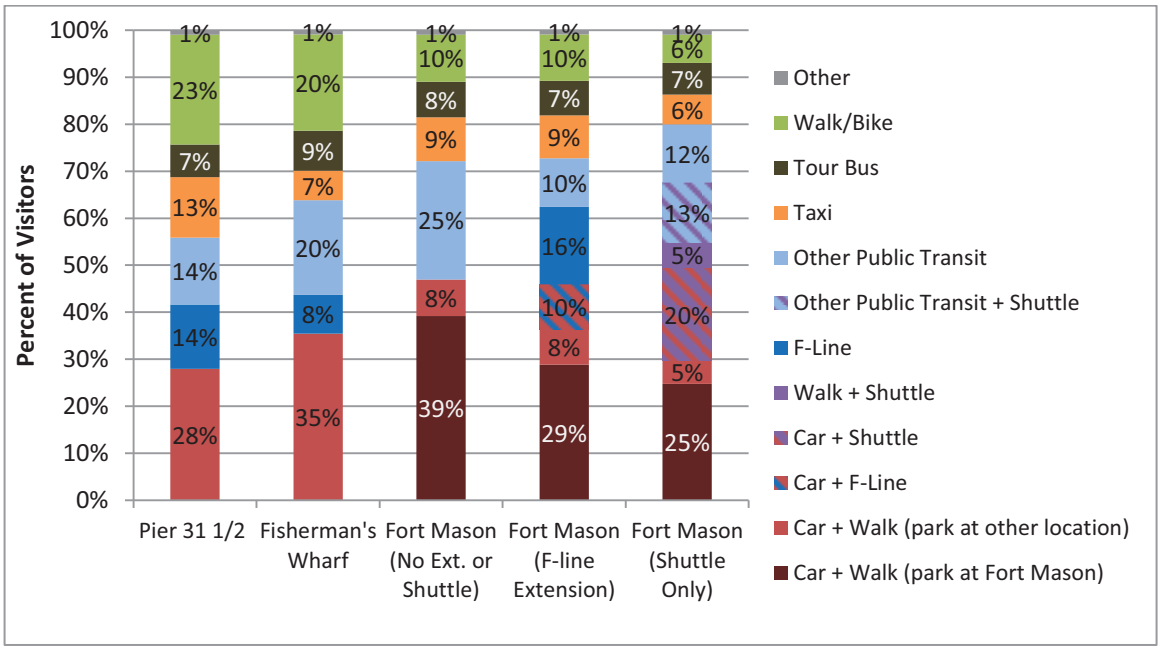
To estimate the mode share at Fort Mason under conditions with a shuttle in operation between Fisherman's Wharf and Fort Mason, adjustment factors were calculated based on the difference in mode share from respondent's stated preferences from the surveys under conditions with the F-Market line only (question 5 in Attachment A) and under conditions with a shuttle only (question 6). These adjustment factors were applied to the mode share estimates derived for the "F-Market line extension only" scenario (i.e., the second bar on Figure 8) to develop mode share projections for conditions at Fort Mason with only a shuttle service. The survey responses to question 6 were used to distinguish between drivers who would park at Fort Mason and those who would park and take the shuttle from Fisherman's Wharf. The percent of drivers driving to Fort Mason who would first look to park on-street and walk to Fort Mason was assumed to remain the same as the percent of drivers who currently park on the street (question 7). The remaining drivers were assumed to park in the Fort Mason parking lots. The "shuttle only" scenario mode share is summarized in the fourth bar on Figure 8. The fifth bar shows the mode visitors would use to access the shuttle.

These results are based on the best available information at this time; however, it is important to recognize a few data weaknesses. First, the shuttle projections are based on stated preference surveys, which as previously discussed, are not always as accurate as surveys of actual behavior. Further, they do not take into account the cost or marketing strategy of the shuttle. If the shuttle was free and NPS heavily advertised as the primary means to access Fort Mason, it might be more popular than if it was provided at an extra cost and marketing was somewhat limited. This analysis assumes relatively low (or no) marginal cost for taking the shuttle and that NPS would promote the shuttle to all visitors. The analysis also assumes that the shuttle would only operate between Fisherman's Wharf and Fort Mason, although it is possible that a more extensive route structure, with connections to downtown hotels and regional transit providers (such as BART and ferries), could be provided.

Mode Split Comparison

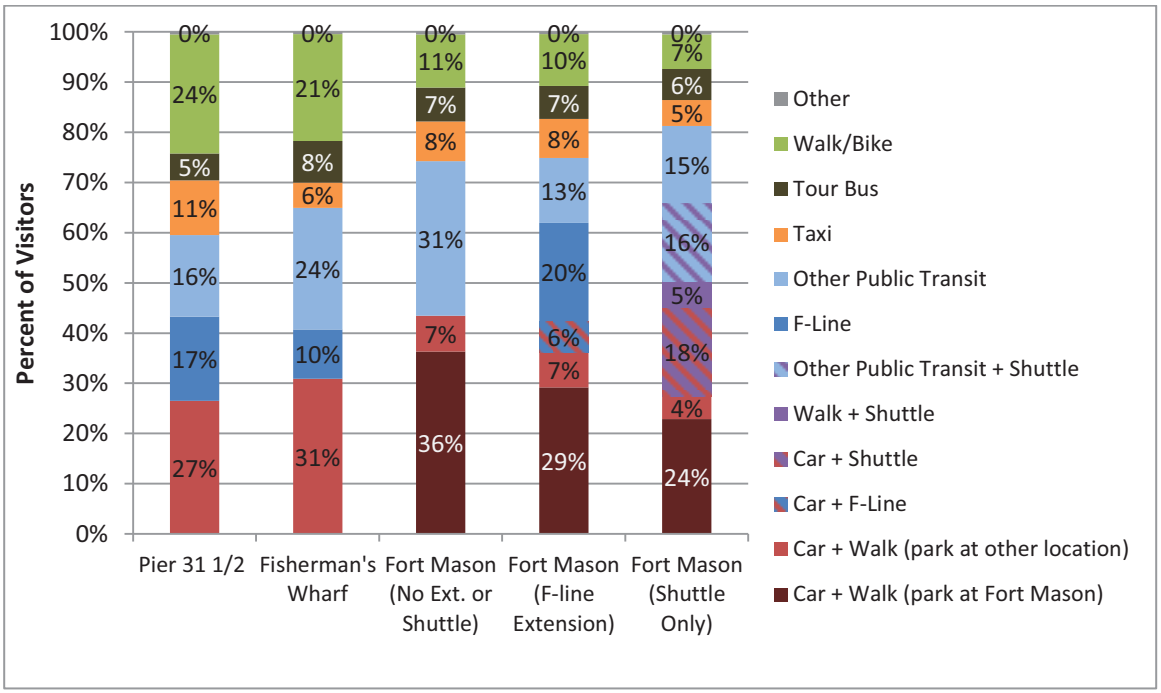
Figure 9 shows the final mode split comparison for each potential Alcatraz ferry embarkation site and scenario (incorporating results from Figures 1, 4, and 8). Figures 10 and 11 show the final week day and weekend day mode split estimates.

FIGURE 9: FINAL AGGREGATED MODE SPLIT ESTIMATES



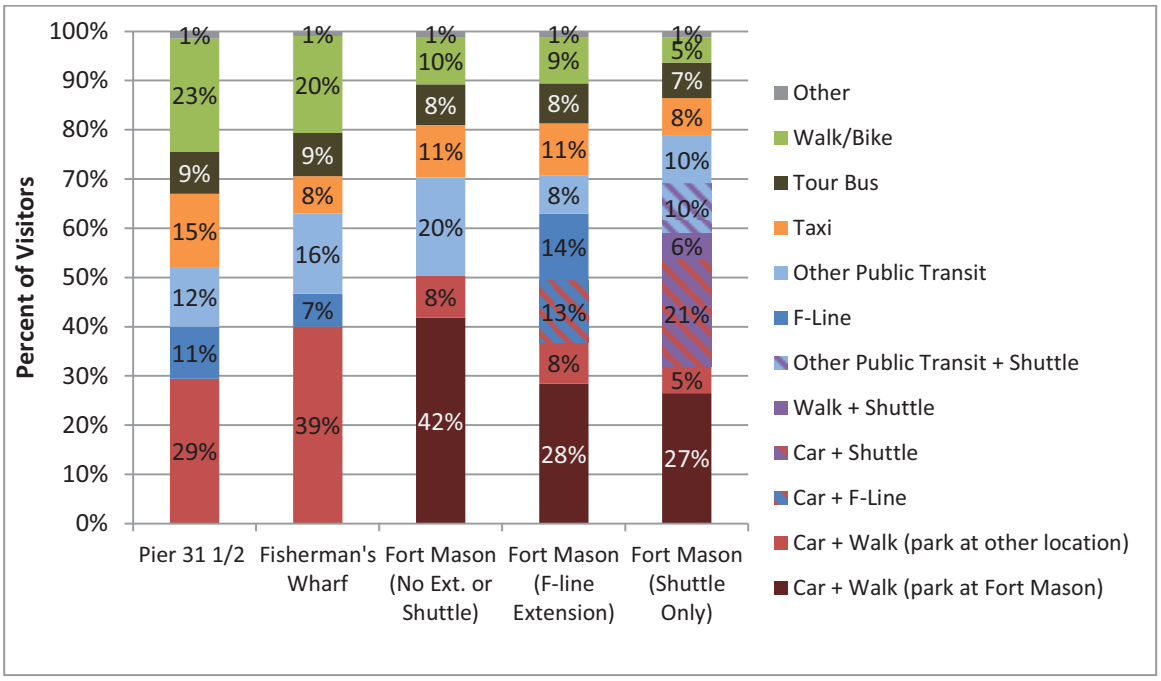
Note:
Other public transit category for the Fort Mason "no F-Market line extension or shuttle" and "shuttle only" scenarios may include visitors who take the F-Market line to Fisherman's Wharf and then walk or take the shuttle to Fort Mason. Other public transit options include the cable cars and other Muni lines.

FIGURE 10: FINAL WEEK DAY MODE SPLIT ESTIMATES



Note:
Other public transit category for the Fort Mason "no F-Market line extension or shuttle" and "shuttle only" scenarios may include visitors who take the F-Market line to Fisherman's Wharf and then walk or take the shuttle to Fort Mason. Other public transit options include the cable cars and other Muni lines.

FIGURE 11: FINAL WEEKEND DAY MODE SPLIT ESTIMATES



Note:
Other public transit category for the Fort Mason "no F-Market line extension or shuttle" and "shuttle only" scenarios may include visitors who take the F-Market line to Fisherman's Wharf and then walk or take the shuttle to Fort Mason. Other public transit options include the cable cars and other Muni lines.

Under the Fort Mason "shuttle only" scenario, more visitors were anticipated to arrive by car for some portion of their trip (50 percent) than under the "no F-Market line extension or shuttle" scenario (47 percent), the "F-Market line extension only" scenario (46 percent), the Fisherman's Wharf scenario (35 percent), or the Pier 31½ scenario (28 percent). As seen on Figures 10 and 11, more visitors would arrive by car on weekend days than on week days in all scenarios. Under the "no F-Market line extension or shuttle" scenario, more drivers would park in the Fort Mason parking lots than in the other two Fort Mason scenarios (39, 29, and 25 percent, respectively). Under the "F-Market line extension only" scenario, 10 percent of visitors would drive and then take the F-Market line to Fort Mason. Under the "shuttle only" scenario, 20 percent of visitors would drive and then take the shuttle to Fort Mason.

Under the Fort Mason "F-Market line extension only" scenario, more visitors were anticipated to use public transportation for some portion of their trip (36 percent) than under the "shuttle only" scenario (25 percent), the "no F-Market line extension or shuttle" scenario (25 percent), the Fisherman's Wharf scenario (28 percent), or the Pier 31½ scenario (28 percent). Under the "F-Market extension only" scenario, 26 percent of visitors would take only public transportation to Fort Mason, while 10 percent would drive and then take the F-Market line.

Under the Fort Mason "shuttle only" scenario, 38 percent of visitors would use the shuttle for some portion of their trip. In addition, fewer visitors under this scenario would take a taxi than for any other scenario. Those predisposed to taking transit may not find the shuttle option as attractive as the F-Market line extension, because it requires an extra transfer at Fisherman's Wharf. However, those who

would otherwise take a taxi may prefer the shuttle option to a public transit option, such as the F-Market line extension. As indicated on Figure 9, for the Fort Mason "shuttle only" scenario, among those driving, 40 percent of drivers (20 percent of visitors) would choose to park at a location other than the Fort Mason parking lots (most likely at Fisherman's Wharf) and then take the shuttle to Fort Mason. The remaining 60 percent of drivers (30 percent of visitors) would travel directly to Fort Mason. A little more than half of those who would take public transit would first take transit to Fisherman's Wharf and then transfer to the shuttle. Among those walking, slightly less than half would walk to Fisherman's Wharf and then take the shuttle. These results show that there is strong interest in taking a shuttle, although the number of "pure" transit trips (i.e., those that do not involve driving at any stage of the trip) is 25 percent (30 percent including shuttle riders who did not drive).

Overall, the car and taxi mode share is lowest at Pier 31½ (41 percent), slightly higher at Fisherman's Wharf (42 percent), and higher at Fort Mason (56, 56, and 56 percent, respectively). Pure transit ridership (not including drive to transit or shuttle only) is the same at Pier 31½ and Fisherman's Wharf (28 percent) but lower at Fort Mason (25, 26, and 25 percent, respectively). The walk and bike mode share is highest at Pier 31½ (23 percent), lower at Fisherman's Wharf (20 percent), and lowest at Fort Mason (10, 10, and 6 percent, respectively).

PARKING AT ALCATRAZ FERRY EMBARKATION SITE

Visitors who drove or carpooled to survey locations were asked where they parked. Responses are summarized in Table 5. Most drivers at Pier 31½ and Fisherman's Wharf parked in parking garages.

TABLE 5: PARKING LOCATIONS

	Pier 31½ Surveyed Visitors Who Drove or Carpooled		Fisherman's Wharf Surveyed Visitors Who Drove or Carpooled	
Parking Location	**Week Day**	**Weekend Day**	**Week Day**	**Weekend Day**
On-Street	11%	16%	22%	17%
Parking Lot	27%	25%	23%	21%
Parking Garage	62%	59%	56%	62%

Survey data were used to estimate future parking demand at each site, as is shown in Table 6. These analyses are based on an estimated 6,400 daily visitors to Alcatraz Island, the future design day Alcatraz tour visitation rate used in Appendix A of the *Draft Final Embarkation Feasibility Study* (May 2011)[2], which assumes a 20 percent increase in visitation over existing levels due to increased visitation capacity and facility programming. Based on mode split data, it is estimated that approximately 2,400 daily visitors would arrive at Pier 31½ by car or taxi on week days and 2,830 on weekend days. If the ferry embarkation site was located at Fisherman's Wharf, this number would be expected to decrease to approximately 2,300 daily visitors arriving by car or taxi on week days and increase to approximately 3,050 on weekend days. Excluding taxis and considering average vehicle occupancy rates among Alcatraz Island visitors, the estimated parking demand of visitors to Pier 31½ is approximately 430

[2] URS Corporation, 2011. *Draft Final Alcatraz Embarkation Feasibility Study*. NPS PMIS GOGA 77160, Document No. 641/107703, Prepared for National Park Service U.S. Department of Interior. May 2011.

vehicles on week days and 480 daily vehicles on weekend days over the course of an entire day (i.e., not all at the same time). This number would be expected to increase to approximately 500 and 650 vehicles on week and weekend days, respectively, if the ferry embarkation site is relocated to Fisherman's Wharf. One reason for this increase is that more visitors arrive at Pier 31½ by taxi than would arrive at Fisherman's Wharf by taxi. Parking locations were also broken down according to the survey results.

TABLE 6: PARKING DEMAND ESTIMATES AT PIER 31½ AND FISHERMAN'S WHARF

	Pier 31½		Fisherman's Wharf	
	Week Day	**Weekend Day**	**Week Day**	**Weekend Day**
Estimated Daily Alcatraz Island Visitors	6,400	6,400	6,400	6,400
Daily Visitors Arriving by Car or Taxi	2,396	2,833	2,300	3,052
Average Vehicle Occupancy	3.9	3.9	3.9	3.9
Daily Cars Parking (Excluding Taxis)	431	478	502	651
Daily Cars Parking On-Street	48	77	109	113
Daily Cars Parking in a Lot	117	120	113	134
Daily Cars Parking in a Garage	266	282	279	403

If the ferry embarkation site is relocated to Fort Mason, it is expected that approximately 3,290 daily visitors would arrive by car or taxi on week days and 3,900 on weekend days under the "no F-Market line extension or shuttle" scenario, as is shown in Table 7. These numbers would decrease slightly for the "F-Market line extension only" and "shuttle only" scenarios.

TABLE 7: PARKING DEMAND ESTIMATES AT FORT MASON

	"No F-Market Line Extension or Shuttle" Scenario		"F-Market Line Extension Only" Scenario		"Shuttle Only" Scenario	
	Week Day	**Weekend Day**	**Week Day**	**Weekend Day**	**Week Day**	**Weekend Day**
Estimated Daily Alcatraz Island Visitors	6,400	6,400	6,400	6,400	6,400	6,400
Daily Visitors Arriving by Car or Taxi	3,291	3,903	3,207	3,838	3,212	3,914
Average Vehicle Occupancy	3.9	3.9	3.9	3.9	3.9	3.9
Daily Cars Parking (Excluding Those Arriving by Taxi)	707	818	689	804	732	870
Daily Cars Parking near Fort Mason	707	818	588	597	444	518
Daily Cars Parking Elsewhere	0	0	101	207	287	352

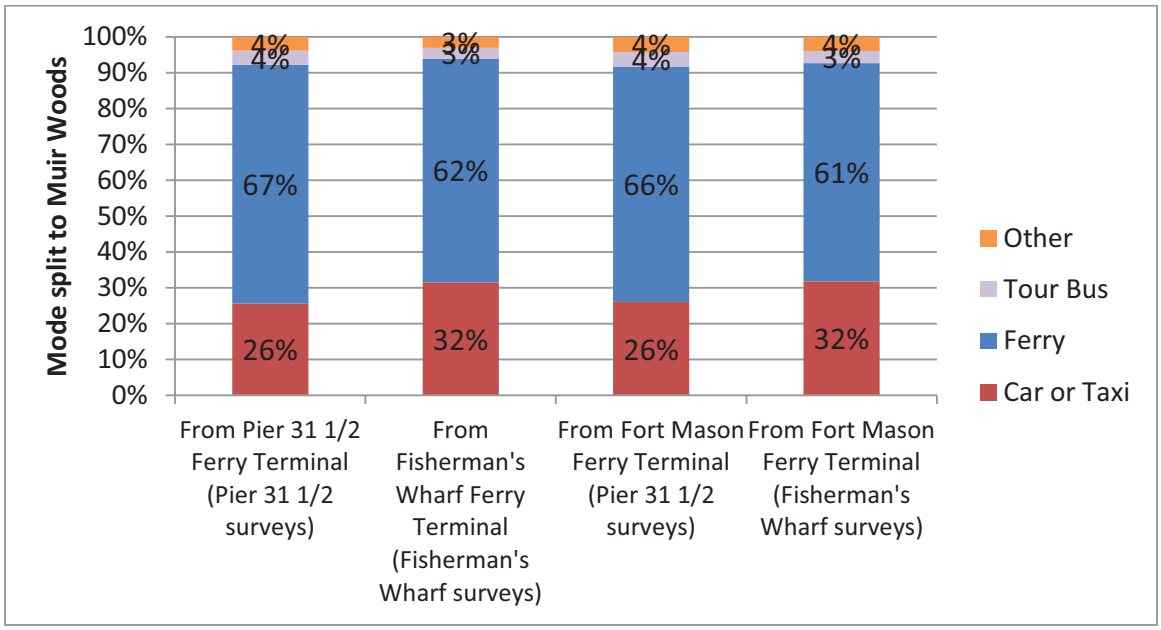
Under the "no F-Market line extension or shuttle" scenario, approximately 710 daily cars on week days and 820 cars on weekend days are expected to park in the parking lot at Fort Mason or on-street in the

surrounding neighborhood. Under the other two Fort Mason scenarios, many drivers are expected to park near Fisherman's Wharf and take the F-Market line or the shuttle to Fort Mason thus reducing the parking demand in and around Fort Mason. Under the "F-Market line extension only" scenario, those visitors classified on Figures 9, 10 and 11 as "Car + Walk" were assumed to park in the Fort Mason lots or on-street in the surrounding neighborhood and then walk to Fort Mason. Those using "Car + F-Market line" were assumed to park elsewhere, potentially near Fisherman's Wharf, and then take the F-Market line to Fort Mason. Similarly, those classified as "Car + Walk" for the "shuttle only" scenario were assumed to park near Fort Mason, while those using "Car + Shuttle" were assumed to park elsewhere and take the shuttle to Fort Mason. The total cars parking by location and scenario are summarized in Table 7. Based on this analysis, the "F-Market line extension only" scenario would have the lowest number of cars parking; however, the "shuttle only" scenario would have the lowest number of cars parking in and around Fort Mason. Therefore, the parking demand at Fort Mason may actually be the lowest for the "shuttle only" scenario.

MODE OF ACCESS TO MUIR WOODS

NPS is considering the viability of providing ferry service from the new Alcatraz ferry embarkation site to Sausalito, whereby visitors could transfer to a bus connection to access Muir Woods. Surveyed visitors were asked how they would likely visit Muir Woods in the next 6 months and how they would access Muir Woods if an option was available to ferry from either Pier 31½ or Fisherman's Wharf to Sausalito and take a connecting shuttle to Muir Woods. Figure 12 shows the responses for those who said they were either "very likely" or "somewhat likely" to visit Muir Woods in the next 6 months. Response rates are shown separately for those who were surveyed at Pier 31½ and those surveyed at Fisherman's Wharf. Surveyed visitors at both locations said that they would be more likely to take the ferry and shuttle option than to drive. Surveyed visitors were also asked how they would access Muir Woods if the Alcatraz ferry embarkation site were relocated to Fort Mason. Although a few visitors indicated that they would switch from taking the ferry to driving, most said that they would take the same mode as they would for the previous question. Surveyed visitors were mainly tourists visiting San Francisco and, therefore, do not represent all visitors to Muir Woods. Based on the responses, it appears that there would be some interest in a ferry/shuttle option to Muir Woods and that many people would prefer this option to driving.

FIGURE 12: MODE SPLIT TO MUIR WOODS OF THOSE LIKELY TO VISIT IN THE NEXT 6 MONTHS



One rationale for providing ferry and connecting shuttle service to Muir Woods is to provide a high-quality park experience for visitors who are not able to get tickets to Alcatraz Island. Surveyed visitors at Pier 31½ were asked, "If you found out you were unable to visit Alcatraz today, but a ferry service existed from this location to Sausalito with a connecting shuttle to Muir Woods, would you take it today?" Nearly 60 percent of visitors indicated that they would take the ferry/shuttle option to Muir Woods that day, as is shown in Table 8. Data suggests that among those who arrive at Pier 31½ and are turned away because they do not have a reservation the majority would likely be interested in taking a ferry and shuttle to Muir Woods as an alternative.

TABLE 8: INTEREST IN FERRY/SHUTTLE TO MUIR WOODS

Response	Would you take the ferry/shuttle to Muir Woods today?
Yes	59%
No	37%
Don't Know	4%

Table 9 shows data from Alcatraz Cruises regarding the number of visitors who currently wait in line to purchase a ticket to Alcatraz Island, speak to ticket booth personnel, and find out that there are no tickets available for that day. Data are summarized by month in the "Monthly Refusals" column. The next column summarizes the potential number of monthly refusals who would take a ferry and shuttle to Muir Woods that same day, according to the survey responses. These numbers are also divided to show daily refusals and daily additional ferry riders, assuming relatively evenly distributed visitor volumes by day of week.

TABLE 9: ESTIMATED ADDITIONAL FERRY RIDERS

Month	Monthly Refusals	Monthly Additional Ferry Riders	Daily Refusals	Daily Additional Ferry Riders
March	8,376	4,957	270	160
April	10,625	6,288	354	210
May	11,224	6,642	362	214
June	12,759	7,551	425	252
July	16,516	9,774	533	315
August	12,976	7,679	419	248
Average	**12,079**	**7,148**	**394**	**233**

CONCLUSION

This memorandum summarizes the results of data collected to determine travel behavior at the new Alcatraz ferry embarkation site should it be located at Pier 31½, Fisherman's Wharf (Piers 45 or 41), or at Fort Mason (Piers 1 or 3). Data will form the basis for the impact analysis to be conducted as part of the environmental review of this project.

ATTACHMENT A
ALCATRAZ FERRY EMBARKATION EIS
VISITOR SURVEY

For the purposes of this review and submission the justifications for each question or section of questions is highlighted in a shaded text box above each question. These text boxes will not be printed on the final version of the surveys. The Topic Areas noted are consistent with the currently approved pool questions for the NPS Programmatic Review Process (1024-0224 – Current Expiration Date: 8-31-2014). The questions that are slight variations are denoted as such. Any questions that are outside the general scope of the programmatic review process have been carefully discussed and generally approved by the NPS Information Collection Review Coordinator with understanding that that those questions will require further review and consideration by OMB before full determination and approval can be granted.

ALCATRAZ FERRY EMBARKATION EIS VISITOR SURVEY

TOPIC AREA 1 - GR3:

1. How many people are in your [personal, organized, tour] group, including you?

Number of people _____

TOPIC AREA 1 - RES1:

2. Where do you live?

City _____ State _____ ZIP _____ Country (if not U.S.) _____

TOPIC AREA 3 - TRANS1:

3. On this visit, which forms of transportation did you and your personal group use to arrive here (i.e., the Alcatraz ferry embarkation terminal or Fisherman's Wharf, depending on the survey location)? Please mark (●) **all** that apply.

O BART
O Muni F-line
O Other Muni line
O Other public transportation
O Car (drive alone)
O Car (multiple passengers)
O Taxi
O Ferry
O Bike
O Walk
O Other (Please specify) _____

TOPIC AREA 1 - VISITHIS1:

4. Have you visited Alcatraz Island before today?

O Yes
O No

TOPIC AREA 3 - FVIS22 / TRANS1:

5. If you were to visit Alcatraz Island in the future and the ferry embarkation site were to be located at Fort Mason, located [1/1.5] miles west of here or a [10/20] minute walk from here in an area with moderately sloping pathways *(show map indicating current location and location of Fort Mason; map includes street and transit connections to help respondent in answering the question)*, how would you likely access the site? Please mark (•) **only one**.

O Muni F-line (assuming it would be extended to Fort Mason)
O Other Muni line
O Other public transportation
O Car (drive alone) + park at Fort Mason
O Car (drive alone) + park at other location
O Car (multiple passengers) + park at Fort Mason
O Car (multiple passengers) + park at other location
O Taxi
O Bike
O Walk from home/accommodation
O Would not visit Alcatraz
O Other (please specify)

TOPIC AREA 3 - FVIS24:

6. If you were to visit Alcatraz Island in the future, if a shuttle service existed with servicebetween Fisherman's Wharf and Fort Mason, instead of the F-line extension, would your mode of accessing the ferry terminal change from your previous response *(show map)*? If so, how would you access the ferry embarkation site? Please mark (•) **only one**.

O Same as previous question
O Muni F-line + walk 1 mile
O Muni F-line + shuttle
O Other Muni line + shuttle
O Other public transportation + shuttle
O Car (drive alone) + park at Fort Mason
O Car (drive alone) + shuttle
O Car (multiple passengers) + park at Fort Mason
O Car (multiple passengers) + shuttle
O Taxi + shuttle
O Bike + shuttle
O Walk from home/accommodation + shuttle
O Would not visit Alcatraz Island
O Other (please specify)

TOPIC AREA 3 - TRANS13:

7. If you and your personal group drove a vehicle to this location on this visit, where did you park? Please mark (•) all that apply.

O Did not drive
O On the street in a metered spot
O On the street in an unmetered spot
O In a parking lot
O In a public parking garage
O In a private parking garage
O Other (Please specify) _____

TOPIC AREA 2 - TPLAN5:

8. How did this visit toAlcatraz Island/Fisherman's Wharf fit into your personal group's travel plans? Please mark (•) **only one**.

O This was primary destination
O This was one of several destinations
O This was not a planned destination

TOPIC AREA 3 - TRIPC3:

9. On this trip, did you and your personal group stay overnight away from your **permanent residence?**

O Yes
O No

TOPIC AREA 3 - TRIPC4:

10. In what town/city did you and your personal group stay on the **night before your arrival** at this location? Nearest town/city, state: _____

TOPIC AREA 1 - AGE3:

11. What is your age? _____

PAPERWORK REDUCTION ACT STATEMENT The National Park Service is authorized by 16 U.S.C. 1a-7 to collect this information. This information will be used by park managers to better understand potential use and impacts of proposed Alcatraz Embarkation Site. Response to this request is voluntary. No action may be taken against you for refusing to supply the information requested. Please do not put your name or that of any member of your group on the questionnaire. The permanent data associated with this collection will be anonymous.

BURDEN ESTIMATE: The public reporting burden for this form is estimated to average 5 minutes per response. Direct comments regarding the burden estimate or any other aspect of this form to: the NPS Information Collection Review Coordinator, National Park Service, 1201 Oakridge Dr., Fort Collins, CO 80525.

OMB Control Number 1024-0224
Current Expiration Date: 8-31-2014





As the nation's principal conservation agency, the Department of the Interior has the responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

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