Project No: 524-44

TRAFFIC STUDY

SUBDIVISION TRACT MAP #944

12TH AVENUE AND FARGO AVENUE

CITY OF HANFORD

Prepared for:

CRAWFORD & BOWEN PLANNING, INC.

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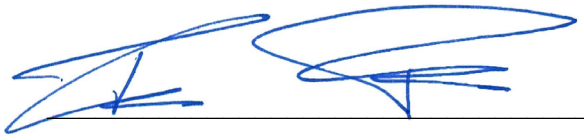
Prepared by:

RUETTGERS & SCHULER CIVIL ENGINEERS

1800 30th Street, Suite 260
Bakersfield, California 93301



Ian J. Parks, RCE 58155

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INTRODUCTION

The purpose of this study is to evaluate the potential traffic impacts of Subdivision Tract Map #944, a proposed residential development located on the northwest corner of 12th Avenue and Fargo Avenue in the City of Hanford. A vicinity map is presented in Figure 1 and a location map is presented in Figure 2.

The study is consistent with City guidelines and includes analyses of intersection level of service, roadway capacity, traffic signal warrants, and vehicle miles traveled. The scope of the study was developed in coordination with City and Caltrans staff and includes 22 intersections (15 signalized, seven unsignalized) and adjoining roadway segments.

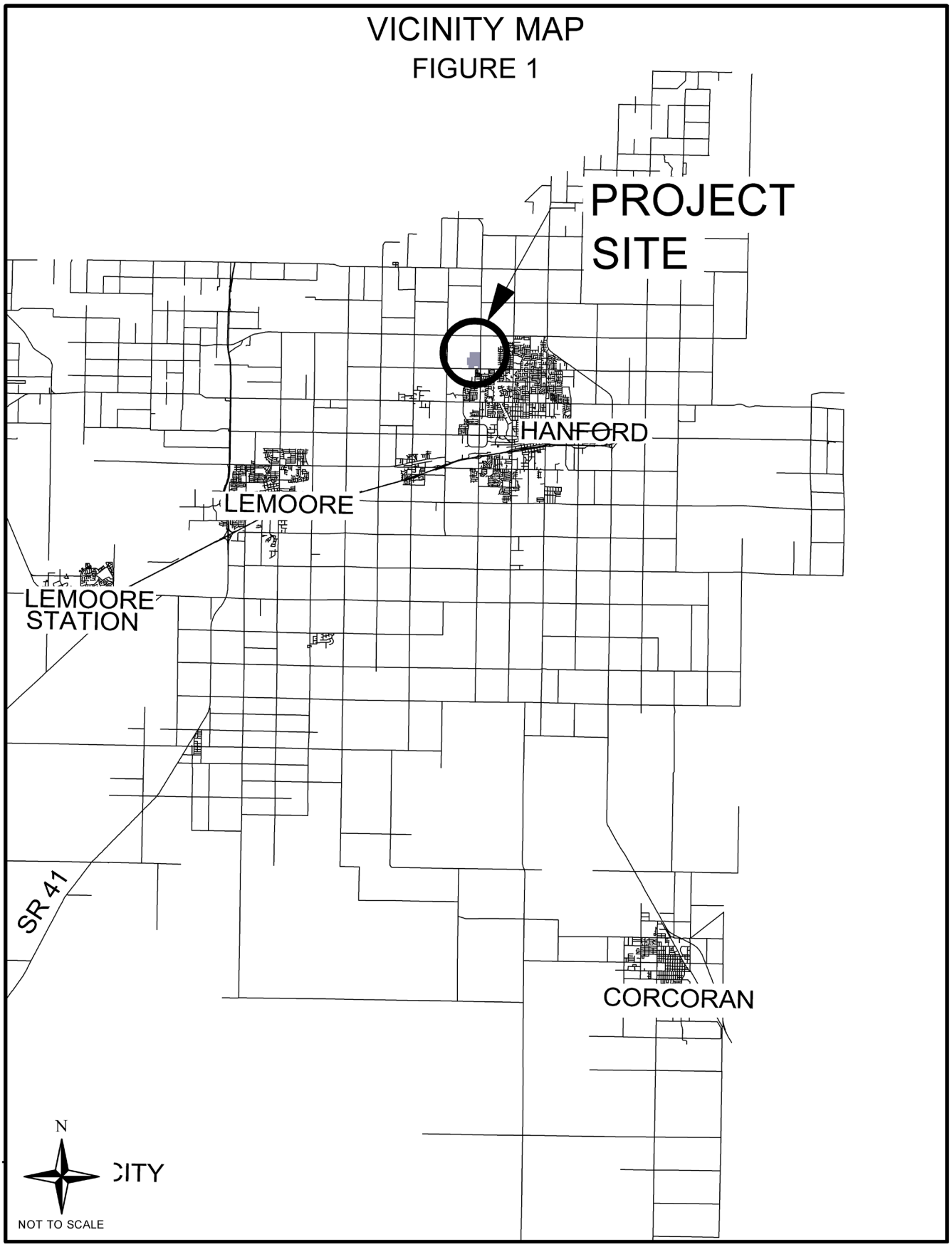
Project Description

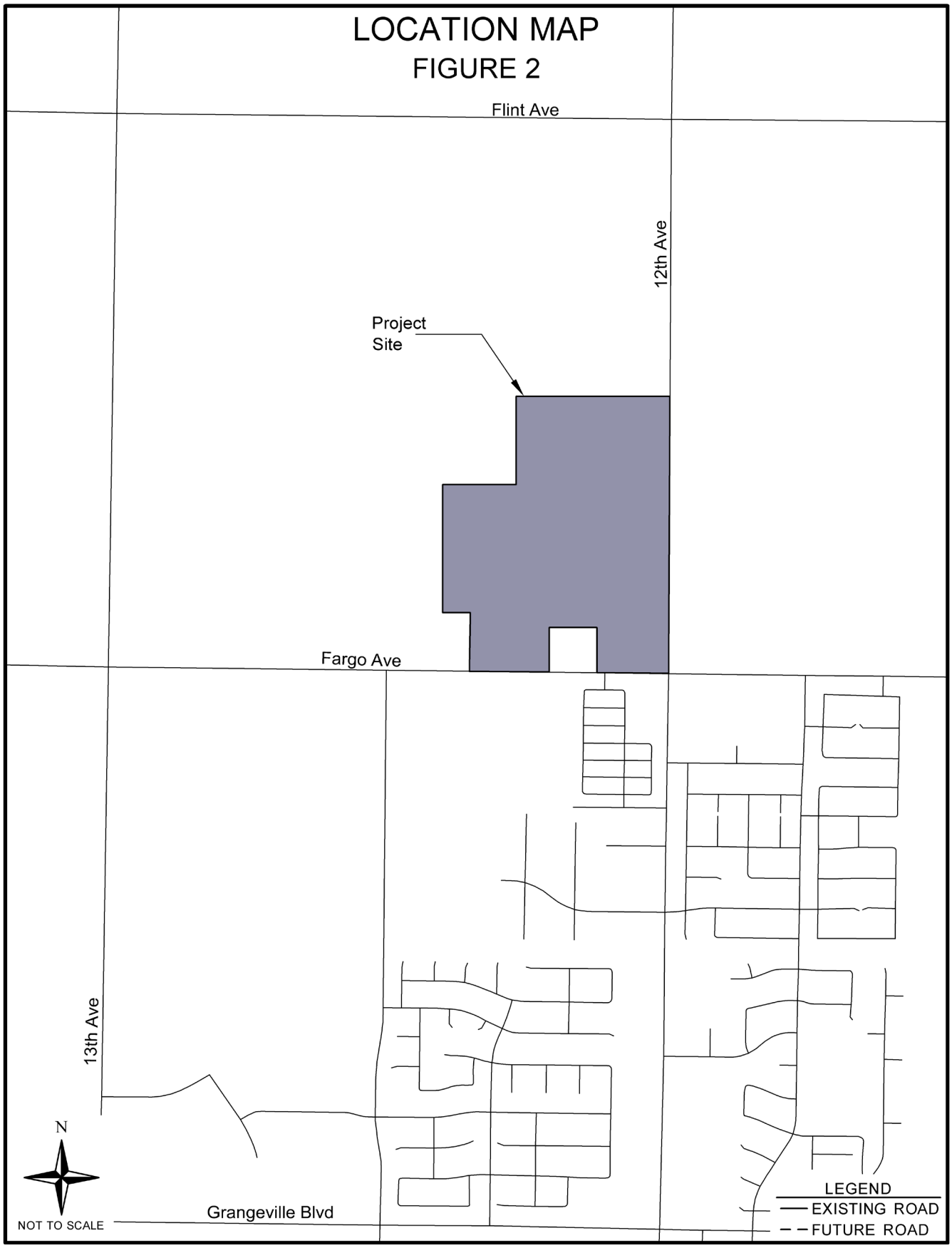
The project site is situated on approximately 135 acres of land which is currently used for agricultural production. General Plan land use designations for the site include low, medium, and high density residential.

The project would be built in phases and include 615 single-family homes at full buildout. Access to the project site would be provided from 12th Avenue and Fargo Avenue. The vesting tentative subdivision map is provided in Figure 3. The project will construct frontage improvements, including sidewalk, curb ramps, and bike lanes. The construction of the sidewalk and bike lanes will close gaps in pedestrian and bicycle access and will allow access to the site for all users.

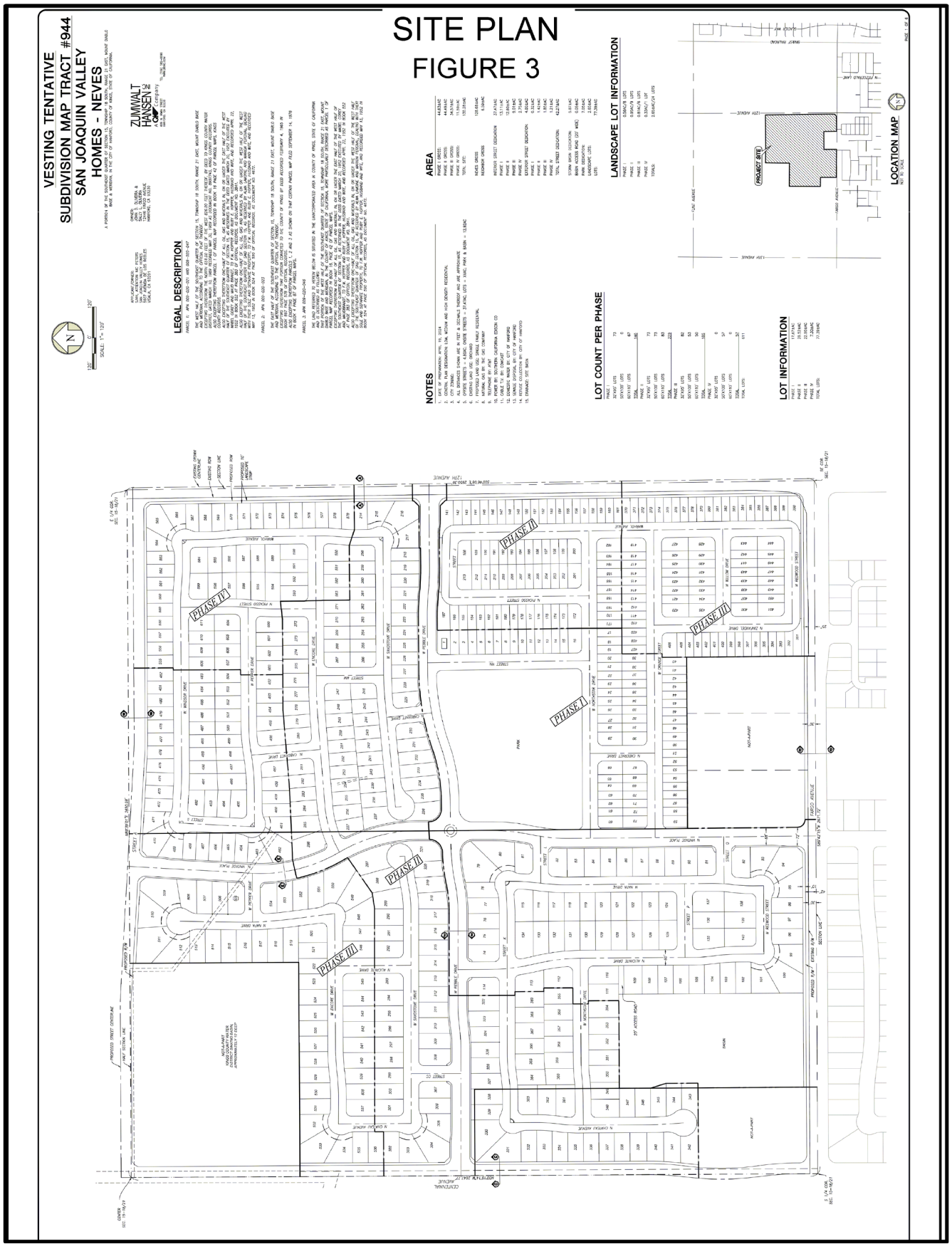
Existing Land Uses in Project Vicinity

The project site is situated in an area that is transitioning from rural to suburban land uses. Areas of agricultural production are located directly to the north, east and west, and residential development lies directly to the south and farther to the east. The nearest commercial/retail properties exist one mile to the east on Fargo Avenue and two miles to the south at the intersection of 12th Avenue and Lacey Boulevard.


VICINITY MAP
FIGURE 1
PROJECT SITE
HANFORD
LEMOORE
LEMOORE STATION
SR 41
CORCORAN
N
NOT TO SCALE


LOCATION MAP
FIGURE 2
Flint Ave
12th Ave
Project
Site
Fargo Ave
13th Ave
N
NOT TO SCALE
Grangeville Blvd
LEGEND
EXISTING ROAD
FUTURE ROAD

SITE PLAN
FIGURE 3



Roadway Descriptions

10th Avenue is an arterial that extends south from State Route 43 and intersects Fargo Avenue approximately one mile east of 11th Avenue. Within the study area, it operates as a divided four-lane roadway and provides access to residential and commercial land uses. It also has a grade crossing of the San Joaquin Valley Railroad between 5th and 6th Streets and connects to State Route 198 via 3rd and 4th Streets.

11th Avenue is a north-south arterial located midway between 10th Avenue and 12th Avenue. It operates within the study area primarily as a divided four-lane roadway with grade crossings of the BNSF Railway and San Joaquin Valley Railroad. It provides access to residential and commercial land uses and State Route 198 via 3rd and 4th Streets.

12th Avenue is a north-south arterial that intersects Fargo Avenue approximately one mile west of 11th Avenue. It operates as a divided four-lane roadway north of Lacey Boulevard and as a divided six-lane roadway south of Lacey Boulevard with a grade crossing of the San Joaquin Valley Railroad and an interchange connection to State Route 198. It provides access to residential, commercial, and agricultural land uses.

Centennial Drive is a collector that extends west from 12th Avenue to Mall Drive. It turns northwesterly and then northerly before intersecting Lacey Boulevard approximately 0.4 miles west of 12th Avenue. South of Lacey Boulevard, Centennial Drive operates as a divided four-lane roadway and provides access to commercial land uses. North of Lacey Boulevard, it exists as a two-lane roadway and provides access to residential and agricultural land uses.

Cortner Street is an east-west collector that intersects 11th Avenue approximately 0.4 miles south of Fargo Avenue. It operates as a two-lane roadway at various stages of widening and improvement and provides access to residential land uses.

Fargo Avenue is an east-west arterial located midway between Grangeville Boulevard and Flint Avenue. It operates within the study area as a two-to-four-lane roadway with a grade crossing of the BNSF Railway. Fargo Avenue provides access to residential and agricultural land uses.

Flint Avenue is an east-west major arterial aligned approximately one mile north of Fargo Avenue. It operates primarily as a two-lane roadway with graded shoulders and a grade crossing of the BNSF Railway. Flint Avenue provides access to residential and agricultural land uses.

Grangeville Boulevard is an east-west arterial located midway between Lacey Boulevard and Fargo Avenue. It operates as a divided four-lane roadway with a grade crossing of the BNSF Railway. Grangeville Boulevard provides access to residential and commercial land uses within the study area.

Greenfield Avenue is an east-west collector that intersects 12th Avenue approximately 0.4 miles south of Grangeville Boulevard. It operates as a divided two-lane roadway and provides access to residential and commercial land uses.

Lacey Boulevard is an east-west arterial that intersects 11th Avenue approximately one mile south of Grangeville Boulevard. It operates primarily as a divided four-lane roadway and is classified as an arterial west of 11th Avenue and as a collector east of 11th Avenue. Lacey Boulevard provides access to commercial, residential, and agricultural land uses.

Liberty Street is a collector that extends east from Centennial Drive approximately 0.3 miles north of Lacey Boulevard. It continues east of 12th Avenue as Kings County Drive where it turns southeasterly and then southerly before intersecting Lacey Boulevard at Mall Drive approximately 0.2 miles east of 12th Avenue. West of 12th Avenue, Liberty Street operates with two lanes and provides access to residential and agricultural land uses. East of 12th Avenue, it exists as a divided two-lane roadway and provides access to commercial land uses.

State Route 198 is an east-west state highway that extends from the California Central Coast, through the Central Valley to Sequoia National Park. It functions as a major regional and interregional corridor and operates within the study area as a four-lane expressway.

PROJECT TRIP GENERATION AND DESIGN HOUR VOLUMES

The project trip generation volumes shown in Table 1 were estimated using the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 11th Edition. Trip rates and peak hour directional splits for ITE Land Use Code 210 (Single-Family Detached Housing) were used to estimate project trips for weekday peak hour of adjacent street traffic based on information provided by the project applicant.

Table 1
Project Trip Generation

General Information			Daily Trips		AM Peak Hour Trips			PM Peak Hour Trips		
ITE Code	Development Type	Variable	ADT RATE	ADT	Rate	In % Split/ Trips	Out % Split/ Trips	Rate	In % Split/ Trips	Out % Split/ Trips
210	Single-Family detached Housing	615 Dwelling Units	eq	5366	eq	25% 97	75% 292	eq	63% 345	37% 203

PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

The distribution of project peak hour trips is shown in Table 2 and represents the movement of traffic accessing the project site by direction. The project trip distribution was developed based on site location and travel patterns anticipated for the proposed land use.

Table 2
Project Trip Distribution

Direction	Percent
North	10
East	30
South	50
West	10

Project peak hour trips were assigned to the study intersections as shown in Figure 5. Project trip assignment was developed based on trip generation, trip distribution and likely travel routes for traffic accessing the project site.

EXISTING AND FUTURE TRAFFIC

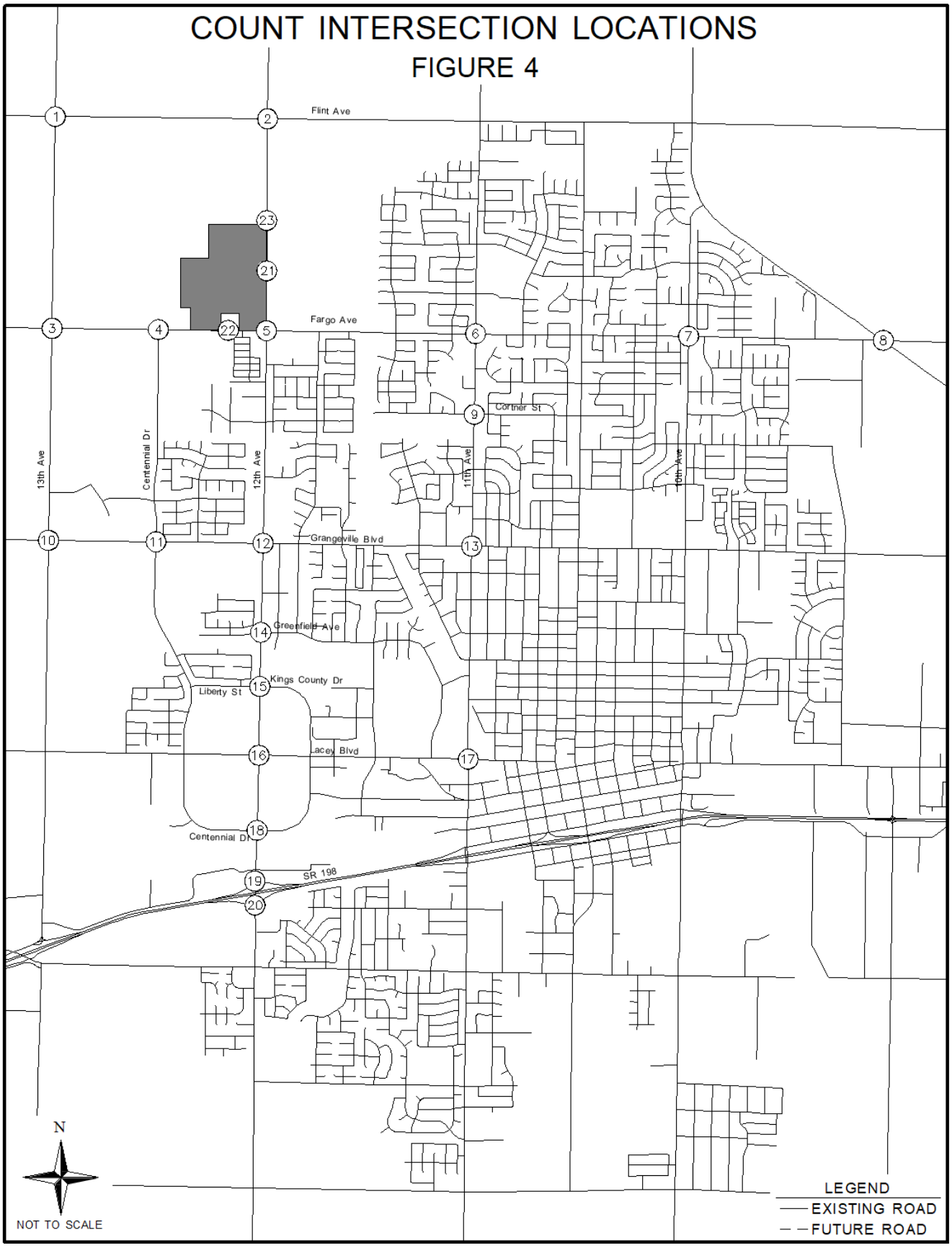
Existing

Weekday peak hour turning movement counts were obtained at each of the study intersections in June 2024 (see Appendix for count data). Existing peak hour volumes are shown in Figure 6. Existing plus project peak hour volumes are shown in Figure 7.

Future

Annual growth rates ranging between 0.5 and 1.77 percent were applied to the existing peak hour volumes to estimate future volumes for 2044. These growth rates were estimated based on a review of data from the Kings County Association of Governments (KCAG) travel demand model.

Future peak hour volumes for the year 2044, both without and with project traffic, are shown in Figures 8 and 9, respectively.


COUNT INTERSECTION LOCATIONS
FIGURE 4
Flint Ave
Fargo Ave
Cortner St
Grangeville Blvd
Greenfield Ave
Kings County Dr
Liberty St
Lacey Blvd
Centennial Dr
SR 198
13th Ave
Centennial Dr
12th Ave
11th Ave
10th Ave
1
2
3
4
5
6
7
8
9
10
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16
17
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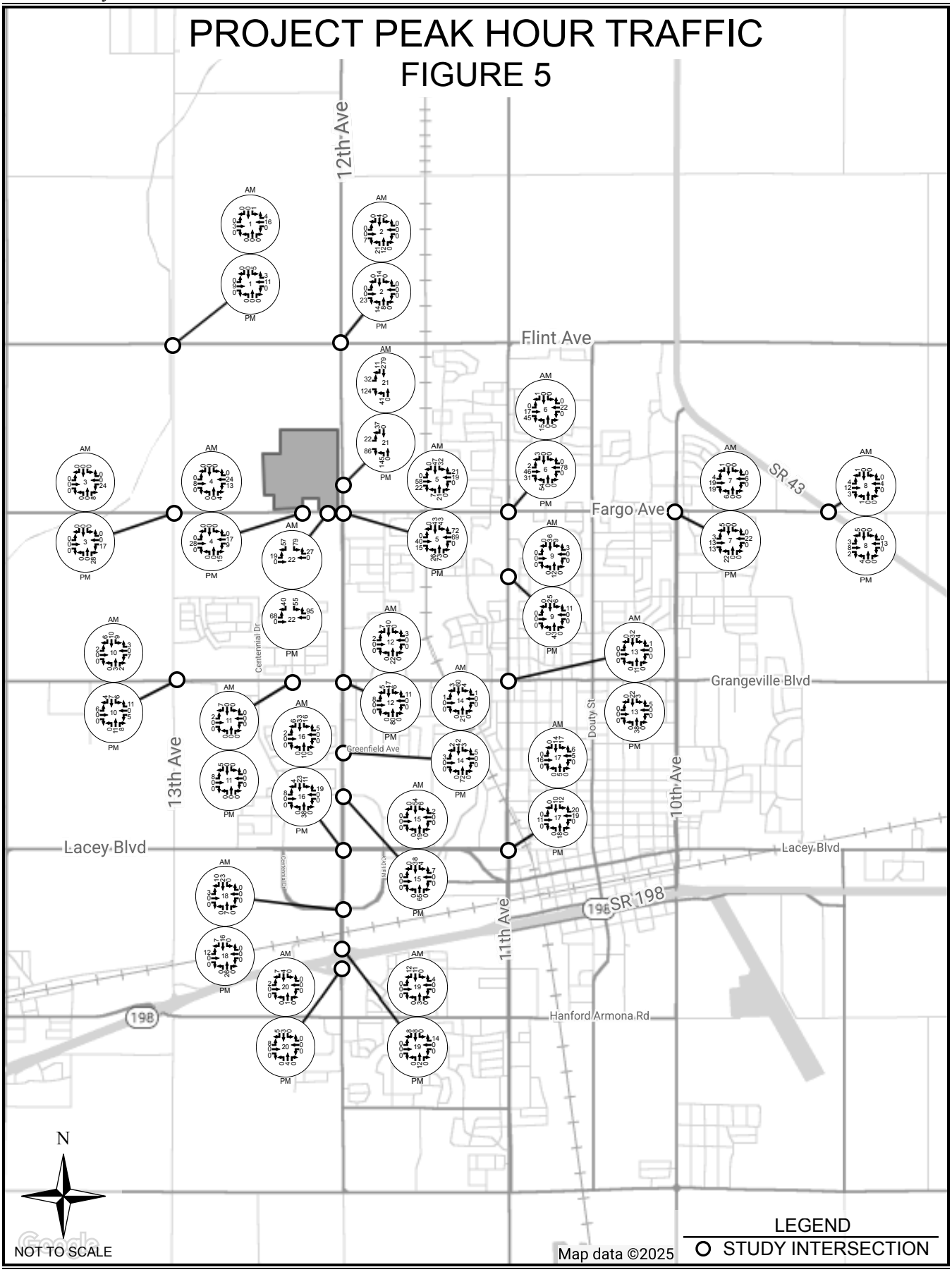
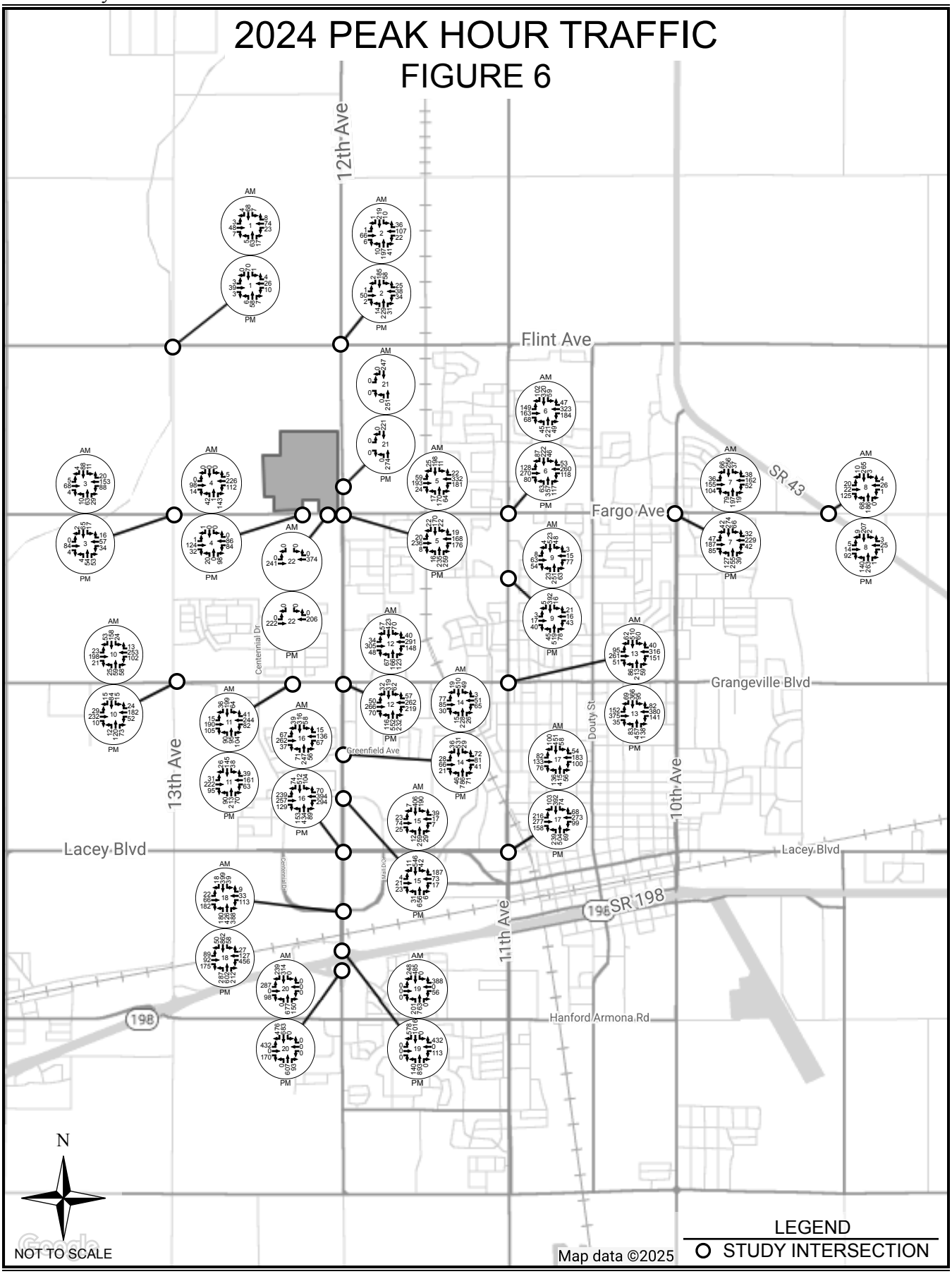
N
NOT TO SCALE
LEGEND
EXISTING ROAD
FUTURE ROAD

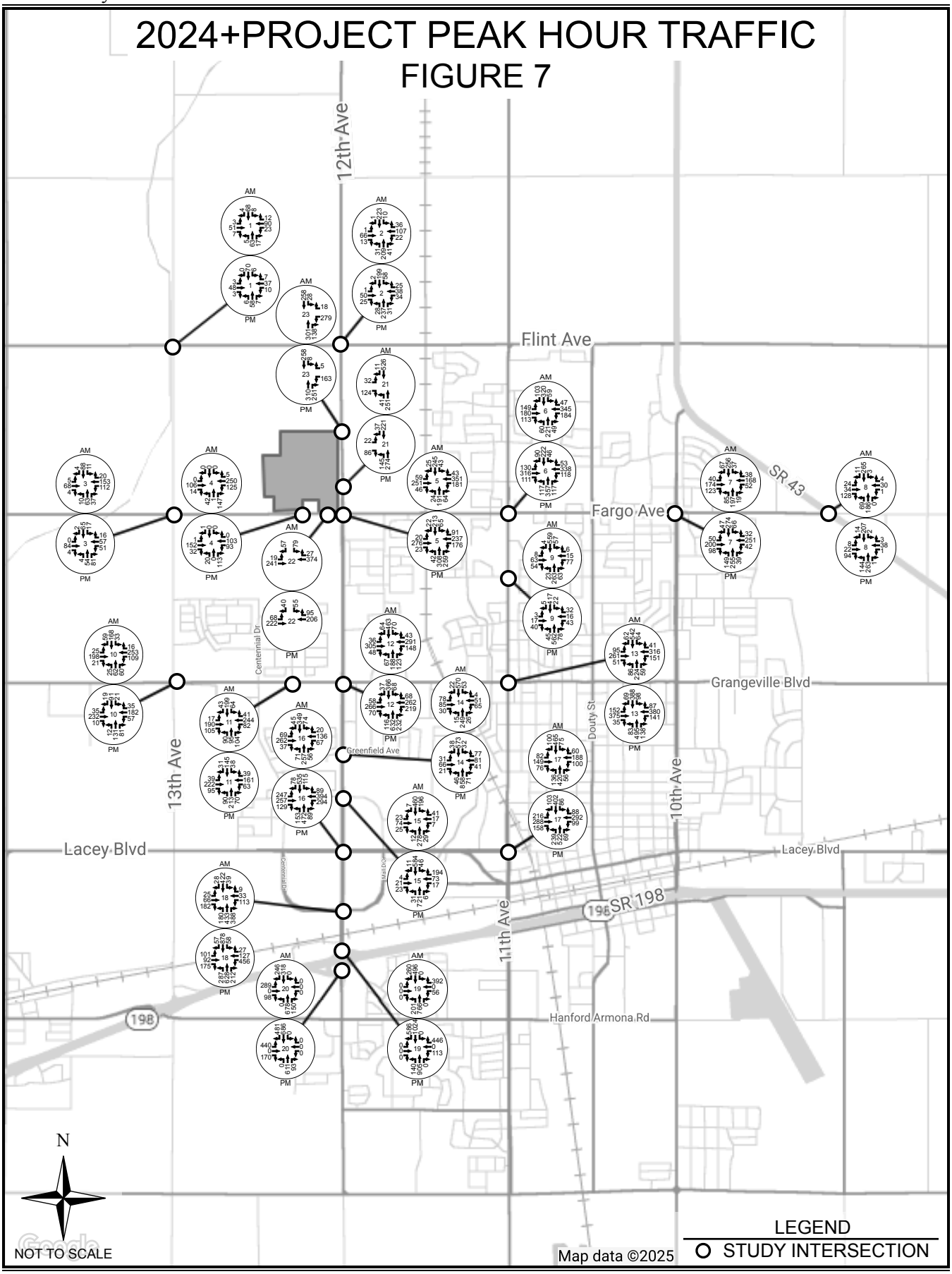
PROJECT PEAK HOUR TRAFFIC
FIGURE 5



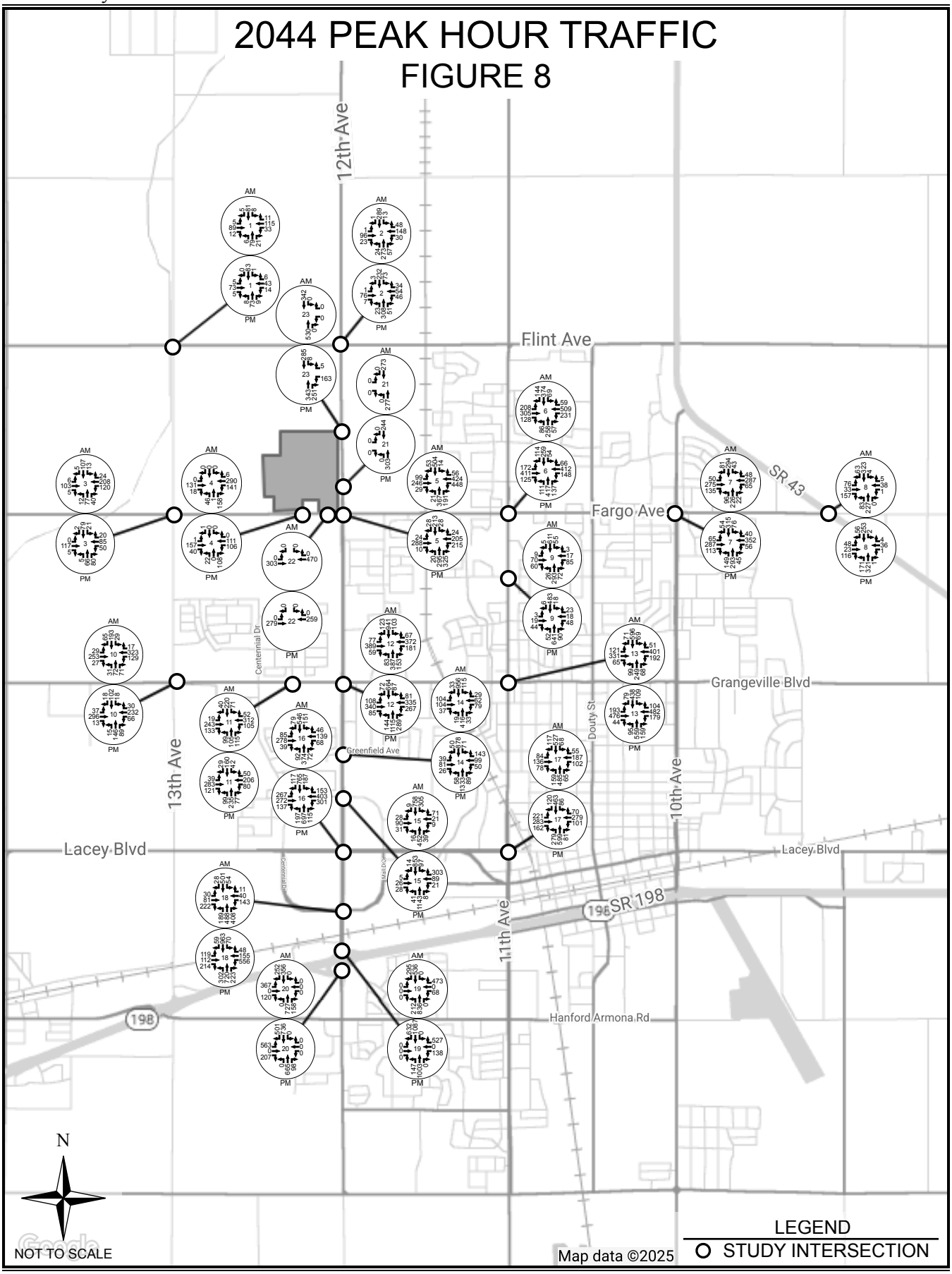
2024 PEAK HOUR TRAFFIC
FIGURE 6



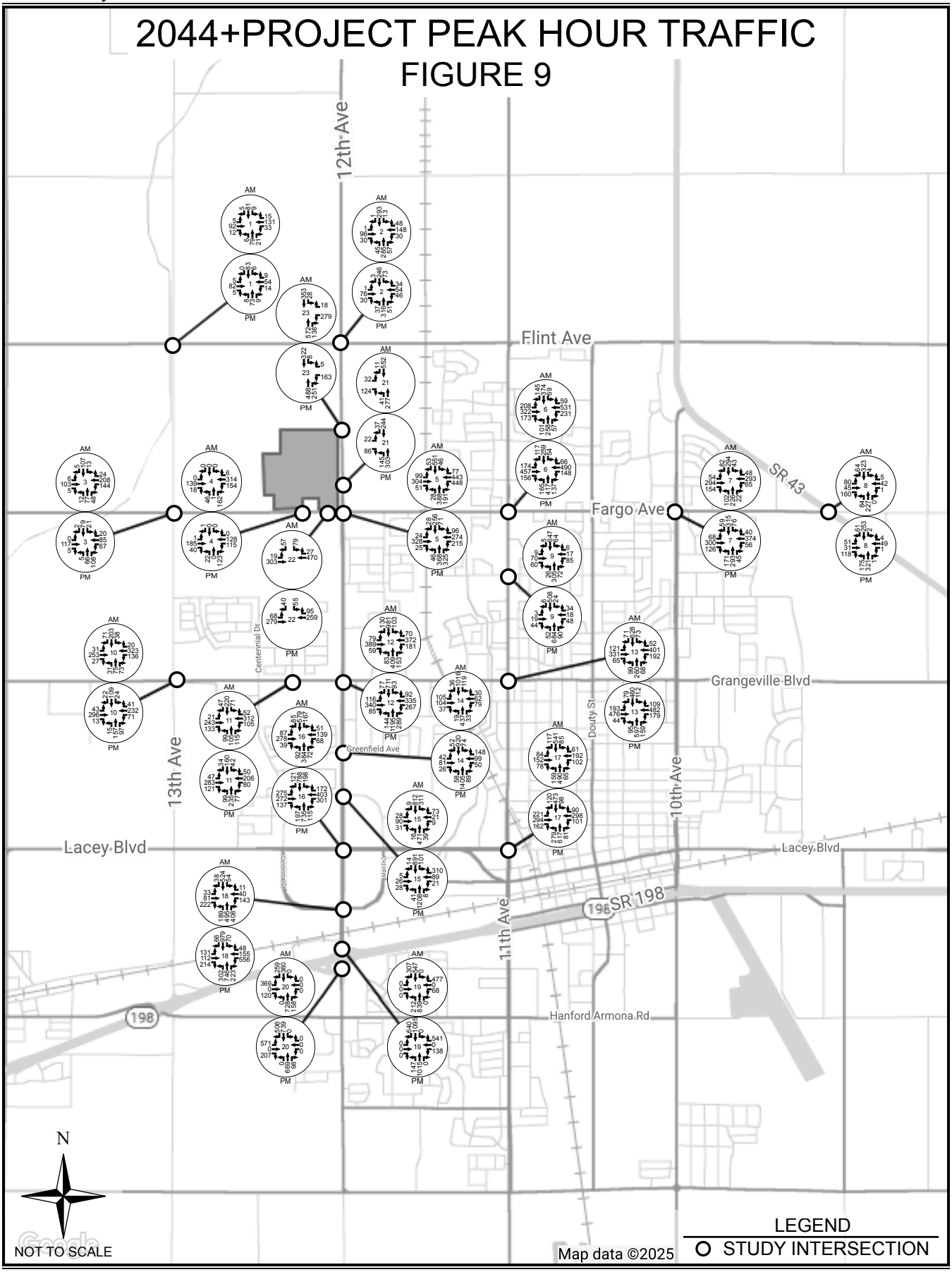
2024+PROJECT PEAK HOUR TRAFFIC
FIGURE 7



2044 PEAK HOUR TRAFFIC
FIGURE 8



2044+PROJECT PEAK HOUR TRAFFIC
FIGURE 9



INTERSECTION ANALYSIS

A capacity analysis of the study intersections was conducted using Synchro software from Trafficware (see Appendix for Synchro output). This software utilizes the capacity analysis methodology in the Transportation Research Board's *Highway Capacity Manual* (HCM). The analysis was performed for each of the following traffic scenarios.

- Existing Year (2024)
- Existing Year (2024) + Project
- Future Year Cumulative Projects (2044)
- Future Year Cumulative Projects (2044) + Project

Level of service (LOS) criteria for unsignalized and signalized intersections, as defined in HCM, are presented in the tables below.

Level of Service Criteria
Unsignalized Intersections

Level of Service	Average Control Delay (sec/veh)	Expected Delay to Minor Street Traffic
A	≤ 10	Little or no delay
B	> 10 and ≤ 15	Short delays
C	> 15 and ≤ 25	Average delays
D	> 25 and ≤ 35	Long delays
E	> 35 and ≤ 50	Very long delays
F	> 50	Extreme delays

Level of Service Criteria
Signalized Intersections

Level of Service	Average Control Delay (sec/veh)	Volume-to-Capacity Ratio
A	≤ 10	< 0.60
B	> 10 and ≤ 20	0.61 - 0.70
C	> 20 and ≤ 35	0.71 - 0.80
D	> 35 and ≤ 55	0.81 - 0.90
E	> 55 and ≤ 80	0.91 - 1.00
F	> 80	> 1.00

Peak hour level of service for the study intersections is presented in Tables 3a and 3b. The City of Hanford has set an intersection level of service standard of LOS C or better.

Table 3a
Intersection Level of Service
Weekday PM Peak Hour

#	Intersection	Control Type	2024	2024+ Project	2044	2044+ Project	2044+ Project w/ Improvements[1]
1	13th Ave & Flint Ave	AWSC	A	A	A	A	-
2	12th Ave & Flint Ave	AWSC	B	B	B	C	-
3	13th Ave & Fargo Ave	AWSC	A	A	A	A	-
4	Centennial Dr & Fargo Ave	NB SB	B A	B A	B A	B A	-
5	12th Ave & Fargo Ave	Signal	B	C	C	C	C[3]
6	11th Ave & Fargo Ave	Signal	B	B	C	C	-
7	10th Ave & Fargo Ave	Signal	B	C	B	C	-
8	SR 43 & Fargo Ave	EB WB	B C	B C	D (30.1) D (28.3)	E (42.0) D (32.2)	-
		AWSC	-	-	-	-	B
9	11th Ave & Cortner St	Signal	C	C	C	C	-
10	13th Ave & Grangeville Blvd	Signal	B	B	B	B	-
11	Centennial Dr & Grangeville Blvd	Signal	B	C	C	C	-
12	12th Ave & Grangeville Blvd	Signal	B	C	C	C	-
13	11th Ave & Grangeville Blvd	Signal	C	C	C	C	-
14	12th Ave & Greenfield Ave	Signal	B	B	B	B	-
15	12th Ave & Liberty St/Kings County Dr	Signal	B	B	C	C	-
16	12th Ave & Lacey Blvd	Signal	C	C	C	C	-
17	11th Ave & Lacey Blvd	Signal	D (42.3)	D[2] (44.5)	D (44.7)	D[2] (42.8)	-
18	12th Ave & Centennial Dr	Signal	C	C	C	C	-
19	12th Ave & SR 198 WB Ramps	Signal	C	C	C	C	-
20	12th Ave & SR 198 EB Ramps	Signal	B	B	B	B	-
21	12th Ave & Project Entrance	EB	-	B	-	B	-
22	Fargo Ave & Project Entrance	SB	-	B	-	C	-
23	12th Ave & Singh Dev. Project Entrance	Signal	-	A	A	A	-

[1]Proposed improvement measures shown in Table 7.
[2]Project traffic does not degrade level of service. Therefore, no improvement measures are required.
[3]Improvements necessary due to AM Peak Hour.

Table 3b
Intersection Level of Service
Weekday AM Peak Hour

#	Intersection	Control Type	2024	2024+ Project	2044	2044+ Project	2044+ Project w/ Improvements[1]
1	13th Ave & Flint Ave	AWSC	A	A	A	A	-
2	12th Ave & Flint Ave	AWSC	B	B	C	C	-
3	13th Ave & Fargo Ave	AWSC	A	A	B	B	-
4	Centennial Dr & Fargo Ave	NB SB	B A	B A	B A	C A	-
5	12th Ave & Fargo Ave	Signal	B	B	D (41.8)	E (55.1)	C
6	11th Ave & Fargo Ave	Signal	B	C	C	C	-
7	10th Ave & Fargo Ave	Signal	B	B	B	B	-
8	SR 43 & Fargo Ave	EB WB	B C	B C	D (29.5) C	E (36.6) C	-
		AWSC	-	-	-	-	B
9	11th Ave & Cortner St	Signal	B	B	B	B	-
10	13th Ave & Grangeville Blvd	Signal	B	B	B	B	-
11	Centennial Dr & Grangeville Blvd	Signal	B	B	B	B	-
12	12th Ave & Grangeville Blvd	Signal	B	B	C	C	-
13	11th Ave & Grangeville Blvd	Signal	C	C	C	C	-
14	12th Ave & Greenfield Ave	Signal	B	B	B	B	-
15	12th Ave & Liberty St/Kings County Dr	Signal	B	B	B	B	-
16	12th Ave & Lacey Blvd	Signal	B	B	B	B	-
17	11th Ave & Lacey Blvd	Signal	B	C	C	C	-
18	12th Ave & Centennial Dr	Signal	B	B	B	B	-
19	12th Ave & SR 198 WB Ramps	Signal	B	B	B	B	-
20	12th Ave & SR 198 EB Ramps	Signal	A	A	A	A	-
21	12th Ave & Project Entrance	EB	-	B	-	B	-
22	Fargo Ave & Project Entrance	SB	-	C	-	C	-
23	12th Ave & Singh Dev. Project Entrance	Signal	-	A	A	B	-

[1]Improvement measures shown in Table 7.

TRAFFIC SIGNAL WARRANT ANALYSIS

Peak hour signal warrants were evaluated for the three unsignalized study intersections based on the 2014 *California Manual on Uniform Traffic Control Devices* (2014 CA MUTCD). Peak hour signal warrants assess delay to traffic on minor street approaches when entering or crossing a major street. Signal warrant analysis results are shown in Tables 4a and 4b.

Table 4a
Traffic Signal Warrants
Weekday PM Peak Hour

		2024			2024+Project			2044			2044+Project		
#	Intersection	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met
1	13th Ave at Flint Ave	142	45	NO	147	54	NO	174	83	NO	179	92	NO
2	12th Ave at Flint Ave	519	97	NO	555	97	NO	690	134	NO	726	134	NO
3	13th Ave at Fargo Ave	195	107	NO	223	124	NO	277	151	NO	294	179	NO
4	Centennial Dr at Fargo Ave	327	118	NO	381	133	NO	415	130	NO	469	145	NO
8	SR 43 at Fargo Ave	622	111	NO	631	124	NO	804	187	YES	813	200	YES
21	12th Ave at Project Entrance	495	-	NO	677	108	NO	1261	-	NO	1443	194	YES
22	Fargo Ave at Project Entrance	428	-	NO	591	95	NO	538	-	NO	701	95	NO

Table 4b
Traffic Signal Warrants
Weekday AM Peak Hour

		2024			2024+Project			2044			2044+Project		
#	Intersection	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met
1	13th Ave at Flint Ave	164	105	NO	186	85	NO	265	106	NO	288	106	NO
2	12th Ave at Flint Ave	478	165	NO	515	165	NO	657	226	YES	694	226	YES
3	13th Ave at Fargo Ave	338	103	NO	362	110	NO	466	129	NO	490	137	NO
4	Centennial Dr at Fargo Ave	455	186	NO	500	190	NO	586	205	NO	631	209	NO
8	SR 43 at Fargo Ave	532	167	NO	534	186	NO	700	266	YES	702	285	YES
21	12th Ave at Project Entrance	498	-	NO	550	156	NO	625	-	NO	677	156	YES
22	Fargo Ave at Project Entrance	615	-	NO	661	136	NO	773	-	NO	819	136	YES

It is important to note that a signal warrant defines the minimum condition under which signalization of an intersection might be warranted. Meeting this threshold does not suggest traffic signals are required, but rather, that other traffic factors and conditions be considered to determine whether signals are truly justified.

It is also noted that signal warrants do not necessarily correlate with the level of service. An intersection may satisfy a signal warrant condition and operate at or above an acceptable level of service or operate below an acceptable level of service and not meet signal warrant criteria.

ROADWAY ANALYSIS

A capacity analysis of the study roadways was conducted using Table 4 in the State of Florida Department of Transportation *Quality/Level of Service Handbook* dated June 2020 (see Appendix). Capacities for roadway segments within the scope of the study are presented in Tables 5a and 5b. The City of Hanford has a minimum level of service standard of LOS C for roadways. The analysis was performed for the following AM and PM traffic scenarios:

- Existing (2024)
- Existing (2024) + Project
- Future Year Cumulative Projects (2044)
- Future Year Cumulative Projects (2044) + Project

Table 5a
PM Peak Hour Roadway Capacity

Roadway Segments	2024 Two-Way LOS		2024+Project Two-Way LOS		2044 Two-Way LOS		2044+Project Two-Way LOS	
	VOL	LOS	VOL	LOS	VOL	LOS	VOL	LOS
Flint Ave: 13th Ave and 12th Ave	107	C	144	C	148	C	185	C
13th Ave: Flint Ave and Fargo Ave	154	C	154	C	192	C	192	C
13th Ave: Fargo Ave and Grangeville Blvd	287	C	332	C	351	C	396	C
Fargo Ave: 13th Ave and Centennial Dr	264	C	309	C	328	C	373	C
Fargo Ave: Centennial Dr and 12th Ave	470	C	620	C	575	C	725	C
Fargo Ave: 12th Ave and 11th Ave	888	C	1104	C	1102	C	1318	C
Fargo Ave: 11th Ave and 10th Ave	864	C	988	C	1070	C	1194	C
Fargo Ave: 10th Ave and SR43	595	C	630	C	736	C	771	C
Centennial Dr: Fargo Ave and Grangeville Blvd	492	C	505	C	555	C	568	C
Grangeville Blvd: 13th Ave and Centennial Dr	625	C	630	C	777	C	782	C
Grangeville Blvd: Centennial Dr and 12th Ave	796	C	809	C	1084	C	1097	C
Grangeville Blvd: 12th Ave and 11th Ave	1098	C	1115	C	1399	C	1416	C
12th Ave: Flint Ave and Fargo Ave	495	C	719	C	1092	C	1316	C
12th Ave: Fargo Ave and Grangeville Blvd	1072	C	1229	C	2127	C	2284	C
12th: Grangeville Blvd and Greenfield Ave	1508	C	1635	C	2564	C	2691	C
12th Ave: Greenfield Ave and Liberty Dr	1496	C	1610	C	2434	C	2548	C
12th Ave: Liberty Dr and Lacey Blvd	1433	C	1536	C	2094	C	2197	C
12th Ave: Lacey Blvd and Centennial Dr	1688	C	1749	C	2351	C	2412	C
12th Ave: Centennial Dr and SR198 WB Ramps	2919	C	2961	C	3726	C	3768	C
12th Ave: SR198 WB Ramps and SR198 EB Ramps	2198	C	2218	C	2725	C	2745	C
Lacey Blvd: 12th Ave and 11th Ave	1266	C	1296	C	1698	C	1728	C
11th Ave: Fargo Ave and Cortner St	957	C	1042	C	1197	C	1282	C
11th Ave: Cortner St and Grangeville Blvd	1221	C	1289	C	1482	C	1550	C
11th Ave: Grangeville Blvd and Lacey Blvd	1357	C	1417	C	1636	C	1696	C

Table 5b
AM Peak Hour Roadway Capacity

Roadway Segments	2024 Two-Way LOS		2024+Project Two-Way LOS		2044 Two-Way LOS		2044+Project Two-Way LOS	
	VOL	LOS	VOL	LOS	VOL	LOS	VOL	LOS
Flint Ave: 13th Ave and 12th Ave	191	C	219	C	262	C	290	C
13th Ave: Flint Ave and Fargo Ave	191	C	191	C	232	C	232	C
13th Ave: Fargo Ave and Grangeville Blvd	330	C	363	C	405	C	438	C
Fargo Ave: 13th Ave and Centennial Dr	380	C	412	C	471	C	503	C
Fargo Ave: Centennial Dr and 12th Ave	650	C	756	C	793	C	899	C
Fargo Ave: 12th Ave and 11th Ave	850	C	1002	C	1053	C	1205	C
Fargo Ave: 11th Ave and 10th Ave	825	C	913	C	1025	C	1113	C
Fargo Ave: 10th Ave and SR43	463	C	488	C	575	C	600	C
Centennial Dr: Fargo Ave and Grangeville Blvd	450	C	459	C	507	C	516	C
Grangeville Blvd: 13th Ave and Centennial Dr	680	C	689	C	846	C	855	C
Grangeville Blvd: Centennial Dr and 12th Ave	802	C	811	C	1103	C	1112	C
Grangeville Blvd: 12th Ave and 11th Ave	977	C	989	C	1265	C	1277	C
12th Ave: Flint Ave and Fargo Ave	495	C	650	C	667	C	822	C
12th Ave: Fargo Ave and Grangeville Blvd	790	C	900	C	1409	C	1519	C
12th: Grangeville Blvd and Greenfield Ave	975	C	1064	C	1804	C	1893	C
12th Ave: Greenfield Ave and Liberty Dr	924	C	1005	C	1623	C	1704	C
12th Ave: Liberty Dr and Lacey Blvd	742	C	814	C	1373	C	1445	C
12th Ave: Lacey Blvd and Centennial Dr	913	C	956	C	1321	C	1364	C
12th Ave: Centennial Dr and SR198 WB Ramps	1884	C	1914	C	2402	C	2432	C
12th Ave: SR198 WB Ramps and SR198 EB Ramps	1517	C	1531	C	1927	C	1941	C
Lacey Blvd: 12th Ave and 11th Ave	710	C	731	C	889	C	910	C
11th Ave: Fargo Ave and Cortner St	887	C	947	C	1134	C	1194	C
11th Ave: Cortner St and Grangeville Blvd	991	C	1039	C	1157	C	1205	C
11th Ave: Grangeville Blvd and Lacey Blvd	1160	C	1202	C	1373	C	1415	C

QUEUE LENGTH ANALYSIS

Existing volumes and future volumes, both with and without project traffic were used to analyze turn movements at State Route 198 Westbound Ramps & 12th Avenue and State Route 198 Eastbound Ramps & 12th Avenue. Queue length analysis was conducted using SimTraffic software. The results of the queue length analysis are shown in Tables 6a and 6b below.

Table 6a
PM Queue Length Analysis

Intersection	12th Ave & SR 198 WB Ramps		12th Ave & SR 198 EB Ramps	
Movement	WBL	WBR	EBL	EBR
Storage Length	1000	1000	1000	1000
2024	189	266	181	92
2024+Project	163	260	186	62
2044	227	358	207	131
2044+Project	274	366	195	81

Table 6b
AM Queue Length Analysis

Intersection	12th Ave & SR 198 WB Ramps		12th Ave & SR 198 EB Ramps	
Movement	WBL	WBR	EBL	EBR
Storage Length	1000	1000	1000	1000
2024	57	188	125	43
2024+Project	104	178	121	55
2044	92	255	164	78
2044+Project	189	280	156	62

Traffic does not currently exceed the storage length for either of the ramps and is not expected to with the addition of project traffic through 2044. Therefore, the project is not expected to have a significant impact.

IMPROVEMENTS

Intersection improvements needed by the year 2044 to maintain or improve the operational level of service of the street system in the vicinity of the project are presented in Table 7.

Table 7
Future Intersection Improvements

#	Intersection	Total Improvements Required by 2044	Project Share
5	12th Ave & Fargo Ave	Add: Northbound Through, Southbound Through, Eastbound Through, Westbound Through	54.04%
8	SR 43 & Fargo Ave	AWSC	11.48%

Project percent share is calculated using the following formula:

$$\% \text{ Share} = \frac{\text{Project Traffic}}{\text{(Future+Project Traffic) - Existing Traffic}} \times 100\%$$

VMT ANALYSIS

An analysis of project VMT (vehicle miles traveled) was conducted in accordance with the *VMT Thresholds and Implementation Guidelines*, City of Hanford, dated November 2022 (VMT Guidelines). The analysis involved comparing an estimate of VMT attributable to the project to a threshold VMT and assessing whether project VMT would result in a significant transportation impact under the California Environmental Quality Act (CEQA).

Project Screening

Land use developments meeting one or more of the screening criteria contained in the VMT Guidelines are presumed to create a less than significant transportation impact and no further VMT analysis is required. These criteria relate to project type, size, location, proximity to transit, and trip-making potential. The project does not meet any of the screening criteria. Therefore, a detailed VMT analysis was completed for the project.

Detailed Analysis

The detailed VMT analysis was conducted by LSA Associates, Inc. (Riverside, California) using the KCAG travel demand model. VMT analysis results are presented in Table 8 (see Appendix for VMT analysis memorandum).

Table 8
VMT Analysis Results

Land Use	Daily Vehicle Miles Traveled (VMT)			Significant Impact	Reduction Needed
	Metric	Threshold	Project		
Residential	VMT per Capita	8.99	10.41	YES	13.6%

Source: LSA Associates, Inc. memorandum, dated July 11, 2024

Since the project's VMT per capita of 10.41 is greater than the significance threshold of 8.9, the project is expected to result in a significant transportation impact under CEQA. Therefore, mitigation would be required.

Mitigation

For land development projects, VMT mitigation focuses on measures that reduce the number and/or length of single-occupant vehicle trips generated by the project. According to the VMT Guidelines,

proposed mitigation to reduce project VMT "must be supported by substantial evidence illustrating that the measure(s) will mitigate VMT impacts to less than significant."

The VMT Guidelines cite the *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health Equity: Designed for Local Governments, Communities, and Project Developers*, California Air Pollution Control Officers Association, December 2021 (CAPCOA Handbook) as a source for mitigation measures with quantitative methods for estimating VMT reduction. Below are quantitative measures contained in the CAPCOA Handbook for residential projects in suburban areas. Measure identifiers are shown within parentheses and italicized text addresses the applicability of each measure to the project.

- Increase residential density to a level higher than the national average (T-1)

  Applicable, but not feasible. The residential density for the project is 7.1 dwelling units/acre (615 single-family homes/87 acres of developable land). As stated in the CAPCOA Handbook, the national average is 9.1 dwelling units/acre and includes apartments, townhomes, and condominiums in addition to detached single-family housing.

  Below is the VMT reduction formula in the CAPCOA Handbook for this measure (-0.22 = VMT elasticity factor).

  $$\text{VMT reduction} = [\text{(project du/acre} - \text{9.1 du/acre)} / \text{9.1 du/acre}] \times (-0.22)$$

  Assuming no change in the amount of developable land, the project would need at least 792 dwelling units to reach the national average and be credited for any reduction in project VMT. Moreover, the project would require a total of 1,279 dwelling units to mitigate the impact of project VMT to a less than significant level. Such an increase in project residential density (more than doubling) would not be feasible.

- Provide easy access to high-quality public transit (T-3)

  Not applicable because the project does not meet implementation requirements. Project must be located within 0.5 miles of a high frequency transit station (either rail or bus rapid transit with headways of less than 15 minutes).

- Integrate affordable and below market rate housing (T-4)

  Not applicable because the project does not meet implementation requirements. Project must be a multifamily residential development permanently dedicated as affordable housing for lower income families.

- Provide electric vehicle charging infrastructure (T-14)

  Not applicable to single-family residential projects. Mitigation potential available only to developments with buildings that have designated parking areas (e.g., commercial, educational, retail, and multifamily housing).

- Limit residential parking supply (T-15)

  Not applicable because the measure is ineffective in locations where unrestricted street parking or other off-street parking is available and has adequate capacity to accommodate project-related vehicle parking demand.

- Unbundle residential parking costs from property costs (T-16)

  Not applicable since there are no residential parking costs associated with the project.

SUMMARY

This study evaluated the potential traffic impacts of Subdivision Tract Map #944, a proposed residential development located on the northwest corner of 12th Avenue and Fargo Avenue in the City of Hanford.

The scope of the study includes 22 intersections and adjoining roadway segments. Traffic impact analyses include intersection level of service (LOS), roadway capacity, queue analysis and vehicle miles traveled (VMT). Traffic signal warrants were also analyzed. Analysis results are summarized below.

Intersection Level of Service

All study intersections are expected to operate with minimal delay (at or above LOS C) during peak hours through the year 2024, both with and without project traffic, with the exception of the intersection of 11th Avenue & Lacey Boulevard, which currently operates at LOS D.

In 2044, prior to the addition of project, the intersections of 12th Avenue & Fargo Avenue and State Route 43 & Fargo Avenue are expected to operate below an acceptable level of service. Proposed improvement measures for Centennial Drive & Fargo Avenue and State Route 43 & Fargo Avenue are shown in Table 6.

Since the intersection of 11th Avenue & Lacey Boulevard does not degrade in LOS with the addition of project traffic, no improvement measures are recommended.

Roadway Capacity

All roadway segments within the scope of the study are expected to operate with minimal delay, at or above LOS C, during peak hours through the year 2044, both with and without project traffic.

VMT

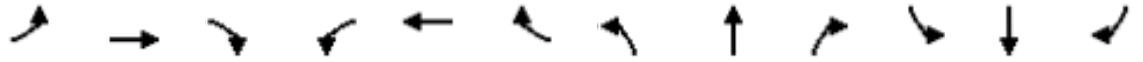
The project's VMT is greater than the City's significance threshold. Therefore, the project is expected to result in a significant transportation impact under CEQA and mitigation is required.

It was determined that potential mitigation measures contained in the CAPCOA Handbook are either not applicable or infeasible. Further discussion with the City of Hanford is recommended to identify other potential VMT reduction measures for the project.

REFERENCES

1. *California Manual on Uniform Traffic Control Devices for Streets and Highways*, 2014 Edition, California Department of Transportation (Caltrans)
2. *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health Equity: Designed for Local Governments, Communities, and Project Developers*, California Air Pollution Control Officers Association, December 2021
3. *Highway Capacity Manual*, Transportation Research Board
4. *Trip Generation Manual*, 11th Edition, Institute of Transportation Engineers (ITE), September 2021
5. *VMT Thresholds and Implementation Guidelines,* City of Hanford, dated November 2022

APPENDIX



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	48	7	23	74	8	5	63	17	7	68	4
Future Volume (vph)	3	48	7	23	74	8	5	63	17	7	68	4
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.983			0.989			0.973			0.994	
Flt Protected		0.998			0.989			0.997			0.995	
Satd. Flow (prot)	0	1827	0	0	1822	0	0	1807	0	0	1842	0
Flt Permitted		0.998			0.989			0.997			0.995	
Satd. Flow (perm)	0	1827	0	0	1822	0	0	1807	0	0	1842	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		2803			5317			5280			1167	
Travel Time (s)		34.7			65.9			65.5			14.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	52	8	25	80	9	5	68	18	8	74	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	63	0	0	114	0	0	91	0	0	86	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

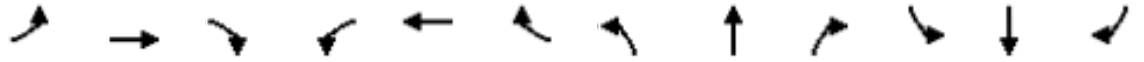
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	48	7	23	74	8	5	63	17	7	68	4
Future Vol, veh/h	3	48	7	23	74	8	5	63	17	7	68	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	52	8	25	80	9	5	68	18	8	74	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	7.8	8.1	7.9	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	5%	22%	9%
Vol Thru, %	74%	83%	70%	86%
Vol Right, %	20%	12%	8%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	85	58	105	79
LT Vol	5	3	23	7
Through Vol	63	48	74	68
RT Vol	17	7	8	4
Lane Flow Rate	92	63	114	86
Geometry Grp	1	1	1	1
Degree of Util (X)	0.111	0.077	0.14	0.106
Departure Headway (Hd)	4.328	4.405	4.408	4.429
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	831	815	816	811
Service Time	2.343	2.42	2.422	2.443
HCM Lane V/C Ratio	0.111	0.077	0.14	0.106
HCM Control Delay, s/veh	7.9	7.8	8.1	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.2	0.5	0.4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	66	6	22	107	36	10	197	41	10	219	1
Future Volume (vph)	1	66	6	22	107	36	10	197	41	10	219	1
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	0		0	0		0	0		25	0		25
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988			0.971				0.850			0.850
Flt Protected		0.999			0.993			0.998			0.998	
Satd. Flow (prot)	0	1839	0	0	1796	0	0	1859	1458	0	1859	1458
Flt Permitted		0.999			0.993			0.998			0.998	
Satd. Flow (perm)	0	1839	0	0	1796	0	0	1859	1458	0	1859	1458
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5317			205			5367			225	
Travel Time (s)		65.9			2.5			66.5			2.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	72	7	24	116	39	11	214	45	11	238	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	80	0	0	179	0	0	225	45	0	249	1
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

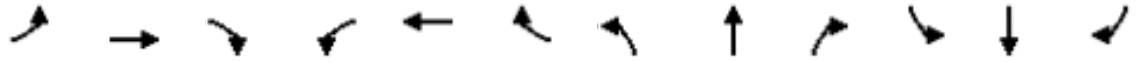
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	42.0%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	66	6	22	107	36	10	197	41	10	219	1
Future Vol, veh/h	1	66	6	22	107	36	10	197	41	10	219	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	72	7	24	116	39	11	214	45	11	238	1
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay, s/veh	9.4	10.4	10.8	11.9
HCM LOS	A	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	5%	0%	1%	13%	4%	0%
Vol Thru, %	95%	0%	90%	65%	96%	0%
Vol Right, %	0%	100%	8%	22%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	207	41	73	165	229	1
LT Vol	10	0	1	22	10	0
Through Vol	197	0	66	107	219	0
RT Vol	0	41	6	36	0	1
Lane Flow Rate	225	45	79	179	249	1
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.351	0.06	0.124	0.269	0.389	0.001
Departure Headway (Hd)	5.61	4.878	5.608	5.392	5.625	4.895
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	641	734	639	671	640	731
Service Time	3.338	2.605	3.644	3.392	3.353	2.623
HCM Lane V/C Ratio	0.351	0.061	0.124	0.267	0.389	0.001
HCM Control Delay, s/veh	11.4	7.9	9.4	10.4	11.9	7.6
HCM Lane LOS	B	A	A	B	B	A
HCM 95th-tile Q	1.6	0.2	0.4	1.1	1.8	0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	68	4	88	153	20	10	63	29	11	88	4
Future Volume (vph)	5	68	4	88	153	20	10	63	29	11	88	4
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993			0.990			0.961			0.995	
Flt Protected		0.997			0.983			0.995			0.995	
Satd. Flow (prot)	0	1844	0	0	1813	0	0	1781	0	0	1844	0
Flt Permitted		0.997			0.983			0.995			0.995	
Satd. Flow (perm)	0	1844	0	0	1813	0	0	1781	0	0	1844	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		3132			4044			5270			5280	
Travel Time (s)		38.8			50.1			65.3			65.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	74	4	96	166	22	11	68	32	12	96	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	83	0	0	284	0	0	111	0	0	112	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

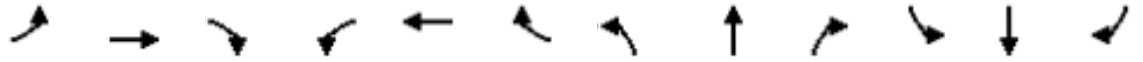
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.9%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	68	4	88	153	20	10	63	29	11	88	4
Future Vol, veh/h	5	68	4	88	153	20	10	63	29	11	88	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	74	4	96	166	22	11	68	32	12	96	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.5	10.3	8.7	8.9
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	10%	6%	34%	11%
Vol Thru, %	62%	88%	59%	85%
Vol Right, %	28%	5%	8%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	102	77	261	103
LT Vol	10	5	88	11
Through Vol	63	68	153	88
RT Vol	29	4	20	4
Lane Flow Rate	111	84	284	112
Geometry Grp	1	1	1	1
Degree of Util (X)	0.148	0.112	0.363	0.154
Departure Headway (Hd)	4.797	4.797	4.601	4.941
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	744	743	780	722
Service Time	2.851	2.85	2.642	2.995
HCM Lane V/C Ratio	0.149	0.113	0.364	0.155
HCM Control Delay, s/veh	8.7	8.5	10.3	8.9
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.5	0.4	1.7	0.5



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	98	14	112	226	5	42	1	143	0	0	0
Future Volume (vph)	0	98	14	112	226	5	42	1	143	0	0	0
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	0		100	100		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.997			0.896				
Flt Protected				0.950				0.989				
Satd. Flow (prot)	0	1863	1458	1630	1857	0	0	1651	0	0	1863	0
Flt Permitted				0.950				0.989				
Satd. Flow (perm)	0	1863	1458	1630	1857	0	0	1651	0	0	1863	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		4044			1304			5340			496	
Travel Time (s)		50.1			16.2			66.2			6.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	107	15	122	246	5	46	1	155	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	107	15	122	251	0	0	202	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.3%		ICU Level of Service A	
Analysis Period (min) 15			

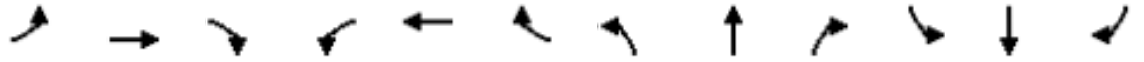
Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	98	14	112	226	5	42	1	143	0	0	0
Future Vol, veh/h	0	98	14	112	226	5	42	1	143	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	100	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	107	15	122	246	5	46	1	155	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	251	0	0	122	0	0	596	601	107	599	614	248
Stage 1	-	-	-	-	-	-	107	107	-	492	492	-
Stage 2	-	-	-	-	-	-	489	495	-	107	122	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1314	-	-	1466	-	-	416	414	948	414	407	790
Stage 1	-	-	-	-	-	-	899	807	-	559	548	-
Stage 2	-	-	-	-	-	-	560	546	-	898	795	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1314	-	-	1466	-	-	381	380	948	316	373	790
Mov Cap-2 Maneuver	-	-	-	-	-	-	381	380	-	316	373	-
Stage 1	-	-	-	-	-	-	899	807	-	512	502	-
Stage 2	-	-	-	-	-	-	514	501	-	750	795	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	2.51	12.14	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	705	1314	-	-	1466	-	-	-
HCM Lane V/C Ratio	0.287	-	-	-	0.083	-	-	-
HCM Control Delay (s/veh)	12.1	0	-	-	7.7	-	-	0
HCM Lane LOS	B	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	1.2	0	-	-	0.3	-	-	-

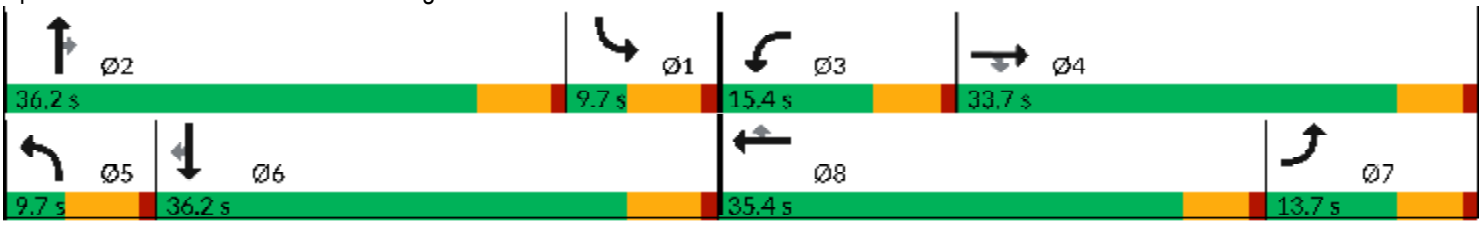


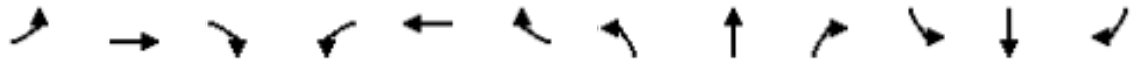
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	193	24	181	332	22	17	170	64	11	198	25
Future Volume (vph)	59	193	24	181	332	22	17	170	64	11	198	25
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	200		110	345		110	255		105	255		130
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.98			0.97			0.97			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1863	1458	1630	1863	1458	1630	1863	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1432	1630	1863	1414	1630	1863	1414	1630	1863	1415
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			223			223			214			214
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1304			5225			5338			5367	
Travel Time (s)		16.2			64.8			66.2			66.5	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	64	210	26	197	361	24	18	185	70	12	215	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	210	26	197	361	24	18	185	70	12	215	27
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	33.7	33.7	9.3	33.7	33.7	9.7	34.5	34.5	9.7	36.0	36.0
Total Split (s)	13.7	33.7	33.7	15.4	35.4	35.4	9.7	36.2	36.2	9.7	36.2	36.2
Total Split (%)	14.4%	35.5%	35.5%	16.2%	37.3%	37.3%	10.2%	38.1%	38.1%	10.2%	38.1%	38.1%
Maximum Green (s)	8.4	28.4	28.4	10.1	30.1	30.1	4.0	30.5	30.5	4.0	30.5	30.5
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		21.4	21.4		21.4	21.4		21.8	21.8		23.3	23.3
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	9.1	16.2	16.2	12.4	25.6	25.6	6.2	15.8	15.8	6.4	16.0	16.0
Actuated g/C Ratio	0.15	0.28	0.28	0.21	0.43	0.43	0.11	0.27	0.27	0.11	0.27	0.27
v/c Ratio	0.25	0.41	0.05	0.57	0.45	0.03	0.11	0.37	0.13	0.07	0.42	0.05
Control Delay (s/veh)	31.3	21.4	0.2	35.8	18.7	0.1	34.8	21.5	0.5	33.5	21.8	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	31.3	21.4	0.2	35.8	18.7	0.1	34.8	21.5	0.5	33.5	21.8	0.2
LOS	C	C	A	D	B	A	C	C	A	C	C	A
Approach Delay (s/veh)		21.7			23.7			17.0			20.1	
Approach LOS		C			C			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 58.9			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay (s/veh): 21.3		Intersection LOS: C	
Intersection Capacity Utilization 49.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: 12th Ave & Fargo Ave

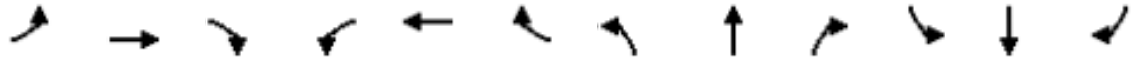




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	193	24	181	332	22	17	170	64	11	198	25
Future Volume (veh/h)	59	193	24	181	332	22	17	170	64	11	198	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	64	210	26	197	361	24	18	185	70	12	215	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	398	304	285	541	409	88	396	298	110	422	318
Arrive On Green	0.10	0.21	0.21	0.17	0.29	0.29	0.05	0.21	0.21	0.07	0.23	0.23
Sat Flow, veh/h	1641	1870	1429	1641	1870	1415	1641	1870	1409	1641	1870	1410
Grp Volume(v), veh/h	64	210	26	197	361	24	18	185	70	12	215	27
Grp Sat Flow(s),veh/h/ln	1641	1870	1429	1641	1870	1415	1641	1870	1409	1641	1870	1410
Q Serve(g_s), s	1.8	4.8	0.7	5.4	8.1	0.6	0.5	4.1	0.9	0.3	4.8	0.4
Cycle Q Clear(g_c), s	1.8	4.8	0.7	5.4	8.1	0.6	0.5	4.1	0.9	0.3	4.8	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	159	398	304	285	541	409	88	396	298	110	422	318
V/C Ratio(X)	0.40	0.53	0.09	0.69	0.67	0.06	0.21	0.47	0.23	0.11	0.51	0.08
Avail Cap(c_a), veh/h	333	1163	889	392	1230	930	196	1261	950	196	1261	951
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.3	16.7	15.1	18.5	15.0	12.3	21.6	16.5	3.6	20.9	16.2	4.7
Incr Delay (d2), s/veh	1.6	1.1	0.1	3.1	1.4	0.1	1.1	0.9	0.4	0.4	1.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.6	0.2	1.8	2.6	0.1	0.2	1.4	0.5	0.1	1.6	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.9	17.8	15.2	21.6	16.4	12.3	22.8	17.3	4.0	21.4	17.1	4.8
LnGrp LOS	C	B	B	C	B	B	C	B	A	C	B	A
Approach Vol, veh/h		300			582			273			254	
Approach Delay, s/veh		18.4			18.0			14.3			16.0	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.2	14.1	12.3	14.2	6.5	14.8	8.6	17.8
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	4.0	30.5	10.1	28.4	4.0	30.5	8.4	30.1
Max Q Clear Time (g_c+I1), s	2.3	6.1	7.4	6.8	2.5	6.8	3.8	10.1
Green Ext Time (p_c), s	0.0	0.8	0.2	0.7	0.0	0.8	0.0	1.3

Intersection Summary	
HCM 7th Control Delay, s/veh	17.0
HCM 7th LOS	B

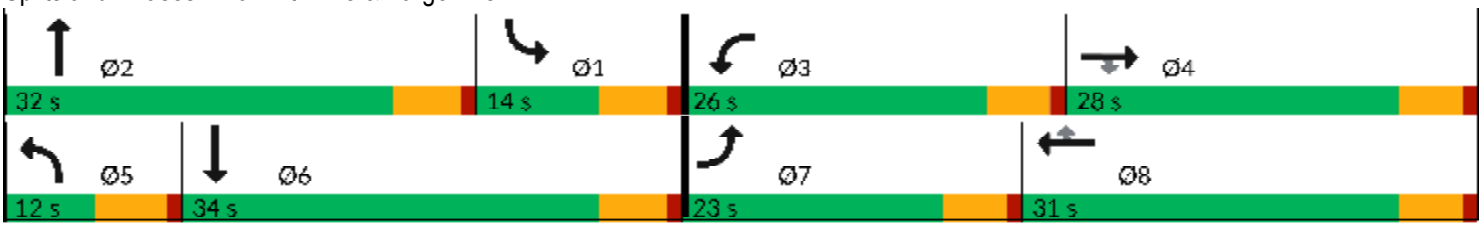


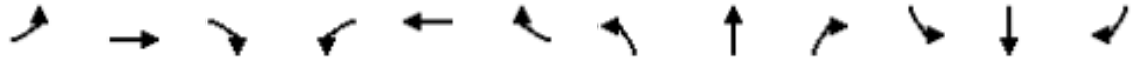
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	149	163	68	184	323	47	45	221	49	59	320	102
Future Volume (vph)	149	163	68	184	323	47	45	221	49	59	320	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	185		110	280		150	200		0	255		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor			0.96			0.98		0.99			0.99	
Frt			0.850			0.850		0.973			0.964	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	3539	1583	1770	3423	0	1770	3383	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1863	1527	1770	3539	1552	1770	3423	0	1770	3383	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			212			212		26			44	
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5225			5292			2018			1090	
Travel Time (s)		64.8			65.6			25.0			13.5	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	162	177	74	200	351	51	49	240	53	64	348	111
Shared Lane Traffic (%)												
Lane Group Flow (vph)	162	177	74	200	351	51	49	293	0	64	459	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	50	50	50	50	50	50	50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.3	25.2	25.2	9.3	29.5	29.5	9.7	28.8		9.7	26.0	
Total Split (s)	23.0	28.0	28.0	26.0	31.0	31.0	12.0	32.0		14.0	34.0	
Total Split (%)	23.0%	28.0%	28.0%	26.0%	31.0%	31.0%	12.0%	32.0%		14.0%	34.0%	
Maximum Green (s)	17.7	22.7	22.7	20.7	25.7	25.7	6.3	26.3		8.3	28.3	
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7		4.7	4.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7		-1.7	-1.7	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Don't Walk (s)		12.9	12.9		17.2	17.2		16.1			13.3	
Pedestrian Calls (#/hr)		5	5		5	5		5			5	
Act Effct Green (s)	13.5	14.2	14.2	15.0	19.7	19.7	8.5	15.4		10.2	16.9	
Actuated g/C Ratio	0.21	0.22	0.22	0.23	0.30	0.30	0.13	0.24		0.16	0.26	
v/c Ratio	0.44	0.44	0.15	0.49	0.33	0.08	0.21	0.36		0.23	0.51	
Control Delay (s/veh)	31.6	29.8	0.6	30.4	23.6	0.3	36.2	23.3		33.7	22.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	31.6	29.8	0.6	30.4	23.6	0.3	36.2	23.3		33.7	22.9	
LOS	C	C	A	C	C	A	D	C		C	C	
Approach Delay (s/veh)		25.3			23.9			25.2			24.2	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 65.3			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay (s/veh): 24.5		Intersection LOS: C	
Intersection Capacity Utilization 49.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 6: 11th Ave & Fargo Ave

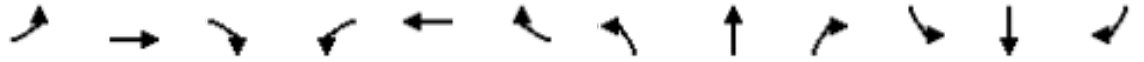




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	149	163	68	184	323	47	45	221	49	59	320	102
Future Volume (veh/h)	149	163	68	184	323	47	45	221	49	59	320	102
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.98	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	162	177	74	200	351	51	49	240	53	64	348	111
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	259	347	283	307	754	329	133	556	120	219	637	199
Arrive On Green	0.15	0.19	0.19	0.17	0.21	0.21	0.07	0.19	0.16	0.12	0.24	0.21
Sat Flow, veh/h	1781	1870	1526	1781	3554	1552	1781	2883	622	1781	2637	826
Grp Volume(v), veh/h	162	177	74	200	351	51	49	146	147	64	232	227
Grp Sat Flow(s),veh/h/ln	1781	1870	1526	1781	1777	1552	1781	1777	1728	1781	1777	1686
Q Serve(g_s), s	4.2	4.2	2.0	5.1	4.2	0.7	1.3	3.5	3.7	1.6	5.6	5.8
Cycle Q Clear(g_c), s	4.2	4.2	2.0	5.1	4.2	0.7	1.3	3.5	3.7	1.6	5.6	5.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.36	1.00		0.49
Lane Grp Cap(c), veh/h	259	347	283	307	754	329	133	343	333	219	429	407
V/C Ratio(X)	0.63	0.51	0.26	0.65	0.47	0.15	0.37	0.43	0.44	0.29	0.54	0.56
Avail Cap(c_a), veh/h	690	916	747	799	1957	855	291	1015	987	363	1087	1032
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.7	18.0	17.1	18.9	16.9	5.1	21.6	17.4	17.7	19.6	16.2	16.7
Incr Delay (d2), s/veh	2.5	1.2	0.5	2.3	0.4	0.2	1.7	0.8	0.9	0.7	1.1	1.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	1.5	0.6	1.8	1.4	0.4	0.5	1.2	1.2	0.6	1.8	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	22.2	19.1	17.6	21.2	17.3	5.3	23.3	18.2	18.7	20.3	17.3	17.9
LnGrp LOS	C	B	B	C	B	A	C	B	B	C	B	B
Approach Vol, veh/h		413			602			342			523	
Approach Delay, s/veh		20.0			17.6			19.1			17.9	
Approach LOS		C			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	13.5	12.4	13.1	7.6	15.8	11.1	14.4
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	8.3	26.3	20.7	22.7	6.3	28.3	17.7	25.7
Max Q Clear Time (g_c+I1), s	3.6	5.7	7.1	6.2	3.3	7.8	6.2	6.2
Green Ext Time (p_c), s	0.0	0.9	0.5	0.7	0.0	1.6	0.4	1.5

Intersection Summary	
HCM 7th Control Delay, s/veh	18.5
HCM 7th LOS	B

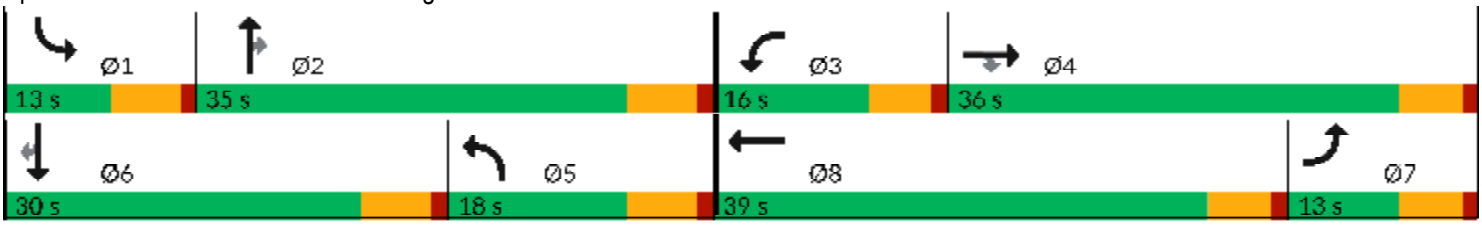


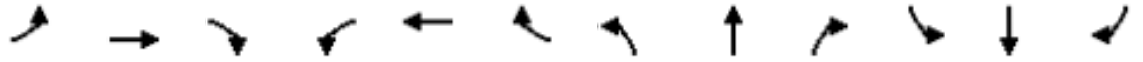
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	155	104	52	162	38	79	197	19	37	256	66
Future Volume (vph)	36	155	104	52	162	38	79	197	19	37	256	66
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	100		50	105		0	160		105	200		100
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98		1.00				0.96			0.98
Frt			0.850		0.972				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1804	0	1630	3539	1458	1630	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1431	1630	1804	0	1630	3539	1405	1630	3539	1427
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			212		13				203			203
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5292			4849			2658			1358	
Travel Time (s)		65.6			60.1			33.0			16.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	168	113	57	176	41	86	214	21	40	278	72
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	168	113	57	217	0	86	214	21	40	278	72
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Detector Phase	7	4	4	3	8		5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	32.3	32.3	9.3	33.7		9.7	23.7	23.7	9.7	24.5	24.5
Total Split (s)	13.0	36.0	36.0	16.0	39.0		18.0	35.0	35.0	13.0	30.0	30.0
Total Split (%)	13.0%	36.0%	36.0%	16.0%	39.0%		18.0%	35.0%	35.0%	13.0%	30.0%	30.0%
Maximum Green (s)	7.7	30.7	30.7	10.7	33.7		12.3	29.3	29.3	7.3	24.3	24.3
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3		4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3		-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead		Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)		20.0	20.0		21.4			10.4	10.4		11.8	11.8
Pedestrian Calls (#/hr)		5	5		5			5	5		5	5
Act Effct Green (s)	10.3	15.5	15.5	10.9	18.5		12.4	28.2	28.2	10.5	20.9	20.9
Actuated g/C Ratio	0.19	0.28	0.28	0.20	0.33		0.22	0.51	0.51	0.19	0.38	0.38
v/c Ratio	0.13	0.32	0.20	0.18	0.36		0.24	0.12	0.03	0.13	0.21	0.11
Control Delay (s/veh)	30.8	23.1	0.8	30.0	19.4		28.7	17.0	0.1	31.4	22.5	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	30.8	23.1	0.8	30.0	19.4		28.7	17.0	0.1	31.4	22.5	0.3
LOS	C	C	A	C	B		C	B	A	C	C	A
Approach Delay (s/veh)		16.2			21.6			19.1			19.3	
Approach LOS		B			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 55.6			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.36			
Intersection Signal Delay (s/veh): 19.0		Intersection LOS: B	
Intersection Capacity Utilization 42.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 7: 10th Ave & Fargo Ave

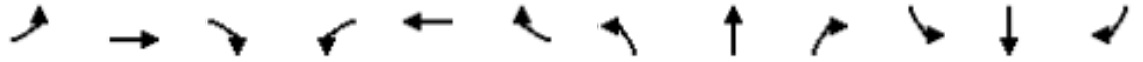




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	155	104	52	162	38	79	197	19	37	256	66
Future Volume (veh/h)	36	155	104	52	162	38	79	197	19	37	256	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	39	168	113	57	176	41	86	214	21	40	278	72
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	109	414	316	128	340	79	172	830	330	127	733	295
Arrive On Green	0.07	0.22	0.22	0.08	0.23	0.20	0.10	0.23	0.23	0.08	0.21	0.21
Sat Flow, veh/h	1641	1870	1430	1641	1460	340	1641	3554	1411	1641	3554	1429
Grp Volume(v), veh/h	39	168	113	57	0	217	86	214	21	40	278	72
Grp Sat Flow(s),veh/h/ln	1641	1870	1430	1641	0	1800	1641	1777	1411	1641	1777	1429
Q Serve(g_s), s	0.9	3.2	1.5	1.4	0.0	4.3	2.0	2.0	0.5	0.9	2.8	1.7
Cycle Q Clear(g_c), s	0.9	3.2	1.5	1.4	0.0	4.3	2.0	2.0	0.5	0.9	2.8	1.7
Prop In Lane	1.00		1.00	1.00		0.19	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	109	414	316	128	0	419	172	830	330	127	733	295
V/C Ratio(X)	0.36	0.41	0.36	0.44	0.00	0.52	0.50	0.26	0.06	0.32	0.38	0.24
Avail Cap(c_a), veh/h	360	1458	1115	480	0	1535	560	2684	1066	360	2251	905
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.3	13.7	3.9	18.1	0.0	13.9	17.4	12.8	12.2	17.9	14.0	13.6
Incr Delay (d2), s/veh	2.0	0.6	0.7	2.4	0.0	1.0	2.3	0.2	0.1	1.4	0.3	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.0	0.6	0.5	0.0	1.3	0.7	0.6	0.1	0.3	0.8	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.3	14.3	4.5	20.5	0.0	14.8	19.6	13.0	12.3	19.3	14.4	14.0
LnGrp LOS	C	B	A	C		B	B	B	B	B	B	B
Approach Vol, veh/h		320			274			321			390	
Approach Delay, s/veh		11.6			16.0			14.7			14.8	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.2	13.6	7.2	13.1	8.3	12.5	6.7	13.5
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	7.3	29.3	10.7	30.7	12.3	24.3	7.7	33.7
Max Q Clear Time (g_c+I1), s	2.9	4.0	3.4	5.2	4.0	4.8	2.9	6.3
Green Ext Time (p_c), s	0.0	0.9	0.1	1.0	0.1	1.3	0.0	0.7

Intersection Summary	
HCM 7th Control Delay, s/veh	14.2
HCM 7th LOS	B



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	22	125	1	26	4	68	186	0	3	265	10
Future Volume (vph)	20	22	125	1	26	4	68	186	0	3	265	10
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.899			0.984						0.995	
Flt Protected		0.994			0.998			0.987				
Satd. Flow (prot)	0	1665	0	0	1829	0	0	3493	0	0	3522	0
Flt Permitted		0.994			0.998			0.987				
Satd. Flow (perm)	0	1665	0	0	1829	0	0	3493	0	0	3522	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		4849			614			1519			1547	
Travel Time (s)		60.1			7.6			18.8			19.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	24	136	1	28	4	74	202	0	3	288	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	182	0	0	33	0	0	276	0	0	302	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 41.5%		ICU Level of Service A	
Analysis Period (min) 15			

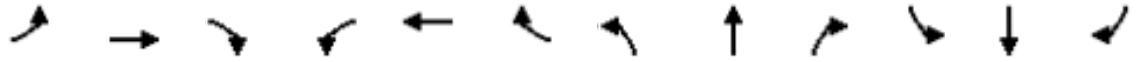
Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	22	125	1	26	4	68	186	0	3	265	10
Future Vol, veh/h	20	22	125	1	26	4	68	186	0	3	265	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	24	136	1	28	4	74	202	0	3	288	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	563	650	149	513	655	101	299	0	0	202	0	0
Stage 1	300	300	-	350	350	-	-	-	-	-	-	-
Stage 2	263	350	-	163	305	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	409	387	870	444	384	935	1259	-	-	1367	-	-
Stage 1	684	664	-	639	631	-	-	-	-	-	-	-
Stage 2	719	631	-	823	661	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	353	362	870	329	359	935	1259	-	-	1367	-	-
Mov Cap-2 Maneuver	353	362	-	329	359	-	-	-	-	-	-	-
Stage 1	682	662	-	600	592	-	-	-	-	-	-	-
Stage 2	639	592	-	668	659	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	12.85	15.13	2.36	0.1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	964	-	-	639	389	37	-	-
HCM Lane V/C Ratio	0.059	-	-	0.284	0.087	0.002	-	-
HCM Control Delay (s/veh)	8	0.3	-	12.8	15.1	7.6	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	1.2	0.3	0	-	-

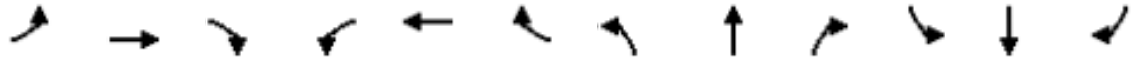


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	63	54	77	15	3	23	251	63	48	523	4
Future Volume (vph)	8	63	54	77	15	3	23	251	63	48	523	4
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	0		0	0		0	100		50	105		50
Storage Lanes	0		0	0		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00				0.96			0.96
Frt		0.941			0.996				0.850			0.850
Flt Protected		0.997			0.961		0.950			0.950		
Satd. Flow (prot)	0	1731	0	0	1782	0	1630	1863	1458	1630	1863	1458
Flt Permitted		0.977			0.706		0.950			0.950		
Satd. Flow (perm)	0	1696	0	0	1309	0	1630	1863	1404	1630	1863	1405
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			1				75			75
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		799			857			3291			2018	
Travel Time (s)		9.9			10.6			40.8			25.0	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	9	68	59	84	16	3	25	273	68	52	568	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	136	0	0	103	0	25	273	68	52	568	4
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.6	22.6		24.1	24.1		9.7	23.7	23.7	9.7	23.7	23.7
Total Split (s)	27.0	27.0		27.0	27.0		12.0	59.0	59.0	14.0	61.0	61.0
Total Split (%)	27.0%	27.0%		27.0%	27.0%		12.0%	59.0%	59.0%	14.0%	61.0%	61.0%
Maximum Green (s)	22.8	22.8		22.8	22.8		6.3	53.3	53.3	8.3	55.3	55.3
Yellow Time (s)	3.2	3.2		3.2	3.2		4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		-0.2			-0.2		-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)		4.0			4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Walk Time (s)	7.0	7.0		7.0	7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)	11.4	11.4		12.9	12.9			8.7	8.7		8.7	8.7
Pedestrian Calls (#/hr)	5	5		5	5			5	5		5	5
Act Effct Green (s)		11.0			11.2		8.7	28.3	28.3	9.5	28.9	28.9
Actuated g/C Ratio		0.23			0.23		0.18	0.59	0.59	0.20	0.60	0.60
v/c Ratio		0.33			0.34		0.09	0.25	0.08	0.16	0.51	0.00
Control Delay (s/veh)		17.0			22.3		26.4	10.1	3.3	24.5	12.0	0.0
Queue Delay		0.0			0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		17.0			22.3		26.4	10.1	3.3	24.5	12.0	0.0
LOS		B			C		C	B	A	C	B	A
Approach Delay (s/veh)		17.0			22.3			9.9			12.9	
Approach LOS		B			C			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 48.1			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay (s/veh): 13.3		Intersection LOS: B	
Intersection Capacity Utilization 53.5%		ICU Level of Service A	
Analysis Period (min) 15			

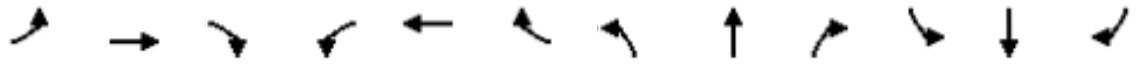
Splits and Phases: 9: 11th Ave & Cortner St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	63	54	77	15	3	23	251	63	48	523	4
Future Volume (veh/h)	8	63	54	77	15	3	23	251	63	48	523	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	9	68	59	84	16	3	25	273	68	52	568	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	121	137	112	365	54	7	121	759	576	155	798	606
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.07	0.41	0.41	0.09	0.43	0.43
Sat Flow, veh/h	64	895	735	1154	356	45	1641	1870	1419	1641	1870	1420
Grp Volume(v), veh/h	136	0	0	103	0	0	25	273	68	52	568	4
Grp Sat Flow(s),veh/h/ln	1693	0	0	1555	0	0	1641	1870	1419	1641	1870	1420
Q Serve(g_s), s	0.3	0.0	0.0	0.0	0.0	0.0	0.5	3.5	1.0	1.0	8.7	0.1
Cycle Q Clear(g_c), s	2.5	0.0	0.0	1.8	0.0	0.0	0.5	3.5	1.0	1.0	8.7	0.1
Prop In Lane	0.07		0.43	0.82		0.03	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	370	0	0	427	0	0	121	759	576	155	798	606
V/C Ratio(X)	0.37	0.00	0.00	0.24	0.00	0.00	0.21	0.36	0.12	0.34	0.71	0.01
Avail Cap(c_a), veh/h	1229	0	0	1108	0	0	379	2973	2256	474	3081	2339
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.5	0.0	0.0	13.2	0.0	0.0	15.1	7.2	6.4	14.6	8.2	5.7
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.3	0.0	0.0	0.8	0.3	0.1	1.3	1.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.0	0.5	0.0	0.0	0.2	0.6	0.1	0.3	1.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	14.1	0.0	0.0	13.5	0.0	0.0	15.9	7.4	6.5	15.9	9.4	5.7
LnGrp LOS	B			B			B	A	A	B	A	A
Approach Vol, veh/h		136			103			366			624	
Approach Delay, s/veh		14.1			13.5			7.8			9.9	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	1	2	4	5	6	8
Phs Duration (G+Y+Rc), s	7.3	18.0	9.3	6.6	18.8	9.3
Change Period (Y+Rc), s	5.7	5.7	4.2	5.7	5.7	4.2
Max Green Setting (Gmax), s	8.3	53.3	22.8	6.3	55.3	22.8
Max Q Clear Time (g_c+I1), s	3.0	5.5	4.5	2.5	10.7	3.8
Green Ext Time (p_c), s	0.0	1.2	0.4	0.0	2.3	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	10.0
HCM 7th LOS	B

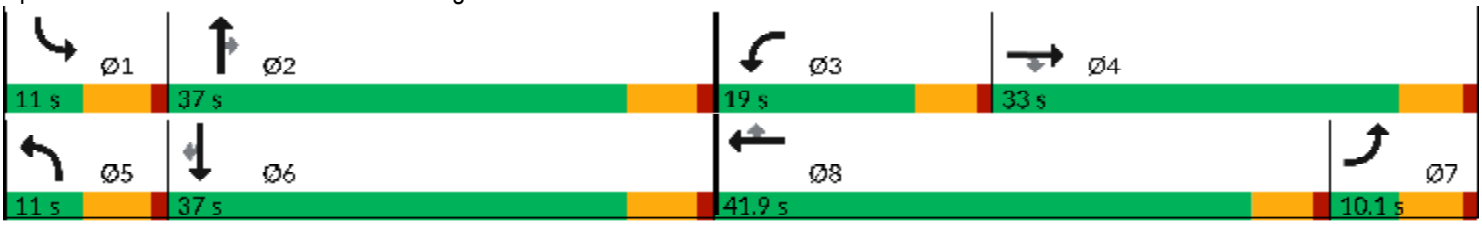


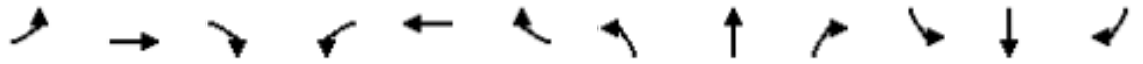
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	198	21	102	253	13	25	59	58	24	158	53
Future Volume (vph)	23	198	21	102	253	13	25	59	58	24	158	53
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	265		265	230		230	195		290	200		195
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.97			0.97			0.97			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1863	1458	1630	1863	1458	1630	1863	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1412	1630	1863	1414	1630	1863	1414	1630	1863	1413
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			149			203			203
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1096			3658			629			5270	
Travel Time (s)		13.6			45.3			7.8			65.3	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	25	215	23	111	275	14	27	64	63	26	172	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	25	215	23	111	275	14	27	64	63	26	172	58
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	32.3	32.3	9.3	35.2	35.2	9.7	34.5	34.5	9.7	33.1	33.1
Total Split (s)	10.1	33.0	33.0	19.0	41.9	41.9	11.0	37.0	37.0	11.0	37.0	37.0
Total Split (%)	10.1%	33.0%	33.0%	19.0%	41.9%	41.9%	11.0%	37.0%	37.0%	11.0%	37.0%	37.0%
Maximum Green (s)	4.8	27.7	27.7	13.7	36.6	36.6	5.3	31.3	31.3	5.3	31.3	31.3
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		20.0	20.0		22.9	22.9		21.8	21.8		20.4	20.4
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	8.8	15.8	15.8	12.0	23.4	23.4	8.5	15.5	15.5	8.5	15.5	15.5
Actuated g/C Ratio	0.16	0.28	0.28	0.21	0.42	0.42	0.15	0.28	0.28	0.15	0.28	0.28
v/c Ratio	0.10	0.41	0.05	0.32	0.35	0.02	0.11	0.12	0.12	0.10	0.33	0.11
Control Delay (s/veh)	31.0	23.4	0.2	29.2	17.9	0.1	34.1	20.8	0.4	34.2	22.5	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	31.0	23.4	0.2	29.2	17.9	0.1	34.1	20.8	0.4	34.2	22.5	0.4
LOS	C	C	A	C	B	A	C	C	A	C	C	A
Approach Delay (s/veh)		22.1			20.4			14.8			18.7	
Approach LOS		C			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 56.1			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.41			
Intersection Signal Delay (s/veh): 19.6		Intersection LOS: B	
Intersection Capacity Utilization 45.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: 13th Ave & Grangeville Blvd

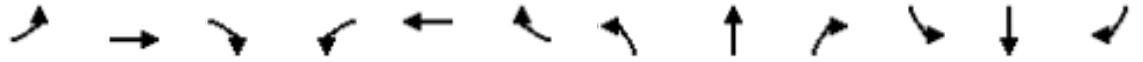




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	198	21	102	253	13	25	59	58	24	158	53
Future Volume (veh/h)	23	198	21	102	253	13	25	59	58	24	158	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	25	215	23	111	275	14	27	64	63	26	172	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	419	316	189	484	366	108	403	304	107	402	303
Arrive On Green	0.08	0.22	0.22	0.12	0.26	0.26	0.07	0.22	0.22	0.07	0.21	0.21
Sat Flow, veh/h	1641	1870	1410	1641	1870	1413	1641	1870	1409	1641	1870	1409
Grp Volume(v), veh/h	25	215	23	111	275	14	27	64	63	26	172	58
Grp Sat Flow(s),veh/h/ln	1641	1870	1410	1641	1870	1413	1641	1870	1409	1641	1870	1409
Q Serve(g_s), s	0.6	4.2	0.5	2.7	5.4	0.2	0.7	1.2	1.5	0.6	3.3	0.8
Cycle Q Clear(g_c), s	0.6	4.2	0.5	2.7	5.4	0.2	0.7	1.2	1.5	0.6	3.3	0.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	132	419	316	189	484	366	108	403	304	107	402	303
V/C Ratio(X)	0.19	0.51	0.07	0.59	0.57	0.04	0.25	0.16	0.21	0.24	0.43	0.19
Avail Cap(c_a), veh/h	238	1288	971	585	1684	1272	273	1466	1105	273	1466	1104
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.1	14.3	12.9	17.7	13.6	3.8	18.7	13.4	13.6	18.7	14.3	4.1
Incr Delay (d2), s/veh	0.7	1.0	0.1	2.9	1.1	0.0	1.2	0.2	0.3	1.2	0.7	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.3	0.1	0.9	1.6	0.1	0.2	0.4	0.4	0.2	1.1	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.8	15.3	13.0	20.6	14.6	3.9	19.9	13.6	13.9	19.8	15.0	4.4
LnGrp LOS	B	B	B	C	B	A	B	B	B	B	B	A
Approach Vol, veh/h		263			400			154			256	
Approach Delay, s/veh		15.4			15.9			14.8			13.1	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	13.1	8.9	13.4	6.8	13.0	7.4	14.9
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	5.3	31.3	13.7	27.7	5.3	31.3	4.8	36.6
Max Q Clear Time (g_c+I1), s	2.6	3.5	4.7	6.2	2.7	5.3	2.6	7.4
Green Ext Time (p_c), s	0.0	0.4	0.2	0.7	0.0	0.8	0.0	1.0

Intersection Summary	
HCM 7th Control Delay, s/veh	15.0
HCM 7th LOS	B

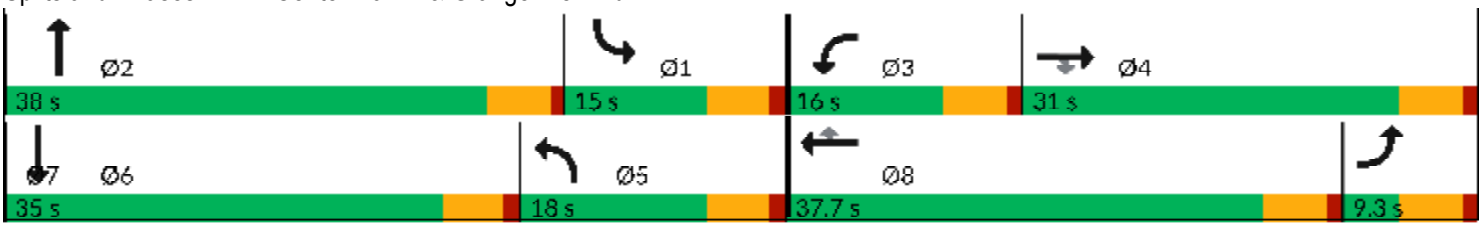


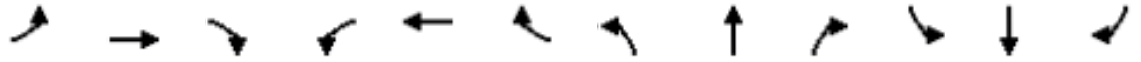
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	190	105	82	244	41	90	95	104	64	199	36
Future Volume (vph)	15	190	105	82	244	41	90	95	104	64	199	36
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	200		90	200		150	150		0	150		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.97			0.97		0.99			1.00	
Frt			0.850			0.850		0.922			0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1863	1458	1630	1701	0	1630	1811	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1410	1630	1863	1411	1630	1701	0	1630	1811	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			141			141		60			9	
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		3658			1623			639			5340	
Travel Time (s)		45.3			20.1			7.9			66.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	207	114	89	265	45	98	103	113	70	216	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	207	114	89	265	45	98	216	0	70	255	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	50	50	50	50	50	50	50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.3	28.4	28.4	9.3	28.4	28.4	9.3	34.1		9.3	34.1	
Total Split (s)	9.3	31.0	31.0	16.0	37.7	37.7	18.0	38.0		15.0	35.0	
Total Split (%)	9.3%	31.0%	31.0%	16.0%	37.7%	37.7%	18.0%	38.0%		15.0%	35.0%	
Maximum Green (s)	4.0	25.7	25.7	10.7	32.4	32.4	12.7	32.7		9.7	29.7	
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3		4.3	4.3	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3		-1.3	-1.3	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Don't Walk (s)		16.1	16.1		16.1	16.1		21.8			21.8	
Pedestrian Calls (#/hr)		5	5		5	5		5			5	
Act Effct Green (s)	7.2	16.2	16.2	11.3	24.8	24.8	11.9	19.7		12.6	17.8	
Actuated g/C Ratio	0.11	0.25	0.25	0.17	0.38	0.38	0.18	0.30		0.19	0.27	
v/c Ratio	0.09	0.45	0.25	0.32	0.38	0.07	0.33	0.39		0.22	0.51	
Control Delay (s/veh)	37.3	29.7	4.8	35.4	20.5	0.2	34.5	19.8		31.7	27.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	37.3	29.7	4.8	35.4	20.5	0.2	34.5	19.8		31.7	27.2	
LOS	D	C	A	D	C	A	C	B		C	C	
Approach Delay (s/veh)		21.6			21.5			24.4			28.2	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 65.5			
Natural Cycle: 85			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay (s/veh): 23.8		Intersection LOS: C	
Intersection Capacity Utilization 50.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 11: Centennial Dr & Grangeville Blvd

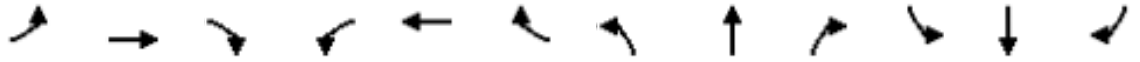




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	190	105	82	244	41	90	95	104	64	199	36
Future Volume (veh/h)	15	190	105	82	244	41	90	95	104	64	199	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	16	207	114	89	265	45	98	103	113	70	216	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	113	400	301	155	448	338	168	186	204	186	371	67
Arrive On Green	0.07	0.21	0.21	0.09	0.24	0.24	0.10	0.23	0.20	0.11	0.24	0.21
Sat Flow, veh/h	1641	1870	1409	1641	1870	1411	1641	805	883	1641	1532	277
Grp Volume(v), veh/h	16	207	114	89	265	45	98	0	216	70	0	255
Grp Sat Flow(s),veh/h/ln	1641	1870	1409	1641	1870	1411	1641	0	1689	1641	0	1809
Q Serve(g_s), s	0.4	4.5	1.8	2.4	5.8	1.2	2.6	0.0	5.2	1.8	0.0	5.7
Cycle Q Clear(g_c), s	0.4	4.5	1.8	2.4	5.8	1.2	2.6	0.0	5.2	1.8	0.0	5.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.52	1.00		0.15
Lane Grp Cap(c), veh/h	113	400	301	155	448	338	168	0	389	186	0	438
V/C Ratio(X)	0.14	0.52	0.38	0.57	0.59	0.13	0.58	0.00	0.55	0.38	0.00	0.58
Avail Cap(c_a), veh/h	189	1097	826	428	1369	1033	499	0	1247	392	0	1218
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.2	16.0	5.2	20.0	15.5	13.8	19.7	0.0	15.9	18.9	0.0	15.5
Incr Delay (d2), s/veh	0.6	1.0	0.8	3.3	1.3	0.2	3.2	0.0	1.2	1.2	0.0	1.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.5	0.8	0.9	1.9	0.3	0.9	0.0	1.6	0.6	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.7	17.0	5.9	23.3	16.8	13.9	22.9	0.0	17.2	20.1	0.0	16.7
LnGrp LOS	C	B	A	C	B	B	C		B	C		B
Approach Vol, veh/h		337			399			314			325	
Approach Delay, s/veh		13.5			17.9			19.0			17.5	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	14.6	8.4	13.8	8.7	15.1	7.2	15.0
Change Period (Y+Rc), s	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
Max Green Setting (Gmax), s	9.7	32.7	10.7	25.7	12.7	29.7	4.0	32.4
Max Q Clear Time (g_c+I1), s	3.8	7.2	4.4	6.5	4.6	7.7	2.4	7.8
Green Ext Time (p_c), s	0.1	0.8	0.1	1.1	0.1	0.8	0.0	1.0

Intersection Summary	
HCM 7th Control Delay, s/veh	17.0
HCM 7th LOS	B

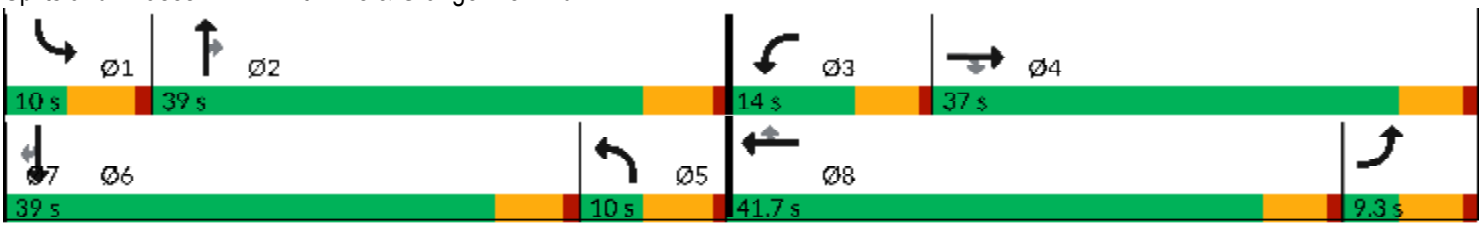


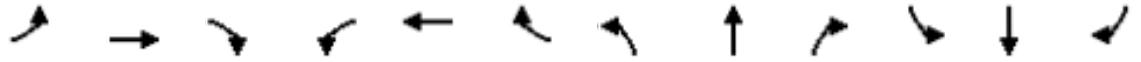
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	305	48	148	291	40	67	166	123	70	423	57
Future Volume (vph)	34	305	48	148	291	40	67	166	123	70	423	57
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	200		130	175		150	260		210	205		160
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor			0.98			0.97			0.98			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3162	3539	1458	3162	3539	1458	3162	3539	1458	3162	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3162	3539	1432	3162	3539	1415	3162	3539	1432	3162	3539	1415
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			212			212			203			203
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1623			5213			2228			5338	
Travel Time (s)		20.1			64.6			27.6			66.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	37	332	52	161	316	43	73	180	134	76	460	62
Shared Lane Traffic (%)												
Lane Group Flow (vph)	37	332	52	161	316	43	73	180	134	76	460	62
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	36.6	36.6	9.3	38.0	38.0	9.7	37.4	37.4	9.7	37.4	37.4
Total Split (s)	9.3	37.0	37.0	14.0	41.7	41.7	10.0	39.0	39.0	10.0	39.0	39.0
Total Split (%)	9.3%	37.0%	37.0%	14.0%	41.7%	41.7%	10.0%	39.0%	39.0%	10.0%	39.0%	39.0%
Maximum Green (s)	4.0	31.7	31.7	8.7	36.4	36.4	4.3	33.3	33.3	4.3	33.3	33.3
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		24.3	24.3		25.7	25.7		24.7	24.7		24.7	24.7
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	7.6	15.5	15.5	10.5	21.3	21.3	7.1	17.7	17.7	7.1	17.7	17.7
Actuated g/C Ratio	0.13	0.26	0.26	0.17	0.35	0.35	0.12	0.29	0.29	0.12	0.29	0.29
v/c Ratio	0.09	0.36	0.10	0.29	0.25	0.07	0.20	0.17	0.24	0.20	0.44	0.11
Control Delay (s/veh)	31.6	21.9	0.4	30.5	17.3	0.2	33.9	19.5	1.7	34.0	21.1	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	31.6	21.9	0.4	30.5	17.3	0.2	33.9	19.5	1.7	34.0	21.1	0.4
LOS	C	C	A	C	B	A	C	B	A	C	C	A
Approach Delay (s/veh)		20.1			20.0			16.1			20.6	
Approach LOS		C			B			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 60.2			
Natural Cycle: 95			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.44			
Intersection Signal Delay (s/veh): 19.4		Intersection LOS: B	
Intersection Capacity Utilization 46.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 12: 12th Ave & Grangeville Blvd

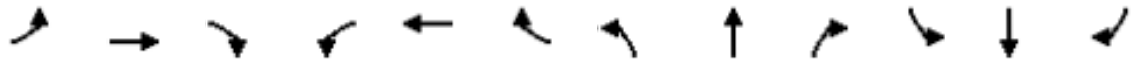




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	305	48	148	291	40	67	166	123	70	423	57
Future Volume (veh/h)	34	305	48	148	291	40	67	166	123	70	423	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.96	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	37	332	52	161	316	43	73	180	134	76	460	62
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	358	757	304	347	746	296	276	922	371	280	926	368
Arrive On Green	0.11	0.21	0.21	0.11	0.21	0.21	0.09	0.26	0.26	0.09	0.26	0.26
Sat Flow, veh/h	3183	3554	1429	3183	3554	1409	3183	3554	1432	3183	3554	1413
Grp Volume(v), veh/h	37	332	52	161	316	43	73	180	134	76	460	62
Grp Sat Flow(s),veh/h/ln	1591	1777	1429	1591	1777	1409	1591	1777	1432	1591	1777	1413
Q Serve(g_s), s	0.5	3.9	0.9	2.3	3.7	0.7	1.0	1.9	3.7	1.1	5.3	1.6
Cycle Q Clear(g_c), s	0.5	3.9	0.9	2.3	3.7	0.7	1.0	1.9	3.7	1.1	5.3	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	358	757	304	347	746	296	276	922	371	280	926	368
V/C Ratio(X)	0.10	0.44	0.17	0.46	0.42	0.15	0.26	0.20	0.36	0.27	0.50	0.17
Avail Cap(c_a), veh/h	358	2422	974	657	2766	1097	394	2568	1035	394	2568	1021
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.3	16.5	5.8	20.2	16.6	5.8	20.7	14.0	14.6	20.6	15.2	13.8
Incr Delay (d2), s/veh	0.1	0.4	0.3	1.0	0.4	0.2	0.5	0.1	0.6	0.5	0.4	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.2	0.4	0.7	1.2	0.3	0.3	0.6	0.9	0.3	1.6	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	19.4	16.9	6.1	21.2	17.0	6.1	21.2	14.1	15.2	21.1	15.6	14.1
LnGrp LOS	B	B	A	C	B	A	C	B	B	C	B	B
Approach Vol, veh/h		421			520			387			598	
Approach Delay, s/veh		15.8			17.4			15.8			16.2	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.3	16.6	9.3	14.3	8.2	16.6	9.4	14.2
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	4.3	33.3	8.7	31.7	4.3	33.3	4.0	36.4
Max Q Clear Time (g_c+I1), s	3.1	5.7	4.3	5.9	3.0	7.3	2.5	5.7
Green Ext Time (p_c), s	0.0	1.2	0.2	1.5	0.0	2.1	0.0	1.4

Intersection Summary	
HCM 7th Control Delay, s/veh	16.3
HCM 7th LOS	B

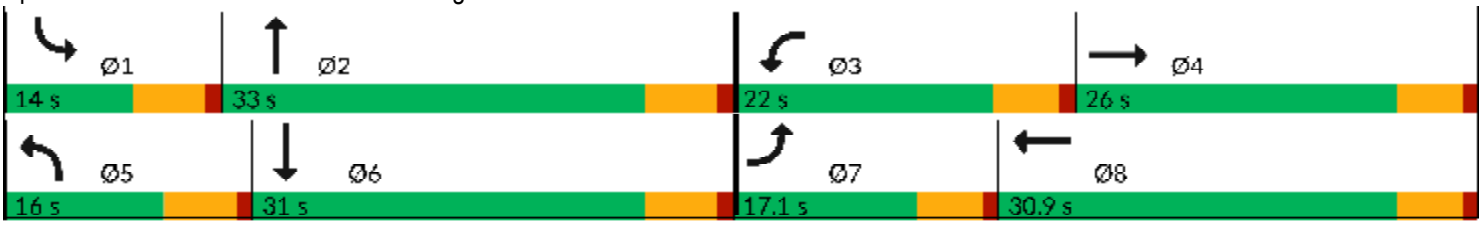


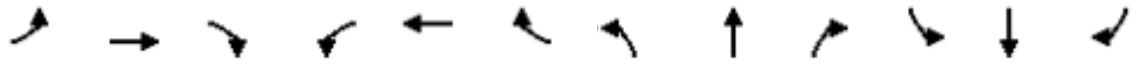
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	261	51	151	316	40	86	213	59	60	510	62
Future Volume (vph)	95	261	51	151	316	40	86	213	59	60	510	62
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	100		0	100		0	185		0	110		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			1.00			1.00			1.00	
Frt		0.976			0.983			0.968			0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	3435	0	1630	3467	0	1630	3411	0	1630	3475	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	3435	0	1630	3467	0	1630	3411	0	1630	3475	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22			14			38			14	
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5213			2670			5342			3291	
Travel Time (s)		64.6			33.1			66.2			40.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	284	55	164	343	43	93	232	64	65	554	67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	103	339	0	164	386	0	93	296	0	65	621	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	9.3	25.2		9.3	29.5		9.7	26.0		9.7	26.0	
Total Split (s)	17.1	26.0		22.0	30.9		16.0	33.0		14.0	31.0	
Total Split (%)	18.0%	27.4%		23.2%	32.5%		16.8%	34.7%		14.7%	32.6%	
Maximum Green (s)	11.8	20.7		16.7	25.6		10.3	27.3		8.3	25.3	
Yellow Time (s)	4.3	4.3		4.3	4.3		4.7	4.7		4.7	4.7	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-1.3	-1.3		-1.3	-1.3		-1.7	-1.7		-1.7	-1.7	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		12.9			17.2			13.3			13.3	
Pedestrian Calls (#/hr)		5			5			5			5	
Act Effct Green (s)	11.2	14.5		14.1	21.4		10.9	21.5		9.6	20.3	
Actuated g/C Ratio	0.15	0.20		0.19	0.29		0.15	0.29		0.13	0.28	
v/c Ratio	0.41	0.49		0.52	0.38		0.38	0.29		0.30	0.64	
Control Delay (s/veh)	38.9	29.4		37.3	25.5		38.9	19.8		39.2	27.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	38.9	29.4		37.3	25.5		38.9	19.8		39.2	27.8	
LOS	D	C		D	C		D	B		D	C	
Approach Delay (s/veh)		31.6			29.0			24.4			28.9	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 73.1			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay (s/veh): 28.6		Intersection LOS: C	
Intersection Capacity Utilization 53.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 13: 11th Ave & Grangeville Blvd

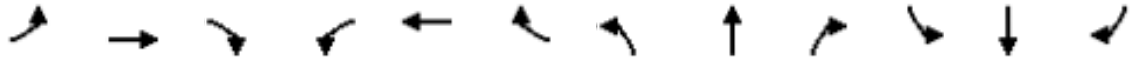




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	261	51	151	316	40	86	213	59	60	510	62
Future Volume (veh/h)	95	261	51	151	316	40	86	213	59	60	510	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	103	284	55	164	343	43	93	232	64	65	554	67
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	168	544	103	246	733	91	166	807	217	129	861	104
Arrive On Green	0.10	0.18	0.16	0.15	0.23	0.21	0.10	0.29	0.26	0.08	0.27	0.24
Sat Flow, veh/h	1641	2956	562	1641	3166	393	1641	2756	741	1641	3185	384
Grp Volume(v), veh/h	103	169	170	164	191	195	93	147	149	65	308	313
Grp Sat Flow(s),veh/h/ln	1641	1777	1742	1641	1777	1783	1641	1777	1720	1641	1777	1792
Q Serve(g_s), s	3.3	4.6	4.8	5.1	5.0	5.1	2.9	3.5	3.7	2.1	8.3	8.4
Cycle Q Clear(g_c), s	3.3	4.6	4.8	5.1	5.0	5.1	2.9	3.5	3.7	2.1	8.3	8.4
Prop In Lane	1.00		0.32	1.00		0.22	1.00		0.43	1.00		0.21
Lane Grp Cap(c), veh/h	168	327	320	246	411	412	166	520	504	129	480	484
V/C Ratio(X)	0.61	0.52	0.53	0.67	0.46	0.47	0.56	0.28	0.29	0.50	0.64	0.65
Avail Cap(c_a), veh/h	396	720	706	544	881	884	363	950	919	302	884	892
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.3	20.0	20.2	21.8	18.0	18.1	23.2	14.8	15.2	24.0	17.5	17.7
Incr Delay (d2), s/veh	3.6	1.3	1.4	3.1	0.8	0.8	2.9	0.3	0.3	3.0	1.4	1.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	1.7	1.7	1.8	1.7	1.8	1.1	1.1	1.1	0.8	2.8	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.9	21.2	21.6	24.9	18.8	19.0	26.2	15.1	15.5	27.0	18.9	19.1
LnGrp LOS	C	C	C	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		442			550			389			686	
Approach Delay, s/veh		22.7			20.7			17.9			19.8	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.3	19.9	12.1	14.0	9.5	18.7	9.5	16.6
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	8.3	27.3	16.7	20.7	10.3	25.3	11.8	25.6
Max Q Clear Time (g_c+I1), s	4.1	5.7	7.1	6.8	4.9	10.4	5.3	7.1
Green Ext Time (p_c), s	0.0	1.0	0.3	1.0	0.1	2.0	0.1	1.2

Intersection Summary	
HCM 7th Control Delay, s/veh	20.3
HCM 7th LOS	C

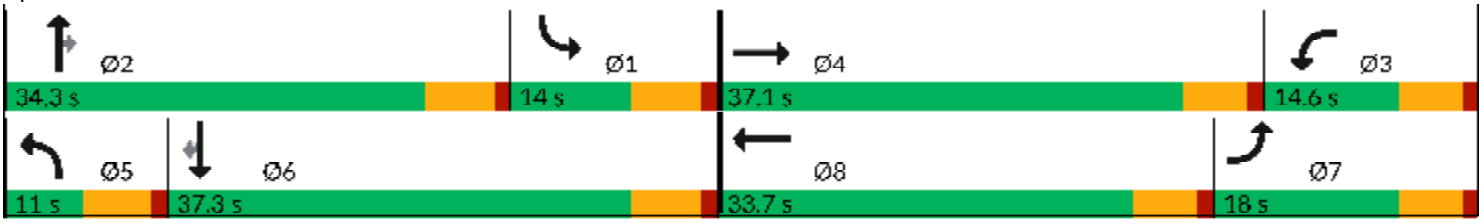


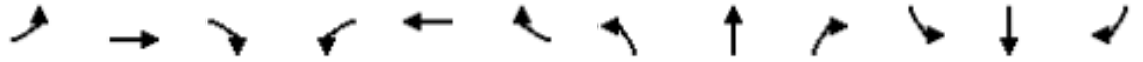
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	85	30	65	51	3	15	228	26	49	510	19
Future Volume (vph)	77	85	30	65	51	3	15	228	26	49	510	19
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	185		0	150		0	250		85	260		130
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor		1.00			1.00				0.98			0.98
Frt		0.960			0.992				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	3381	0	1630	3508	0	1630	3539	1458	1630	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	3381	0	1630	3508	0	1630	3539	1429	1630	3539	1429
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33			3				145			145
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		327			331			1372			2228	
Travel Time (s)		4.1			4.1			17.0			27.6	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	92	33	71	55	3	16	248	28	53	554	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	84	125	0	71	58	0	16	248	28	53	554	21
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	32.3		9.3	33.7		9.7	28.8	28.8	9.7	27.4	27.4
Total Split (s)	18.0	37.1		14.6	33.7		11.0	34.3	34.3	14.0	37.3	37.3
Total Split (%)	18.0%	37.1%		14.6%	33.7%		11.0%	34.3%	34.3%	14.0%	37.3%	37.3%
Maximum Green (s)	12.7	31.8		9.3	28.4		5.3	28.6	28.6	8.3	31.6	31.6
Yellow Time (s)	4.3	4.3		4.3	4.3		4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3		-1.3	-1.3		-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lead		Lag	Lead		Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)		20.0			21.4			16.1	16.1		14.7	14.7
Pedestrian Calls (#/hr)		5			5			5	5		5	5
Act Effct Green (s)	11.2	11.8		11.0	11.6		8.6	22.3	22.3	10.3	27.6	27.6
Actuated g/C Ratio	0.21	0.23		0.21	0.22		0.16	0.43	0.43	0.20	0.53	0.53
v/c Ratio	0.24	0.16		0.21	0.07		0.06	0.17	0.04	0.17	0.30	0.03
Control Delay (s/veh)	27.2	16.7		26.8	20.3		32.2	19.3	0.1	29.0	14.1	0.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	27.2	16.7		26.8	20.3		32.2	19.3	0.1	29.0	14.1	0.1
LOS	C	B		C	C		C	B	A	C	B	A
Approach Delay (s/veh)		20.9			23.9			18.2			14.9	
Approach LOS		C			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 52.4			
Natural Cycle: 85			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.30			
Intersection Signal Delay (s/veh): 17.6		Intersection LOS: B	
Intersection Capacity Utilization 41.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 14: 12th Ave & Greenfield Ave

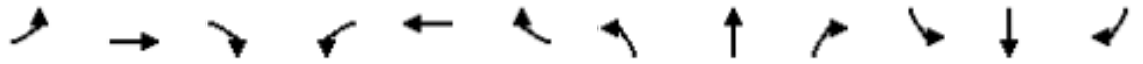




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	85	30	65	51	3	15	228	26	49	510	19
Future Volume (veh/h)	77	85	30	65	51	3	15	228	26	49	510	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	84	92	33	71	55	3	16	248	28	53	554	21
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	154	407	138	156	543	29	95	713	287	252	1051	424
Arrive On Green	0.09	0.16	0.13	0.10	0.16	0.13	0.06	0.20	0.20	0.15	0.30	0.30
Sat Flow, veh/h	1641	2582	878	1641	3423	185	1641	3554	1429	1641	3554	1433
Grp Volume(v), veh/h	84	62	63	71	28	30	16	248	28	53	554	21
Grp Sat Flow(s),veh/h/ln	1641	1777	1683	1641	1777	1831	1641	1777	1429	1641	1777	1433
Q Serve(g_s), s	2.0	1.2	1.4	1.7	0.6	0.6	0.4	2.4	0.6	1.1	5.3	0.2
Cycle Q Clear(g_c), s	2.0	1.2	1.4	1.7	0.6	0.6	0.4	2.4	0.6	1.1	5.3	0.2
Prop In Lane	1.00		0.52	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	154	280	265	156	282	291	95	713	287	252	1051	424
V/C Ratio(X)	0.55	0.22	0.24	0.46	0.10	0.10	0.17	0.35	0.10	0.21	0.53	0.05
Avail Cap(c_a), veh/h	565	1447	1371	428	1298	1338	282	2648	1065	404	2911	1174
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.6	14.9	15.3	17.4	14.6	14.7	18.2	14.0	13.3	15.1	11.9	2.2
Incr Delay (d2), s/veh	3.0	0.4	0.5	2.1	0.2	0.2	0.8	0.3	0.1	0.4	0.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.4	0.4	0.5	0.2	0.2	0.1	0.7	0.2	0.3	1.4	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.6	15.3	15.8	19.5	14.8	14.8	19.0	14.3	13.4	15.5	12.4	2.3
LnGrp LOS	C	B	B	B	B	B	B	B	B	B	B	A
Approach Vol, veh/h		209			129			292			628	
Approach Delay, s/veh		17.6			17.4			14.4			12.3	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.2	12.2	7.9	10.4	6.4	16.0	7.8	10.5
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	8.3	28.6	9.3	31.8	5.3	31.6	12.7	28.4
Max Q Clear Time (g_c+I1), s	3.1	4.4	3.7	3.4	2.4	7.3	4.0	2.6
Green Ext Time (p_c), s	0.0	1.0	0.1	0.4	0.0	2.4	0.1	0.1

Intersection Summary	
HCM 7th Control Delay, s/veh	14.2
HCM 7th LOS	B

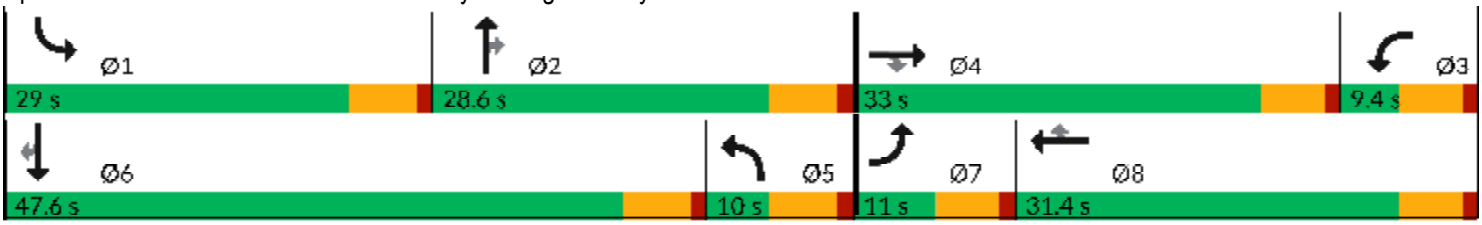


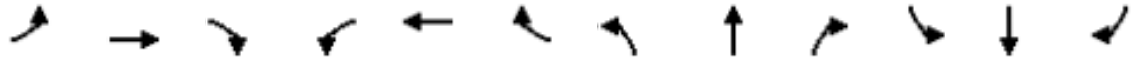
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	74	25	7	17	39	12	259	29	190	406	7
Future Volume (vph)	23	74	25	7	17	39	12	259	29	190	406	7
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	80		80	195		145	250		125	250		125
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98			0.98			0.96			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1863	1458	1630	3539	1458	1630	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1431	1630	1863	1430	1630	3539	1407	1630	3539	1409
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			212			212			203			203
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1718			718			1686			1372	
Travel Time (s)		21.3			8.9			20.9			17.0	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	25	80	27	8	18	42	13	282	32	207	441	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	25	80	27	8	18	42	13	282	32	207	441	8
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	32.3	32.3	9.3	30.9	30.9	9.7	26.0	26.0	9.7	26.0	26.0
Total Split (s)	11.0	33.0	33.0	9.4	31.4	31.4	10.0	28.6	28.6	29.0	47.6	47.6
Total Split (%)	11.0%	33.0%	33.0%	9.4%	31.4%	31.4%	10.0%	28.6%	28.6%	29.0%	47.6%	47.6%
Maximum Green (s)	5.7	27.7	27.7	4.1	26.1	26.1	4.3	22.9	22.9	23.3	41.9	41.9
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		20.0	20.0		18.6	18.6		13.3	13.3		13.3	13.3
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	7.8	13.3	13.3	6.1	11.0	11.0	8.8	16.5	16.5	15.1	34.1	34.1
Actuated g/C Ratio	0.14	0.24	0.24	0.11	0.20	0.20	0.16	0.29	0.29	0.27	0.61	0.61
v/c Ratio	0.11	0.18	0.05	0.05	0.05	0.09	0.05	0.27	0.06	0.47	0.21	0.01
Control Delay (s/veh)	32.9	20.3	0.2	34.4	23.4	0.4	25.8	21.4	0.2	24.8	13.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	32.9	20.3	0.2	34.4	23.4	0.4	25.8	21.4	0.2	24.8	13.0	0.0
LOS	C	C	A	C	C	A	C	C	A	C	B	A
Approach Delay (s/veh)		18.6			10.5			19.5			16.6	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 56.2			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.47			
Intersection Signal Delay (s/veh): 17.2		Intersection LOS: B	
Intersection Capacity Utilization 40.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 15: 12th Ave & Liberty St/Kings County Dr

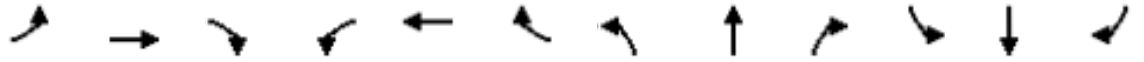




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	74	25	7	17	39	12	259	29	190	406	7
Future Volume (veh/h)	23	74	25	7	17	39	12	259	29	190	406	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	25	80	27	8	18	42	13	282	32	207	441	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	92	281	214	85	274	208	247	730	289	333	915	364
Arrive On Green	0.06	0.15	0.15	0.05	0.15	0.15	0.15	0.21	0.21	0.20	0.26	0.26
Sat Flow, veh/h	1641	1870	1424	1641	1870	1423	1641	3554	1408	1641	3554	1413
Grp Volume(v), veh/h	25	80	27	8	18	42	13	282	32	207	441	8
Grp Sat Flow(s),veh/h/ln	1641	1870	1424	1641	1870	1423	1641	1777	1408	1641	1777	1413
Q Serve(g_s), s	0.6	1.6	0.7	0.2	0.3	1.1	0.3	2.8	0.4	4.7	4.3	0.1
Cycle Q Clear(g_c), s	0.6	1.6	0.7	0.2	0.3	1.1	0.3	2.8	0.4	4.7	4.3	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	92	281	214	85	274	208	247	730	289	333	915	364
V/C Ratio(X)	0.27	0.28	0.13	0.09	0.07	0.20	0.05	0.39	0.11	0.62	0.48	0.02
Avail Cap(c_a), veh/h	280	1321	1006	216	1248	950	247	2129	844	999	3773	1500
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.6	15.5	15.1	18.6	15.1	15.4	14.9	14.1	4.5	14.9	12.9	3.5
Incr Delay (d2), s/veh	1.6	0.5	0.3	0.5	0.1	0.5	0.1	0.3	0.2	1.9	0.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.5	0.2	0.1	0.1	0.3	0.1	0.8	0.2	1.4	1.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.2	16.0	15.4	19.0	15.2	15.9	15.0	14.4	4.7	16.8	13.3	3.5
LnGrp LOS	C	B	B	B	B	B	B	B	A	B	B	A
Approach Vol, veh/h		132			68			327			656	
Approach Delay, s/veh		16.7			16.1			13.5			14.3	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.3	12.4	6.1	10.2	10.2	14.6	6.3	10.0
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	23.3	22.9	4.1	27.7	4.3	41.9	5.7	26.1
Max Q Clear Time (g_c+I1), s	6.7	4.8	2.2	3.6	2.3	6.3	2.6	3.1
Green Ext Time (p_c), s	0.6	1.1	0.0	0.3	0.0	1.9	0.0	0.1

Intersection Summary	
HCM 7th Control Delay, s/veh	14.4
HCM 7th LOS	B

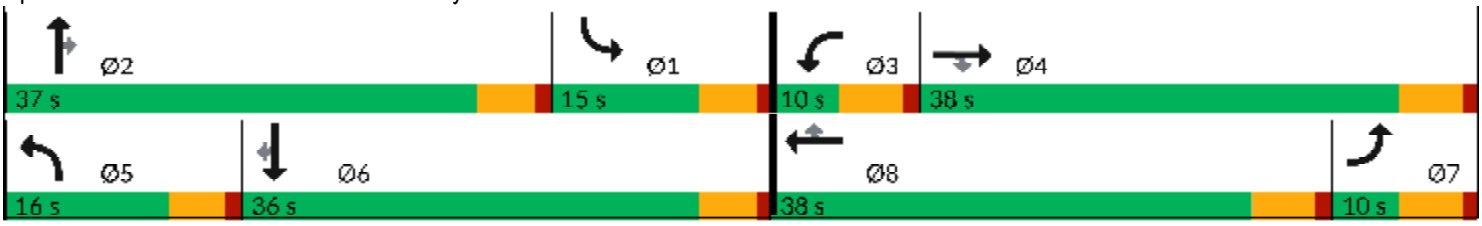


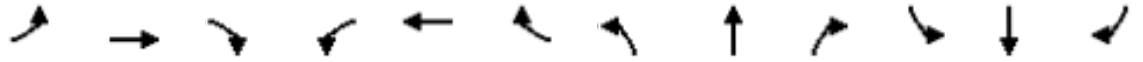
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	262	37	67	136	15	71	247	56	58	316	39
Future Volume (vph)	67	262	37	67	136	15	71	247	56	58	316	39
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	270		120	270		170	240		175	240		120
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98			0.98			0.98			0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3162	3539	1458	3162	3539	1458	1630	3539	1458	1630	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3162	3539	1431	3162	3539	1432	1630	3539	1432	1630	3539	1432
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			185			185			194			194
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		3432			5219			1893			1686	
Travel Time (s)		42.5			64.7			23.5			20.9	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	73	285	40	73	148	16	77	268	61	63	343	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	73	285	40	73	148	16	77	268	61	63	343	42
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	31.7	31.7	9.3	34.5	34.5	8.9	36.6	36.6	8.9	35.2	35.2
Total Split (s)	10.0	38.0	38.0	10.0	38.0	38.0	16.0	37.0	37.0	15.0	36.0	36.0
Total Split (%)	10.0%	38.0%	38.0%	10.0%	38.0%	38.0%	16.0%	37.0%	37.0%	15.0%	36.0%	36.0%
Maximum Green (s)	4.7	32.7	32.7	4.7	32.7	32.7	11.1	32.1	32.1	10.1	31.1	31.1
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	3.9	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-0.9	-0.9	-0.9	-0.9	1.0	1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.9	5.9
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		19.4	19.4		22.2	22.2		24.7	24.7		23.3	23.3
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	8.6	14.8	14.8	7.7	13.9	13.9	10.6	14.9	14.9	10.7	12.8	12.8
Actuated g/C Ratio	0.17	0.29	0.29	0.15	0.27	0.27	0.20	0.29	0.29	0.21	0.25	0.25
v/c Ratio	0.14	0.28	0.07	0.16	0.16	0.03	0.23	0.26	0.11	0.19	0.39	0.08
Control Delay (s/veh)	29.7	19.0	0.3	30.9	20.1	0.1	28.8	18.7	0.4	28.4	20.7	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	29.7	19.0	0.3	30.9	20.1	0.1	28.8	18.7	0.4	28.4	20.7	0.3
LOS	C	B	A	C	C	A	C	B	A	C	C	A
Approach Delay (s/veh)		19.1			22.1			17.8			19.9	
Approach LOS		B			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 51.9			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.39			
Intersection Signal Delay (s/veh): 19.5		Intersection LOS: B	
Intersection Capacity Utilization 43.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 16: 12th Ave & Lacey Ave

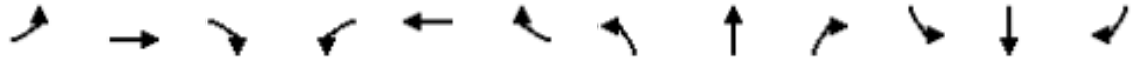




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	262	37	67	136	15	71	247	56	58	316	39
Future Volume (veh/h)	67	262	37	67	136	15	71	247	56	58	316	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	73	285	40	73	148	16	77	268	61	63	343	42
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	414	744	299	278	593	238	130	724	291	171	645	259
Arrive On Green	0.13	0.21	0.21	0.09	0.17	0.17	0.08	0.20	0.20	0.10	0.18	0.18
Sat Flow, veh/h	3183	3554	1429	3183	3554	1426	1641	3554	1429	1641	3554	1427
Grp Volume(v), veh/h	73	285	40	73	148	16	77	268	61	63	343	42
Grp Sat Flow(s),veh/h/ln	1591	1777	1429	1591	1777	1426	1641	1777	1429	1641	1777	1427
Q Serve(g_s), s	0.8	2.8	0.9	0.9	1.5	0.4	1.8	2.6	0.8	1.4	3.5	0.6
Cycle Q Clear(g_c), s	0.8	2.8	0.9	0.9	1.5	0.4	1.8	2.6	0.8	1.4	3.5	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	414	744	299	278	593	238	130	724	291	171	645	259
V/C Ratio(X)	0.18	0.38	0.13	0.26	0.25	0.07	0.59	0.37	0.21	0.37	0.53	0.16
Avail Cap(c_a), veh/h	472	2985	1200	472	2985	1197	486	2897	1165	446	2642	1061
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.7	13.8	13.0	17.3	14.7	14.2	18.0	13.9	4.6	16.9	15.0	5.1
Incr Delay (d2), s/veh	0.2	0.3	0.2	0.5	0.2	0.1	4.2	0.3	0.4	1.3	0.7	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.8	0.2	0.3	0.4	0.1	0.7	0.7	0.3	0.5	1.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	15.9	14.1	13.2	17.7	14.9	14.3	22.2	14.2	5.0	18.2	15.7	5.4
LnGrp LOS	B	B	B	B	B	B	C	B	A	B	B	A
Approach Vol, veh/h		398			237			406			448	
Approach Delay, s/veh		14.3			15.7			14.3			15.1	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	12.2	7.5	12.5	7.2	13.2	9.3	10.8
Change Period (Y+Rc), s	4.9	4.9	5.3	5.3	4.9	4.9	5.3	5.3
Max Green Setting (Gmax), s	10.1	32.1	4.7	32.7	11.1	31.1	4.7	32.7
Max Q Clear Time (g_c+I1), s	3.4	4.6	2.9	4.8	3.8	5.5	2.8	3.5
Green Ext Time (p_c), s	0.1	1.3	0.0	1.3	0.1	1.5	0.0	0.6

Intersection Summary	
HCM 7th Control Delay, s/veh	14.8
HCM 7th LOS	B

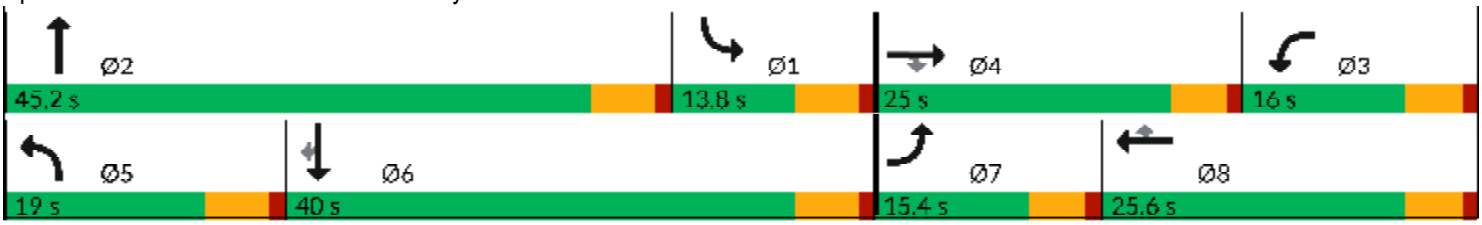


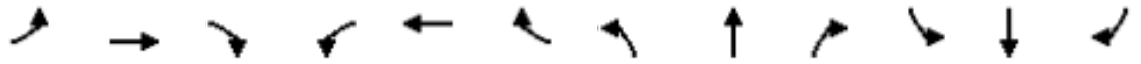
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	133	76	100	183	54	136	415	56	58	451	100
Future Volume (vph)	82	133	76	100	183	54	136	415	56	58	451	100
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	200		100	130		100	70		0	160		105
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.96			0.98		1.00				0.98
Frt			0.850			0.850		0.982				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	3539	1458	1630	3539	1458	1630	1825	0	1630	1863	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	3539	1402	1630	3539	1425	1630	1825	0	1630	1863	1431
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			194			194		8				185
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5219			6528			4809			5342	
Travel Time (s)		64.7			80.9			59.6			66.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	89	145	83	109	199	59	148	451	61	63	490	109
Shared Lane Traffic (%)												
Lane Group Flow (vph)	89	145	83	109	199	59	148	512	0	63	490	109
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50		50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.9	22.9	22.9	8.9	22.9	22.9	9.3	31.3		9.3	32.7	32.7
Total Split (s)	15.4	25.0	25.0	16.0	25.6	25.6	19.0	45.2		13.8	40.0	40.0
Total Split (%)	15.4%	25.0%	25.0%	16.0%	25.6%	25.6%	19.0%	45.2%		13.8%	40.0%	40.0%
Maximum Green (s)	10.5	20.1	20.1	11.1	20.7	20.7	13.7	39.9		8.5	34.7	34.7
Yellow Time (s)	3.9	3.9	3.9	3.9	3.9	3.9	4.3	4.3		4.3	4.3	4.3
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-1.3	-1.3		-1.3	-1.3	-1.3
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Don't Walk (s)		9.4	9.4		9.4	9.4		19.0			20.4	20.4
Pedestrian Calls (#/hr)		5	5		5	5		5			5	5
Act Effct Green (s)	10.1	10.9	10.9	11.1	11.7	11.7	13.1	35.8		10.4	26.7	26.7
Actuated g/C Ratio	0.13	0.15	0.15	0.15	0.16	0.16	0.17	0.48		0.14	0.36	0.36
v/c Ratio	0.41	0.28	0.23	0.46	0.36	0.15	0.52	0.59		0.28	0.74	0.17
Control Delay (s/veh)	41.5	34.3	1.4	41.5	33.8	0.9	40.4	21.8		38.2	30.6	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	41.5	34.3	1.4	41.5	33.8	0.9	40.4	21.8		38.2	30.6	0.8
LOS	D	C	A	D	C	A	D	C		D	C	A
Approach Delay (s/veh)		27.7			30.8			26.0			26.4	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 75.1			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay (s/veh): 27.3		Intersection LOS: C	
Intersection Capacity Utilization 56.6%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 17: 11th Ave & Lacey Ave

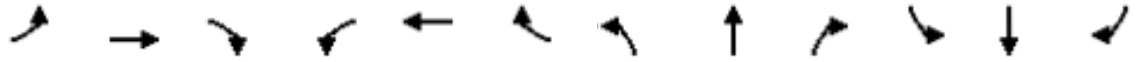




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	133	76	100	183	54	136	415	56	58	451	100
Future Volume (veh/h)	82	133	76	100	183	54	136	415	56	58	451	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	89	145	83	109	199	59	148	451	61	63	490	109
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	138	428	168	164	484	194	225	577	78	207	650	498
Arrive On Green	0.08	0.12	0.12	0.10	0.14	0.14	0.14	0.36	0.33	0.13	0.35	0.35
Sat Flow, veh/h	1641	3554	1392	1641	3554	1422	1641	1609	218	1641	1870	1434
Grp Volume(v), veh/h	89	145	83	109	199	59	148	0	512	63	490	109
Grp Sat Flow(s),veh/h/ln	1641	1777	1392	1641	1777	1422	1641	0	1827	1641	1870	1434
Q Serve(g_s), s	2.8	2.0	1.9	3.5	2.8	1.3	4.6	0.0	13.6	1.9	12.5	2.9
Cycle Q Clear(g_c), s	2.8	2.0	1.9	3.5	2.8	1.3	4.6	0.0	13.6	1.9	12.5	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	138	428	168	164	484	194	225	0	655	207	650	498
V/C Ratio(X)	0.65	0.34	0.50	0.67	0.41	0.30	0.66	0.00	0.78	0.31	0.75	0.22
Avail Cap(c_a), veh/h	345	1378	540	363	1417	567	454	0	1389	297	1243	953
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.0	21.8	9.1	23.5	21.4	8.8	22.2	0.0	15.6	21.5	15.6	12.5
Incr Delay (d2), s/veh	5.0	0.5	2.3	4.6	0.6	0.9	3.3	0.0	2.1	0.8	1.8	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.7	0.9	1.3	1.0	0.6	1.7	0.0	4.4	0.6	4.2	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	29.1	22.3	11.3	28.1	22.0	9.6	25.4	0.0	17.6	22.3	17.4	12.7
LnGrp LOS	C	C	B	C	C	A	C		B	C	B	B
Approach Vol, veh/h		317			367			660			662	
Approach Delay, s/veh		21.3			21.8			19.4			17.1	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.8	23.4	9.4	10.5	11.4	22.8	8.5	11.4
Change Period (Y+Rc), s	5.3	5.3	4.9	4.9	5.3	5.3	4.9	4.9
Max Green Setting (Gmax), s	8.5	39.9	11.1	20.1	13.7	34.7	10.5	20.7
Max Q Clear Time (g_c+I1), s	3.9	15.6	5.5	4.0	6.6	14.5	4.8	4.8
Green Ext Time (p_c), s	0.0	1.9	0.1	0.7	0.2	2.2	0.1	0.8

Intersection Summary	
HCM 7th Control Delay, s/veh	19.4
HCM 7th LOS	B

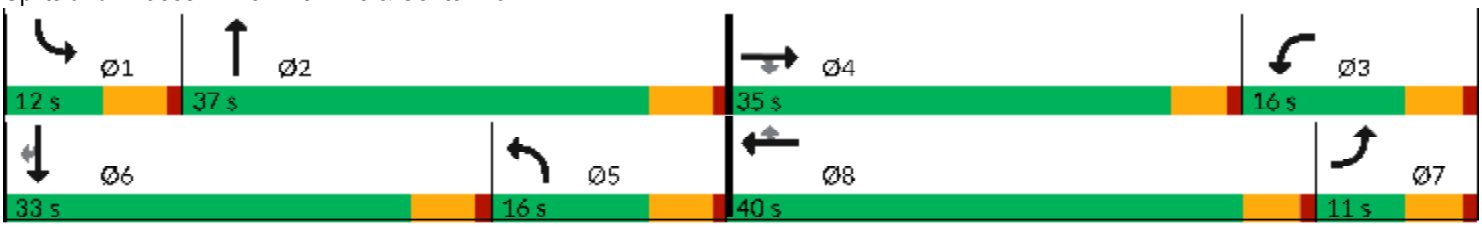


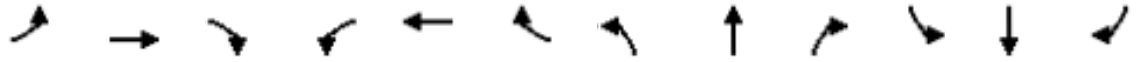
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	66	182	113	33	9	180	426	388	39	399	18
Future Volume (vph)	22	66	182	113	33	9	180	426	388	39	399	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	265		260	230		140	250		0	180		180
Storage Lanes	1		1	1		1	2		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	0.97	0.91	0.91	1.00	0.91	1.00
Ped Bike Factor						0.98		0.98				0.98
Frt			0.850			0.850		0.928				0.850
Flt Protected	0.950	0.999		0.950	0.973		0.950			0.950		
Satd. Flow (prot)	1681	1768	1583	1681	1722	1583	3433	4640	0	1770	5085	1583
Flt Permitted	0.950	0.997		0.950	0.872		0.950			0.950		
Satd. Flow (perm)	1681	1764	1583	1681	1543	1556	3433	4640	0	1770	5085	1550
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			248			194		246				185
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1154			586			1240			1893	
Travel Time (s)		14.3			7.3			15.4			23.5	
Confl. Peds. (#/hr)						5			5			5
Confl. Bikes (#/hr)						2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	72	198	123	36	10	196	463	422	42	434	20
Shared Lane Traffic (%)	10%			36%								
Lane Group Flow (vph)	22	74	198	79	80	10	196	885	0	42	434	20
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50		50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.9	22.9	22.9	8.9	39.9	39.9	9.3	24.1		9.3	24.1	24.1
Total Split (s)	11.0	35.0	35.0	16.0	40.0	40.0	16.0	37.0		12.0	33.0	33.0
Total Split (%)	11.0%	35.0%	35.0%	16.0%	40.0%	40.0%	16.0%	37.0%		12.0%	33.0%	33.0%
Maximum Green (s)	6.1	30.1	30.1	11.1	35.1	35.1	10.7	31.7		6.7	27.7	27.7
Yellow Time (s)	3.9	3.9	3.9	3.9	3.9	3.9	4.3	4.3		4.3	4.3	4.3
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-1.3	-1.3		-1.3	-1.3	-1.3
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	Min
Walk Time (s)					7.0	7.0		7.0			7.0	7.0
Flash Don't Walk (s)					28.0	28.0		11.8			11.8	11.8
Pedestrian Calls (#/hr)					5	5		5			5	5
Act Effct Green (s)	6.9	2.5	32.7	9.8	8.1	39.9	12.3	23.8		7.8	14.2	14.2
Actuated g/C Ratio	0.08	0.03	0.40	0.12	0.10	0.48	0.15	0.29		0.09	0.17	0.17
v/c Ratio	0.16	1.37	0.26	0.40	0.47	0.01	0.39	0.58		0.25	0.50	0.05
Control Delay (s/veh)	41.8	282.4	2.2	42.0	45.4	0.0	35.3	20.7		42.2	33.7	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	41.8	282.4	2.2	42.0	45.4	0.0	35.3	20.7		42.2	33.7	0.2
LOS	D	F	A	D	D	A	D	C		D	C	A
Approach Delay (s/veh)		75.7			41.1			23.3			33.0	
Approach LOS		E			D			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 82.5			
Natural Cycle: 85			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.37			
Intersection Signal Delay (s/veh): 34.7		Intersection LOS: C	
Intersection Capacity Utilization 44.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 18: 12th Ave & Centennial Dr





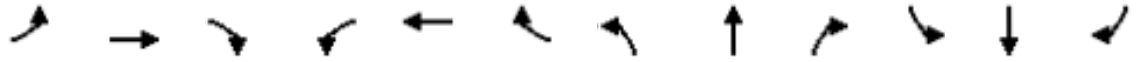
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	66	182	113	33	9	180	426	388	39	399	18
Future Volume (veh/h)	22	66	182	113	33	9	180	426	388	39	399	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	72	198	80	97	10	196	463	422	42	434	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	238	353	299	133	243	200	843	1268	573	106	962	292
Arrive On Green	0.13	0.19	0.19	0.07	0.13	0.13	0.24	0.37	0.35	0.06	0.19	0.19
Sat Flow, veh/h	1781	1870	1585	1781	1870	1543	3456	3404	1539	1781	5106	1550
Grp Volume(v), veh/h	24	72	198	80	97	10	196	463	422	42	434	20
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1543	1728	1702	1539	1781	1702	1550
Q Serve(g_s), s	0.6	1.7	6.1	2.3	2.5	0.2	2.4	5.2	12.6	1.2	4.0	0.6
Cycle Q Clear(g_c), s	0.6	1.7	6.1	2.3	2.5	0.2	2.4	5.2	12.6	1.2	4.0	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	238	353	299	133	243	200	843	1268	573	106	962	292
V/C Ratio(X)	0.10	0.20	0.66	0.60	0.40	0.05	0.23	0.37	0.74	0.40	0.45	0.07
Avail Cap(c_a), veh/h	238	1104	936	407	1282	1058	843	2139	967	271	2820	856
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.0	18.0	19.8	23.5	21.0	10.3	15.9	12.0	14.9	23.8	18.9	17.5
Incr Delay (d2), s/veh	0.2	0.3	2.5	4.3	1.1	0.1	0.1	0.2	1.9	2.4	0.3	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.6	2.0	1.0	1.0	0.1	0.7	1.4	3.5	0.5	1.3	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.2	18.3	22.3	27.9	22.0	10.4	16.1	12.1	16.7	26.2	19.2	17.6
LnGrp LOS	C	B	C	C	C	B	B	B	B	C	B	B
Approach Vol, veh/h		294			187			1081			496	
Approach Delay, s/veh		21.1			23.9			14.6			19.8	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.1	23.6	7.9	13.9	16.8	13.9	11.0	10.8
Change Period (Y+Rc), s	5.3	5.3	4.9	4.9	5.3	5.3	4.9	4.9
Max Green Setting (Gmax), s	6.7	31.7	11.1	30.1	10.7	27.7	6.1	35.1
Max Q Clear Time (g_c+I1), s	3.2	14.6	4.3	8.1	4.4	6.0	2.6	4.5
Green Ext Time (p_c), s	0.0	3.6	0.1	0.9	0.4	1.8	0.0	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	17.6
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

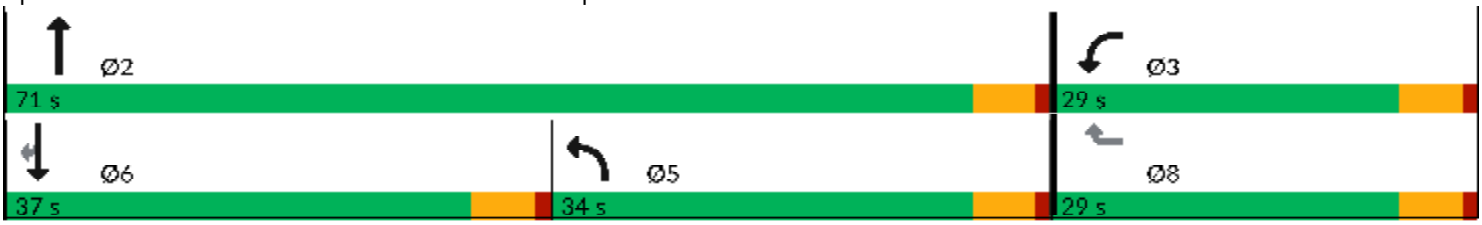


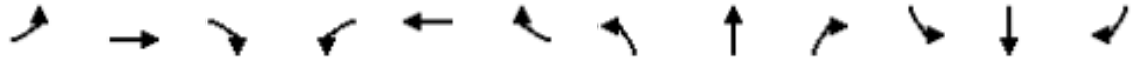
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	56	0	388	201	763	0	0	485	248
Future Volume (vph)	0	0	0	56	0	388	201	763	0	0	485	248
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	0		0	200		200	405		0	130		0
Storage Lanes	0		0	2		1	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	0.88	1.00	0.95	1.00	1.00	0.95	1.00
Frt						0.850						0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	3162	0	2567	1630	3539	0	0	3539	1458
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	3162	0	2567	1630	3539	0	0	3539	1458
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						381						270
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		239			374			625			1240	
Travel Time (s)		3.0			4.6			7.7			15.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	61	0	422	218	829	0	0	527	270
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	61	0	422	218	829	0	0	527	270
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1		1	1	1			1	1
Detector Template												
Leading Detector (ft)				50		50	50	50			50	50
Trailing Detector (ft)				0		0	0	0			0	0
Detector 1 Position(ft)				0		0	0	0			0	0
Detector 1 Size(ft)				50		50	50	50			50	50
Detector 1 Type				Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0		0.0	0.0	0.0			0.0	0.0
Detector 1 Queue (s)				0.0		0.0	0.0	0.0			0.0	0.0
Detector 1 Delay (s)				0.0		0.0	0.0	0.0			0.0	0.0
Turn Type				Prot		Perm	Prot	NA			NA	Perm
Protected Phases				3			5	2			6	
Permitted Phases						8						6
Detector Phase				3		8	5	2			6	6
Switch Phase												
Minimum Initial (s)				4.0		4.0	4.0	4.0			4.0	4.0
Minimum Split (s)				9.3		23.3	9.3	23.3			23.3	23.3
Total Split (s)				29.0		29.0	34.0	71.0			37.0	37.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)				29.0%		29.0%	34.0%	71.0%			37.0%	37.0%
Maximum Green (s)				23.7		23.7	28.7	65.7			31.7	31.7
Yellow Time (s)				4.3		4.3	4.3	4.3			4.3	4.3
All-Red Time (s)				1.0		1.0	1.0	1.0			1.0	1.0
Lost Time Adjust (s)				-1.3		-1.3	-1.3	-1.3			-1.3	-1.3
Total Lost Time (s)				4.0		4.0	4.0	4.0			4.0	4.0
Lead/Lag							Lag				Lead	Lead
Lead-Lag Optimize?							Yes				Yes	Yes
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	3.0
Recall Mode				None		None	None	Min			Min	Min
Act Effct Green (s)				9.0		8.8	14.2	33.8			15.5	15.5
Actuated g/C Ratio				0.18		0.17	0.28	0.66			0.30	0.30
v/c Ratio				0.11		0.56	0.48	0.35			0.49	0.43
Control Delay (s/veh)				20.8		7.4	20.7	4.3			17.1	5.0
Queue Delay				0.0		0.0	0.0	0.0			0.0	0.0
Total Delay (s/veh)				20.8		7.4	20.7	4.3			17.1	5.0
LOS				C		A	C	A			B	A
Approach Delay (s/veh)					9.1			7.7			13.0	
Approach LOS					A			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 51			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay (s/veh): 9.8		Intersection LOS: A	
Intersection Capacity Utilization 42.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 19: 12th Ave & SR 198 WB Ramps

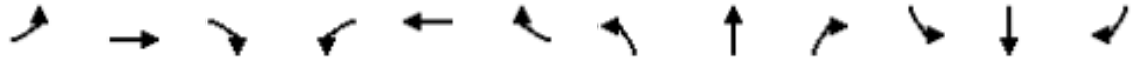




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	56	0	388	201	763	0	0	485	248
Future Volume (veh/h)	0	0	0	56	0	388	201	763	0	0	485	248
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1723	0	1723	1723	1870	0	0	1870	1723
Adj Flow Rate, veh/h				61	0	422	218	829	0	0	527	270
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	0	2	2	2	0	0	2	2
Cap, veh/h				813	0	656	322	2052	0	0	1057	434
Arrive On Green				0.26	0.00	0.26	0.20	0.58	0.00	0.00	0.30	0.30
Sat Flow, veh/h				3183	0	2569	1641	3647	0	0	3647	1460
Grp Volume(v), veh/h				61	0	422	218	829	0	0	527	270
Grp Sat Flow(s),veh/h/ln				1591	0	1285	1641	1777	0	0	1777	1460
Q Serve(g_s), s				0.7	0.0	7.0	5.9	6.2	0.0	0.0	5.9	7.6
Cycle Q Clear(g_c), s				0.7	0.0	7.0	5.9	6.2	0.0	0.0	5.9	7.6
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				813	0	656	322	2052	0	0	1057	434
V/C Ratio(X)				0.08	0.00	0.64	0.68	0.40	0.00	0.00	0.50	0.62
Avail Cap(c_a), veh/h				1662	0	1342	1028	4974	0	0	2450	1006
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				13.5	0.0	15.9	17.8	5.6	0.0	0.0	13.9	14.5
Incr Delay (d2), s/veh				0.0	0.0	1.1	2.5	0.1	0.0	0.0	0.4	1.5
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.2	0.0	1.6	1.9	0.9	0.0	0.0	1.7	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				13.6	0.0	16.9	20.3	5.7	0.0	0.0	14.2	16.0
LnGrp LOS				B		B	C	A			B	B
Approach Vol, veh/h					483			1047			797	
Approach Delay, s/veh					16.5			8.7			14.8	
Approach LOS					B			A			B	

Timer - Assigned Phs	2	5	6	8
Phs Duration (G+Y+Rc), s	31.6	13.4	18.2	16.2
Change Period (Y+Rc), s	5.3	5.3	5.3	5.3
Max Green Setting (Gmax), s	65.7	28.7	31.7	23.7
Max Q Clear Time (g_c+I1), s	8.2	7.9	9.6	9.0
Green Ext Time (p_c), s	3.9	0.7	3.3	1.9

Intersection Summary	
HCM 7th Control Delay, s/veh	12.4
HCM 7th LOS	B

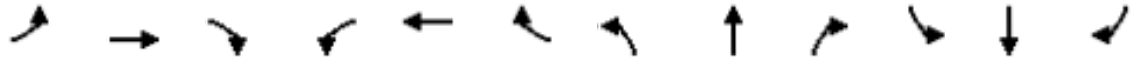


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	287	0	98	0	0	0	0	677	150	0	314	239
Future Volume (vph)	287	0	98	0	0	0	0	677	150	0	314	239
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	210		210	0		0	0		0	0		160
Storage Lanes	2		0	0		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850						0.850			0.850
Flt Protected	0.950											
Satd. Flow (prot)	3162	0	1458	0	0	0	0	3539	1458	0	3539	1458
Flt Permitted	0.950											
Satd. Flow (perm)	3162	0	1458	0	0	0	0	3539	1458	0	3539	1458
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			107						163			260
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		206			226			520			625	
Travel Time (s)		2.6			2.8			6.4			7.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	312	0	107	0	0	0	0	736	163	0	341	260
Shared Lane Traffic (%)												
Lane Group Flow (vph)	312	0	107	0	0	0	0	736	163	0	341	260
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1		1					1	1		1	1
Detector Template												
Leading Detector (ft)	50		50					50	50		50	50
Trailing Detector (ft)	0		0					0	0		0	0
Detector 1 Position(ft)	0		0					0	0		0	0
Detector 1 Size(ft)	50		50					50	50		50	50
Detector 1 Type	Cl+Ex		Cl+Ex					Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0					0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0					0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0					0.0	0.0		0.0	0.0
Turn Type	Prot		Perm					NA	Perm		NA	Perm
Protected Phases	7							2			6	
Permitted Phases			4						2			6
Detector Phase	7		4					2	2		6	6
Switch Phase												
Minimum Initial (s)	4.0		4.0					4.0	4.0		4.0	4.0
Minimum Split (s)	8.5		22.5					22.5	22.5		22.5	22.5
Total Split (s)	33.0		33.0					87.0	87.0		87.0	87.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	27.5%		27.5%					72.5%	72.5%		72.5%	72.5%
Maximum Green (s)	28.5		28.5					82.5	82.5		82.5	82.5
Yellow Time (s)	3.5		3.5					3.5	3.5		3.5	3.5
All-Red Time (s)	1.0		1.0					1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-0.5		-0.5					-0.5	0.0		-0.5	0.0
Total Lost Time (s)	4.0		4.0					4.0	4.5		4.0	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0		3.0					3.0	3.0		3.0	3.0
Recall Mode	None		None					Min	Min		Min	Min
Act Effct Green (s)	9.3		9.3					15.1	14.6		15.1	14.6
Actuated g/C Ratio	0.29		0.29					0.46	0.45		0.46	0.45
v/c Ratio	0.35		0.22					0.45	0.22		0.21	0.33
Control Delay (s/veh)	11.0		4.4					6.9	2.2		5.6	2.3
Queue Delay	0.0		0.0					0.0	0.0		0.0	0.0
Total Delay (s/veh)	11.0		4.4					6.9	2.2		5.6	2.3
LOS	B		A					A	A		A	A
Approach Delay (s/veh)		9.3						6.1			4.2	
Approach LOS		A						A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 32.5			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.45			
Intersection Signal Delay (s/veh): 6.2		Intersection LOS: A	
Intersection Capacity Utilization 34.3%		ICU Level of Service A	
Analysis Period (min) 15			

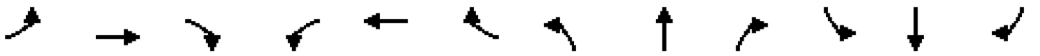
Splits and Phases: 20: 12th Ave & SR 198 EB Ramps



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	287	0	98	0	0	0	0	677	150	0	314	239
Future Volume (veh/h)	287	0	98	0	0	0	0	677	150	0	314	239
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1723	0	1723				0	1870	1723	0	1870	1723
Adj Flow Rate, veh/h	312	0	107				0	736	163	0	341	260
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	2
Cap, veh/h	770	0	353				0	1515	592	0	1515	592
Arrive On Green	0.24	0.00	0.24				0.00	0.43	0.41	0.00	0.43	0.41
Sat Flow, veh/h	3183	0	1460				0	3647	1460	0	3647	1460
Grp Volume(v), veh/h	312	0	107				0	736	163	0	341	260
Grp Sat Flow(s),veh/h/ln	1591	0	1460				0	1777	1460	0	1777	1460
Q Serve(g_s), s	2.0	0.0	1.4				0.0	3.6	1.8	0.0	1.5	3.1
Cycle Q Clear(g_c), s	2.0	0.0	1.4				0.0	3.6	1.8	0.0	1.5	3.1
Prop In Lane	1.00		1.00				0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	770	0	353				0	1515	592	0	1515	592
V/C Ratio(X)	0.41	0.00	0.30				0.00	0.49	0.28	0.00	0.23	0.44
Avail Cap(c_a), veh/h	3830	0	1757				0	12237	4997	0	12237	4997
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	7.7	0.0	7.5				0.0	5.0	4.8	0.0	4.4	5.2
Incr Delay (d2), s/veh	0.3	0.0	0.5				0.0	0.2	0.2	0.0	0.1	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.2				0.0	0.1	0.0	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.0	0.0	8.0				0.0	5.2	5.0	0.0	4.5	5.7
LnGrp LOS	A		A					A	A		A	A
Approach Vol, veh/h		419						899			601	
Approach Delay, s/veh		8.0						5.2			5.0	
Approach LOS		A						A			A	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	14.3	9.8	14.3
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	82.5	28.5	82.5
Max Q Clear Time (g_c+I1), s	5.6	4.0	5.1
Green Ext Time (p_c), s	4.2	1.7	2.6

Intersection Summary	
HCM 7th Control Delay, s/veh	5.8
HCM 7th LOS	A



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	51	7	23	90	12	5	63	17	8	68	4
Future Volume (vph)	3	51	7	23	90	12	5	63	17	8	68	4
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.984			0.987			0.973			0.994	
Flt Protected		0.998			0.991			0.997			0.995	
Satd. Flow (prot)	0	1829	0	0	1822	0	0	1807	0	0	1842	0
Flt Permitted		0.998			0.991			0.997			0.995	
Satd. Flow (perm)	0	1829	0	0	1822	0	0	1807	0	0	1842	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		2803			5317			5280			1167	
Travel Time (s)		34.7			65.9			65.5			14.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	55	8	25	98	13	5	68	18	9	74	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	66	0	0	136	0	0	91	0	0	87	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

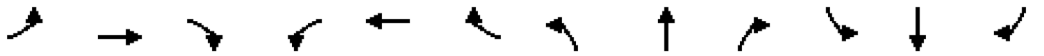
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.5%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	51	7	23	90	12	5	63	17	8	68	4
Future Vol, veh/h	3	51	7	23	90	12	5	63	17	8	68	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	55	8	25	98	13	5	68	18	9	74	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	7.9	8.3	8	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	5%	18%	10%
Vol Thru, %	74%	84%	72%	85%
Vol Right, %	20%	11%	10%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	85	61	125	80
LT Vol	5	3	23	8
Through Vol	63	51	90	68
RT Vol	17	7	12	4
Lane Flow Rate	92	66	136	87
Geometry Grp	1	1	1	1
Degree of Util (X)	0.113	0.082	0.166	0.108
Departure Headway (Hd)	4.387	4.437	4.399	4.489
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	819	809	818	800
Service Time	2.405	2.456	2.415	2.509
HCM Lane V/C Ratio	0.112	0.082	0.166	0.109
HCM Control Delay, s/veh	8	7.9	8.3	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.3	0.6	0.4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	66	13	22	107	36	31	209	41	10	223	1
Future Volume (vph)	1	66	13	22	107	36	31	209	41	10	223	1
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	0		0	0		0	0		25	0		25
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.978			0.971				0.850			0.850
Flt Protected		0.999			0.993			0.994			0.998	
Satd. Flow (prot)	0	1820	0	0	1796	0	0	1852	1458	0	1859	1458
Flt Permitted		0.999			0.993			0.994			0.998	
Satd. Flow (perm)	0	1820	0	0	1796	0	0	1852	1458	0	1859	1458
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5317			205			4514			225	
Travel Time (s)		65.9			2.5			56.0			2.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	72	14	24	116	39	34	227	45	11	242	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	87	0	0	179	0	0	261	45	0	253	1
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

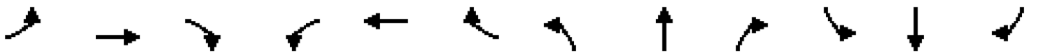
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 50.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	11.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	66	13	22	107	36	31	209	41	10	223	1
Future Vol, veh/h	1	66	13	22	107	36	31	209	41	10	223	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	72	14	24	116	39	34	227	45	11	242	1
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay, s/veh	9.7	10.6	11.8	12.3
HCM LOS	A	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	13%	0%	1%	13%	4%	0%
Vol Thru, %	87%	0%	83%	65%	96%	0%
Vol Right, %	0%	100%	16%	22%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	240	41	80	165	233	1
LT Vol	31	0	1	22	10	0
Through Vol	209	0	66	107	223	0
RT Vol	0	41	13	36	0	1
Lane Flow Rate	261	45	87	179	253	1
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.413	0.061	0.138	0.274	0.402	0.002
Departure Headway (Hd)	5.702	4.928	5.699	5.504	5.716	4.986
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	631	727	629	653	631	718
Service Time	3.431	2.657	3.739	3.54	3.446	2.715
HCM Lane V/C Ratio	0.414	0.062	0.138	0.274	0.401	0.001
HCM Control Delay, s/veh	12.4	8	9.7	10.6	12.3	7.7
HCM Lane LOS	B	A	A	B	B	A
HCM 95th-tile Q	2	0.2	0.5	1.1	1.9	0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	68	4	112	153	20	10	63	37	11	88	4
Future Volume (vph)	5	68	4	112	153	20	10	63	37	11	88	4
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993			0.990			0.955			0.995	
Flt Protected		0.997			0.981			0.995			0.995	
Satd. Flow (prot)	0	1844	0	0	1809	0	0	1770	0	0	1844	0
Flt Permitted		0.997			0.981			0.995			0.995	
Satd. Flow (perm)	0	1844	0	0	1809	0	0	1770	0	0	1844	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		3132			4044			5270			5280	
Travel Time (s)		38.8			50.1			65.3			65.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	74	4	122	166	22	11	68	40	12	96	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	83	0	0	310	0	0	119	0	0	112	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

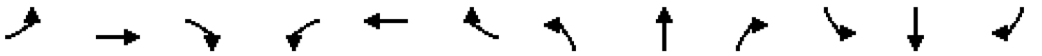
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.6%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	9.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	68	4	112	153	20	10	63	37	11	88	4
Future Vol, veh/h	5	68	4	112	153	20	10	63	37	11	88	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	74	4	122	166	22	11	68	40	12	96	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.5	10.8	8.8	9
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	9%	6%	39%	11%
Vol Thru, %	57%	88%	54%	85%
Vol Right, %	34%	5%	7%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	110	77	285	103
LT Vol	10	5	112	11
Through Vol	63	68	153	88
RT Vol	37	4	20	4
Lane Flow Rate	120	84	310	112
Geometry Grp	1	1	1	1
Degree of Util (X)	0.161	0.113	0.399	0.156
Departure Headway (Hd)	4.836	4.856	4.64	5.024
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	738	733	771	710
Service Time	2.893	2.917	2.687	3.082
HCM Lane V/C Ratio	0.163	0.115	0.402	0.158
HCM Control Delay, s/veh	8.8	8.5	10.8	9
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.6	0.4	1.9	0.6



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	106	14	125	250	5	42	1	147	0	0	0
Future Volume (vph)	0	106	14	125	250	5	42	1	147	0	0	0
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	0		100	100		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.997			0.896				
Flt Protected				0.950				0.989				
Satd. Flow (prot)	0	1863	1458	1630	1857	0	0	1651	0	0	1863	0
Flt Permitted				0.950				0.989				
Satd. Flow (perm)	0	1863	1458	1630	1857	0	0	1651	0	0	1863	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		4044			816			5340			496	
Travel Time (s)		50.1			10.1			66.2			6.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	115	15	136	272	5	46	1	160	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	115	15	136	277	0	0	207	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	32.3%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	106	14	125	250	5	42	1	147	0	0	0
Future Vol, veh/h	0	106	14	125	250	5	42	1	147	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	100	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	115	15	136	272	5	46	1	160	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	277	0	0	130	0	0	659	664	115	662	677	274
Stage 1	-	-	-	-	-	-	115	115	-	546	546	-
Stage 2	-	-	-	-	-	-	543	549	-	116	130	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1286	-	-	1455	-	-	377	381	937	375	375	764
Stage 1	-	-	-	-	-	-	890	800	-	522	518	-
Stage 2	-	-	-	-	-	-	524	516	-	889	788	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1286	-	-	1455	-	-	342	345	937	281	340	764
Mov Cap-2 Maneuver	-	-	-	-	-	-	342	345	-	281	340	-
Stage 1	-	-	-	-	-	-	890	800	-	473	470	-
Stage 2	-	-	-	-	-	-	475	468	-	736	788	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	2.54	12.71	0
HCM LOS			B	A

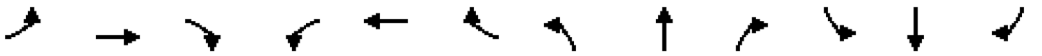
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	672	1286	-	-	1455	-	-	-
HCM Lane V/C Ratio	0.307	-	-	-	0.093	-	-	-
HCM Control Delay (s/veh)	12.7	0	-	-	7.7	-	-	0
HCM Lane LOS	B	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	1.3	0	-	-	0.3	-	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	251	46	181	351	43	24	191	64	73	259	25
Future Volume (vph)	59	251	46	181	351	43	24	191	64	73	259	25
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	200		110	345		110	255		105	255		130
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.98			0.97			0.97			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1863	1458	1630	1863	1458	1630	1863	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1431	1630	1863	1414	1630	1863	1413	1630	1863	1414
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			207			149			203			203
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		488			5225			5338			853	
Travel Time (s)		6.0			64.8			66.2			10.6	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	64	273	50	197	382	47	26	208	70	79	282	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	273	50	197	382	47	26	208	70	79	282	27
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	33.7	33.7	9.3	33.7	33.7	9.7	34.5	34.5	9.7	36.0	36.0
Total Split (s)	13.9	33.7	33.7	20.0	39.8	39.8	10.2	34.6	34.6	11.7	36.1	36.1
Total Split (%)	13.9%	33.7%	33.7%	20.0%	39.8%	39.8%	10.2%	34.6%	34.6%	11.7%	36.1%	36.1%
Maximum Green (s)	8.6	28.4	28.4	14.7	34.5	34.5	4.5	28.9	28.9	6.0	30.4	30.4
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		21.4	21.4		21.4	21.4		21.8	21.8		23.3	23.3
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	9.3	18.1	18.1	14.7	29.9	29.9	6.7	17.5	17.5	8.3	22.9	22.9
Actuated g/C Ratio	0.13	0.25	0.25	0.20	0.42	0.42	0.09	0.24	0.24	0.12	0.32	0.32
v/c Ratio	0.30	0.58	0.10	0.59	0.49	0.07	0.17	0.46	0.14	0.42	0.48	0.05
Control Delay (s/veh)	39.2	31.4	0.4	39.5	22.8	0.2	41.3	29.2	0.6	44.8	25.2	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	39.2	31.4	0.4	39.5	22.8	0.2	41.3	29.2	0.6	44.8	25.2	0.2
LOS	D	C	A	D	C	A	D	C	A	D	C	A
Approach Delay (s/veh)		28.6			26.3			23.6			27.4	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 72			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay (s/veh): 26.6		Intersection LOS: C	
Intersection Capacity Utilization 57.8%		ICU Level of Service B	
Analysis Period (min) 15			

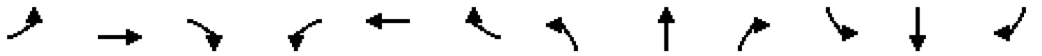
Splits and Phases: 5: 12th Ave & Fargo Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	251	46	181	351	43	24	191	64	73	259	25
Future Volume (veh/h)	59	251	46	181	351	43	24	191	64	73	259	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	64	273	50	197	382	47	26	208	70	79	282	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	116	439	336	281	628	476	90	398	299	146	462	348
Arrive On Green	0.07	0.23	0.23	0.17	0.34	0.34	0.05	0.21	0.21	0.09	0.25	0.25
Sat Flow, veh/h	1641	1870	1431	1641	1870	1417	1641	1870	1409	1641	1870	1412
Grp Volume(v), veh/h	64	273	50	197	382	47	26	208	70	79	282	27
Grp Sat Flow(s),veh/h/ln	1641	1870	1431	1641	1870	1417	1641	1870	1409	1641	1870	1412
Q Serve(g_s), s	2.1	7.2	1.5	6.2	9.3	1.2	0.8	5.4	2.3	2.5	7.3	0.8
Cycle Q Clear(g_c), s	2.1	7.2	1.5	6.2	9.3	1.2	0.8	5.4	2.3	2.5	7.3	0.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	116	439	336	281	628	476	90	398	299	146	462	348
V/C Ratio(X)	0.55	0.62	0.15	0.70	0.61	0.10	0.29	0.52	0.23	0.54	0.61	0.08
Avail Cap(c_a), veh/h	297	1014	776	479	1223	926	186	1045	787	231	1096	828
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.6	18.8	16.6	21.4	15.2	12.5	24.8	19.1	17.9	23.9	18.3	15.8
Incr Delay (d2), s/veh	4.1	1.4	0.2	3.2	1.0	0.1	1.7	1.1	0.4	3.1	1.3	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	2.6	0.4	2.2	3.1	0.3	0.3	2.0	0.6	0.9	2.6	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	28.7	20.2	16.8	24.5	16.1	12.6	26.6	20.2	18.3	27.0	19.6	15.9
LnGrp LOS	C	C	B	C	B	B	C	C	B	C	B	B
Approach Vol, veh/h		387			626			304			388	
Approach Delay, s/veh		21.2			18.5			20.3			20.8	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.9	15.6	13.4	16.9	7.0	17.5	7.9	22.4
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	6.0	28.9	14.7	28.4	4.5	30.4	8.6	34.5
Max Q Clear Time (g_c+I1), s	4.5	7.4	8.2	9.2	2.8	9.3	4.1	11.3
Green Ext Time (p_c), s	0.0	0.9	0.3	1.0	0.0	1.0	0.0	1.5

Intersection Summary	
HCM 7th Control Delay, s/veh	20.0
HCM 7th LOS	B

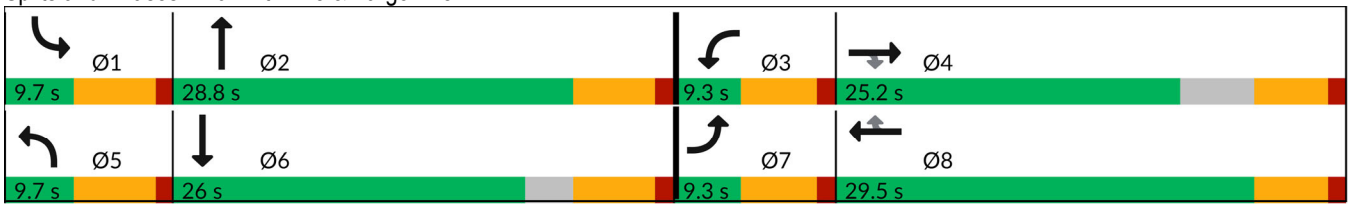


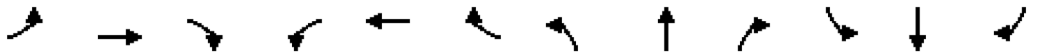
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	229	113	184	345	47	60	221	49	59	320	103
Future Volume (vph)	152	229	113	184	345	47	60	221	49	59	320	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	185		110	280		150	200		0	255		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor			0.97			0.98		0.99			0.99	
Frt			0.850			0.850		0.973			0.963	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	3539	1583	1770	3425	0	1770	3382	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1863	1533	1770	3539	1555	1770	3425	0	1770	3382	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			193			193		36			59	
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5225			5292			2018			1090	
Travel Time (s)		64.8			65.6			25.0			13.5	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	165	249	123	200	375	51	65	240	53	64	348	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	165	249	123	200	375	51	65	293	0	64	460	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	50	50	50	50	50	50	50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.3	25.2	25.2	9.3	29.5	29.5	9.7	28.8		9.7	26.0	
Total Split (s)	9.3	25.2	25.2	9.3	29.5	29.5	9.7	28.8		9.7	26.0	
Total Split (%)	12.0%	32.6%	32.6%	12.0%	38.2%	38.2%	12.5%	37.3%		12.5%	33.6%	
Maximum Green (s)	4.0	19.9	19.9	4.0	24.2	24.2	4.0	23.1		4.0	20.3	
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7		4.7	4.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7		-1.7	-1.7	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Don't Walk (s)		12.9	12.9		17.2	17.2		16.1			13.3	
Pedestrian Calls (#/hr)		5	5		5	5		5			5	
Act Effct Green (s)	5.7	14.9	14.9	5.7	14.9	14.9	6.1	14.8		6.1	14.8	
Actuated g/C Ratio	0.11	0.28	0.28	0.11	0.28	0.28	0.11	0.28		0.11	0.28	
v/c Ratio	0.87	0.48	0.22	1.06	0.38	0.09	0.32	0.30		0.32	0.47	
Control Delay (s/veh)	74.6	21.1	1.7	117.4	17.9	0.3	33.0	15.6		32.7	16.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	74.6	21.1	1.7	117.4	17.9	0.3	33.0	15.6		32.7	16.8	
LOS	E	C	A	F	B	A	C	B		C	B	
Approach Delay (s/veh)		33.1			48.2			18.7			18.8	
Approach LOS		C			D			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 77.3			
Actuated Cycle Length: 53.4			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.06			
Intersection Signal Delay (s/veh): 31.5		Intersection LOS: C	
Intersection Capacity Utilization 52.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 6: 11th Ave & Fargo Ave





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	229	113	184	345	47	60	221	49	59	320	103
Future Volume (veh/h)	152	229	113	184	345	47	60	221	49	59	320	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	165	249	123	200	375	51	65	240	53	64	348	112
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	199	423	346	199	803	351	150	698	151	149	635	201
Arrive On Green	0.11	0.23	0.23	0.11	0.23	0.23	0.08	0.24	0.21	0.08	0.24	0.21
Sat Flow, veh/h	1781	1870	1531	1781	3554	1553	1781	2885	623	1781	2631	831
Grp Volume(v), veh/h	165	249	123	200	375	51	65	146	147	64	233	227
Grp Sat Flow(s),veh/h/ln	1781	1870	1531	1781	1777	1553	1781	1777	1731	1781	1777	1685
Q Serve(g_s), s	4.3	5.6	3.2	5.3	4.3	1.2	1.6	3.2	3.4	1.6	5.4	5.7
Cycle Q Clear(g_c), s	4.3	5.6	3.2	5.3	4.3	1.2	1.6	3.2	3.4	1.6	5.4	5.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.36	1.00		0.49
Lane Grp Cap(c), veh/h	199	423	346	199	803	351	150	430	419	149	429	407
V/C Ratio(X)	0.83	0.59	0.36	1.01	0.47	0.15	0.43	0.34	0.35	0.43	0.54	0.56
Avail Cap(c_a), veh/h	199	835	683	199	1907	833	214	927	904	214	823	780
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.7	16.4	15.5	21.1	15.9	14.7	20.7	14.9	15.2	20.7	15.7	16.2
Incr Delay (d2), s/veh	24.6	1.3	0.6	65.5	0.4	0.2	2.0	0.5	0.5	1.9	1.1	1.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	1.9	0.9	5.3	1.3	0.3	0.6	1.0	1.0	0.6	1.7	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	45.3	17.7	16.1	86.6	16.3	14.9	22.6	15.3	15.7	22.6	16.8	17.4
LnGrp LOS	D	B	B	F	B	B	C	B	B	C	B	B
Approach Vol, veh/h		537			626			358			524	
Approach Delay, s/veh		25.8			38.7			16.8			17.8	
Approach LOS		C			D			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	15.5	9.3	14.7	8.0	15.5	9.3	14.7
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	4.0	23.1	4.0	19.9	4.0	20.3	4.0	24.2
Max Q Clear Time (g_c+I1), s	3.6	5.4	7.3	7.6	3.6	7.7	6.3	6.3
Green Ext Time (p_c), s	0.0	0.9	0.0	1.1	0.0	1.4	0.0	1.6

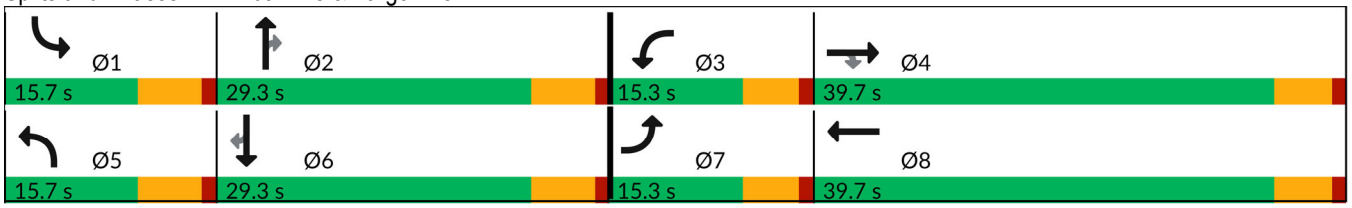
Intersection Summary	
HCM 7th Control Delay, s/veh	26.1
HCM 7th LOS	C

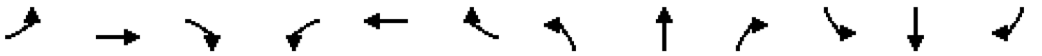
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	174	123	52	168	38	85	197	19	37	256	67
Future Volume (vph)	40	174	123	52	168	38	85	197	19	37	256	67
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	100		50	105		0	160		105	200		100
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98		1.00				0.96			0.98
Frt			0.850		0.973				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1806	0	1630	3539	1458	1630	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1431	1630	1806	0	1630	3539	1404	1630	3539	1427
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149		13				145			145
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5292			4849			2658			1358	
Travel Time (s)		65.6			60.1			33.0			16.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	189	134	57	183	41	92	214	21	40	278	73
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	189	134	57	224	0	92	214	21	40	278	73
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Detector Phase	7	4	4	3	8		5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	32.3	32.3	9.3	33.7		9.7	23.7	23.7	9.7	24.5	24.5
Total Split (s)	15.3	39.7	39.7	15.3	39.7		15.7	29.3	29.3	15.7	29.3	29.3
Total Split (%)	15.3%	39.7%	39.7%	15.3%	39.7%		15.7%	29.3%	29.3%	15.7%	29.3%	29.3%
Maximum Green (s)	10.0	34.4	34.4	10.0	34.4		10.0	23.6	23.6	10.0	23.6	23.6
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3		4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3		-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)		20.0	20.0		21.4			10.4	10.4		11.8	11.8
Pedestrian Calls (#/hr)		5	5		5			5	5		5	5
Act Effct Green (s)	9.8	15.7	15.7	10.1	15.9		11.4	20.5	20.5	10.2	13.9	13.9
Actuated g/C Ratio	0.17	0.28	0.28	0.18	0.28		0.20	0.36	0.36	0.18	0.24	0.24
v/c Ratio	0.15	0.37	0.27	0.20	0.44		0.28	0.17	0.04	0.14	0.32	0.16
Control Delay (s/veh)	30.4	22.7	5.0	30.4	22.2		30.2	18.9	0.1	30.0	23.5	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	30.4	22.7	5.0	30.4	22.2		30.2	18.9	0.1	30.0	23.5	0.7
LOS	C	C	A	C	C		C	B	A	C	C	A
Approach Delay (s/veh)		17.1			23.9			20.8			19.9	
Approach LOS		B			C			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 57			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.44			
Intersection Signal Delay (s/veh): 20.2		Intersection LOS: C	
Intersection Capacity Utilization 43.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 7: 10th Ave & Fargo Ave





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	174	123	52	168	38	85	197	19	37	256	67
Future Volume (veh/h)	40	174	123	52	168	38	85	197	19	37	256	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	43	189	134	57	183	41	92	214	21	40	278	73
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	113	423	324	127	346	78	178	840	333	125	725	292
Arrive On Green	0.07	0.23	0.23	0.08	0.23	0.20	0.11	0.24	0.24	0.08	0.20	0.20
Sat Flow, veh/h	1641	1870	1430	1641	1473	330	1641	3554	1411	1641	3554	1429
Grp Volume(v), veh/h	43	189	134	57	0	224	92	214	21	40	278	73
Grp Sat Flow(s),veh/h/ln	1641	1870	1430	1641	0	1802	1641	1777	1411	1641	1777	1429
Q Serve(g_s), s	1.0	3.6	3.3	1.4	0.0	4.5	2.2	2.0	0.5	1.0	2.8	1.8
Cycle Q Clear(g_c), s	1.0	3.6	3.3	1.4	0.0	4.5	2.2	2.0	0.5	1.0	2.8	1.8
Prop In Lane	1.00		1.00	1.00		0.18	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	113	423	324	127	0	424	178	840	333	125	725	292
V/C Ratio(X)	0.38	0.45	0.41	0.45	0.00	0.53	0.52	0.25	0.06	0.32	0.38	0.25
Avail Cap(c_a), veh/h	445	1601	1224	445	0	1543	460	2156	856	460	2156	867
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.6	13.9	13.8	18.4	0.0	14.0	17.6	12.9	12.3	18.2	14.3	13.9
Incr Delay (d2), s/veh	2.1	0.7	0.8	2.5	0.0	1.0	2.3	0.2	0.1	1.5	0.3	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.1	0.8	0.5	0.0	1.4	0.7	0.6	0.1	0.3	0.8	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.7	14.6	14.6	20.8	0.0	15.1	19.9	13.1	12.4	19.7	14.7	14.4
LnGrp LOS	C	B	B	C		B	B	B	B	B	B	B
Approach Vol, veh/h		366			281			327			391	
Approach Delay, s/veh		15.3			16.2			15.0			15.1	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.2	13.9	7.2	13.4	8.5	12.5	6.9	13.8
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	10.0	23.6	10.0	34.4	10.0	23.6	10.0	34.4
Max Q Clear Time (g_c+I1), s	3.0	4.0	3.4	5.6	4.2	4.8	3.0	6.5
Green Ext Time (p_c), s	0.0	0.8	0.1	1.2	0.1	1.3	0.0	0.7

Intersection Summary	
HCM 7th Control Delay, s/veh	15.4
HCM 7th LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	34	128	1	30	4	69	186	0	3	264	11
Future Volume (vph)	24	34	128	1	30	4	69	186	0	3	264	11
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.907			0.986						0.994	
Flt Protected		0.994			0.999			0.987				
Satd. Flow (prot)	0	1679	0	0	1835	0	0	3493	0	0	3518	0
Flt Permitted		0.994			0.999			0.987				
Satd. Flow (perm)	0	1679	0	0	1835	0	0	3493	0	0	3518	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		4849			614			1519			1547	
Travel Time (s)		60.1			7.6			18.8			19.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	37	139	1	33	4	75	202	0	3	287	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	202	0	0	38	0	0	277	0	0	302	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 42.5%		ICU Level of Service A	
Analysis Period (min) 15			

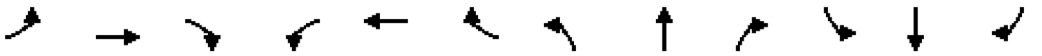
Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	34	128	1	30	4	69	186	0	3	264	11
Future Vol, veh/h	24	34	128	1	30	4	69	186	0	3	264	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	37	139	1	33	4	75	202	0	3	287	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	567	652	149	521	658	101	299	0	0	202	0	0
Stage 1	299	299	-	352	352	-	-	-	-	-	-	-
Stage 2	267	352	-	168	305	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	406	386	870	439	383	935	1259	-	-	1367	-	-
Stage 1	685	665	-	638	630	-	-	-	-	-	-	-
Stage 2	715	630	-	817	661	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	346	361	870	311	358	935	1259	-	-	1367	-	-
Mov Cap-2 Maneuver	346	361	-	311	358	-	-	-	-	-	-	-
Stage 1	683	663	-	597	590	-	-	-	-	-	-	-
Stage 2	630	590	-	646	659	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	14.05	15.43	2.39	0.1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	974	-	-	598	383	37	-	-
HCM Lane V/C Ratio	0.06	-	-	0.338	0.099	0.002	-	-
HCM Control Delay (s/veh)	8	0.3	-	14.1	15.4	7.6	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	1.5	0.3	0	-	-

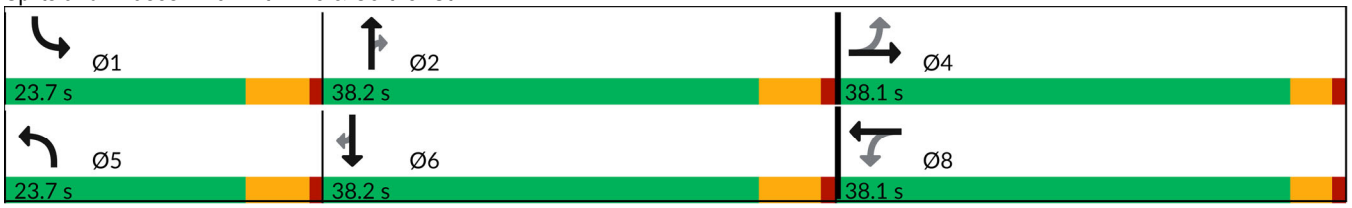


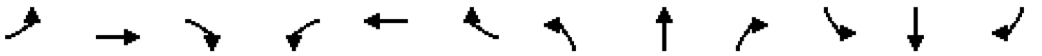
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	63	54	77	15	6	23	263	63	57	559	4
Future Volume (vph)	8	63	54	77	15	6	23	263	63	57	559	4
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	0		0	0		0	100		50	105		50
Storage Lanes	0		0	0		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00				0.96			0.96
Frt		0.941			0.991				0.850			0.850
Flt Protected		0.997			0.962		0.950			0.950		
Satd. Flow (prot)	0	1731	0	0	1773	0	1630	1863	1458	1630	1863	1458
Flt Permitted		0.979			0.680		0.950			0.950		
Satd. Flow (perm)	0	1700	0	0	1254	0	1630	1863	1403	1630	1863	1403
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		42			4				75			75
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		799			857			3291			2018	
Travel Time (s)		9.9			10.6			40.8			25.0	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	9	68	59	84	16	7	25	286	68	62	608	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	136	0	0	107	0	25	286	68	62	608	4
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.6	22.6		24.1	24.1		9.7	23.7	23.7	9.7	23.7	23.7
Total Split (s)	38.1	38.1		38.1	38.1		23.7	38.2	38.2	23.7	38.2	38.2
Total Split (%)	38.1%	38.1%		38.1%	38.1%		23.7%	38.2%	38.2%	23.7%	38.2%	38.2%
Maximum Green (s)	33.9	33.9		33.9	33.9		18.0	32.5	32.5	18.0	32.5	32.5
Yellow Time (s)	3.2	3.2		3.2	3.2		4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		-0.2			-0.2		-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)		4.0			4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Walk Time (s)	7.0	7.0		7.0	7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)	11.4	11.4		12.9	12.9			8.7	8.7		8.7	8.7
Pedestrian Calls (#/hr)	5	5		5	5			5	5		5	5
Act Effct Green (s)		10.9			10.9		8.5	28.1	28.1	9.7	32.0	32.0
Actuated g/C Ratio		0.20			0.20		0.15	0.51	0.51	0.17	0.58	0.58
v/c Ratio		0.37			0.43		0.10	0.30	0.09	0.22	0.57	0.00
Control Delay (s/veh)		18.3			26.3		26.8	12.3	3.6	25.5	13.1	0.0
Queue Delay		0.0			0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		18.3			26.3		26.8	12.3	3.6	25.5	13.1	0.0
LOS		B			C		C	B	A	C	B	A
Approach Delay (s/veh)		18.3			26.3			11.7			14.1	
Approach LOS		B			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 55.6			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay (s/veh): 14.9		Intersection LOS: B	
Intersection Capacity Utilization 55.6%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 9: 11th Ave & Cortner St

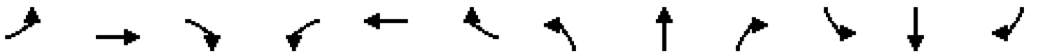




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	63	54	77	15	6	23	263	63	57	559	4
Future Volume (veh/h)	8	63	54	77	15	6	23	263	63	57	559	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	9	68	59	84	16	7	25	286	68	62	608	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	117	138	113	348	54	16	118	773	586	162	823	625
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.07	0.41	0.41	0.10	0.44	0.44
Sat Flow, veh/h	63	896	735	1103	354	102	1641	1870	1419	1641	1870	1420
Grp Volume(v), veh/h	136	0	0	107	0	0	25	286	68	62	608	4
Grp Sat Flow(s),veh/h/ln	1694	0	0	1558	0	0	1641	1870	1419	1641	1870	1420
Q Serve(g_s), s	0.2	0.0	0.0	0.0	0.0	0.0	0.5	3.8	1.1	1.3	9.7	0.1
Cycle Q Clear(g_c), s	2.6	0.0	0.0	1.9	0.0	0.0	0.5	3.8	1.1	1.3	9.7	0.1
Prop In Lane	0.07		0.43	0.79		0.07	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	367	0	0	418	0	0	118	773	586	162	823	625
V/C Ratio(X)	0.37	0.00	0.00	0.26	0.00	0.00	0.21	0.37	0.12	0.38	0.74	0.01
Avail Cap(c_a), veh/h	1704	0	0	1485	0	0	901	1783	1353	901	1783	1354
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.0	0.0	0.0	13.7	0.0	0.0	15.7	7.3	6.5	15.1	8.3	5.6
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.3	0.0	0.0	0.9	0.3	0.1	1.5	1.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.0	0.5	0.0	0.0	0.2	0.7	0.1	0.4	1.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	14.6	0.0	0.0	14.0	0.0	0.0	16.6	7.6	6.6	16.6	9.7	5.6
LnGrp LOS	B			B			B	A	A	B	A	A
Approach Vol, veh/h		136			107			379			674	
Approach Delay, s/veh		14.6			14.0			8.0			10.3	
Approach LOS		B			B			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.5	18.8		9.5	6.6	19.8		9.5				
Change Period (Y+Rc), s	5.7	5.7		4.2	5.7	5.7		4.2				
Max Green Setting (Gmax), s	18.0	32.5		33.9	18.0	32.5		33.9				
Max Q Clear Time (g_c+I1), s	3.3	5.8		4.6	2.5	11.7		3.9				
Green Ext Time (p_c), s	0.1	1.2		0.4	0.0	2.3		0.4				

Intersection Summary												
HCM 7th Control Delay, s/veh			10.4									
HCM 7th LOS			B									

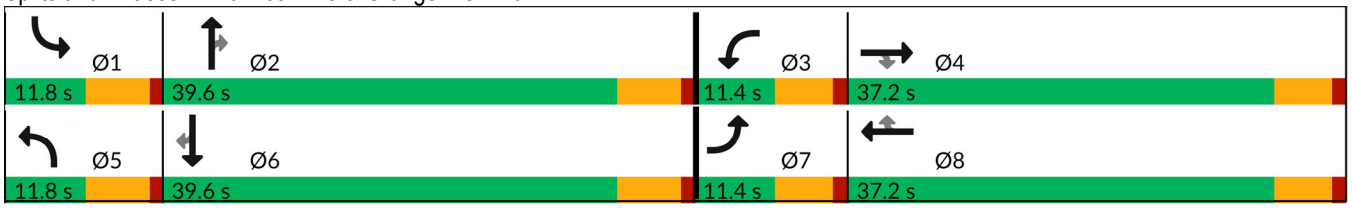


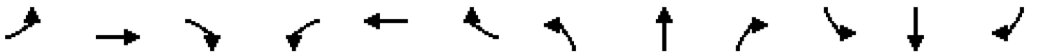
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	198	21	109	253	16	25	62	60	33	168	59
Future Volume (vph)	25	198	21	109	253	16	25	62	60	33	168	59
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	265		265	230		230	195		290	200		195
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.97			0.97			0.97			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1863	1458	1630	1863	1458	1630	1863	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1413	1630	1863	1414	1630	1863	1414	1630	1863	1413
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			149			145			145
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1096			3658			629			5270	
Travel Time (s)		13.6			45.3			7.8			65.3	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	215	23	118	275	17	27	67	65	36	183	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	215	23	118	275	17	27	67	65	36	183	64
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	32.3	32.3	9.3	35.2	35.2	9.7	34.5	34.5	9.7	33.1	33.1
Total Split (s)	11.4	37.2	37.2	11.4	37.2	37.2	11.8	39.6	39.6	11.8	39.6	39.6
Total Split (%)	11.4%	37.2%	37.2%	11.4%	37.2%	37.2%	11.8%	39.6%	39.6%	11.8%	39.6%	39.6%
Maximum Green (s)	6.1	31.9	31.9	6.1	31.9	31.9	6.1	33.9	33.9	6.1	33.9	33.9
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		20.0	20.0		22.9	22.9		21.8	21.8		20.4	20.4
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	8.0	15.6	15.6	8.3	25.0	25.0	8.5	15.0	15.0	8.5	15.0	15.0
Actuated g/C Ratio	0.14	0.28	0.28	0.15	0.45	0.45	0.15	0.27	0.27	0.15	0.27	0.27
v/c Ratio	0.12	0.41	0.05	0.49	0.33	0.02	0.11	0.13	0.13	0.15	0.37	0.13
Control Delay (s/veh)	32.2	20.9	0.2	38.7	16.9	0.1	31.7	19.2	0.6	31.5	21.2	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	32.2	20.9	0.2	38.7	16.9	0.1	31.7	19.2	0.6	31.5	21.2	0.6
LOS	C	C	A	D	B	A	C	B	A	C	C	A
Approach Delay (s/veh)		20.3			22.5			13.7			17.9	
Approach LOS		C			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 55.8			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.49			
Intersection Signal Delay (s/veh): 19.5		Intersection LOS: B	
Intersection Capacity Utilization 46.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: 13th Ave & Grangeville Blvd

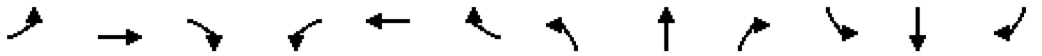




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	198	21	109	253	16	25	62	60	33	168	59
Future Volume (veh/h)	25	198	21	109	253	16	25	62	60	33	168	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	27	215	23	118	275	17	27	67	65	36	183	64
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	92	417	315	193	533	403	107	398	300	119	411	309
Arrive On Green	0.06	0.22	0.22	0.12	0.28	0.28	0.07	0.21	0.21	0.07	0.22	0.22
Sat Flow, veh/h	1641	1870	1410	1641	1870	1414	1641	1870	1409	1641	1870	1410
Grp Volume(v), veh/h	27	215	23	118	275	17	27	67	65	36	183	64
Grp Sat Flow(s),veh/h/ln	1641	1870	1410	1641	1870	1414	1641	1870	1409	1641	1870	1410
Q Serve(g_s), s	0.7	4.3	0.6	2.9	5.3	0.4	0.7	1.3	1.6	0.9	3.6	1.6
Cycle Q Clear(g_c), s	0.7	4.3	0.6	2.9	5.3	0.4	0.7	1.3	1.6	0.9	3.6	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	92	417	315	193	533	403	107	398	300	119	411	309
V/C Ratio(X)	0.29	0.52	0.07	0.61	0.52	0.04	0.25	0.17	0.22	0.30	0.45	0.21
Avail Cap(c_a), veh/h	284	1452	1095	284	1452	1098	299	1557	1173	299	1557	1173
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.4	14.6	13.1	17.9	12.8	11.1	19.0	13.7	13.9	18.8	14.4	13.6
Incr Delay (d2), s/veh	1.7	1.0	0.1	3.1	0.8	0.0	1.2	0.2	0.4	1.4	0.8	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.4	0.1	1.0	1.6	0.1	0.2	0.4	0.4	0.3	1.1	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.1	15.6	13.2	21.0	13.6	11.1	20.2	13.9	14.3	20.2	15.2	14.0
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		265			410			159			283	
Approach Delay, s/veh		15.9			15.6			15.1			15.6	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.1	13.1	9.0	13.5	6.8	13.4	6.4	16.2
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	6.1	33.9	6.1	31.9	6.1	33.9	6.1	31.9
Max Q Clear Time (g_c+I1), s	2.9	3.6	4.9	6.3	2.7	5.6	2.7	7.3
Green Ext Time (p_c), s	0.0	0.4	0.0	0.8	0.0	0.8	0.0	1.0

Intersection Summary	
HCM 7th Control Delay, s/veh	15.6
HCM 7th LOS	B

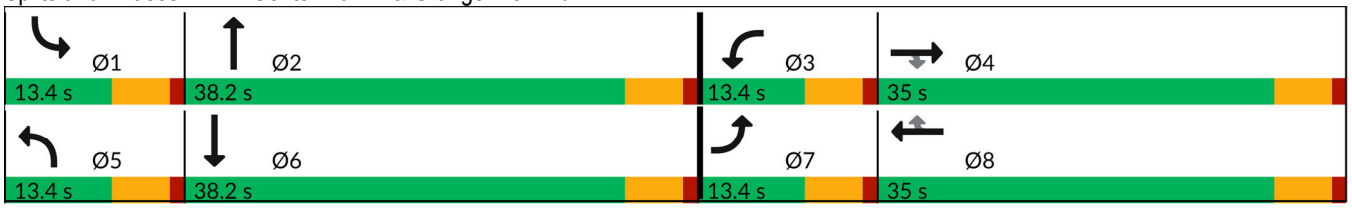


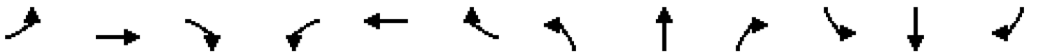
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	190	105	82	244	41	90	95	104	64	199	43
Future Volume (vph)	7	190	105	82	244	41	90	95	104	64	199	43
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	200		90	200		150	150		0	150		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.97			0.97		0.99			0.99	
Frt			0.850			0.850		0.922			0.973	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1863	1458	1630	1701	0	1630	1803	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1410	1630	1863	1410	1630	1701	0	1630	1803	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			141			141		60			12	
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		3658			1623			639			5340	
Travel Time (s)		45.3			20.1			7.9			66.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	8	207	114	89	265	45	98	103	113	70	216	47
Shared Lane Traffic (%)												
Lane Group Flow (vph)	8	207	114	89	265	45	98	216	0	70	263	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	50	50	50	50	50	50	50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.3	28.4	28.4	9.3	28.4	28.4	9.3	34.1		9.3	34.1	
Total Split (s)	13.4	35.0	35.0	13.4	35.0	35.0	13.4	38.2		13.4	38.2	
Total Split (%)	13.4%	35.0%	35.0%	13.4%	35.0%	35.0%	13.4%	38.2%		13.4%	38.2%	
Maximum Green (s)	8.1	29.7	29.7	8.1	29.7	29.7	8.1	32.9		8.1	32.9	
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3		4.3	4.3	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3		-1.3	-1.3	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Don't Walk (s)		16.1	16.1		16.1	16.1		21.8			21.8	
Pedestrian Calls (#/hr)		5	5		5	5		5			5	
Act Effct Green (s)	8.4	15.8	15.8	10.0	23.7	23.7	10.2	17.7		9.7	17.5	
Actuated g/C Ratio	0.14	0.26	0.26	0.16	0.38	0.38	0.16	0.29		0.16	0.28	
v/c Ratio	0.04	0.43	0.25	0.34	0.37	0.07	0.37	0.41		0.28	0.51	
Control Delay (s/veh)	33.0	26.8	4.5	34.6	19.0	0.2	35.3	18.0		33.6	24.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	33.0	26.8	4.5	34.6	19.0	0.2	35.3	18.0		33.6	24.4	
LOS	C	C	A	C	B	A	D	B		C	C	
Approach Delay (s/veh)		19.2			20.3			23.4			26.4	
Approach LOS		B			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 61.9			
Natural Cycle: 85			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay (s/veh): 22.2		Intersection LOS: C	
Intersection Capacity Utilization 50.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 11: Centennial Dr & Grangeville Blvd

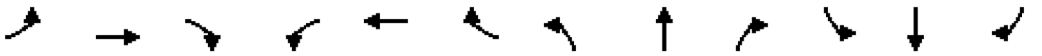




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	190	105	82	244	41	90	95	104	64	199	43
Future Volume (veh/h)	7	190	105	82	244	41	90	95	104	64	199	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	8	207	114	89	265	45	98	103	113	70	216	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	60	400	301	154	507	383	166	216	237	130	365	79
Arrive On Green	0.04	0.21	0.21	0.09	0.27	0.27	0.10	0.27	0.24	0.08	0.25	0.22
Sat Flow, veh/h	1641	1870	1409	1641	1870	1414	1641	806	884	1641	1477	321
Grp Volume(v), veh/h	8	207	114	89	265	45	98	0	216	70	0	263
Grp Sat Flow(s),veh/h/ln	1641	1870	1409	1641	1870	1414	1641	0	1690	1641	0	1799
Q Serve(g_s), s	0.2	4.5	3.2	2.4	5.6	1.1	2.7	0.0	5.0	1.9	0.0	6.0
Cycle Q Clear(g_c), s	0.2	4.5	3.2	2.4	5.6	1.1	2.7	0.0	5.0	1.9	0.0	6.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.52	1.00		0.18
Lane Grp Cap(c), veh/h	60	400	301	154	507	383	166	0	454	130	0	444
V/C Ratio(X)	0.13	0.52	0.38	0.58	0.52	0.12	0.59	0.00	0.48	0.54	0.00	0.59
Avail Cap(c_a), veh/h	332	1249	941	332	1249	944	332	0	1245	332	0	1325
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.7	16.1	15.6	20.2	14.4	12.7	20.0	0.0	14.5	20.6	0.0	15.5
Incr Delay (d2), s/veh	1.0	1.0	0.8	3.4	0.8	0.1	3.3	0.0	0.8	3.4	0.0	1.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.5	0.8	0.9	1.8	0.3	0.9	0.0	1.5	0.7	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	22.7	17.2	16.4	23.6	15.2	12.9	23.3	0.0	15.3	24.0	0.0	16.8
LnGrp LOS	C	B	B	C	B	B	C		B	C		B
Approach Vol, veh/h		329			399			314			333	
Approach Delay, s/veh		17.0			16.8			17.8			18.3	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.7	16.5	8.4	13.9	8.7	15.5	5.7	16.6
Change Period (Y+Rc), s	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
Max Green Setting (Gmax), s	8.1	32.9	8.1	29.7	8.1	32.9	8.1	29.7
Max Q Clear Time (g_c+I1), s	3.9	7.0	4.4	6.5	4.7	8.0	2.2	7.6
Green Ext Time (p_c), s	0.0	0.8	0.1	1.1	0.1	0.9	0.0	1.0

Intersection Summary	
HCM 7th Control Delay, s/veh	17.5
HCM 7th LOS	B

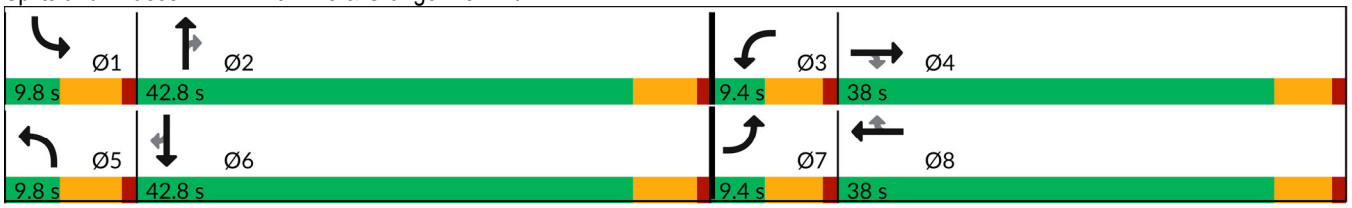


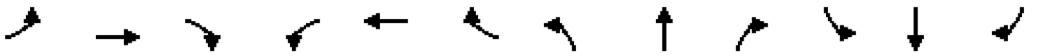
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	305	48	148	291	43	67	188	123	79	490	64
Future Volume (vph)	36	305	48	148	291	43	67	188	123	79	490	64
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	200		130	175		150	260		210	205		160
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor			0.98			0.97			0.98			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3162	3539	1458	3162	3539	1458	3162	3539	1458	3162	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3162	3539	1432	3162	3539	1415	3162	3539	1432	3162	3539	1415
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			149			145			145
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1623			5213			2228			5338	
Travel Time (s)		20.1			64.6			27.6			66.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	332	52	161	316	47	73	204	134	86	533	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	332	52	161	316	47	73	204	134	86	533	70
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	36.6	36.6	9.3	38.0	38.0	9.7	37.4	37.4	9.7	37.4	37.4
Total Split (s)	9.4	38.0	38.0	9.4	38.0	38.0	9.8	42.8	42.8	9.8	42.8	42.8
Total Split (%)	9.4%	38.0%	38.0%	9.4%	38.0%	38.0%	9.8%	42.8%	42.8%	9.8%	42.8%	42.8%
Maximum Green (s)	4.1	32.7	32.7	4.1	32.7	32.7	4.1	37.1	37.1	4.1	37.1	37.1
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		24.3	24.3		25.7	25.7		24.7	24.7		24.7	24.7
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	5.9	14.8	14.8	5.9	22.2	22.2	6.4	16.6	16.6	6.4	19.0	19.0
Actuated g/C Ratio	0.10	0.25	0.25	0.10	0.38	0.38	0.11	0.28	0.28	0.11	0.33	0.33
v/c Ratio	0.12	0.37	0.11	0.50	0.24	0.07	0.21	0.20	0.26	0.25	0.46	0.13
Control Delay (s/veh)	32.7	20.0	0.5	37.9	16.2	0.2	32.4	17.7	4.9	32.6	18.5	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	32.7	20.0	0.5	37.9	16.2	0.2	32.4	17.7	4.9	32.6	18.5	0.5
LOS	C	C	A	D	B	A	C	B	A	C	B	A
Approach Delay (s/veh)		18.8			21.4			16.1			18.4	
Approach LOS		B			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 58.3			
Natural Cycle: 95			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.50			
Intersection Signal Delay (s/veh): 18.8		Intersection LOS: B	
Intersection Capacity Utilization 47.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 12: 12th Ave & Grangeville Blvd

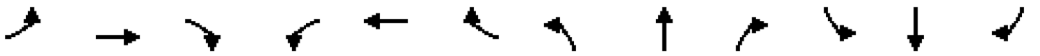




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	305	48	148	291	43	67	188	123	79	490	64
Future Volume (veh/h)	36	305	48	148	291	43	67	188	123	79	490	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	39	332	52	161	316	47	73	204	134	86	533	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	189	747	300	332	906	360	271	979	395	286	996	396
Arrive On Green	0.06	0.21	0.21	0.10	0.26	0.26	0.09	0.28	0.28	0.09	0.28	0.28
Sat Flow, veh/h	3183	3554	1429	3183	3554	1412	3183	3554	1432	3183	3554	1414
Grp Volume(v), veh/h	39	332	52	161	316	47	73	204	134	86	533	70
Grp Sat Flow(s),veh/h/ln	1591	1777	1429	1591	1777	1412	1591	1777	1432	1591	1777	1414
Q Serve(g_s), s	0.6	4.1	1.5	2.4	3.6	1.3	1.1	2.2	3.7	1.3	6.3	1.9
Cycle Q Clear(g_c), s	0.6	4.1	1.5	2.4	3.6	1.3	1.1	2.2	3.7	1.3	6.3	1.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	189	747	300	332	906	360	271	979	395	286	996	396
V/C Ratio(X)	0.21	0.44	0.17	0.48	0.35	0.13	0.27	0.21	0.34	0.30	0.54	0.18
Avail Cap(c_a), veh/h	344	2418	972	344	2418	961	369	2759	1112	369	2759	1098
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.4	17.2	16.2	21.1	15.2	14.3	21.4	13.9	14.5	21.3	15.2	13.6
Incr Delay (d2), s/veh	0.5	0.4	0.3	1.1	0.2	0.2	0.5	0.1	0.5	0.6	0.4	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.3	0.4	0.8	1.1	0.3	0.3	0.7	0.9	0.4	1.9	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	22.9	17.6	16.4	22.2	15.4	14.5	21.9	14.0	15.0	21.9	15.7	13.8
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		423			524			411			689	
Approach Delay, s/veh		18.0			17.4			15.7			16.3	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.5	17.8	9.2	14.5	8.2	18.0	7.0	16.7
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	4.1	37.1	4.1	32.7	4.1	37.1	4.1	32.7
Max Q Clear Time (g_c+I1), s	3.3	5.7	4.4	6.1	3.1	8.3	2.6	5.6
Green Ext Time (p_c), s	0.0	1.3	0.0	1.5	0.0	2.5	0.0	1.4

Intersection Summary	
HCM 7th Control Delay, s/veh	16.8
HCM 7th LOS	B

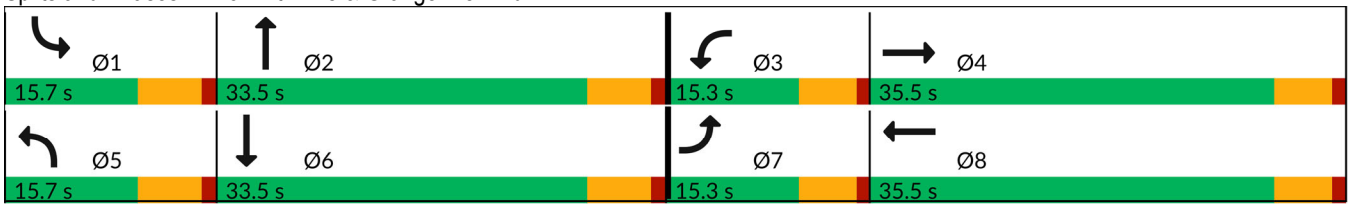


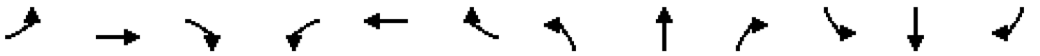
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	261	51	151	316	41	86	224	59	64	542	62
Future Volume (vph)	95	261	51	151	316	41	86	224	59	64	542	62
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	100		0	100		0	185		0	110		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			1.00			1.00			1.00	
Frt		0.976			0.983			0.969			0.985	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	3435	0	1630	3466	0	1630	3415	0	1630	3479	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	3435	0	1630	3466	0	1630	3415	0	1630	3479	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			15			33			12	
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5213			2670			5342			3291	
Travel Time (s)		64.6			33.1			66.2			40.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	284	55	164	343	45	93	243	64	70	589	67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	103	339	0	164	388	0	93	307	0	70	656	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	9.3	25.2		9.3	29.5		9.7	26.0		9.7	26.0	
Total Split (s)	15.3	35.5		15.3	35.5		15.7	33.5		15.7	33.5	
Total Split (%)	15.3%	35.5%		15.3%	35.5%		15.7%	33.5%		15.7%	33.5%	
Maximum Green (s)	10.0	30.2		10.0	30.2		10.0	27.8		10.0	27.8	
Yellow Time (s)	4.3	4.3		4.3	4.3		4.7	4.7		4.7	4.7	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-1.3	-1.3		-1.3	-1.3		-1.7	-1.7		-1.7	-1.7	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		12.9			17.2			13.3			13.3	
Pedestrian Calls (#/hr)		5			5			5			5	
Act Effct Green (s)	10.5	15.4		11.9	20.5		10.7	21.2		10.2	20.8	
Actuated g/C Ratio	0.15	0.21		0.17	0.28		0.15	0.29		0.14	0.29	
v/c Ratio	0.44	0.45		0.61	0.39		0.38	0.30		0.30	0.65	
Control Delay (s/veh)	39.6	26.4		45.3	25.7		37.9	19.8		36.6	26.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	39.6	26.4		45.3	25.7		37.9	19.8		36.6	26.6	
LOS	D	C		D	C		D	B		D	C	
Approach Delay (s/veh)		29.5			31.5			24.0			27.6	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 72.1			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay (s/veh): 28.3		Intersection LOS: C	
Intersection Capacity Utilization 54.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 13: 11th Ave & Grangeville Blvd

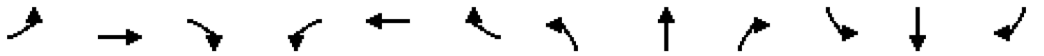




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	261	51	151	316	41	86	224	59	64	542	62
Future Volume (veh/h)	95	261	51	151	316	41	86	224	59	64	542	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	103	284	55	164	343	45	93	243	64	70	589	67
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	166	546	104	240	722	94	165	829	213	135	896	102
Arrive On Green	0.10	0.18	0.16	0.15	0.23	0.21	0.10	0.30	0.27	0.08	0.28	0.25
Sat Flow, veh/h	1641	2956	562	1641	3147	409	1641	2785	717	1641	3209	364
Grp Volume(v), veh/h	103	169	170	164	192	196	93	153	154	70	326	330
Grp Sat Flow(s),veh/h/ln	1641	1777	1742	1641	1777	1779	1641	1777	1725	1641	1777	1796
Q Serve(g_s), s	3.3	4.7	4.9	5.2	5.2	5.3	3.0	3.7	3.9	2.3	8.9	9.0
Cycle Q Clear(g_c), s	3.3	4.7	4.9	5.2	5.2	5.3	3.0	3.7	3.9	2.3	8.9	9.0
Prop In Lane	1.00		0.32	1.00		0.23	1.00		0.42	1.00		0.20
Lane Grp Cap(c), veh/h	166	328	322	240	408	408	165	529	513	135	496	502
V/C Ratio(X)	0.62	0.51	0.53	0.68	0.47	0.48	0.56	0.29	0.30	0.52	0.66	0.66
Avail Cap(c_a), veh/h	335	1012	992	335	1012	1013	347	948	920	347	948	958
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.8	20.3	20.6	22.4	18.4	18.6	23.7	14.9	15.3	24.3	17.6	17.8
Incr Delay (d2), s/veh	3.7	1.2	1.3	3.4	0.8	0.9	3.0	0.3	0.3	3.1	1.5	1.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	1.7	1.7	1.9	1.8	1.8	1.1	1.2	1.2	0.9	3.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.5	21.5	21.9	25.8	19.3	19.5	26.7	15.2	15.6	27.4	19.1	19.2
LnGrp LOS	C	C	C	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		442			552			400			726	
Approach Delay, s/veh		23.1			21.3			18.0			20.0	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.5	20.5	12.1	14.2	9.6	19.4	9.6	16.7
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	10.0	27.8	10.0	30.2	10.0	27.8	10.0	30.2
Max Q Clear Time (g_c+I1), s	4.3	5.9	7.2	6.9	5.0	11.0	5.3	7.3
Green Ext Time (p_c), s	0.1	1.0	0.1	1.1	0.1	2.2	0.1	1.3

Intersection Summary	
HCM 7th Control Delay, s/veh	20.6
HCM 7th LOS	C

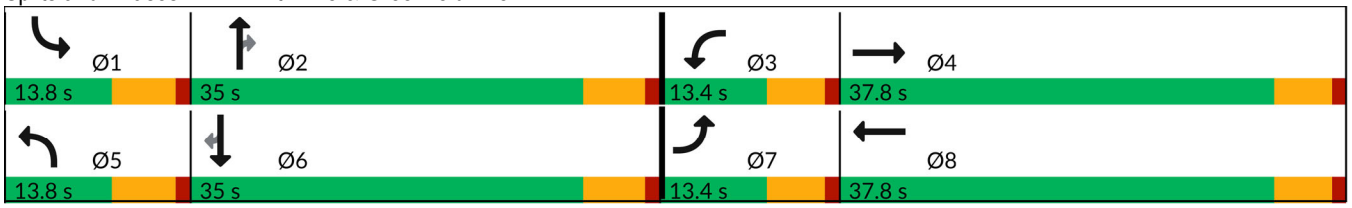


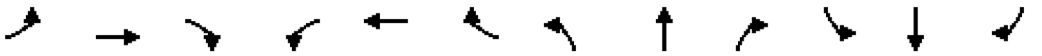
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	78	85	30	65	51	4	15	249	26	53	570	22
Future Volume (vph)	78	85	30	65	51	4	15	249	26	53	570	22
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	185		0	150		0	250		85	260		130
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor		1.00			1.00				0.98			0.98
Frt		0.960			0.990				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	3381	0	1630	3499	0	1630	3539	1458	1630	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	3381	0	1630	3499	0	1630	3539	1429	1630	3539	1429
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33			4				145			145
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		327			331			1372			2228	
Travel Time (s)		4.1			4.1			17.0			27.6	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	85	92	33	71	55	4	16	271	28	58	620	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	125	0	71	59	0	16	271	28	58	620	24
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	32.3		9.3	33.7		9.7	28.8	28.8	9.7	27.4	27.4
Total Split (s)	13.4	37.8		13.4	37.8		13.8	35.0	35.0	13.8	35.0	35.0
Total Split (%)	13.4%	37.8%		13.4%	37.8%		13.8%	35.0%	35.0%	13.8%	35.0%	35.0%
Maximum Green (s)	8.1	32.5		8.1	32.5		8.1	29.3	29.3	8.1	29.3	29.3
Yellow Time (s)	4.3	4.3		4.3	4.3		4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3		-1.3	-1.3		-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)		20.0			21.4			16.1	16.1		14.7	14.7
Pedestrian Calls (#/hr)		5			5			5	5		5	5
Act Effct Green (s)	10.2	11.9		10.0	11.8		9.4	22.9	22.9	10.3	28.0	28.0
Actuated g/C Ratio	0.20	0.23		0.19	0.23		0.18	0.44	0.44	0.20	0.54	0.54
v/c Ratio	0.27	0.16		0.23	0.07		0.05	0.18	0.04	0.18	0.33	0.03
Control Delay (s/veh)	29.6	16.2		29.4	19.4		29.9	18.0	0.1	28.8	13.9	0.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	29.6	16.2		29.4	19.4		29.9	18.0	0.1	28.8	13.9	0.0
LOS	C	B		C	B		C	B	A	C	B	A
Approach Delay (s/veh)		21.6			24.8			17.0			14.6	
Approach LOS		C			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 52.3			
Natural Cycle: 85			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.33			
Intersection Signal Delay (s/veh): 17.2		Intersection LOS: B	
Intersection Capacity Utilization 42.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 14: 12th Ave & Greenfield Ave

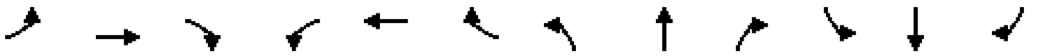




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	85	30	65	51	4	15	249	26	53	570	22
Future Volume (veh/h)	78	85	30	65	51	4	15	249	26	53	570	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	85	92	33	71	55	4	16	271	28	58	620	24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	153	423	144	139	522	37	93	1000	403	144	1108	447
Arrive On Green	0.09	0.16	0.13	0.08	0.16	0.12	0.06	0.28	0.28	0.09	0.31	0.31
Sat Flow, veh/h	1641	2583	878	1641	3355	241	1641	3554	1432	1641	3554	1433
Grp Volume(v), veh/h	85	62	63	71	29	30	16	271	28	58	620	24
Grp Sat Flow(s),veh/h/ln	1641	1777	1684	1641	1777	1819	1641	1777	1432	1641	1777	1433
Q Serve(g_s), s	2.1	1.3	1.4	1.7	0.6	0.6	0.4	2.5	0.6	1.4	6.1	0.5
Cycle Q Clear(g_c), s	2.1	1.3	1.4	1.7	0.6	0.6	0.4	2.5	0.6	1.4	6.1	0.5
Prop In Lane	1.00		0.52	1.00		0.13	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	153	291	276	139	276	283	93	1000	403	144	1108	447
V/C Ratio(X)	0.56	0.21	0.23	0.51	0.10	0.11	0.17	0.27	0.07	0.40	0.56	0.05
Avail Cap(c_a), veh/h	369	1436	1361	369	1436	1470	384	2634	1062	384	2634	1062
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.1	15.1	15.5	18.3	15.2	15.2	18.8	11.7	11.0	18.1	12.0	10.1
Incr Delay (d2), s/veh	3.1	0.4	0.4	2.9	0.2	0.2	0.9	0.1	0.1	1.8	0.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.4	0.4	0.6	0.2	0.2	0.1	0.7	0.1	0.5	1.6	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.3	15.5	15.9	21.2	15.3	15.4	19.6	11.8	11.1	19.9	12.4	10.1
LnGrp LOS	C	B	B	C	B	B	B	B	B	B	B	B
Approach Vol, veh/h		210			130			315			702	
Approach Delay, s/veh		18.0			18.5			12.2			13.0	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.7	15.8	7.5	10.9	6.4	17.0	7.9	10.5
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	8.1	29.3	8.1	32.5	8.1	29.3	8.1	32.5
Max Q Clear Time (g_c+I1), s	3.4	4.5	3.7	3.4	2.4	8.1	4.1	2.6
Green Ext Time (p_c), s	0.0	1.1	0.1	0.4	0.0	2.6	0.1	0.1

Intersection Summary	
HCM 7th Control Delay, s/veh	14.1
HCM 7th LOS	B

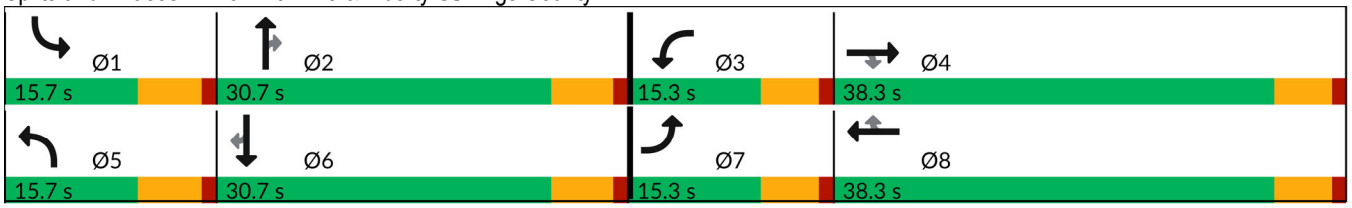


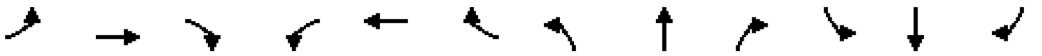
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	74	25	7	17	41	12	278	29	196	460	7
Future Volume (vph)	23	74	25	7	17	41	12	278	29	196	460	7
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	80		80	195		145	250		125	250		125
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98			0.98			0.97			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1863	1458	1630	3539	1458	1630	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1431	1630	1863	1431	1630	3539	1408	1630	3539	1408
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			149			145			145
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1718			718			1686			1372	
Travel Time (s)		21.3			8.9			20.9			17.0	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	25	80	27	8	18	45	13	302	32	213	500	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	25	80	27	8	18	45	13	302	32	213	500	8
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	32.3	32.3	9.3	30.9	30.9	9.7	26.0	26.0	9.7	26.0	26.0
Total Split (s)	15.3	38.3	38.3	15.3	38.3	38.3	15.7	30.7	30.7	15.7	30.7	30.7
Total Split (%)	15.3%	38.3%	38.3%	15.3%	38.3%	38.3%	15.7%	30.7%	30.7%	15.7%	30.7%	30.7%
Maximum Green (s)	10.0	33.0	33.0	10.0	33.0	33.0	10.0	25.0	25.0	10.0	25.0	25.0
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		20.0	20.0		18.6	18.6		13.3	13.3		13.3	13.3
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	8.6	11.6	11.6	8.0	11.0	11.0	8.6	15.7	15.7	13.3	34.3	34.3
Actuated g/C Ratio	0.18	0.24	0.24	0.16	0.23	0.23	0.18	0.32	0.32	0.27	0.70	0.70
v/c Ratio	0.09	0.18	0.06	0.03	0.04	0.10	0.05	0.27	0.06	0.48	0.20	0.01
Control Delay (s/veh)	25.5	17.7	0.2	26.6	17.9	0.5	25.8	16.9	0.2	27.0	9.9	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	25.5	17.7	0.2	26.6	17.9	0.5	25.8	16.9	0.2	27.0	9.9	0.0
LOS	C	B	A	C	B	A	C	B	A	C	A	A
Approach Delay (s/veh)		15.6			7.8			15.7			14.8	
Approach LOS		B			A			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 48.8			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.48			
Intersection Signal Delay (s/veh): 14.7		Intersection LOS: B	
Intersection Capacity Utilization 41.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 15: 12th Ave & Liberty St/Kings County Dr

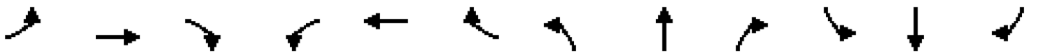




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	74	25	7	17	41	12	278	29	196	460	7
Future Volume (veh/h)	23	74	25	7	17	41	12	278	29	196	460	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	25	80	27	8	18	45	13	302	32	213	500	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	91	303	231	66	273	208	90	753	298	326	1265	505
Arrive On Green	0.06	0.16	0.16	0.04	0.15	0.15	0.05	0.21	0.21	0.20	0.36	0.36
Sat Flow, veh/h	1641	1870	1425	1641	1870	1423	1641	3554	1409	1641	3554	1418
Grp Volume(v), veh/h	25	80	27	8	18	45	13	302	32	213	500	8
Grp Sat Flow(s),veh/h/ln	1641	1870	1425	1641	1870	1423	1641	1777	1409	1641	1777	1418
Q Serve(g_s), s	0.6	1.5	0.7	0.2	0.3	1.2	0.3	3.0	0.8	4.9	4.4	0.2
Cycle Q Clear(g_c), s	0.6	1.5	0.7	0.2	0.3	1.2	0.3	3.0	0.8	4.9	4.4	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	91	303	231	66	273	208	90	753	298	326	1265	505
V/C Ratio(X)	0.27	0.26	0.12	0.12	0.07	0.22	0.15	0.40	0.11	0.65	0.40	0.02
Avail Cap(c_a), veh/h	449	1554	1184	449	1554	1182	465	2298	911	465	2298	917
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.7	15.2	14.8	19.1	15.2	15.5	18.6	14.0	13.1	15.2	10.0	8.6
Incr Delay (d2), s/veh	1.6	0.5	0.2	0.8	0.1	0.5	0.7	0.3	0.2	2.2	0.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.5	0.2	0.1	0.1	0.3	0.1	0.9	0.2	1.5	1.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.3	15.6	15.0	19.9	15.3	16.1	19.3	14.4	13.3	17.4	10.2	8.6
LnGrp LOS	C	B	B	B	B	B	B	B	B	B	B	A
Approach Vol, veh/h		132			71			347			721	
Approach Delay, s/veh		16.4			16.3			14.5			12.3	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.2	12.7	5.7	10.7	6.3	18.7	6.3	10.0
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	10.0	25.0	10.0	33.0	10.0	25.0	10.0	33.0
Max Q Clear Time (g_c+I1), s	6.9	5.0	2.2	3.5	2.3	6.4	2.6	3.2
Green Ext Time (p_c), s	0.2	1.2	0.0	0.3	0.0	1.9	0.0	0.2

Intersection Summary	
HCM 7th Control Delay, s/veh	13.5
HCM 7th LOS	B

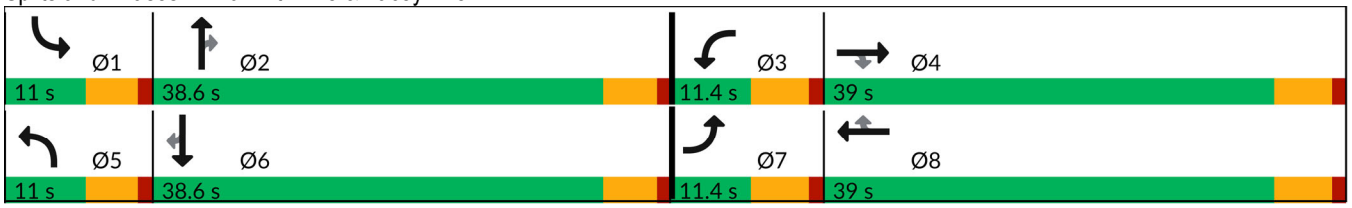


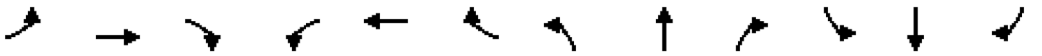
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	262	37	67	136	20	71	257	56	74	349	45
Future Volume (vph)	69	262	37	67	136	20	71	257	56	74	349	45
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	270		120	270		170	240		175	240		120
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98			0.98			0.98			0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3162	3539	1458	3162	3539	1458	1630	3539	1458	1630	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3162	3539	1431	3162	3539	1432	1630	3539	1432	1630	3539	1432
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			132			132			136			136
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		3432			5219			1893			1686	
Travel Time (s)		42.5			64.7			23.5			20.9	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	75	285	40	73	148	22	77	279	61	80	379	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	75	285	40	73	148	22	77	279	61	80	379	49
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	31.7	31.7	9.3	34.5	34.5	8.9	36.6	36.6	8.9	35.2	35.2
Total Split (s)	11.4	39.0	39.0	11.4	39.0	39.0	11.0	38.6	38.6	11.0	38.6	38.6
Total Split (%)	11.4%	39.0%	39.0%	11.4%	39.0%	39.0%	11.0%	38.6%	38.6%	11.0%	38.6%	38.6%
Maximum Green (s)	6.1	33.7	33.7	6.1	33.7	33.7	6.1	33.7	33.7	6.1	33.7	33.7
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	3.9	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-0.9	-0.9	-0.9	-0.9	1.0	1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.9	5.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		19.4	19.4		22.2	22.2		24.7	24.7		23.3	23.3
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	8.7	14.2	14.2	8.7	14.2	14.2	8.5	15.0	15.0	8.5	12.7	12.7
Actuated g/C Ratio	0.16	0.27	0.27	0.16	0.27	0.27	0.16	0.28	0.28	0.16	0.24	0.24
v/c Ratio	0.14	0.30	0.08	0.14	0.16	0.05	0.30	0.28	0.12	0.31	0.45	0.11
Control Delay (s/veh)	29.1	19.3	0.4	29.1	19.1	0.2	33.7	18.2	0.5	34.0	21.0	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	29.1	19.3	0.4	29.1	19.1	0.2	33.7	18.2	0.5	34.0	21.0	0.5
LOS	C	B	A	C	B	A	C	B	A	C	C	A
Approach Delay (s/veh)		19.3			20.4			18.5			21.1	
Approach LOS		B			C			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 53.2			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.45			
Intersection Signal Delay (s/veh): 19.8		Intersection LOS: B	
Intersection Capacity Utilization 44.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 16: 12th Ave & Lacey Ave

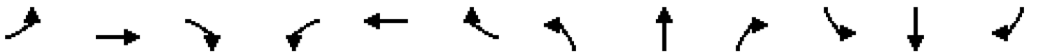




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	262	37	67	136	20	71	257	56	74	349	45
Future Volume (veh/h)	69	262	37	67	136	20	71	257	56	74	349	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	75	285	40	73	148	22	77	279	61	80	379	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	278	738	297	275	735	295	129	846	340	131	687	276
Arrive On Green	0.09	0.21	0.21	0.09	0.21	0.21	0.08	0.24	0.24	0.08	0.19	0.19
Sat Flow, veh/h	3183	3554	1429	3183	3554	1429	1641	3554	1431	1641	3554	1428
Grp Volume(v), veh/h	75	285	40	73	148	22	77	279	61	80	379	49
Grp Sat Flow(s),veh/h/ln	1591	1777	1429	1591	1777	1429	1641	1777	1431	1641	1777	1428
Q Serve(g_s), s	0.9	2.8	0.9	0.9	1.4	0.5	1.9	2.7	1.4	1.9	4.0	1.2
Cycle Q Clear(g_c), s	0.9	2.8	0.9	0.9	1.4	0.5	1.9	2.7	1.4	1.9	4.0	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	278	738	297	275	735	295	129	846	340	131	687	276
V/C Ratio(X)	0.27	0.39	0.13	0.27	0.20	0.07	0.60	0.33	0.18	0.61	0.55	0.18
Avail Cap(c_a), veh/h	571	3015	1213	571	3015	1212	278	2981	1200	278	2817	1132
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.6	14.1	13.3	17.6	13.5	13.2	18.4	13.0	12.5	18.4	15.0	13.9
Incr Delay (d2), s/veh	0.5	0.3	0.2	0.5	0.1	0.1	4.4	0.2	0.2	4.5	0.7	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.8	0.2	0.3	0.4	0.1	0.7	0.7	0.3	0.7	1.2	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.1	14.4	13.5	18.1	13.7	13.3	22.7	13.2	12.8	22.9	15.7	14.2
LnGrp LOS	B	B	B	B	B	B	C	B	B	C	B	B
Approach Vol, veh/h		400			243			417			508	
Approach Delay, s/veh		15.0			15.0			14.9			16.7	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.3	13.8	7.6	12.6	7.2	13.9	7.6	12.5
Change Period (Y+Rc), s	4.9	4.9	5.3	5.3	4.9	4.9	5.3	5.3
Max Green Setting (Gmax), s	6.1	33.7	6.1	33.7	6.1	33.7	6.1	33.7
Max Q Clear Time (g_c+I1), s	3.9	4.7	2.9	4.8	3.9	6.0	2.9	3.4
Green Ext Time (p_c), s	0.0	1.3	0.0	1.3	0.0	1.7	0.0	0.6

Intersection Summary	
HCM 7th Control Delay, s/veh	15.5
HCM 7th LOS	B

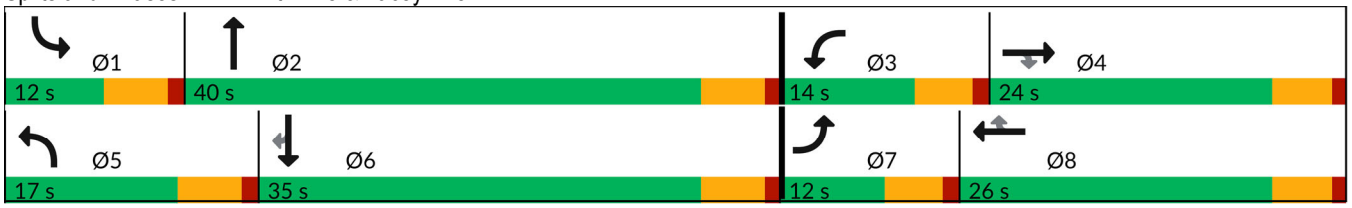


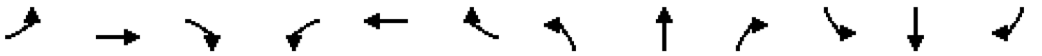
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	149	76	100	188	60	136	420	56	75	465	100
Future Volume (vph)	82	149	76	100	188	60	136	420	56	75	465	100
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	200		100	130		100	70		0	160		105
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.96			0.98		1.00				0.98
Frt			0.850			0.850		0.982				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	3539	1458	1630	3539	1458	1630	1825	0	1630	1863	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	3539	1405	1630	3539	1426	1630	1825	0	1630	1863	1432
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			152			152		9				147
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5219			6528			4809			5342	
Travel Time (s)		64.7			80.9			59.6			66.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	89	162	83	109	204	65	148	457	61	82	505	109
Shared Lane Traffic (%)												
Lane Group Flow (vph)	89	162	83	109	204	65	148	518	0	82	505	109
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50		50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.9	22.9	22.9	8.9	22.9	22.9	9.3	31.3		9.3	32.7	32.7
Total Split (s)	12.0	24.0	24.0	14.0	26.0	26.0	17.0	40.0		12.0	35.0	35.0
Total Split (%)	13.3%	26.7%	26.7%	15.6%	28.9%	28.9%	18.9%	44.4%		13.3%	38.9%	38.9%
Maximum Green (s)	7.1	19.1	19.1	9.1	21.1	21.1	11.7	34.7		6.7	29.7	29.7
Yellow Time (s)	3.9	3.9	3.9	3.9	3.9	3.9	4.3	4.3		4.3	4.3	4.3
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-1.3	-1.3		-1.3	-1.3	-1.3
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Don't Walk (s)		9.4	9.4		9.4	9.4		19.0			20.4	20.4
Pedestrian Calls (#/hr)		5	5		5	5		5			5	5
Act Effct Green (s)	8.8	11.5	11.5	10.3	12.8	12.8	12.7	29.6		8.9	26.4	26.4
Actuated g/C Ratio	0.13	0.17	0.17	0.15	0.19	0.19	0.18	0.43		0.13	0.38	0.38
v/c Ratio	0.43	0.27	0.23	0.45	0.31	0.17	0.49	0.65		0.39	0.71	0.17
Control Delay (s/veh)	42.5	31.2	1.9	40.3	29.5	0.9	38.1	22.3		41.1	27.9	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	42.5	31.2	1.9	40.3	29.5	0.9	38.1	22.3		41.1	27.9	2.3
LOS	D	C	A	D	C	A	D	C		D	C	A
Approach Delay (s/veh)		27.0			27.7			25.8			25.4	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 68.7			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay (s/veh): 26.2		Intersection LOS: C	
Intersection Capacity Utilization 57.6%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 17: 11th Ave & Lacey Ave

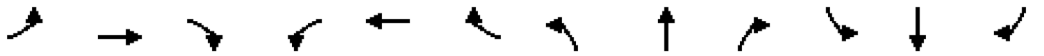




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	149	76	100	188	60	136	420	56	75	465	100
Future Volume (veh/h)	82	149	76	100	188	60	136	420	56	75	465	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	89	162	83	109	204	65	148	457	61	82	505	109
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	136	476	187	162	533	213	222	645	86	138	652	500
Arrive On Green	0.08	0.13	0.13	0.10	0.15	0.15	0.14	0.40	0.38	0.08	0.35	0.35
Sat Flow, veh/h	1641	3554	1396	1641	3554	1424	1641	1612	215	1641	1870	1434
Grp Volume(v), veh/h	89	162	83	109	204	65	148	0	518	82	505	109
Grp Sat Flow(s),veh/h/ln	1641	1777	1396	1641	1777	1424	1641	0	1827	1641	1870	1434
Q Serve(g_s), s	3.0	2.3	3.1	3.6	2.9	2.3	4.8	0.0	13.4	2.7	13.6	3.0
Cycle Q Clear(g_c), s	3.0	2.3	3.1	3.6	2.9	2.3	4.8	0.0	13.4	2.7	13.6	3.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	136	476	187	162	533	213	222	0	731	138	652	500
V/C Ratio(X)	0.66	0.34	0.44	0.67	0.38	0.30	0.67	0.00	0.71	0.60	0.77	0.22
Avail Cap(c_a), veh/h	233	1260	495	291	1386	555	378	0	1166	233	1028	788
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.1	22.2	22.5	24.5	21.6	21.4	23.2	0.0	14.2	24.9	16.4	12.9
Incr Delay (d2), s/veh	5.3	0.4	1.7	4.8	0.5	0.8	3.4	0.0	1.3	4.1	2.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.8	0.9	1.4	1.0	0.7	1.8	0.0	4.2	1.0	4.6	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.4	22.6	24.1	29.3	22.1	22.2	26.6	0.0	15.5	29.0	18.4	13.2
LnGrp LOS	C	C	C	C	C	C	C		B	C	B	B
Approach Vol, veh/h		334			378			666			696	
Approach Delay, s/veh		25.1			24.2			18.0			18.8	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	26.6	9.6	11.6	11.6	23.7	8.7	12.5
Change Period (Y+Rc), s	5.3	5.3	4.9	4.9	5.3	5.3	4.9	4.9
Max Green Setting (Gmax), s	6.7	34.7	9.1	19.1	11.7	29.7	7.1	21.1
Max Q Clear Time (g_c+I1), s	4.7	15.4	5.6	5.1	6.8	15.6	5.0	4.9
Green Ext Time (p_c), s	0.0	1.9	0.1	0.8	0.2	2.0	0.0	0.9

Intersection Summary	
HCM 7th Control Delay, s/veh	20.5
HCM 7th LOS	C

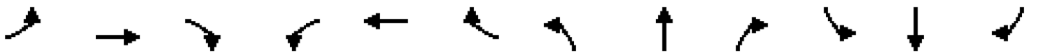


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	66	182	113	33	9	180	433	388	39	422	28
Future Volume (vph)	25	66	182	113	33	9	180	433	388	39	422	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	265		260	230		140	250		0	180		180
Storage Lanes	1		1	1		1	2		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	0.97	0.91	0.91	1.00	0.91	1.00
Ped Bike Factor						0.98		0.98				0.98
Frt			0.850			0.850		0.929				0.850
Flt Protected	0.950	0.998		0.950	0.973		0.950			0.950		
Satd. Flow (prot)	1681	1766	1583	1681	1722	1583	3433	4644	0	1770	5085	1583
Flt Permitted	0.950	0.996		0.950	0.860		0.950			0.950		
Satd. Flow (perm)	1681	1763	1583	1681	1522	1556	3433	4644	0	1770	5085	1549
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			198			136		218				132
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1154			586			1240			1893	
Travel Time (s)		14.3			7.3			15.4			23.5	
Confl. Peds. (#/hr)						5			5			5
Confl. Bikes (#/hr)						2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	72	198	123	36	10	196	471	422	42	459	30
Shared Lane Traffic (%)	10%			36%								
Lane Group Flow (vph)	24	75	198	79	80	10	196	893	0	42	459	30
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50		50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.9	22.9	22.9	8.9	39.9	39.9	9.3	24.1		9.3	24.1	24.1
Total Split (s)	12.9	43.9	43.9	12.9	43.9	43.9	13.3	29.9		13.3	29.9	29.9
Total Split (%)	12.9%	43.9%	43.9%	12.9%	43.9%	43.9%	13.3%	29.9%		13.3%	29.9%	29.9%
Maximum Green (s)	8.0	39.0	39.0	8.0	39.0	39.0	8.0	24.6		8.0	24.6	24.6
Yellow Time (s)	3.9	3.9	3.9	3.9	3.9	3.9	4.3	4.3		4.3	4.3	4.3
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-1.3	-1.3		-1.3	-1.3	-1.3
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	Min
Walk Time (s)					7.0	7.0		7.0			7.0	7.0
Flash Don't Walk (s)					28.0	28.0		11.8			11.8	11.8
Pedestrian Calls (#/hr)					5	5		5			5	5
Act Effct Green (s)	7.6	3.2	40.5	8.5	6.8	45.7	9.2	24.4		8.4	18.3	18.3
Actuated g/C Ratio	0.08	0.04	0.45	0.09	0.08	0.51	0.10	0.27		0.09	0.20	0.20
v/c Ratio	0.17	1.21	0.24	0.50	0.62	0.01	0.56	0.63		0.26	0.44	0.07
Control Delay (s/veh)	44.5	218.3	3.7	53.5	62.8	0.0	47.4	25.1		45.3	32.8	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	44.5	218.3	3.7	53.5	62.8	0.0	47.4	25.1		45.3	32.8	0.3
LOS	D	F	A	D	E	A	D	C		D	C	A
Approach Delay (s/veh)		61.2			54.7			29.1			31.9	
Approach LOS		E			D			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 90.1			
Natural Cycle: 85			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.21			
Intersection Signal Delay (s/veh): 36.5		Intersection LOS: D	
Intersection Capacity Utilization 44.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 18: 12th Ave & Centennial Dr



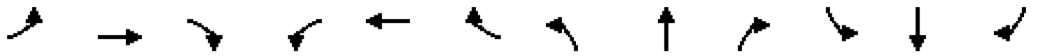
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	66	182	113	33	9	180	433	388	39	422	28
Future Volume (veh/h)	25	66	182	113	33	9	180	433	388	39	422	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	27	72	198	80	97	10	196	471	422	42	459	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	75	357	302	132	416	346	399	1243	562	107	1583	482
Arrive On Green	0.04	0.19	0.19	0.07	0.22	0.22	0.12	0.37	0.34	0.06	0.31	0.31
Sat Flow, veh/h	1781	1870	1585	1781	1870	1552	3456	3404	1538	1781	5106	1556
Grp Volume(v), veh/h	27	72	198	80	97	10	196	471	422	42	459	30
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1552	1728	1702	1538	1781	1702	1556
Q Serve(g_s), s	0.8	1.7	6.0	2.2	2.2	0.3	2.7	5.3	12.6	1.2	3.5	0.7
Cycle Q Clear(g_c), s	0.8	1.7	6.0	2.2	2.2	0.3	2.7	5.3	12.6	1.2	3.5	0.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	75	357	302	132	416	346	399	1243	562	107	1583	482
V/C Ratio(X)	0.36	0.20	0.66	0.60	0.23	0.03	0.49	0.38	0.75	0.39	0.29	0.06
Avail Cap(c_a), veh/h	307	1445	1224	307	1445	1199	622	1707	771	321	2560	780
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.1	17.6	19.3	23.2	16.5	15.7	21.4	12.1	15.0	23.4	13.5	12.5
Incr Delay (d2), s/veh	2.9	0.3	2.4	4.4	0.3	0.0	0.9	0.2	2.7	2.3	0.1	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.6	1.9	0.9	0.8	0.1	1.0	1.4	3.5	0.5	1.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.9	17.9	21.7	27.6	16.7	15.7	22.4	12.3	17.7	25.7	13.6	12.6
LnGrp LOS	C	B	C	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		297			187			1089			531	
Approach Delay, s/veh		21.3			21.3			16.2			14.5	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.1	22.9	7.8	13.9	10.0	20.0	6.2	15.5
Change Period (Y+Rc), s	5.3	5.3	4.9	4.9	5.3	5.3	4.9	4.9
Max Green Setting (Gmax), s	8.0	24.6	8.0	39.0	8.0	24.6	8.0	39.0
Max Q Clear Time (g_c+I1), s	3.2	14.6	4.2	8.0	4.7	5.5	2.8	4.2
Green Ext Time (p_c), s	0.0	2.9	0.1	1.0	0.2	1.9	0.0	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	16.9
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

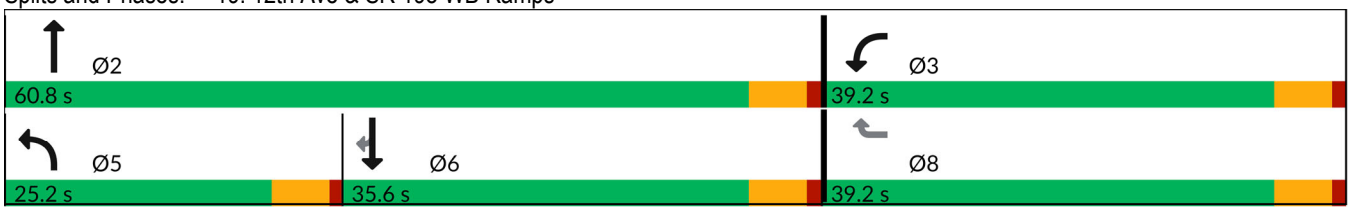


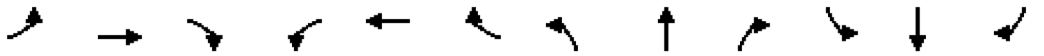
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	56	0	392	201	766	0	0	496	260
Future Volume (vph)	0	0	0	56	0	392	201	766	0	0	496	260
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	0		0	200		200	405		0	130		0
Storage Lanes	0		0	2		1	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	0.88	1.00	0.95	1.00	1.00	0.95	1.00
Frt						0.850						0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	3162	0	2567	1630	3539	0	0	3539	1458
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	3162	0	2567	1630	3539	0	0	3539	1458
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						279						283
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		239			374			625			1240	
Travel Time (s)		3.0			4.6			7.7			15.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	61	0	426	218	833	0	0	539	283
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	61	0	426	218	833	0	0	539	283
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1		1	1	1			1	1
Detector Template												
Leading Detector (ft)				50		50	50	50			50	50
Trailing Detector (ft)				0		0	0	0			0	0
Detector 1 Position(ft)				0		0	0	0			0	0
Detector 1 Size(ft)				50		50	50	50			50	50
Detector 1 Type				Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0		0.0	0.0	0.0			0.0	0.0
Detector 1 Queue (s)				0.0		0.0	0.0	0.0			0.0	0.0
Detector 1 Delay (s)				0.0		0.0	0.0	0.0			0.0	0.0
Turn Type				Prot		Perm	Prot	NA			NA	Perm
Protected Phases				3			5	2			6	
Permitted Phases						8						6
Detector Phase				3		8	5	2			6	6
Switch Phase												
Minimum Initial (s)				4.0		4.0	4.0	4.0			4.0	4.0
Minimum Split (s)				9.3		23.3	9.3	23.3			23.3	23.3
Total Split (s)				39.2		39.2	25.2	60.8			35.6	35.6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)				39.2%		39.2%	25.2%	60.8%			35.6%	35.6%
Maximum Green (s)				33.9		33.9	19.9	55.5			30.3	30.3
Yellow Time (s)				4.3		4.3	4.3	4.3			4.3	4.3
All-Red Time (s)				1.0		1.0	1.0	1.0			1.0	1.0
Lost Time Adjust (s)				-1.3		-1.3	-1.3	-1.3			-1.3	-1.3
Total Lost Time (s)				4.0		4.0	4.0	4.0			4.0	4.0
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	3.0
Recall Mode				None		None	None	Min			Min	Min
Act Effct Green (s)				10.6		10.9	14.5	34.9			16.3	16.3
Actuated g/C Ratio				0.20		0.20	0.27	0.64			0.30	0.30
v/c Ratio				0.10		0.58	0.50	0.37			0.51	0.45
Control Delay (s/veh)				20.3		11.4	22.9	5.1			18.6	5.2
Queue Delay				0.0		0.0	0.0	0.0			0.0	0.0
Total Delay (s/veh)				20.3		11.4	22.9	5.1			18.6	5.2
LOS				C		B	C	A			B	A
Approach Delay (s/veh)					12.5			8.8			14.0	
Approach LOS					B			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 54.2			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay (s/veh): 11.4		Intersection LOS: B	
Intersection Capacity Utilization 42.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 19: 12th Ave & SR 198 WB Ramps

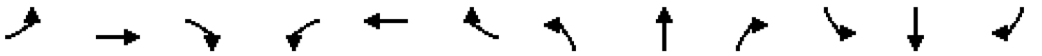




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	56	0	392	201	766	0	0	496	260
Future Volume (veh/h)	0	0	0	56	0	392	201	766	0	0	496	260
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1723	0	1723	1723	1870	0	0	1870	1723
Adj Flow Rate, veh/h				61	0	426	218	833	0	0	539	283
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	0	2	2	2	0	0	2	2
Cap, veh/h				827	0	668	316	2052	0	0	1077	442
Arrive On Green				0.26	0.00	0.26	0.19	0.58	0.00	0.00	0.30	0.30
Sat Flow, veh/h				3183	0	2569	1641	3647	0	0	3647	1460
Grp Volume(v), veh/h				61	0	426	218	833	0	0	539	283
Grp Sat Flow(s),veh/h/ln				1591	0	1285	1641	1777	0	0	1777	1460
Q Serve(g_s), s				0.7	0.0	7.2	6.1	6.4	0.0	0.0	6.1	8.2
Cycle Q Clear(g_c), s				0.7	0.0	7.2	6.1	6.4	0.0	0.0	6.1	8.2
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				827	0	668	316	2052	0	0	1077	442
V/C Ratio(X)				0.07	0.00	0.64	0.69	0.41	0.00	0.00	0.50	0.64
Avail Cap(c_a), veh/h				2279	0	1840	708	4106	0	0	2284	939
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				13.7	0.0	16.1	18.5	5.7	0.0	0.0	14.1	14.8
Incr Delay (d2), s/veh				0.0	0.0	1.0	2.7	0.1	0.0	0.0	0.4	1.5
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.2	0.0	1.6	2.0	1.0	0.0	0.0	1.8	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				13.8	0.0	17.2	21.1	5.9	0.0	0.0	14.4	16.4
LnGrp LOS				B		B	C	A			B	B
Approach Vol, veh/h					487			1051			822	
Approach Delay, s/veh					16.7			9.0			15.1	
Approach LOS					B			A			B	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		32.4			13.5	18.9		16.8				
Change Period (Y+Rc), s		5.3			5.3	5.3		5.3				
Max Green Setting (Gmax), s		55.5			19.9	30.3		33.9				
Max Q Clear Time (g_c+I1), s		8.4			8.1	10.2		9.2				
Green Ext Time (p_c), s		3.9			0.5	3.4		2.3				

Intersection Summary												
HCM 7th Control Delay, s/veh			12.7									
HCM 7th LOS			B									

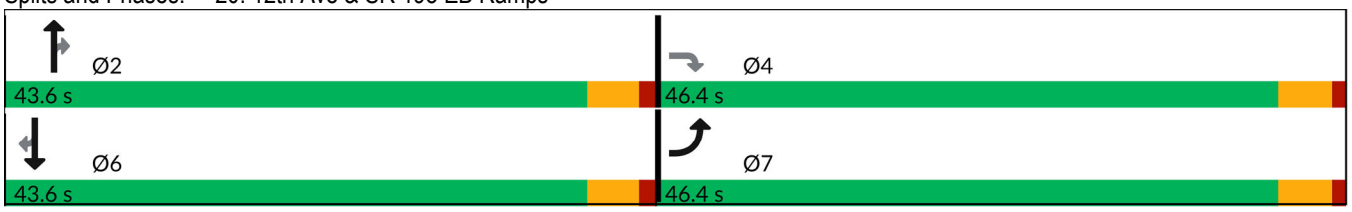


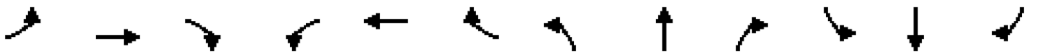
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	289	0	98	0	0	0	0	678	150	0	318	246
Future Volume (vph)	289	0	98	0	0	0	0	678	150	0	318	246
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	210		210	0		0	0		0	0		160
Storage Lanes	2		0	0		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850						0.850			0.850
Flt Protected	0.950											
Satd. Flow (prot)	3162	0	1458	0	0	0	0	3539	1458	0	3539	1458
Flt Permitted	0.950											
Satd. Flow (perm)	3162	0	1458	0	0	0	0	3539	1458	0	3539	1458
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			107						163			267
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		206			226			520			625	
Travel Time (s)		2.6			2.8			6.4			7.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	314	0	107	0	0	0	0	737	163	0	346	267
Shared Lane Traffic (%)												
Lane Group Flow (vph)	314	0	107	0	0	0	0	737	163	0	346	267
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1		1					1	1		1	1
Detector Template												
Leading Detector (ft)	50		50					50	50		50	50
Trailing Detector (ft)	0		0					0	0		0	0
Detector 1 Position(ft)	0		0					0	0		0	0
Detector 1 Size(ft)	50		50					50	50		50	50
Detector 1 Type	Cl+Ex		Cl+Ex					Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0					0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0					0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0					0.0	0.0		0.0	0.0
Turn Type	Prot		Perm					NA	Perm		NA	Perm
Protected Phases	7							2			6	
Permitted Phases			4						2			6
Detector Phase	7		4					2	2		6	6
Switch Phase												
Minimum Initial (s)	4.0		4.0					4.0	4.0		4.0	4.0
Minimum Split (s)	8.5		22.5					22.5	22.5		22.5	22.5
Total Split (s)	46.4		46.4					43.6	43.6		43.6	43.6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	51.6%		51.6%					48.4%	48.4%		48.4%	48.4%
Maximum Green (s)	41.9		41.9					39.1	39.1		39.1	39.1
Yellow Time (s)	3.5		3.5					3.5	3.5		3.5	3.5
All-Red Time (s)	1.0		1.0					1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-0.5		-0.5					-0.5	0.0		-0.5	0.0
Total Lost Time (s)	4.0		4.0					4.0	4.5		4.0	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0		3.0					3.0	3.0		3.0	3.0
Recall Mode	None		None					Min	Min		Min	Min
Act Effct Green (s)	9.8		9.8					14.2	13.7		14.2	13.7
Actuated g/C Ratio	0.31		0.31					0.44	0.43		0.44	0.43
v/c Ratio	0.33		0.21					0.47	0.23		0.22	0.34
Control Delay (s/veh)	10.0		3.9					7.7	2.4		6.2	2.6
Queue Delay	0.0		0.0					0.0	0.0		0.0	0.0
Total Delay (s/veh)	10.0		3.9					7.7	2.4		6.2	2.6
LOS	A		A					A	A		A	A
Approach Delay (s/veh)		8.4						6.7			4.6	
Approach LOS		A						A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 32.1			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.47			
Intersection Signal Delay (s/veh): 6.4		Intersection LOS: A	
Intersection Capacity Utilization 34.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 20: 12th Ave & SR 198 EB Ramps

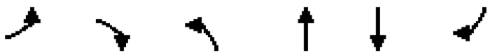




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	289	0	98	0	0	0	0	678	150	0	318	246
Future Volume (veh/h)	289	0	98	0	0	0	0	678	150	0	318	246
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1723	0	1723				0	1870	1723	0	1870	1723
Adj Flow Rate, veh/h	314	0	107				0	737	163	0	346	267
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	2
Cap, veh/h	781	0	358				0	1505	588	0	1505	588
Arrive On Green	0.25	0.00	0.25				0.00	0.42	0.40	0.00	0.42	0.40
Sat Flow, veh/h	3183	0	1460				0	3647	1460	0	3647	1460
Grp Volume(v), veh/h	314	0	107				0	737	163	0	346	267
Grp Sat Flow(s),veh/h/ln	1591	0	1460				0	1777	1460	0	1777	1460
Q Serve(g_s), s	2.0	0.0	1.4				0.0	3.6	1.8	0.0	1.5	3.2
Cycle Q Clear(g_c), s	2.0	0.0	1.4				0.0	3.6	1.8	0.0	1.5	3.2
Prop In Lane	1.00		1.00				0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	781	0	358				0	1505	588	0	1505	588
V/C Ratio(X)	0.40	0.00	0.30				0.00	0.49	0.28	0.00	0.23	0.45
Avail Cap(c_a), veh/h	5586	0	2562				0	5825	2363	0	5825	2363
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	7.6	0.0	7.4				0.0	5.1	4.9	0.0	4.4	5.3
Incr Delay (d2), s/veh	0.3	0.0	0.5				0.0	0.2	0.3	0.0	0.1	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.2				0.0	0.1	0.0	0.0	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.0	0.0	7.9				0.0	5.3	5.1	0.0	4.5	5.8
LnGrp LOS	A		A					A	A		A	A
Approach Vol, veh/h		421						900			613	
Approach Delay, s/veh		7.9						5.3			5.1	
Approach LOS		A						A			A	

Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		14.2		9.9		14.2						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		39.1		41.9		39.1						
Max Q Clear Time (g_c+I1), s		5.6		4.0		5.2						
Green Ext Time (p_c), s		4.1		1.8		2.6						

Intersection Summary	
HCM 7th Control Delay, s/veh	5.8
HCM 7th LOS	A



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	32	124	41	251	247	11
Future Volume (vph)	32	124	41	251	247	11
Ideal Flow (vphpl)	1750	1750	1750	1900	1900	1750
Storage Length (ft)	200	0	0			0
Storage Lanes	0	0	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.893				0.994	
Flt Protected	0.990			0.993		
Satd. Flow (prot)	1517	0	0	1850	1852	0
Flt Permitted	0.990			0.993		
Satd. Flow (perm)	1517	0	0	1850	1852	0
Link Speed (mph)	55			55	55	
Link Distance (ft)	246			853	4514	
Travel Time (s)	3.0			10.6	56.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	135	45	273	268	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	170	0	0	318	280	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.11	1.11	1.11	1.00	1.00	1.11
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	49.4%	ICU Level of Service	A
Analysis Period (min)	15		

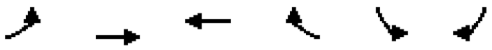
Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	32	124	41	251	247	11
Future Vol, veh/h	32	124	41	251	247	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	135	45	273	268	12

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	636	274	280	0	-	0
Stage 1	274	-	-	-	-	-
Stage 2	362	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	442	764	1282	-	-	-
Stage 1	772	-	-	-	-	-
Stage 2	705	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	424	764	1282	-	-	-
Mov Cap-2 Maneuver	424	-	-	-	-	-
Stage 1	740	-	-	-	-	-
Stage 2	705	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	12.39	1.11	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	253	-	656	-	-
HCM Lane V/C Ratio	0.035	-	0.258	-	-
HCM Control Delay (s/veh)	7.9	0	12.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	1	-	-



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	19	241	374	27	79	57
Future Volume (vph)	19	241	374	27	79	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0			0	200	0
Storage Lanes	0			0	0	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.991		0.943	
Flt Protected		0.996			0.972	
Satd. Flow (prot)	0	1855	1846	0	1707	0
Flt Permitted		0.996			0.972	
Satd. Flow (perm)	0	1855	1846	0	1707	0
Link Speed (mph)		55	55		55	
Link Distance (ft)		816	488		422	
Travel Time (s)		10.1	6.0		5.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	262	407	29	86	62
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	283	436	0	148	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	42.9%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	19	241	374	27	79	57
Future Vol, veh/h	19	241	374	27	79	57
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	262	407	29	86	62

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	436	0	-	0	724	421
Stage 1	-	-	-	-	421	-
Stage 2	-	-	-	-	303	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1124	-	-	-	392	632
Stage 1	-	-	-	-	662	-
Stage 2	-	-	-	-	749	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1124	-	-	-	384	632
Mov Cap-2 Maneuver	-	-	-	-	384	-
Stage 1	-	-	-	-	648	-
Stage 2	-	-	-	-	749	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.6	0	16.5
HCM LOS			C

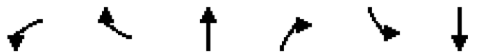
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	132	-	-	-	460
HCM Lane V/C Ratio	0.018	-	-	-	0.322
HCM Control Delay (s/veh)	8.3	0	-	-	16.5
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	1.4

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	279	18	301	138	28	258
Future Volume (vph)	279	18	301	138	28	258
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt		0.850	0.953			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3373	0	1770	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3373	0	1770	1863
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		20	75			
Link Speed (mph)	55		55			55
Link Distance (ft)	1631		1771			2743
Travel Time (s)	20.2		22.0			34.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	303	20	327	150	30	280
Shared Lane Traffic (%)						
Lane Group Flow (vph)	303	20	477	0	30	280
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Split (s)	22.5	22.5	22.5		8.5	22.5
Total Split (s)	58.0	58.0	32.0		8.5	32.0
Total Split (%)	58.9%	58.9%	32.5%		8.6%	32.5%
Maximum Green (s)	53.5	53.5	27.5		4.0	27.5
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5		4.5	4.5
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	Min		None	Min
Walk Time (s)	7.0	7.0	7.0			7.0
Flash Don't Walk (s)	11.0	11.0	11.0			11.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effct Green (s)	13.0	13.0	12.3		4.2	13.5
Actuated g/C Ratio	0.36	0.36	0.34		0.12	0.38
v/c Ratio	0.47	0.03	0.40		0.15	0.40
Control Delay (s/veh)	12.1	5.1	10.0		20.0	10.8
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay (s/veh)	12.1	5.1	10.0		20.0	10.8
LOS	B	A	A		B	B
Approach Delay (s/veh)	11.7		10.0			11.7
Approach LOS	B		A			B

Intersection Summary			
Area Type:	Other		
Cycle Length: 98.5			
Actuated Cycle Length: 35.9			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.47			
Intersection Signal Delay (s/veh): 11.0		Intersection LOS: B	
Intersection Capacity Utilization 42.8%		ICU Level of Service A	
Analysis Period (min) 15			

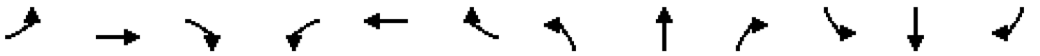
Splits and Phases: 23: 12th Ave & Singh Dev. Project Entrance



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	279	18	301	138	28	258
Future Volume (veh/h)	279	18	301	138	28	258
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	303	20	327	150	30	280
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	423	376	642	289	53	848
Arrive On Green	0.24	0.24	0.27	0.27	0.03	0.45
Sat Flow, veh/h	1781	1585	2477	1071	1781	1870
Grp Volume(v), veh/h	303	20	242	235	30	280
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1678	1781	1870
Q Serve(g_s), s	4.6	0.3	3.4	3.5	0.5	2.8
Cycle Q Clear(g_c), s	4.6	0.3	3.4	3.5	0.5	2.8
Prop In Lane	1.00	1.00		0.64	1.00	
Lane Grp Cap(c), veh/h	423	376	479	452	53	848
V/C Ratio(X)	0.72	0.05	0.51	0.52	0.57	0.33
Avail Cap(c_a), veh/h	3271	2911	1677	1584	245	1766
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.2	8.6	9.0	9.0	14.0	5.1
Incr Delay (d2), s/veh	2.3	0.1	0.8	0.9	9.3	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.6	0.6	0.3	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	12.5	8.6	9.8	10.0	23.2	5.3
LnGrp LOS	B	A	A	A	C	A
Approach Vol, veh/h	323		477			310
Approach Delay, s/veh	12.2		9.9			7.1
Approach LOS	B		A			A

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	5.4	12.4				17.7	11.4
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	4.0	27.5				27.5	53.5
Max Q Clear Time (g_c+I1), s	2.5	5.5				4.8	6.6
Green Ext Time (p_c), s	0.0	2.4				1.3	0.9

Intersection Summary	
HCM 7th Control Delay, s/veh	9.8
HCM 7th LOS	A



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	89	12	33	115	11	6	79	21	8	81	5
Future Volume (vph)	5	89	12	33	115	11	6	79	21	8	81	5
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985			0.991			0.973			0.993	
Flt Protected		0.998			0.990			0.997			0.996	
Satd. Flow (prot)	0	1831	0	0	1828	0	0	1807	0	0	1842	0
Flt Permitted		0.998			0.990			0.997			0.996	
Satd. Flow (perm)	0	1831	0	0	1828	0	0	1807	0	0	1842	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		2803			5317			5280			1167	
Travel Time (s)		34.7			65.9			65.5			14.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	97	13	36	125	12	7	86	23	9	88	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	115	0	0	173	0	0	116	0	0	102	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

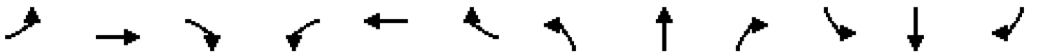
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.1%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	89	12	33	115	11	6	79	21	8	81	5
Future Vol, veh/h	5	89	12	33	115	11	6	79	21	8	81	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	97	13	36	125	12	7	86	23	9	88	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.4	8.9	8.5	8.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	5%	21%	9%
Vol Thru, %	75%	84%	72%	86%
Vol Right, %	20%	11%	7%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	106	106	159	94
LT Vol	6	5	33	8
Through Vol	79	89	115	81
RT Vol	21	12	11	5
Lane Flow Rate	115	115	173	102
Geometry Grp	1	1	1	1
Degree of Util (X)	0.148	0.147	0.22	0.134
Departure Headway (Hd)	4.625	4.594	4.585	4.732
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	774	779	783	756
Service Time	2.66	2.629	2.617	2.768
HCM Lane V/C Ratio	0.149	0.148	0.221	0.135
HCM Control Delay, s/veh	8.5	8.4	8.9	8.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.5	0.8	0.5



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	96	23	30	148	48	24	273	57	13	289	1
Future Volume (vph)	1	96	23	30	148	48	24	273	57	13	289	1
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	0		0	0		0	0		25	0		25
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.974			0.971				0.850			0.850
Flt Protected					0.993			0.996			0.998	
Satd. Flow (prot)	0	1814	0	0	1796	0	0	1855	1458	0	1859	1458
Flt Permitted					0.993			0.996			0.998	
Satd. Flow (perm)	0	1814	0	0	1796	0	0	1855	1458	0	1859	1458
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5317			205			5367			225	
Travel Time (s)		65.9			2.5			66.5			2.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	104	25	33	161	52	26	297	62	14	314	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	130	0	0	246	0	0	323	62	0	328	1
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

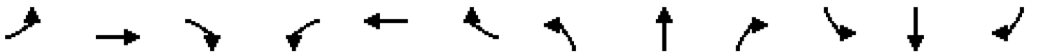
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	15.7
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	96	23	30	148	48	24	273	57	13	289	1
Future Vol, veh/h	1	96	23	30	148	48	24	273	57	13	289	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	104	25	33	161	52	26	297	62	14	314	1
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay, s/veh	11.7	14	16.2	18.1
HCM LOS	B	B	C	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	8%	0%	1%	13%	4%	0%
Vol Thru, %	92%	0%	80%	65%	96%	0%
Vol Right, %	0%	100%	19%	21%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	297	57	120	226	302	1
LT Vol	24	0	1	30	13	0
Through Vol	273	0	96	148	289	0
RT Vol	0	57	23	48	0	1
Lane Flow Rate	323	62	130	246	328	1
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.577	0.098	0.239	0.429	0.591	0.002
Departure Headway (Hd)	6.439	5.684	6.604	6.294	6.481	5.744
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	562	633	543	572	558	625
Service Time	4.15	3.394	4.654	4.337	4.192	3.456
HCM Lane V/C Ratio	0.575	0.098	0.239	0.43	0.588	0.002
HCM Control Delay, s/veh	17.6	9	11.7	14	18.1	8.5
HCM Lane LOS	C	A	B	B	C	A
HCM 95th-tile Q	3.6	0.3	0.9	2.1	3.8	0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	103	5	120	208	24	12	77	40	13	107	5
Future Volume (vph)	6	103	5	120	208	24	12	77	40	13	107	5
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.991			0.959			0.995	
Flt Protected		0.997			0.983			0.995			0.995	
Satd. Flow (prot)	0	1848	0	0	1815	0	0	1777	0	0	1844	0
Flt Permitted		0.997			0.983			0.995			0.995	
Satd. Flow (perm)	0	1848	0	0	1815	0	0	1777	0	0	1844	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		3132			4044			5270			5280	
Travel Time (s)		38.8			50.1			65.3			65.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	112	5	130	226	26	13	84	43	14	116	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	124	0	0	382	0	0	140	0	0	135	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

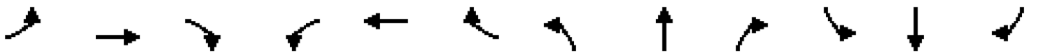
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 41.6%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	11.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	103	5	120	208	24	12	77	40	13	107	5
Future Vol, veh/h	6	103	5	120	208	24	12	77	40	13	107	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	112	5	130	226	26	13	84	43	14	116	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9.4	13	9.7	9.9
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	9%	5%	34%	10%
Vol Thru, %	60%	90%	59%	86%
Vol Right, %	31%	4%	7%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	129	114	352	125
LT Vol	12	6	120	13
Through Vol	77	103	208	107
RT Vol	40	5	24	5
Lane Flow Rate	140	124	383	136
Geometry Grp	1	1	1	1
Degree of Util (X)	0.206	0.18	0.514	0.206
Departure Headway (Hd)	5.301	5.221	4.832	5.468
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	680	689	735	659
Service Time	3.313	3.238	2.93	3.48
HCM Lane V/C Ratio	0.206	0.18	0.521	0.206
HCM Control Delay, s/veh	9.7	9.4	13	9.9
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.8	0.7	3	0.8



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	131	18	141	290	6	46	1	158	0	0	0
Future Volume (vph)	0	131	18	141	290	6	46	1	158	0	0	0
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	0		100	100		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.997			0.896				
Flt Protected				0.950				0.989				
Satd. Flow (prot)	0	1863	1458	1630	1857	0	0	1651	0	0	1863	0
Flt Permitted				0.950				0.989				
Satd. Flow (perm)	0	1863	1458	1630	1857	0	0	1651	0	0	1863	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		4044			1304			5340			496	
Travel Time (s)		50.1			16.2			66.2			6.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	142	20	153	315	7	50	1	172	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	142	20	153	322	0	0	223	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	44.9%	ICU Level of Service	A
Analysis Period (min)	15		

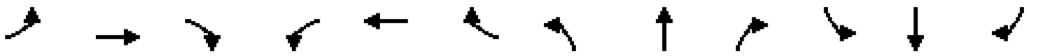
Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	131	18	141	290	6	46	1	158	0	0	0
Future Vol, veh/h	0	131	18	141	290	6	46	1	158	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	100	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	142	20	153	315	7	50	1	172	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	322	0	0	162	0	0	764	771	142	768	787	318
Stage 1	-	-	-	-	-	-	142	142	-	625	625	-
Stage 2	-	-	-	-	-	-	622	628	-	143	162	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1238	-	-	1417	-	-	320	331	905	319	324	722
Stage 1	-	-	-	-	-	-	860	779	-	473	477	-
Stage 2	-	-	-	-	-	-	475	476	-	860	764	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1238	-	-	1417	-	-	286	295	905	229	289	722
Mov Cap-2 Maneuver	-	-	-	-	-	-	286	295	-	229	289	-
Stage 1	-	-	-	-	-	-	860	779	-	421	426	-
Stage 2	-	-	-	-	-	-	423	424	-	696	764	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	2.53	14.38	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	605	1238	-	-	1417	-	-	-
HCM Lane V/C Ratio	0.368	-	-	-	0.108	-	-	-
HCM Control Delay (s/veh)	14.4	0	-	-	7.8	-	-	0
HCM Lane LOS	B	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	1.7	0	-	-	0.4	-	-	-

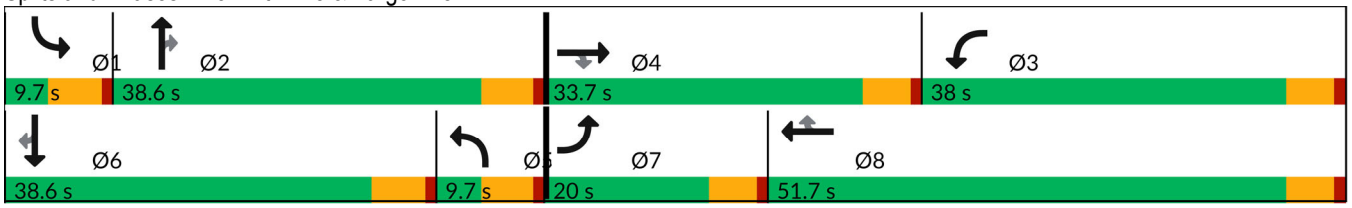


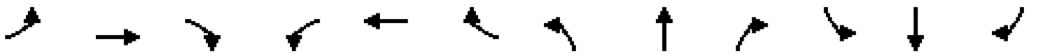
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	99	246	29	448	424	56	21	367	191	14	504	53
Future Volume (vph)	99	246	29	448	424	56	21	367	191	14	504	53
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	200		110	345		110	255		105	255		130
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.98			0.97			0.97			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1863	1458	1630	1863	1458	1630	1863	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1429	1630	1863	1411	1630	1863	1411	1630	1863	1411
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			176			176			169			169
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1304			5225			5338			5367	
Travel Time (s)		16.2			64.8			66.2			66.5	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	108	267	32	487	461	61	23	399	208	15	548	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	108	267	32	487	461	61	23	399	208	15	548	58
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	33.7	33.7	9.3	33.7	33.7	9.7	34.5	34.5	9.7	36.0	36.0
Total Split (s)	20.0	33.7	33.7	38.0	51.7	51.7	9.7	38.6	38.6	9.7	38.6	38.6
Total Split (%)	16.7%	28.1%	28.1%	31.7%	43.1%	43.1%	8.1%	32.2%	32.2%	8.1%	32.2%	32.2%
Maximum Green (s)	14.7	28.4	28.4	32.7	46.4	46.4	4.0	32.9	32.9	4.0	32.9	32.9
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		21.4	21.4		21.4	21.4		21.8	21.8		23.3	23.3
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	13.1	21.8	21.8	34.3	43.0	43.0	5.8	36.8	36.8	5.8	34.9	34.9
Actuated g/C Ratio	0.12	0.20	0.20	0.32	0.40	0.40	0.05	0.34	0.34	0.05	0.32	0.32
v/c Ratio	0.55	0.72	0.07	0.95	0.63	0.09	0.27	0.63	0.35	0.17	0.91	0.10
Control Delay (s/veh)	57.6	52.1	0.3	67.0	31.9	0.3	61.3	37.6	9.6	58.2	58.7	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	57.6	52.1	0.3	67.0	31.9	0.3	61.3	37.6	9.6	58.2	58.7	0.4
LOS	E	D	A	E	C	A	E	D	A	E	E	A
Approach Delay (s/veh)		49.5			46.9			29.2			53.2	
Approach LOS		D			D			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 108.5			
Natural Cycle: 120			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay (s/veh): 44.6		Intersection LOS: D	
Intersection Capacity Utilization 78.1%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 5: 12th Ave & Fargo Ave

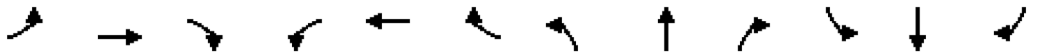




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	246	29	448	424	56	21	367	191	14	504	53
Future Volume (veh/h)	99	246	29	448	424	56	21	367	191	14	504	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	108	267	32	487	461	61	23	399	208	15	548	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	350	267	514	764	580	56	603	457	48	594	450
Arrive On Green	0.09	0.19	0.19	0.31	0.41	0.41	0.03	0.32	0.32	0.03	0.32	0.32
Sat Flow, veh/h	1641	1870	1428	1641	1870	1419	1641	1870	1416	1641	1870	1416
Grp Volume(v), veh/h	108	267	32	487	461	61	23	399	208	15	548	58
Grp Sat Flow(s),veh/h/ln	1641	1870	1428	1641	1870	1419	1641	1870	1416	1641	1870	1416
Q Serve(g_s), s	6.9	14.7	2.0	31.4	21.0	2.9	1.5	19.9	4.8	1.0	30.7	2.2
Cycle Q Clear(g_c), s	6.9	14.7	2.0	31.4	21.0	2.9	1.5	19.9	4.8	1.0	30.7	2.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	151	350	267	514	764	580	56	603	457	48	594	450
V/C Ratio(X)	0.71	0.76	0.12	0.95	0.60	0.11	0.41	0.66	0.46	0.31	0.92	0.13
Avail Cap(c_a), veh/h	242	512	391	514	823	624	86	603	457	86	597	452
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.8	41.8	36.6	36.3	25.2	19.8	51.3	31.6	4.3	51.6	35.7	13.3
Incr Delay (d2), s/veh	6.1	4.0	0.2	26.9	1.1	0.1	4.8	2.7	0.7	3.7	20.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	6.8	0.7	15.4	8.7	0.9	0.7	8.8	3.6	0.4	16.1	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	53.9	45.7	36.8	63.2	26.3	19.9	56.1	34.3	5.0	55.3	55.7	13.4
LnGrp LOS	D	D	D	E	C	B	E	C	A	E	E	B
Approach Vol, veh/h		407			1009			630			621	
Approach Delay, s/veh		47.2			43.7			25.4			51.8	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.2	39.0	38.0	24.3	7.7	38.4	14.0	48.3
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	4.0	32.9	32.7	28.4	4.0	32.9	14.7	46.4
Max Q Clear Time (g_c+I1), s	3.0	21.9	33.4	16.7	3.5	32.7	8.9	23.0
Green Ext Time (p_c), s	0.0	1.8	0.0	0.8	0.0	0.1	0.1	1.9

Intersection Summary	
HCM 7th Control Delay, s/veh	41.8
HCM 7th LOS	D

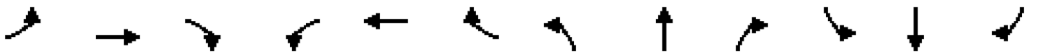


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	208	305	128	231	509	59	86	258	57	69	374	144
Future Volume (vph)	208	305	128	231	509	59	86	258	57	69	374	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	185		110	280		150	200		0	255		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor			0.96			0.98		0.99			0.99	
Frt			0.850			0.850		0.973			0.958	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	3539	1583	1770	3423	0	1770	3358	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1863	1527	1770	3539	1552	1770	3423	0	1770	3358	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			212			212		26			56	
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5225			5292			2018			1090	
Travel Time (s)		64.8			65.6			25.0			13.5	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	226	332	139	251	553	64	93	280	62	75	407	157
Shared Lane Traffic (%)												
Lane Group Flow (vph)	226	332	139	251	553	64	93	342	0	75	564	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	50	50	50	50	50	50	50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.3	25.2	25.2	9.3	29.5	29.5	9.7	28.8		9.7	26.0	
Total Split (s)	25.0	27.0	27.0	28.0	30.0	30.0	12.9	31.0		14.0	32.1	
Total Split (%)	25.0%	27.0%	27.0%	28.0%	30.0%	30.0%	12.9%	31.0%		14.0%	32.1%	
Maximum Green (s)	19.7	21.7	21.7	22.7	24.7	24.7	7.2	25.3		8.3	26.4	
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7		4.7	4.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7		-1.7	-1.7	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Don't Walk (s)		12.9	12.9		17.2	17.2		16.1			13.3	
Pedestrian Calls (#/hr)		5	5		5	5		5			5	
Act Effct Green (s)	16.8	20.1	20.1	18.1	21.5	21.5	9.2	16.7		12.5	20.2	
Actuated g/C Ratio	0.21	0.25	0.25	0.22	0.27	0.27	0.11	0.21		0.15	0.25	
v/c Ratio	0.62	0.72	0.26	0.63	0.59	0.11	0.46	0.47		0.27	0.64	
Control Delay (s/veh)	40.3	40.8	2.0	39.0	30.7	0.4	48.2	30.7		38.5	29.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	40.3	40.8	2.0	39.0	30.7	0.4	48.2	30.7		38.5	29.6	
LOS	D	D	A	D	C	A	D	C		D	C	
Approach Delay (s/veh)		32.9			30.9			34.5			30.6	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 80.7			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay (s/veh): 31.9		Intersection LOS: C	
Intersection Capacity Utilization 62.4%		ICU Level of Service B	
Analysis Period (min) 15			

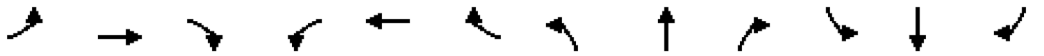
Splits and Phases: 6: 11th Ave & Fargo Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	305	128	231	509	59	86	258	57	69	374	144
Future Volume (veh/h)	208	305	128	231	509	59	86	258	57	69	374	144
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	226	332	139	251	553	64	93	280	62	75	407	157
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	310	446	366	338	904	395	163	519	113	273	603	229
Arrive On Green	0.17	0.24	0.24	0.19	0.25	0.25	0.09	0.18	0.16	0.15	0.24	0.22
Sat Flow, veh/h	1781	1870	1532	1781	3554	1554	1781	2879	625	1781	2490	947
Grp Volume(v), veh/h	226	332	139	251	553	64	93	171	171	75	289	275
Grp Sat Flow(s),veh/h/ln	1781	1870	1532	1781	1777	1554	1781	1777	1727	1781	1777	1660
Q Serve(g_s), s	8.1	11.1	5.1	8.9	9.2	1.3	3.4	5.9	6.1	2.5	9.9	10.2
Cycle Q Clear(g_c), s	8.1	11.1	5.1	8.9	9.2	1.3	3.4	5.9	6.1	2.5	9.9	10.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.36	1.00		0.57
Lane Grp Cap(c), veh/h	310	446	366	338	904	395	163	320	311	273	430	402
V/C Ratio(X)	0.73	0.74	0.38	0.74	0.61	0.16	0.57	0.53	0.55	0.27	0.67	0.68
Avail Cap(c_a), veh/h	556	639	524	635	1373	601	236	713	693	273	742	693
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.3	23.7	21.4	25.7	22.2	6.6	29.3	25.0	25.4	25.2	23.1	23.6
Incr Delay (d2), s/veh	3.3	2.8	0.7	3.2	0.7	0.2	3.1	1.4	1.5	0.5	1.8	2.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	4.5	1.6	3.5	3.3	0.7	1.4	2.3	2.3	1.0	3.7	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	29.5	26.5	22.1	28.9	22.8	6.8	32.4	26.4	26.9	25.7	24.9	25.7
LnGrp LOS	C	C	C	C	C	A	C	C	C	C	C	C
Approach Vol, veh/h		697			868			435			639	
Approach Delay, s/veh		26.6			23.4			27.9			25.3	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.3	16.1	16.8	20.1	10.2	20.3	15.7	21.1
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	8.3	25.3	22.7	21.7	7.2	26.4	19.7	24.7
Max Q Clear Time (g_c+I1), s	4.5	8.1	10.9	13.1	5.4	12.2	10.1	11.2
Green Ext Time (p_c), s	0.0	1.1	0.6	1.2	0.0	1.8	0.5	2.2

Intersection Summary	
HCM 7th Control Delay, s/veh	25.5
HCM 7th LOS	C

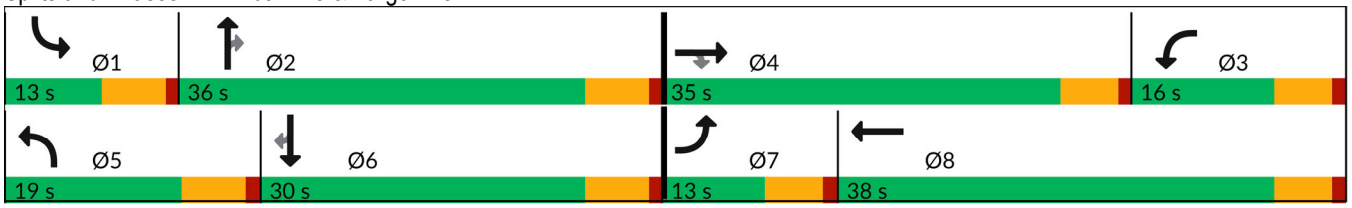


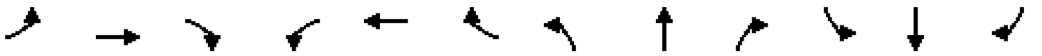
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	275	135	65	287	48	96	226	22	43	294	81
Future Volume (vph)	50	275	135	65	287	48	96	226	22	43	294	81
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	100		50	105		0	160		105	200		100
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98		1.00				0.96			0.98
Frt			0.850		0.979				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1819	0	1630	3539	1458	1630	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1431	1630	1819	0	1630	3539	1405	1630	3539	1427
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			212		9				203			265
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5292			4849			2658			1358	
Travel Time (s)		65.6			60.1			33.0			16.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	299	147	71	312	52	104	246	24	47	320	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	54	299	147	71	364	0	104	246	24	47	320	88
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Detector Phase	7	4	4	3	8		5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	32.3	32.3	9.3	33.7		9.7	23.7	23.7	9.7	24.5	24.5
Total Split (s)	13.0	35.0	35.0	16.0	38.0		19.0	36.0	36.0	13.0	30.0	30.0
Total Split (%)	13.0%	35.0%	35.0%	16.0%	38.0%		19.0%	36.0%	36.0%	13.0%	30.0%	30.0%
Maximum Green (s)	7.7	29.7	29.7	10.7	32.7		13.3	30.3	30.3	7.3	24.3	24.3
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3		4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3		-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)		20.0	20.0		21.4			10.4	10.4		11.8	11.8
Pedestrian Calls (#/hr)		5	5		5			5	5		5	5
Act Effct Green (s)	9.6	19.2	19.2	11.1	23.3		12.6	20.2	20.2	9.8	15.0	15.0
Actuated g/C Ratio	0.15	0.29	0.29	0.17	0.35		0.19	0.31	0.31	0.15	0.23	0.23
v/c Ratio	0.23	0.55	0.26	0.26	0.56		0.34	0.23	0.04	0.19	0.40	0.17
Control Delay (s/veh)	36.3	28.0	2.2	34.1	24.4		33.4	21.8	0.1	35.8	27.7	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	36.3	28.0	2.2	34.1	24.4		33.4	21.8	0.1	35.8	27.7	0.7
LOS	D	C	A	C	C		C	C	A	D	C	A
Approach Delay (s/veh)		21.3			25.9			23.7			23.3	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 66.1			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay (s/veh): 23.5		Intersection LOS: C	
Intersection Capacity Utilization 50.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 7: 10th Ave & Fargo Ave

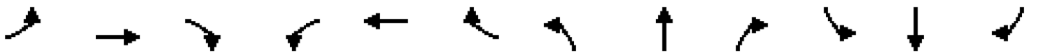




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	275	135	65	287	48	96	226	22	43	294	81
Future Volume (veh/h)	50	275	135	65	287	48	96	226	22	43	294	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	54	299	147	71	312	52	104	246	24	47	320	88
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	113	489	375	164	456	76	186	855	339	120	712	286
Arrive On Green	0.07	0.26	0.26	0.10	0.29	0.27	0.11	0.24	0.24	0.07	0.20	0.20
Sat Flow, veh/h	1641	1870	1432	1641	1558	260	1641	3554	1411	1641	3554	1428
Grp Volume(v), veh/h	54	299	147	71	0	364	104	246	24	47	320	88
Grp Sat Flow(s),veh/h/ln	1641	1870	1432	1641	0	1818	1641	1777	1411	1641	1777	1428
Q Serve(g_s), s	1.6	6.9	2.3	2.0	0.0	8.7	3.0	2.8	0.4	1.3	3.9	2.6
Cycle Q Clear(g_c), s	1.6	6.9	2.3	2.0	0.0	8.7	3.0	2.8	0.4	1.3	3.9	2.6
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	113	489	375	164	0	532	186	855	339	120	712	286
V/C Ratio(X)	0.48	0.61	0.39	0.43	0.00	0.68	0.56	0.29	0.07	0.39	0.45	0.31
Avail Cap(c_a), veh/h	300	1178	902	400	0	1255	500	2310	918	300	1877	755
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.1	16.0	4.6	20.8	0.0	15.5	20.7	15.3	4.6	21.8	17.3	16.8
Incr Delay (d2), s/veh	3.1	1.2	0.7	1.8	0.0	1.6	2.6	0.2	0.1	2.1	0.4	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.3	1.0	0.7	0.0	2.8	1.0	0.9	0.2	0.5	1.3	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	25.2	17.2	5.3	22.7	0.0	17.1	23.3	15.4	4.7	23.8	17.7	17.4
LnGrp LOS	C	B	A	C		B	C	B	A	C	B	B
Approach Vol, veh/h		500			435			374			455	
Approach Delay, s/veh		14.6			18.0			16.9			18.3	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	15.8	8.9	16.9	9.6	13.9	7.4	18.4
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	7.3	30.3	10.7	29.7	13.3	24.3	7.7	32.7
Max Q Clear Time (g_c+I1), s	3.3	4.8	4.0	8.9	5.0	5.9	3.6	10.7
Green Ext Time (p_c), s	0.0	1.0	0.1	1.6	0.2	1.5	0.0	1.3

Intersection Summary	
HCM 7th Control Delay, s/veh	16.9
HCM 7th LOS	B



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	33	157	1	38	5	83	227	0	4	323	63
Future Volume (vph)	76	33	157	1	38	5	83	227	0	4	323	63
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.920			0.986						0.976	
Flt Protected		0.986			0.999			0.987				
Satd. Flow (prot)	0	1690	0	0	1835	0	0	3493	0	0	3454	0
Flt Permitted		0.986			0.999			0.987				
Satd. Flow (perm)	0	1690	0	0	1835	0	0	3493	0	0	3454	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		4849			614			1519			1547	
Travel Time (s)		60.1			7.6			18.8			19.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	83	36	171	1	41	5	90	247	0	4	351	68
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	290	0	0	47	0	0	337	0	0	423	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 52.0%		ICU Level of Service A	
Analysis Period (min) 15			

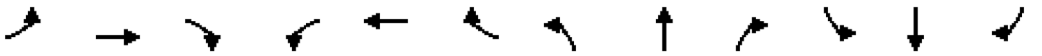
Intersection	
Int Delay, s/veh	9.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	76	33	157	1	38	5	83	227	0	4	323	63
Future Vol, veh/h	76	33	157	1	38	5	83	227	0	4	323	63
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	83	36	171	1	41	5	90	247	0	4	351	68

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	718	821	210	629	855	123	420	0	0	247	0	0
Stage 1	394	394	-	427	427	-	-	-	-	-	-	-
Stage 2	324	427	-	202	428	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	316	308	796	367	294	904	1136	-	-	1316	-	-
Stage 1	602	604	-	576	584	-	-	-	-	-	-	-
Stage 2	662	584	-	781	583	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	246	280	796	231	268	904	1136	-	-	1316	-	-
Mov Cap-2 Maneuver	246	280	-	231	268	-	-	-	-	-	-	-
Stage 1	600	601	-	527	534	-	-	-	-	-	-	-
Stage 2	555	534	-	575	581	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	29.52	19.85	2.56	0.1
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	964	-	-	426	290	30	-	-
HCM Lane V/C Ratio	0.079	-	-	0.679	0.165	0.003	-	-
HCM Control Delay (s/veh)	8.4	0.4	-	29.5	19.8	7.7	0	-
HCM Lane LOS	A	A	-	D	C	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	4.9	0.6	0	-	-

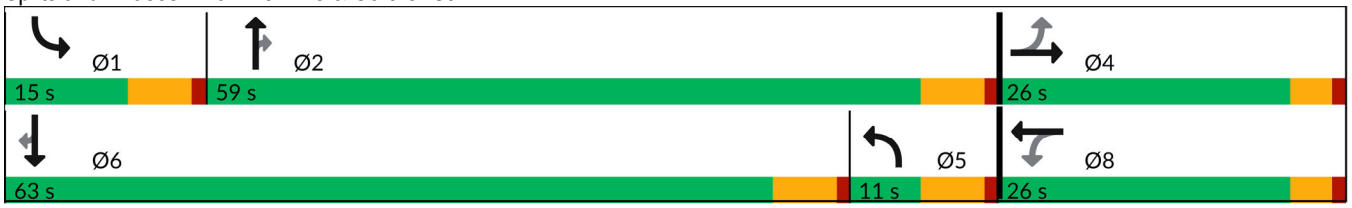


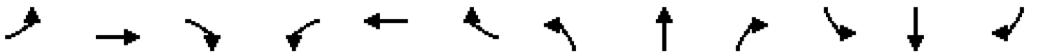
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	70	60	85	17	3	26	293	72	55	611	5
Future Volume (vph)	9	70	60	85	17	3	26	293	72	55	611	5
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	0		0	0		0	100		50	105		50
Storage Lanes	0		0	0		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00				0.96			0.96
Frt		0.942			0.996				0.850			0.850
Flt Protected		0.997			0.961		0.950			0.950		
Satd. Flow (prot)	0	1733	0	0	1782	0	1630	1863	1458	1630	1863	1458
Flt Permitted		0.980			0.643		0.950			0.950		
Satd. Flow (perm)	0	1703	0	0	1192	0	1630	1863	1404	1630	1863	1405
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		35			1				75			75
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		799			857			3291			2018	
Travel Time (s)		9.9			10.6			40.8			25.0	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	76	65	92	18	3	28	318	78	60	664	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	151	0	0	113	0	28	318	78	60	664	5
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.6	22.6		24.1	24.1		9.7	23.7	23.7	9.7	23.7	23.7
Total Split (s)	26.0	26.0		26.0	26.0		11.0	59.0	59.0	15.0	63.0	63.0
Total Split (%)	26.0%	26.0%		26.0%	26.0%		11.0%	59.0%	59.0%	15.0%	63.0%	63.0%
Maximum Green (s)	21.8	21.8		21.8	21.8		5.3	53.3	53.3	9.3	57.3	57.3
Yellow Time (s)	3.2	3.2		3.2	3.2		4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		-0.2			-0.2		-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)		4.0			4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Walk Time (s)	7.0	7.0		7.0	7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)	11.4	11.4		12.9	12.9			8.7	8.7		8.7	8.7
Pedestrian Calls (#/hr)	5	5		5	5			5	5		5	5
Act Effct Green (s)		12.5			12.5		7.7	28.4	28.4	9.8	32.7	32.7
Actuated g/C Ratio		0.22			0.22		0.13	0.50	0.50	0.17	0.57	0.57
v/c Ratio		0.38			0.43		0.13	0.34	0.11	0.21	0.62	0.01
Control Delay (s/veh)		20.6			28.4		32.4	12.5	3.8	28.9	13.3	0.0
Queue Delay		0.0			0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		20.6			28.4		32.4	12.5	3.8	28.9	13.3	0.0
LOS		C			C		C	B	A	C	B	A
Approach Delay (s/veh)		20.6			28.4			12.2			14.5	
Approach LOS		C			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 57.2			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay (s/veh): 15.6		Intersection LOS: B	
Intersection Capacity Utilization 65.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 9: 11th Ave & Cortner St

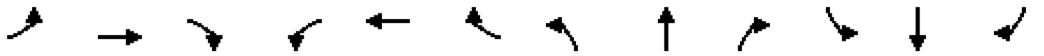




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	70	60	85	17	3	26	293	72	55	611	5
Future Volume (veh/h)	9	70	60	85	17	3	26	293	72	55	611	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	10	76	65	92	18	3	28	318	78	60	664	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	108	144	116	352	57	7	116	824	626	152	866	658
Arrive On Green	0.16	0.16	0.15	0.16	0.16	0.15	0.07	0.44	0.44	0.09	0.46	0.46
Sat Flow, veh/h	60	906	730	1163	361	42	1641	1870	1420	1641	1870	1421
Grp Volume(v), veh/h	151	0	0	113	0	0	28	318	78	60	664	5
Grp Sat Flow(s),veh/h/ln	1696	0	0	1565	0	0	1641	1870	1420	1641	1870	1421
Q Serve(g_s), s	0.3	0.0	0.0	0.0	0.0	0.0	0.6	4.5	1.3	1.3	11.5	0.1
Cycle Q Clear(g_c), s	3.2	0.0	0.0	2.2	0.0	0.0	0.6	4.5	1.3	1.3	11.5	0.1
Prop In Lane	0.07		0.43	0.81		0.03	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	367	0	0	416	0	0	116	824	626	152	866	658
V/C Ratio(X)	0.41	0.00	0.00	0.27	0.00	0.00	0.24	0.39	0.12	0.39	0.77	0.01
Avail Cap(c_a), veh/h	1050	0	0	951	0	0	295	2641	2006	463	2833	2152
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.2	0.0	0.0	14.7	0.0	0.0	17.1	7.3	6.4	16.6	8.7	5.6
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.3	0.0	0.0	1.1	0.3	0.1	1.7	1.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0	0.7	0.0	0.0	0.2	0.8	0.2	0.4	2.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	15.9	0.0	0.0	15.1	0.0	0.0	18.2	7.6	6.5	18.3	10.2	5.6
LnGrp LOS	B			B			B	A	A	B	B	A
Approach Vol, veh/h		151			113			424			729	
Approach Delay, s/veh		15.9			15.1			8.1			10.8	
Approach LOS		B			B			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.6	21.2		10.2	6.7	22.0		10.2				
Change Period (Y+Rc), s	5.7	5.7		4.2	5.7	5.7		4.2				
Max Green Setting (Gmax), s	9.3	53.3		21.8	5.3	57.3		21.8				
Max Q Clear Time (g_c+I1), s	3.3	6.5		5.2	2.6	13.5		4.2				
Green Ext Time (p_c), s	0.1	1.4		0.4	0.0	2.8		0.3				

Intersection Summary			
HCM 7th Control Delay, s/veh		10.9	
HCM 7th LOS		B	

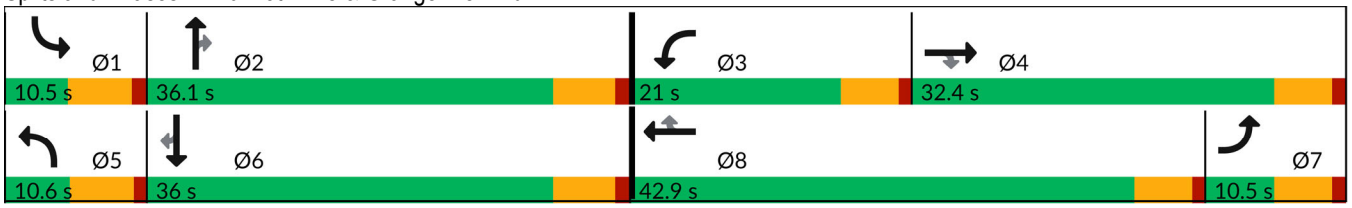


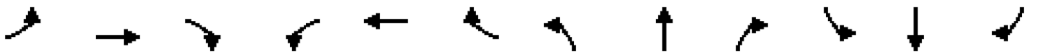
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	253	27	129	323	17	31	72	71	29	193	65
Future Volume (vph)	29	253	27	129	323	17	31	72	71	29	193	65
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	265		265	230		230	195		290	200		195
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.97			0.97			0.97			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1863	1458	1630	1863	1458	1630	1863	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1412	1630	1863	1414	1630	1863	1413	1630	1863	1413
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			149			203			203
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1096			3658			629			5270	
Travel Time (s)		13.6			45.3			7.8			65.3	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	275	29	140	351	18	34	78	77	32	210	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	32	275	29	140	351	18	34	78	77	32	210	71
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	32.3	32.3	9.3	35.2	35.2	9.7	34.5	34.5	9.7	33.1	33.1
Total Split (s)	10.5	32.4	32.4	21.0	42.9	42.9	10.6	36.1	36.1	10.5	36.0	36.0
Total Split (%)	10.5%	32.4%	32.4%	21.0%	42.9%	42.9%	10.6%	36.1%	36.1%	10.5%	36.0%	36.0%
Maximum Green (s)	5.2	27.1	27.1	15.7	37.6	37.6	4.9	30.4	30.4	4.8	30.3	30.3
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		20.0	20.0		22.9	22.9		21.8	21.8		20.4	20.4
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	9.4	18.0	18.0	13.4	26.3	26.3	8.0	17.1	17.1	7.9	17.0	17.0
Actuated g/C Ratio	0.16	0.30	0.30	0.22	0.43	0.43	0.13	0.28	0.28	0.13	0.28	0.28
v/c Ratio	0.13	0.50	0.06	0.39	0.43	0.03	0.16	0.15	0.14	0.15	0.40	0.13
Control Delay (s/veh)	32.6	25.5	0.2	31.2	19.0	0.1	37.1	22.1	0.5	37.2	24.5	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	32.6	25.5	0.2	31.2	19.0	0.1	37.1	22.1	0.5	37.2	24.5	0.5
LOS	C	C	A	C	B	A	D	C	A	D	C	A
Approach Delay (s/veh)		24.0			21.7			16.0			20.4	
Approach LOS		C			C			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 60.6			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.50			
Intersection Signal Delay (s/veh): 21.2		Intersection LOS: C	
Intersection Capacity Utilization 51.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: 13th Ave & Grangeville Blvd

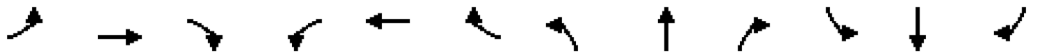




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	253	27	129	323	17	31	72	71	29	193	65
Future Volume (veh/h)	29	253	27	129	323	17	31	72	71	29	193	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	32	275	29	140	351	18	34	78	77	32	210	71
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	152	455	344	222	535	405	108	418	315	106	415	313
Arrive On Green	0.09	0.24	0.24	0.14	0.29	0.29	0.07	0.22	0.22	0.06	0.22	0.22
Sat Flow, veh/h	1641	1870	1412	1641	1870	1414	1641	1870	1410	1641	1870	1410
Grp Volume(v), veh/h	32	275	29	140	351	18	34	78	77	32	210	71
Grp Sat Flow(s),veh/h/ln	1641	1870	1412	1641	1870	1414	1641	1870	1410	1641	1870	1410
Q Serve(g_s), s	0.9	6.3	0.8	3.9	7.9	0.3	0.9	1.6	2.2	0.9	4.7	1.1
Cycle Q Clear(g_c), s	0.9	6.3	0.8	3.9	7.9	0.3	0.9	1.6	2.2	0.9	4.7	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	152	455	344	222	535	405	108	418	315	106	415	313
V/C Ratio(X)	0.21	0.60	0.08	0.63	0.66	0.04	0.31	0.19	0.24	0.30	0.51	0.23
Avail Cap(c_a), veh/h	222	1107	836	581	1517	1147	226	1252	943	222	1248	940
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.1	16.1	14.0	19.6	15.0	4.5	21.4	15.1	15.3	21.4	16.4	5.1
Incr Delay (d2), s/veh	0.7	1.3	0.1	2.9	1.4	0.0	1.6	0.2	0.4	1.6	1.0	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.1	0.2	1.3	2.6	0.1	0.3	0.5	0.5	0.3	1.6	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.8	17.4	14.1	22.6	16.4	4.5	23.0	15.3	15.7	23.0	17.3	5.4
LnGrp LOS	C	B	B	C	B	A	C	B	B	C	B	A
Approach Vol, veh/h		336			509			189			313	
Approach Delay, s/veh		17.4			17.7			16.9			15.2	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.1	14.7	10.5	15.7	7.2	14.7	8.4	17.7
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	4.8	30.4	15.7	27.1	4.9	30.3	5.2	37.6
Max Q Clear Time (g_c+I1), s	2.9	4.2	5.9	8.3	2.9	6.7	2.9	9.9
Green Ext Time (p_c), s	0.0	0.5	0.3	1.0	0.0	0.9	0.0	1.3

Intersection Summary	
HCM 7th Control Delay, s/veh	16.9
HCM 7th LOS	B

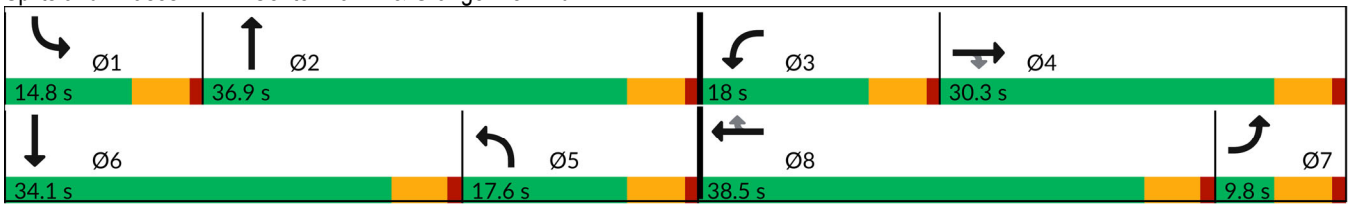


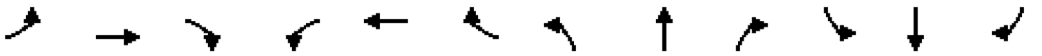
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	243	133	105	312	52	99	105	115	71	220	40
Future Volume (vph)	19	243	133	105	312	52	99	105	115	71	220	40
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	200		90	200		150	150		0	150		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.97			0.97		0.99			1.00	
Frt			0.850			0.850		0.922			0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1863	1458	1630	1701	0	1630	1811	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1410	1630	1863	1411	1630	1701	0	1630	1811	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			199			199		59			9	
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		3658			1623			639			5340	
Travel Time (s)		45.3			20.1			7.9			66.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	264	145	114	339	57	108	114	125	77	239	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	264	145	114	339	57	108	239	0	77	282	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	50	50	50	50	50	50	50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.3	28.4	28.4	9.3	28.4	28.4	9.3	34.1		9.3	34.1	
Total Split (s)	9.8	30.3	30.3	18.0	38.5	38.5	17.6	36.9		14.8	34.1	
Total Split (%)	9.8%	30.3%	30.3%	18.0%	38.5%	38.5%	17.6%	36.9%		14.8%	34.1%	
Maximum Green (s)	4.5	25.0	25.0	12.7	33.2	33.2	12.3	31.6		9.5	28.8	
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3		4.3	4.3	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3		-1.3	-1.3	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Don't Walk (s)		16.1	16.1		16.1	16.1		21.8			21.8	
Pedestrian Calls (#/hr)		5	5		5	5		5			5	
Act Effct Green (s)	8.2	18.7	18.7	12.7	26.3	26.3	12.4	21.2		10.8	19.8	
Actuated g/C Ratio	0.12	0.26	0.26	0.18	0.37	0.37	0.17	0.30		0.15	0.28	
v/c Ratio	0.11	0.54	0.28	0.39	0.49	0.09	0.38	0.44		0.31	0.55	
Control Delay (s/veh)	39.7	32.3	3.0	38.5	24.4	0.3	38.5	21.1		39.6	30.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	39.7	32.3	3.0	38.5	24.4	0.3	38.5	21.1		39.6	30.2	
LOS	D	C	A	D	C	A	D	C		D	C	
Approach Delay (s/veh)		22.8			24.8			26.6			32.2	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 71.3			
Natural Cycle: 85			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay (s/veh): 26.3		Intersection LOS: C	
Intersection Capacity Utilization 55.1%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 11: Centennial Dr & Grangeville Blvd

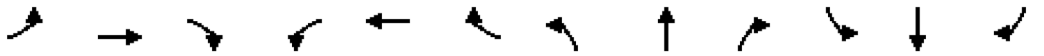




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	243	133	105	312	52	99	105	115	71	220	40
Future Volume (veh/h)	19	243	133	105	312	52	99	105	115	71	220	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	21	264	145	114	339	57	108	114	125	77	239	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	127	434	327	183	498	376	176	218	239	134	376	68
Arrive On Green	0.08	0.23	0.23	0.11	0.27	0.27	0.11	0.27	0.25	0.08	0.24	0.22
Sat Flow, veh/h	1641	1870	1411	1641	1870	1413	1641	806	884	1641	1533	276
Grp Volume(v), veh/h	21	264	145	114	339	57	108	0	239	77	0	282
Grp Sat Flow(s),veh/h/ln	1641	1870	1411	1641	1870	1413	1641	0	1690	1641	0	1809
Q Serve(g_s), s	0.6	6.6	2.8	3.5	8.5	1.0	3.3	0.0	6.4	2.4	0.0	7.4
Cycle Q Clear(g_c), s	0.6	6.6	2.8	3.5	8.5	1.0	3.3	0.0	6.4	2.4	0.0	7.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.52	1.00		0.15
Lane Grp Cap(c), veh/h	127	434	327	183	498	376	176	0	457	134	0	443
V/C Ratio(X)	0.16	0.61	0.44	0.62	0.68	0.15	0.62	0.00	0.52	0.57	0.00	0.64
Avail Cap(c_a), veh/h	181	935	705	437	1227	927	424	0	1057	337	0	1035
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.7	18.1	6.2	22.3	17.3	5.6	22.5	0.0	16.6	23.3	0.0	17.9
Incr Delay (d2), s/veh	0.6	1.4	0.9	3.4	1.6	0.2	3.5	0.0	0.9	3.8	0.0	1.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.4	1.2	1.3	3.0	0.4	1.2	0.0	2.0	0.9	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	23.3	19.4	7.1	25.7	18.9	5.7	25.9	0.0	17.6	27.1	0.0	19.4
LnGrp LOS	C	B	A	C	B	A	C		B	C		B
Approach Vol, veh/h		430			510			347			359	
Approach Delay, s/veh		15.5			19.0			20.2			21.0	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.3	18.2	9.9	16.2	9.6	16.9	8.1	18.0
Change Period (Y+Rc), s	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
Max Green Setting (Gmax), s	9.5	31.6	12.7	25.0	12.3	28.8	4.5	33.2
Max Q Clear Time (g_c+I1), s	4.4	8.4	5.5	8.6	5.3	9.4	2.6	10.5
Green Ext Time (p_c), s	0.1	0.8	0.2	1.3	0.1	0.9	0.0	1.4

Intersection Summary	
HCM 7th Control Delay, s/veh	18.8
HCM 7th LOS	B

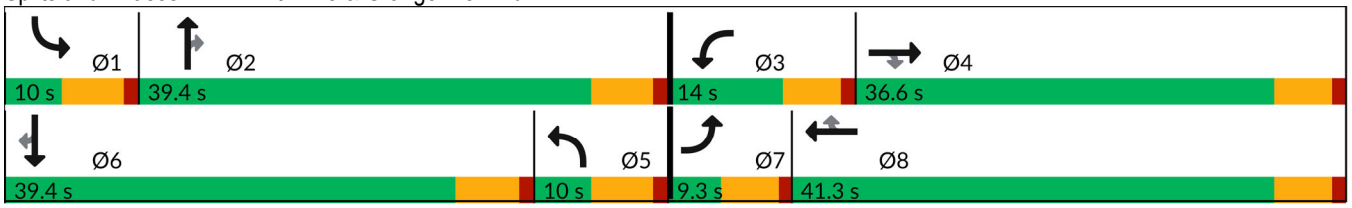


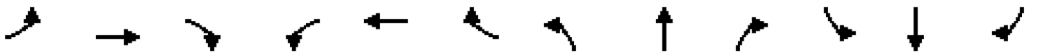
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	389	59	181	372	67	83	387	153	103	941	123
Future Volume (vph)	77	389	59	181	372	67	83	387	153	103	941	123
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	200		130	175		150	260		210	205		160
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor			0.98			0.97			0.98			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3162	3539	1458	3162	3539	1458	3162	3539	1458	3162	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3162	3539	1432	3162	3539	1415	3162	3539	1432	3162	3539	1415
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			212			212			166			145
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1623			5213			2228			5338	
Travel Time (s)		20.1			64.6			27.6			66.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	423	64	197	404	73	90	421	166	112	1023	134
Shared Lane Traffic (%)												
Lane Group Flow (vph)	84	423	64	197	404	73	90	421	166	112	1023	134
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	36.6	36.6	9.3	38.0	38.0	9.7	37.4	37.4	9.7	37.4	37.4
Total Split (s)	9.3	36.6	36.6	14.0	41.3	41.3	10.0	39.4	39.4	10.0	39.4	39.4
Total Split (%)	9.3%	36.6%	36.6%	14.0%	41.3%	41.3%	10.0%	39.4%	39.4%	10.0%	39.4%	39.4%
Maximum Green (s)	4.0	31.3	31.3	8.7	36.0	36.0	4.3	33.7	33.7	4.3	33.7	33.7
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		24.3	24.3		25.7	25.7		24.7	24.7		24.7	24.7
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	5.6	18.1	18.1	10.0	25.4	25.4	6.3	29.6	29.6	6.3	29.6	29.6
Actuated g/C Ratio	0.07	0.23	0.23	0.13	0.33	0.33	0.08	0.38	0.38	0.08	0.38	0.38
v/c Ratio	0.37	0.52	0.13	0.48	0.35	0.12	0.35	0.31	0.26	0.44	0.76	0.21
Control Delay (s/veh)	45.1	29.4	0.5	40.2	23.4	0.4	43.7	19.0	4.6	45.5	26.7	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	45.1	29.4	0.5	40.2	23.4	0.4	43.7	19.0	4.6	45.5	26.7	4.2
LOS	D	C	A	D	C	A	D	B	A	D	C	A
Approach Delay (s/veh)		28.5			25.8			18.8			26.0	
Approach LOS		C			C			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 77.8			
Natural Cycle: 95			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay (s/veh): 24.9		Intersection LOS: C	
Intersection Capacity Utilization 61.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 12: 12th Ave & Grangeville Blvd

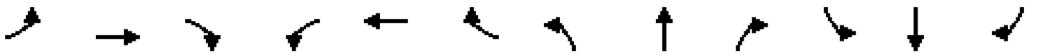




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	389	59	181	372	67	83	387	153	103	941	123
Future Volume (veh/h)	77	389	59	181	372	67	83	387	153	103	941	123
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	84	423	64	197	404	73	90	421	166	112	1023	134
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	207	743	299	341	892	355	229	1326	535	254	1353	540
Arrive On Green	0.07	0.21	0.21	0.11	0.25	0.25	0.07	0.37	0.37	0.08	0.38	0.38
Sat Flow, veh/h	3183	3554	1429	3183	3554	1412	3183	3554	1435	3183	3554	1419
Grp Volume(v), veh/h	84	423	64	197	404	73	90	421	166	112	1023	134
Grp Sat Flow(s),veh/h/ln	1591	1777	1429	1591	1777	1412	1591	1777	1435	1591	1777	1419
Q Serve(g_s), s	1.8	7.4	1.8	4.1	6.7	2.8	1.9	5.8	5.7	2.3	17.3	2.8
Cycle Q Clear(g_c), s	1.8	7.4	1.8	4.1	6.7	2.8	1.9	5.8	5.7	2.3	17.3	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	207	743	299	341	892	355	229	1326	535	254	1353	540
V/C Ratio(X)	0.41	0.57	0.21	0.58	0.45	0.21	0.39	0.32	0.31	0.44	0.76	0.25
Avail Cap(c_a), veh/h	244	1673	673	460	1914	761	276	1817	734	276	1817	725
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.1	24.6	11.6	29.4	21.9	20.5	30.7	15.4	15.4	30.4	18.6	5.8
Incr Delay (d2), s/veh	1.3	0.7	0.4	1.6	0.4	0.3	1.1	0.1	0.3	1.2	1.3	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.8	0.8	1.5	2.4	0.8	0.7	1.9	1.6	0.8	5.9	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	32.4	25.3	12.0	31.0	22.3	20.8	31.8	15.6	15.7	31.6	19.9	6.0
LnGrp LOS	C	C	B	C	C	C	C	B	B	C	B	A
Approach Vol, veh/h		571			674			677			1269	
Approach Delay, s/veh		24.8			24.7			17.8			19.5	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	29.8	11.4	18.5	9.0	30.4	8.5	21.4
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	4.3	33.7	8.7	31.3	4.3	33.7	4.0	36.0
Max Q Clear Time (g_c+I1), s	4.3	7.8	6.1	9.4	3.9	19.3	3.8	8.7
Green Ext Time (p_c), s	0.0	2.4	0.2	1.9	0.0	4.6	0.0	1.9

Intersection Summary	
HCM 7th Control Delay, s/veh	21.2
HCM 7th LOS	C

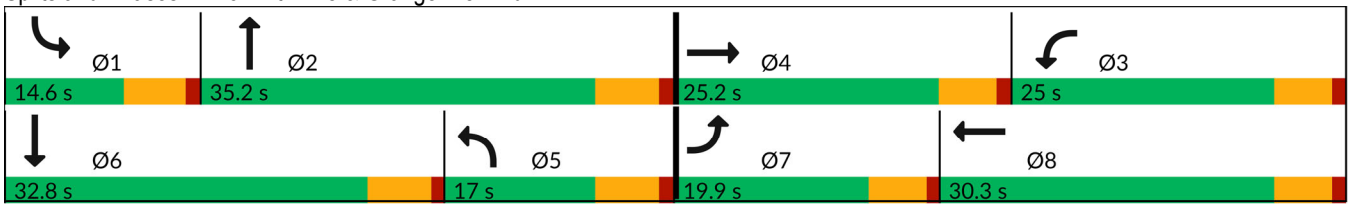


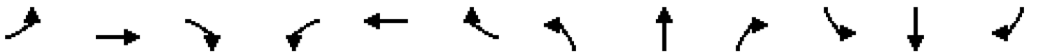
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	331	65	192	401	51	99	249	68	69	596	71
Future Volume (vph)	121	331	65	192	401	51	99	249	68	69	596	71
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	100		0	100		0	185		0	110		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			1.00			1.00			1.00	
Frt		0.975			0.983			0.968			0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	3430	0	1630	3466	0	1630	3411	0	1630	3475	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	3430	0	1630	3466	0	1630	3411	0	1630	3475	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			13			36			13	
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5213			2670			5342			3291	
Travel Time (s)		64.6			33.1			66.2			40.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	132	360	71	209	436	55	108	271	74	75	648	77
Shared Lane Traffic (%)												
Lane Group Flow (vph)	132	431	0	209	491	0	108	345	0	75	725	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	9.3	25.2		9.3	29.5		9.7	26.0		9.7	26.0	
Total Split (s)	19.9	25.2		25.0	30.3		17.0	35.2		14.6	32.8	
Total Split (%)	19.9%	25.2%		25.0%	30.3%		17.0%	35.2%		14.6%	32.8%	
Maximum Green (s)	14.6	19.9		19.7	25.0		11.3	29.5		8.9	27.1	
Yellow Time (s)	4.3	4.3		4.3	4.3		4.7	4.7		4.7	4.7	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-1.3	-1.3		-1.3	-1.3		-1.7	-1.7		-1.7	-1.7	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		12.9			17.2			13.3			13.3	
Pedestrian Calls (#/hr)		5			5			5			5	
Act Effct Green (s)	13.2	17.2		17.1	21.1		11.8	26.1		10.0	24.5	
Actuated g/C Ratio	0.16	0.21		0.20	0.25		0.14	0.31		0.12	0.29	
v/c Ratio	0.51	0.60		0.63	0.56		0.47	0.32		0.38	0.71	
Control Delay (s/veh)	44.4	34.8		42.8	31.1		45.7	22.2		46.0	32.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	44.4	34.8		42.8	31.1		45.7	22.2		46.0	32.1	
LOS	D	C		D	C		D	C		D	C	
Approach Delay (s/veh)		37.0			34.6			27.8			33.4	
Approach LOS		D			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 83.7			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay (s/veh): 33.5		Intersection LOS: C	
Intersection Capacity Utilization 61.8%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 13: 11th Ave & Grangeville Blvd

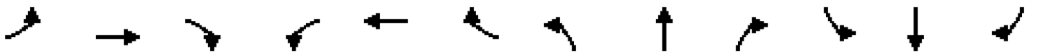




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	331	65	192	401	51	99	249	68	69	596	71
Future Volume (veh/h)	121	331	65	192	401	51	99	249	68	69	596	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	132	360	71	209	436	55	108	271	74	75	648	77
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	197	572	111	286	785	98	177	845	226	134	895	106
Arrive On Green	0.12	0.19	0.17	0.17	0.25	0.23	0.11	0.31	0.28	0.08	0.28	0.25
Sat Flow, veh/h	1641	2944	573	1641	3163	396	1641	2760	738	1641	3191	379
Grp Volume(v), veh/h	132	215	216	209	244	247	108	172	173	75	360	365
Grp Sat Flow(s),veh/h/ln	1641	1777	1740	1641	1777	1783	1641	1777	1721	1641	1777	1793
Q Serve(g_s), s	5.1	7.3	7.5	7.9	7.9	8.0	4.1	4.9	5.1	2.9	12.0	12.1
Cycle Q Clear(g_c), s	5.1	7.3	7.5	7.9	7.9	8.0	4.1	4.9	5.1	2.9	12.0	12.1
Prop In Lane	1.00		0.33	1.00		0.22	1.00		0.43	1.00		0.21
Lane Grp Cap(c), veh/h	197	345	338	286	441	442	177	544	527	134	498	503
V/C Ratio(X)	0.67	0.62	0.64	0.73	0.55	0.56	0.61	0.32	0.33	0.56	0.72	0.73
Avail Cap(c_a), veh/h	397	573	561	524	711	713	325	844	817	265	779	786
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	24.3	24.6	25.7	21.5	21.7	28.0	17.5	17.9	29.0	21.3	21.5
Incr Delay (d2), s/veh	3.9	1.8	2.0	3.6	1.1	1.1	3.4	0.3	0.4	3.6	2.0	2.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	2.8	2.8	2.9	2.9	2.9	1.6	1.7	1.7	1.1	4.4	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	31.5	26.1	26.6	29.3	22.6	22.8	31.4	17.9	18.3	32.6	23.4	23.5
LnGrp LOS	C	C	C	C	C	C	C	B	B	C	C	C
Approach Vol, veh/h		563			700			453			800	
Approach Delay, s/veh		27.6			24.7			21.2			24.3	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.4	24.1	15.5	16.8	11.1	22.4	11.9	20.3
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	8.9	29.5	19.7	19.9	11.3	27.1	14.6	25.0
Max Q Clear Time (g_c+I1), s	4.9	7.1	9.9	9.5	6.1	14.1	7.1	10.0
Green Ext Time (p_c), s	0.1	1.1	0.5	1.1	0.1	2.3	0.2	1.5

Intersection Summary	
HCM 7th Control Delay, s/veh	24.6
HCM 7th LOS	C

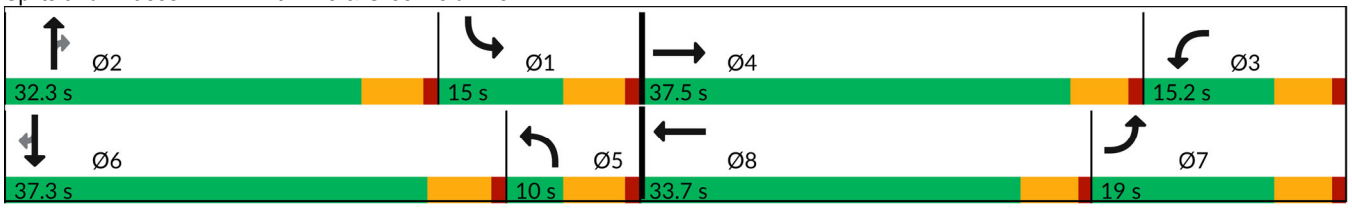


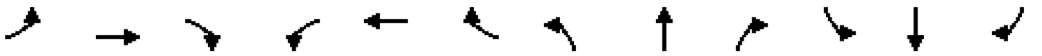
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	104	37	79	62	29	19	416	33	115	956	33
Future Volume (vph)	104	104	37	79	62	29	19	416	33	115	956	33
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	185		0	150		0	250		85	260		130
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor		1.00			0.99				0.98			0.98
Frt		0.961			0.952				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	3385	0	1630	3349	0	1630	3539	1458	1630	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	3385	0	1630	3349	0	1630	3539	1429	1630	3539	1429
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		40			32				145			145
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		327			331			1372			2228	
Travel Time (s)		4.1			4.1			17.0			27.6	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	113	113	40	86	67	32	21	452	36	125	1039	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	113	153	0	86	99	0	21	452	36	125	1039	36
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	32.3		9.3	33.7		9.7	28.8	28.8	9.7	27.4	27.4
Total Split (s)	19.0	37.5		15.2	33.7		10.0	32.3	32.3	15.0	37.3	37.3
Total Split (%)	19.0%	37.5%		15.2%	33.7%		10.0%	32.3%	32.3%	15.0%	37.3%	37.3%
Maximum Green (s)	13.7	32.2		9.9	28.4		4.3	26.6	26.6	9.3	31.6	31.6
Yellow Time (s)	4.3	4.3		4.3	4.3		4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3		-1.3	-1.3		-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lead		Lag	Lead		Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)		20.0			21.4			16.1	16.1		14.7	14.7
Pedestrian Calls (#/hr)		5			5			5	5		5	5
Act Effct Green (s)	12.2	12.3		11.6	11.8		7.2	25.4	25.4	14.2	35.6	35.6
Actuated g/C Ratio	0.19	0.19		0.18	0.18		0.11	0.39	0.39	0.22	0.55	0.55
v/c Ratio	0.37	0.23		0.29	0.16		0.12	0.33	0.06	0.35	0.53	0.04
Control Delay (s/veh)	34.3	21.4		33.2	19.9		39.1	24.3	0.2	32.0	18.5	0.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	34.3	21.4		33.2	19.9		39.1	24.3	0.2	32.0	18.5	0.1
LOS	C	C		C	B		D	C	A	C	B	A
Approach Delay (s/veh)		26.9			26.1			23.2			19.4	
Approach LOS		C			C			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 64.9			
Natural Cycle: 85			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.53			
Intersection Signal Delay (s/veh): 21.8		Intersection LOS: C	
Intersection Capacity Utilization 55.8%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 14: 12th Ave & Greenfield Ave

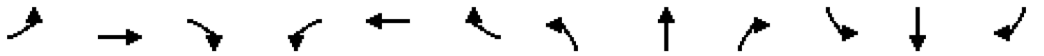




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	104	37	79	62	29	19	416	33	115	956	33
Future Volume (veh/h)	104	104	37	79	62	29	19	416	33	115	956	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	113	113	40	86	67	32	21	452	36	125	1039	36
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	182	370	124	165	314	139	85	832	335	364	1435	580
Arrive On Green	0.11	0.14	0.12	0.10	0.13	0.11	0.05	0.23	0.23	0.22	0.40	0.40
Sat Flow, veh/h	1641	2589	872	1641	2371	1049	1641	3554	1430	1641	3554	1435
Grp Volume(v), veh/h	113	76	77	86	49	50	21	452	36	125	1039	36
Grp Sat Flow(s),veh/h/ln	1641	1777	1684	1641	1777	1644	1641	1777	1430	1641	1777	1435
Q Serve(g_s), s	3.5	2.0	2.2	2.6	1.3	1.5	0.7	5.9	1.1	3.4	13.1	0.8
Cycle Q Clear(g_c), s	3.5	2.0	2.2	2.6	1.3	1.5	0.7	5.9	1.1	3.4	13.1	0.8
Prop In Lane	1.00		0.52	1.00		0.64	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	182	254	240	165	235	218	85	832	335	364	1435	580
V/C Ratio(X)	0.62	0.30	0.32	0.52	0.21	0.23	0.25	0.54	0.11	0.34	0.72	0.06
Avail Cap(c_a), veh/h	462	1119	1060	345	992	917	185	1890	761	364	2224	898
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.6	20.4	20.8	22.7	20.6	21.0	24.2	17.9	16.0	17.4	13.4	9.7
Incr Delay (d2), s/veh	3.4	0.7	0.8	2.5	0.4	0.5	1.5	0.6	0.1	0.6	0.7	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.7	0.8	1.0	0.5	0.5	0.2	2.0	0.3	1.1	3.7	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.0	21.1	21.6	25.2	21.0	21.6	25.7	18.4	16.2	18.0	14.1	9.7
LnGrp LOS	C	C	C	C	C	C	C	B	B	B	B	A
Approach Vol, veh/h		266			185			509			1200	
Approach Delay, s/veh		23.3			23.1			18.6			14.3	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.8	16.5	9.4	11.6	6.8	25.5	9.9	11.0
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	9.3	26.6	9.9	32.2	4.3	31.6	13.7	28.4
Max Q Clear Time (g_c+I1), s	5.4	7.9	4.6	4.2	2.7	15.1	5.5	3.5
Green Ext Time (p_c), s	0.1	1.8	0.1	0.5	0.0	4.5	0.2	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	17.2
HCM 7th LOS	B

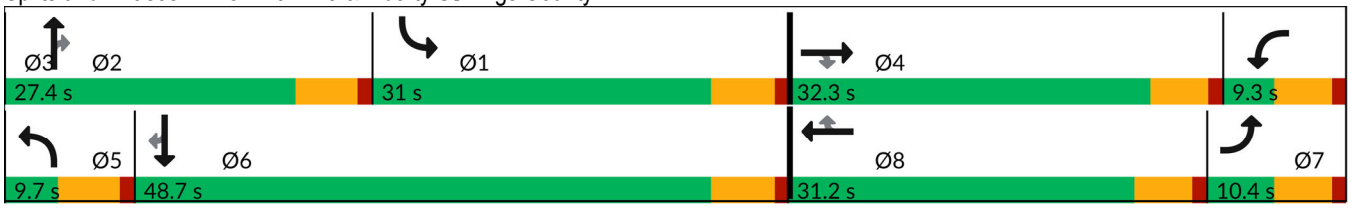


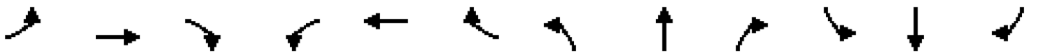
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	90	31	9	21	71	16	452	39	305	758	9
Future Volume (vph)	28	90	31	9	21	71	16	452	39	305	758	9
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	80		80	195		145	250		125	250		125
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98			0.98			0.96			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1863	1458	1630	3539	1458	1630	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1431	1630	1863	1430	1630	3539	1407	1630	3539	1409
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			212			212			145			145
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1718			718			1686			1372	
Travel Time (s)		21.3			8.9			20.9			17.0	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	30	98	34	10	23	77	17	491	42	332	824	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	98	34	10	23	77	17	491	42	332	824	10
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	32.3	32.3	9.3	30.9	30.9	9.7	26.0	26.0	9.7	26.0	26.0
Total Split (s)	10.4	32.3	32.3	9.3	31.2	31.2	9.7	27.4	27.4	31.0	48.7	48.7
Total Split (%)	10.4%	32.3%	32.3%	9.3%	31.2%	31.2%	9.7%	27.4%	27.4%	31.0%	48.7%	48.7%
Maximum Green (s)	5.1	27.0	27.0	4.0	25.9	25.9	4.0	21.7	21.7	25.3	43.0	43.0
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		20.0	20.0		18.6	18.6		13.3	13.3		13.3	13.3
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	7.5	14.1	14.1	6.2	11.9	11.9	6.6	18.0	18.0	21.2	44.2	44.2
Actuated g/C Ratio	0.12	0.22	0.22	0.10	0.19	0.19	0.10	0.28	0.28	0.33	0.69	0.69
v/c Ratio	0.16	0.24	0.07	0.06	0.07	0.18	0.10	0.49	0.08	0.61	0.34	0.01
Control Delay (s/veh)	38.3	25.6	0.3	39.3	27.6	0.9	39.2	25.2	0.3	28.1	8.9	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	38.3	25.6	0.3	39.3	27.6	0.9	39.2	25.2	0.3	28.1	8.9	0.0
LOS	D	C	A	D	C	A	D	C	A	C	A	A
Approach Delay (s/veh)		22.6			10.0			23.7			14.3	
Approach LOS		C			A			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 63.8			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay (s/veh): 17.3		Intersection LOS: B	
Intersection Capacity Utilization 52.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 15: 12th Ave & Liberty St/Kings County Dr

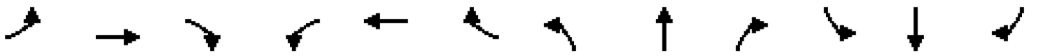




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	90	31	9	21	71	16	452	39	305	758	9
Future Volume (veh/h)	28	90	31	9	21	71	16	452	39	305	758	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	30	98	34	10	23	77	17	491	42	332	824	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	270	205	80	265	202	79	848	337	444	1637	655
Arrive On Green	0.05	0.14	0.14	0.05	0.14	0.14	0.05	0.24	0.24	0.27	0.46	0.46
Sat Flow, veh/h	1641	1870	1423	1641	1870	1423	1641	3554	1411	1641	3554	1421
Grp Volume(v), veh/h	30	98	34	10	23	77	17	491	42	332	824	10
Grp Sat Flow(s),veh/h/ln	1641	1870	1423	1641	1870	1423	1641	1777	1411	1641	1777	1421
Q Serve(g_s), s	0.9	2.5	0.8	0.3	0.6	2.6	0.5	6.6	1.3	9.9	8.7	0.1
Cycle Q Clear(g_c), s	0.9	2.5	0.8	0.3	0.6	2.6	0.5	6.6	1.3	9.9	8.7	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	84	270	205	80	265	202	79	848	337	444	1637	655
V/C Ratio(X)	0.36	0.36	0.17	0.13	0.09	0.38	0.21	0.58	0.12	0.75	0.50	0.02
Avail Cap(c_a), veh/h	196	986	750	162	948	721	174	1549	615	825	2959	1183
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.6	20.7	10.2	24.4	20.0	20.9	24.6	18.1	16.0	17.9	10.2	2.1
Incr Delay (d2), s/veh	2.6	0.8	0.4	0.7	0.1	1.2	1.3	0.6	0.2	2.5	0.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.0	0.3	0.1	0.2	0.8	0.2	2.2	0.3	3.2	2.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.2	21.6	10.6	25.1	20.2	22.1	25.9	18.7	16.2	20.5	10.4	2.1
LnGrp LOS	C	C	B	C	C	C	C	B	B	C	B	A
Approach Vol, veh/h		162			110			550			1166	
Approach Delay, s/veh		20.3			22.0			18.7			13.2	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.5	16.8	6.6	11.7	6.6	28.7	6.7	11.6
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	25.3	21.7	4.0	27.0	4.0	43.0	5.1	25.9
Max Q Clear Time (g_c+I1), s	11.9	8.6	2.3	4.5	2.5	10.7	2.9	4.6
Green Ext Time (p_c), s	1.0	1.8	0.0	0.4	0.0	3.8	0.0	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	15.8
HCM 7th LOS	B

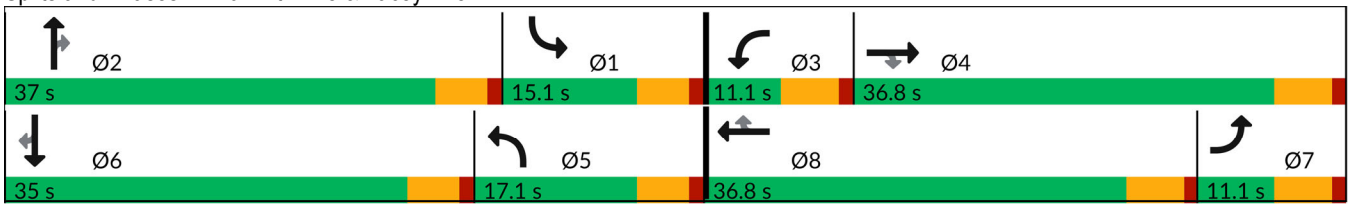


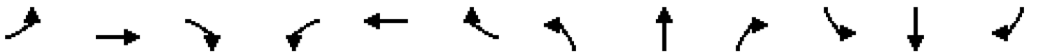
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	278	39	68	139	46	92	374	72	151	546	79
Future Volume (vph)	85	278	39	68	139	46	92	374	72	151	546	79
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	270		120	270		170	240		175	240		120
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98			0.98			0.98			0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3162	3539	1458	3162	3539	1458	1630	3539	1458	1630	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3162	3539	1431	3162	3539	1432	1630	3539	1432	1630	3539	1432
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			132			132			194			194
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		3432			5219			1893			1686	
Travel Time (s)		42.5			64.7			23.5			20.9	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	92	302	42	74	151	50	100	407	78	164	593	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	92	302	42	74	151	50	100	407	78	164	593	86
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	31.7	31.7	9.3	34.5	34.5	8.9	36.6	36.6	8.9	35.2	35.2
Total Split (s)	11.1	36.8	36.8	11.1	36.8	36.8	17.1	37.0	37.0	15.1	35.0	35.0
Total Split (%)	11.1%	36.8%	36.8%	11.1%	36.8%	36.8%	17.1%	37.0%	37.0%	15.1%	35.0%	35.0%
Maximum Green (s)	5.8	31.5	31.5	5.8	31.5	31.5	12.2	32.1	32.1	10.2	30.1	30.1
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	3.9	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-0.9	-0.9	-0.9	-0.9	1.0	1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.9	5.9
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		19.4	19.4		22.2	22.2		24.7	24.7		23.3	23.3
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	9.4	14.6	14.6	7.6	12.9	12.9	10.5	16.0	16.0	13.6	20.5	20.5
Actuated g/C Ratio	0.14	0.22	0.22	0.12	0.20	0.20	0.16	0.24	0.24	0.21	0.31	0.31
v/c Ratio	0.20	0.38	0.10	0.20	0.22	0.13	0.39	0.47	0.16	0.49	0.54	0.15
Control Delay (s/veh)	32.7	24.6	0.5	34.6	25.1	0.7	34.8	24.2	0.7	35.6	24.4	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	32.7	24.6	0.5	34.6	25.1	0.7	34.8	24.2	0.7	35.6	24.4	0.5
LOS	C	C	A	C	C	A	C	C	A	D	C	A
Approach Delay (s/veh)		24.0			23.2			22.9			24.2	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 65.6			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay (s/veh): 23.7		Intersection LOS: C	
Intersection Capacity Utilization 50.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 16: 12th Ave & Lacey Ave





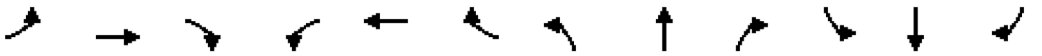
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	278	39	68	139	46	92	374	72	151	546	79
Future Volume (veh/h)	85	278	39	68	139	46	92	374	72	151	546	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	92	302	42	74	151	50	100	407	78	164	593	86
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	388	704	283	253	554	222	156	825	332	255	900	362
Arrive On Green	0.12	0.20	0.20	0.08	0.16	0.16	0.09	0.23	0.23	0.16	0.25	0.25
Sat Flow, veh/h	3183	3554	1428	3183	3554	1425	1641	3554	1430	1641	3554	1431
Grp Volume(v), veh/h	92	302	42	74	151	50	100	407	78	164	593	86
Grp Sat Flow(s),veh/h/ln	1591	1777	1428	1591	1777	1425	1641	1777	1430	1641	1777	1431
Q Serve(g_s), s	1.2	3.6	0.7	1.0	1.8	1.5	2.8	4.7	1.3	4.5	7.2	2.3
Cycle Q Clear(g_c), s	1.2	3.6	0.7	1.0	1.8	1.5	2.8	4.7	1.3	4.5	7.2	2.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	388	704	283	253	554	222	156	825	332	255	900	362
V/C Ratio(X)	0.24	0.43	0.15	0.29	0.27	0.23	0.64	0.49	0.23	0.64	0.66	0.24
Avail Cap(c_a), veh/h	473	2438	980	473	2438	977	450	2453	987	381	2163	871
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.0	16.8	5.8	20.7	17.8	17.7	20.9	15.9	5.9	18.9	16.0	14.2
Incr Delay (d2), s/veh	0.3	0.4	0.2	0.6	0.3	0.5	4.4	0.5	0.4	2.7	0.8	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.1	0.3	0.3	0.6	0.4	1.0	1.5	0.5	1.5	2.2	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	19.3	17.2	6.0	21.4	18.1	18.2	25.2	16.4	6.3	21.6	16.8	14.5
LnGrp LOS	B	B	A	C	B	B	C	B	A	C	B	B
Approach Vol, veh/h		436			275			585			843	
Approach Delay, s/veh		16.6			19.0			16.5			17.5	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.4	15.1	7.8	13.5	8.5	18.0	9.8	11.4
Change Period (Y+Rc), s	4.9	4.9	5.3	5.3	4.9	4.9	5.3	5.3
Max Green Setting (Gmax), s	10.2	32.1	5.8	31.5	12.2	30.1	5.8	31.5
Max Q Clear Time (g_c+I1), s	6.5	6.7	3.0	5.6	4.8	9.2	3.2	3.8
Green Ext Time (p_c), s	0.2	1.9	0.0	1.3	0.1	2.8	0.1	0.7

Intersection Summary	
HCM 7th Control Delay, s/veh	17.3
HCM 7th LOS	B

Notes

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

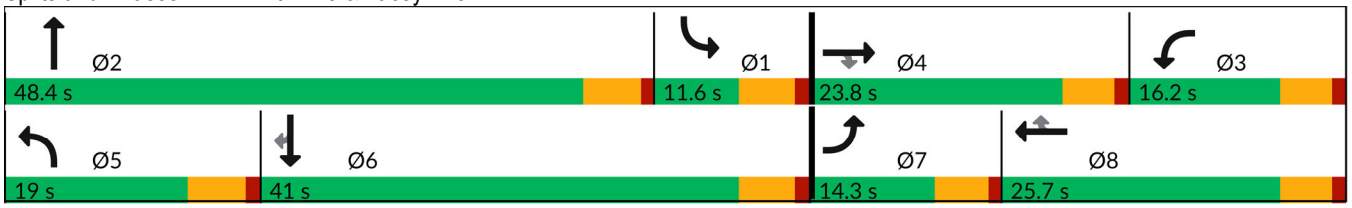


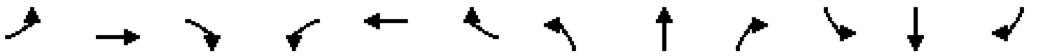
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	136	78	102	187	55	159	485	65	68	527	117
Future Volume (vph)	84	136	78	102	187	55	159	485	65	68	527	117
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	200		100	130		100	70		0	160		105
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.96			0.98		1.00				0.98
Frt			0.850			0.850		0.982				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	3539	1458	1630	3539	1458	1630	1825	0	1630	1863	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	3539	1402	1630	3539	1425	1630	1825	0	1630	1863	1431
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			194			194		9				185
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5219			6528			4809			5342	
Travel Time (s)		64.7			80.9			59.6			66.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	91	148	85	111	203	60	173	527	71	74	573	127
Shared Lane Traffic (%)												
Lane Group Flow (vph)	91	148	85	111	203	60	173	598	0	74	573	127
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50		50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.9	22.9	22.9	8.9	22.9	22.9	9.3	31.3		9.3	32.7	32.7
Total Split (s)	14.3	23.8	23.8	16.2	25.7	25.7	19.0	48.4		11.6	41.0	41.0
Total Split (%)	14.3%	23.8%	23.8%	16.2%	25.7%	25.7%	19.0%	48.4%		11.6%	41.0%	41.0%
Maximum Green (s)	9.4	18.9	18.9	11.3	20.8	20.8	13.7	43.1		6.3	35.7	35.7
Yellow Time (s)	3.9	3.9	3.9	3.9	3.9	3.9	4.3	4.3		4.3	4.3	4.3
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-1.3	-1.3		-1.3	-1.3	-1.3
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Don't Walk (s)		9.4	9.4		9.4	9.4		19.0			20.4	20.4
Pedestrian Calls (#/hr)		5	5		5	5		5			5	5
Act Effct Green (s)	9.7	11.0	11.0	11.0	12.2	12.2	14.0	37.7		11.4	31.4	31.4
Actuated g/C Ratio	0.12	0.14	0.14	0.14	0.15	0.15	0.17	0.47		0.14	0.39	0.39
v/c Ratio	0.47	0.31	0.24	0.50	0.38	0.16	0.61	0.70		0.32	0.79	0.19
Control Delay (s/veh)	46.8	36.6	1.6	45.5	35.6	0.9	45.6	25.8		41.6	32.8	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	46.8	36.6	1.6	45.5	35.6	0.9	45.6	25.8		41.6	32.8	1.6
LOS	D	D	A	D	D	A	D	C		D	C	A
Approach Delay (s/veh)		30.2			33.0			30.2			28.6	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 80.7			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay (s/veh): 30.1		Intersection LOS: C	
Intersection Capacity Utilization 62.2%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 17: 11th Ave & Lacey Ave

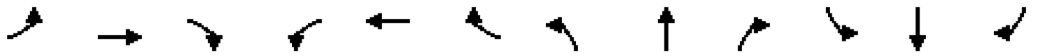




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	136	78	102	187	55	159	485	65	68	527	117
Future Volume (veh/h)	84	136	78	102	187	55	159	485	65	68	527	117
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	91	148	85	111	203	60	173	527	71	74	573	127
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	137	400	157	163	457	183	247	632	85	223	706	542
Arrive On Green	0.08	0.11	0.11	0.10	0.13	0.13	0.15	0.39	0.37	0.14	0.38	0.38
Sat Flow, veh/h	1641	3554	1390	1641	3554	1421	1641	1610	217	1641	1870	1435
Grp Volume(v), veh/h	91	148	85	111	203	60	173	0	598	74	573	127
Grp Sat Flow(s),veh/h/ln	1641	1777	1390	1641	1777	1421	1641	0	1827	1641	1870	1435
Q Serve(g_s), s	3.3	2.4	2.3	4.0	3.3	1.6	6.2	0.0	18.2	2.5	16.9	3.7
Cycle Q Clear(g_c), s	3.3	2.4	2.3	4.0	3.3	1.6	6.2	0.0	18.2	2.5	16.9	3.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	137	400	157	163	457	183	247	0	717	223	706	542
V/C Ratio(X)	0.66	0.37	0.54	0.68	0.44	0.33	0.70	0.00	0.83	0.33	0.81	0.23
Avail Cap(c_a), veh/h	274	1142	447	325	1252	501	400	0	1317	223	1124	862
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.4	25.3	10.9	26.8	24.8	10.7	24.8	0.0	17.0	24.1	17.2	13.1
Incr Delay (d2), s/veh	5.4	0.6	2.9	4.9	0.7	1.0	3.6	0.0	2.6	0.9	2.5	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.9	1.1	1.6	1.2	0.7	2.3	0.0	6.3	0.9	6.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	32.8	25.9	13.9	31.7	25.5	11.7	28.4	0.0	19.6	25.0	19.7	13.3
LnGrp LOS	C	C	B	C	C	B	C		B	C	B	B
Approach Vol, veh/h		324			374			771			774	
Approach Delay, s/veh		24.7			25.1			21.6			19.1	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.4	28.2	10.1	10.9	13.3	27.3	9.2	11.9
Change Period (Y+Rc), s	5.3	5.3	4.9	4.9	5.3	5.3	4.9	4.9
Max Green Setting (Gmax), s	6.3	43.1	11.3	18.9	13.7	35.7	9.4	20.8
Max Q Clear Time (g_c+I1), s	4.5	20.2	6.0	4.4	8.2	18.9	5.3	5.3
Green Ext Time (p_c), s	0.0	2.4	0.1	0.7	0.2	2.5	0.1	0.8

Intersection Summary	
HCM 7th Control Delay, s/veh	21.8
HCM 7th LOS	C

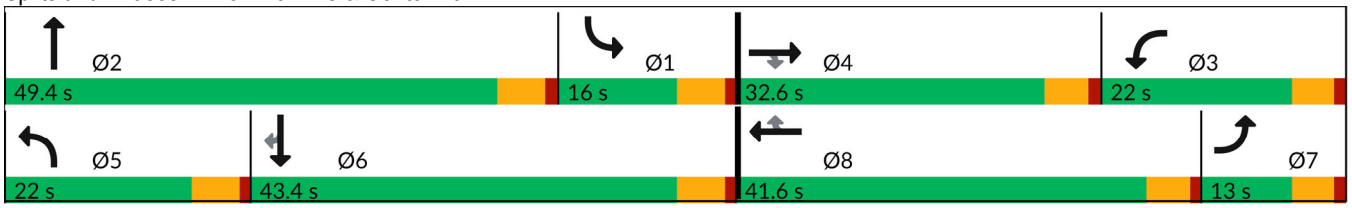


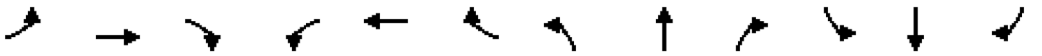
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	81	222	143	40	11	189	488	408	54	501	28
Future Volume (vph)	30	81	222	143	40	11	189	488	408	54	501	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	265		260	230		140	250		0	180		180
Storage Lanes	1		1	1		1	2		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	0.97	0.91	0.91	1.00	0.91	1.00
Ped Bike Factor						0.98		0.98				0.98
Frt			0.850			0.850		0.932				0.850
Flt Protected	0.950	0.998		0.950	0.972		0.950			0.950		
Satd. Flow (prot)	1681	1766	1583	1681	1720	1583	3433	4658	0	1770	5085	1583
Flt Permitted	0.950	0.997		0.950	0.846		0.950			0.950		
Satd. Flow (perm)	1681	1764	1583	1681	1497	1554	3433	4658	0	1770	5085	1547
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			241			162		202				155
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1154			586			1240			1893	
Travel Time (s)		14.3			7.3			15.4			23.5	
Confl. Peds. (#/hr)						5			5			5
Confl. Bikes (#/hr)						2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	88	241	155	43	12	205	530	443	59	545	30
Shared Lane Traffic (%)	10%			37%								
Lane Group Flow (vph)	30	91	241	98	100	12	205	973	0	59	545	30
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50		50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.9	22.9	22.9	8.9	39.9	39.9	9.3	24.1		9.3	24.1	24.1
Total Split (s)	13.0	32.6	32.6	22.0	41.6	41.6	22.0	49.4		16.0	43.4	43.4
Total Split (%)	10.8%	27.2%	27.2%	18.3%	34.7%	34.7%	18.3%	41.2%		13.3%	36.2%	36.2%
Maximum Green (s)	8.1	27.7	27.7	17.1	36.7	36.7	16.7	44.1		10.7	38.1	38.1
Yellow Time (s)	3.9	3.9	3.9	3.9	3.9	3.9	4.3	4.3		4.3	4.3	4.3
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-1.3	-1.3		-1.3	-1.3	-1.3
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	Min
Walk Time (s)					7.0	7.0		7.0			7.0	7.0
Flash Don't Walk (s)					28.0	28.0		11.8			11.8	11.8
Pedestrian Calls (#/hr)					5	5		5			5	5
Act Effct Green (s)	7.9	4.7	31.6	13.7	11.7	39.5	12.2	26.1		9.7	20.7	20.7
Actuated g/C Ratio	0.09	0.05	0.34	0.15	0.13	0.43	0.13	0.28		0.11	0.23	0.23
v/c Ratio	0.21	1.01	0.34	0.39	0.45	0.02	0.45	0.66		0.32	0.47	0.06
Control Delay (s/veh)	47.1	143.9	5.5	41.9	44.1	0.0	41.9	26.1		46.3	32.5	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	47.1	143.9	5.5	41.9	44.1	0.0	41.9	26.1		46.3	32.5	0.3
LOS	D	F	A	D	D	A	D	C		D	C	A
Approach Delay (s/veh)		43.8			40.6			28.9			32.3	
Approach LOS		D			D			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 91.6			
Natural Cycle: 85			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.01			
Intersection Signal Delay (s/veh): 33.1		Intersection LOS: C	
Intersection Capacity Utilization 46.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 18: 12th Ave & Centennial Dr





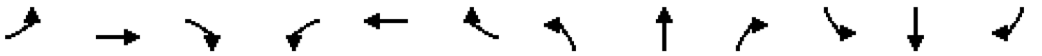
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	81	222	143	40	11	189	488	408	54	501	28
Future Volume (veh/h)	30	81	222	143	40	11	189	488	408	54	501	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	88	241	99	121	12	205	530	443	59	545	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	316	267	158	260	215	416	1326	600	118	1712	522
Arrive On Green	0.12	0.17	0.17	0.09	0.14	0.14	0.12	0.39	0.37	0.07	0.34	0.34
Sat Flow, veh/h	1781	1870	1585	1781	1870	1544	3456	3404	1540	1781	5106	1557
Grp Volume(v), veh/h	33	88	241	99	121	12	205	530	443	59	545	30
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1544	1728	1702	1540	1781	1702	1557
Q Serve(g_s), s	0.9	2.3	5.4	3.0	3.3	0.4	3.1	6.3	14.0	1.8	4.4	0.4
Cycle Q Clear(g_c), s	0.9	2.3	5.4	3.0	3.3	0.4	3.1	6.3	14.0	1.8	4.4	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	211	316	267	158	260	215	416	1326	600	118	1712	522
V/C Ratio(X)	0.16	0.28	0.90	0.62	0.47	0.06	0.49	0.40	0.74	0.50	0.32	0.06
Avail Cap(c_a), veh/h	287	958	812	574	1259	1040	1114	2767	1252	383	3602	1098
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.1	20.2	9.4	24.5	22.1	20.9	23.0	12.3	15.2	25.2	13.8	3.6
Incr Delay (d2), s/veh	0.3	0.5	10.7	4.0	1.3	0.1	0.9	0.2	1.8	3.3	0.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.9	3.1	1.2	1.3	0.1	1.1	1.7	3.9	0.7	1.3	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	22.4	20.7	20.1	28.5	23.4	21.0	23.9	12.5	17.0	28.4	13.9	3.7
LnGrp LOS	C	C	C	C	C	C	C	B	B	C	B	A
Approach Vol, veh/h		362			232			1178			634	
Approach Delay, s/veh		20.5			25.5			16.2			14.8	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.7	25.8	9.0	13.4	10.7	22.7	10.6	11.8
Change Period (Y+Rc), s	5.3	5.3	4.9	4.9	5.3	5.3	4.9	4.9
Max Green Setting (Gmax), s	10.7	44.1	17.1	27.7	16.7	38.1	8.1	36.7
Max Q Clear Time (g_c+I1), s	3.8	16.0	5.0	7.4	5.1	6.4	2.9	5.3
Green Ext Time (p_c), s	0.1	4.5	0.2	1.2	0.6	2.5	0.0	0.4

Intersection Summary	
HCM 7th Control Delay, s/veh	17.4
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

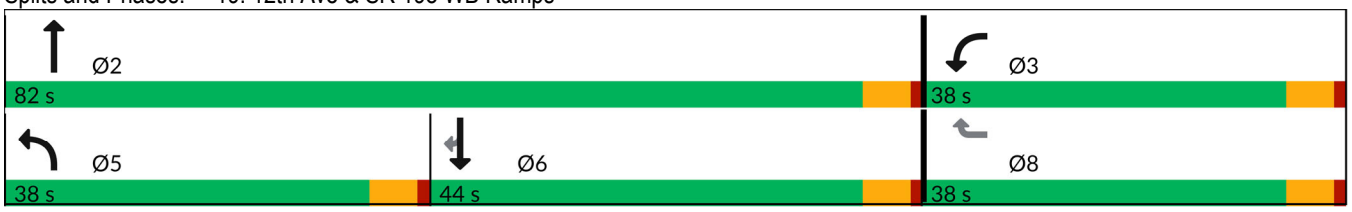


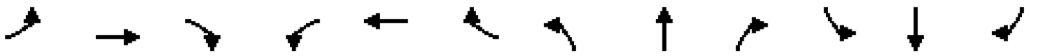
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	68	0	473	212	836	0	0	536	295
Future Volume (vph)	0	0	0	68	0	473	212	836	0	0	536	295
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	0		0	200		200	405		0	130		0
Storage Lanes	0		0	2		1	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	0.88	1.00	0.95	1.00	1.00	0.95	1.00
Frt						0.850						0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	3162	0	2567	1630	3539	0	0	3539	1458
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	3162	0	2567	1630	3539	0	0	3539	1458
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						306						321
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		239			374			625			1240	
Travel Time (s)		3.0			4.6			7.7			15.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	74	0	514	230	909	0	0	583	321
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	74	0	514	230	909	0	0	583	321
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1		1	1	1			1	1
Detector Template												
Leading Detector (ft)				50		50	50	50			50	50
Trailing Detector (ft)				0		0	0	0			0	0
Detector 1 Position(ft)				0		0	0	0			0	0
Detector 1 Size(ft)				50		50	50	50			50	50
Detector 1 Type				Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0		0.0	0.0	0.0			0.0	0.0
Detector 1 Queue (s)				0.0		0.0	0.0	0.0			0.0	0.0
Detector 1 Delay (s)				0.0		0.0	0.0	0.0			0.0	0.0
Turn Type				Prot		Perm	Prot	NA			NA	Perm
Protected Phases				3			5	2			6	
Permitted Phases						8						6
Detector Phase				3		8	5	2			6	6
Switch Phase												
Minimum Initial (s)				4.0		4.0	4.0	4.0			4.0	4.0
Minimum Split (s)				9.3		23.3	9.3	23.3			23.3	23.3
Total Split (s)				38.0		38.0	38.0	82.0			44.0	44.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)				31.7%		31.7%	31.7%	68.3%			36.7%	36.7%
Maximum Green (s)				32.7		32.7	32.7	76.7			38.7	38.7
Yellow Time (s)				4.3		4.3	4.3	4.3			4.3	4.3
All-Red Time (s)				1.0		1.0	1.0	1.0			1.0	1.0
Lost Time Adjust (s)				-1.3		-1.3	-1.3	-1.3			-1.3	-1.3
Total Lost Time (s)				4.0		4.0	4.0	4.0			4.0	4.0
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	3.0
Recall Mode				None		None	None	Min			Min	Min
Act Effct Green (s)				13.3		13.5	16.6	40.0			19.1	19.1
Actuated g/C Ratio				0.21		0.22	0.27	0.64			0.31	0.31
v/c Ratio				0.11		0.64	0.53	0.40			0.53	0.48
Control Delay (s/veh)				22.5		14.0	26.5	6.1			21.0	5.4
Queue Delay				0.0		0.0	0.0	0.0			0.0	0.0
Total Delay (s/veh)				22.5		14.0	26.5	6.1			21.0	5.4
LOS				C		B	C	A			C	A
Approach Delay (s/veh)					15.1			10.2			15.5	
Approach LOS					B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 62.1			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay (s/veh): 13.1		Intersection LOS: B	
Intersection Capacity Utilization 47.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 19: 12th Ave & SR 198 WB Ramps

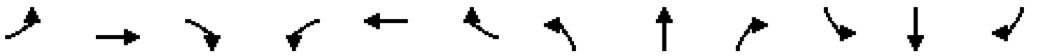




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	68	0	473	212	836	0	0	536	295
Future Volume (veh/h)	0	0	0	68	0	473	212	836	0	0	536	295
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1723	0	1723	1723	1870	0	0	1870	1723
Adj Flow Rate, veh/h				74	0	514	230	909	0	0	583	321
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	0	2	2	2	0	0	2	2
Cap, veh/h				897	0	724	322	2065	0	0	1125	462
Arrive On Green				0.28	0.00	0.28	0.20	0.58	0.00	0.00	0.32	0.32
Sat Flow, veh/h				3183	0	2569	1641	3647	0	0	3647	1460
Grp Volume(v), veh/h				74	0	514	230	909	0	0	583	321
Grp Sat Flow(s),veh/h/ln				1591	0	1285	1641	1777	0	0	1777	1460
Q Serve(g_s), s				1.0	0.0	10.5	7.7	8.4	0.0	0.0	7.8	11.3
Cycle Q Clear(g_c), s				1.0	0.0	10.5	7.7	8.4	0.0	0.0	7.8	11.3
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				897	0	724	322	2065	0	0	1125	462
V/C Ratio(X)				0.08	0.00	0.71	0.71	0.44	0.00	0.00	0.52	0.69
Avail Cap(c_a), veh/h				1852	0	1495	955	4744	0	0	2433	999
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				15.4	0.0	18.8	22.0	6.9	0.0	0.0	16.3	17.5
Incr Delay (d2), s/veh				0.0	0.0	1.3	3.0	0.1	0.0	0.0	0.4	1.9
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.3	0.0	2.6	2.7	1.7	0.0	0.0	2.5	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				15.5	0.0	20.1	24.9	7.0	0.0	0.0	16.7	19.4
LnGrp LOS				B		C	C	A			B	B
Approach Vol, veh/h					588			1139			904	
Approach Delay, s/veh					19.5			10.6			17.6	
Approach LOS					B			B			B	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		38.0			15.5	22.5		20.5				
Change Period (Y+Rc), s		5.3			5.3	5.3		5.3				
Max Green Setting (Gmax), s		76.7			32.7	38.7		32.7				
Max Q Clear Time (g_c+I1), s		10.4			9.7	13.3		12.5				
Green Ext Time (p_c), s		4.4			0.8	3.9		2.7				

Intersection Summary												
HCM 7th Control Delay, s/veh			15.0									
HCM 7th LOS			B									

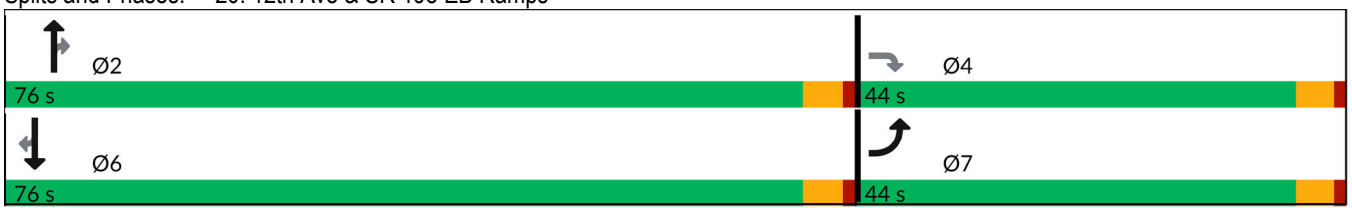


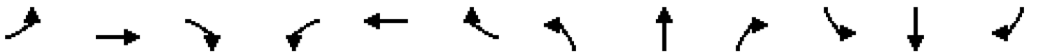
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	367	0	120	0	0	0	0	727	158	0	356	252
Future Volume (vph)	367	0	120	0	0	0	0	727	158	0	356	252
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	210		210	0		0	0		0	0		160
Storage Lanes	2		0	0		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850						0.850			0.850
Flt Protected	0.950											
Satd. Flow (prot)	3162	0	1458	0	0	0	0	3539	1458	0	3539	1458
Flt Permitted	0.950											
Satd. Flow (perm)	3162	0	1458	0	0	0	0	3539	1458	0	3539	1458
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			130						172			274
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		206			226			520			625	
Travel Time (s)		2.6			2.8			6.4			7.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	399	0	130	0	0	0	0	790	172	0	387	274
Shared Lane Traffic (%)												
Lane Group Flow (vph)	399	0	130	0	0	0	0	790	172	0	387	274
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1		1					1	1		1	1
Detector Template												
Leading Detector (ft)	50		50					50	50		50	50
Trailing Detector (ft)	0		0					0	0		0	0
Detector 1 Position(ft)	0		0					0	0		0	0
Detector 1 Size(ft)	50		50					50	50		50	50
Detector 1 Type	Cl+Ex		Cl+Ex					Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0					0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0					0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0					0.0	0.0		0.0	0.0
Turn Type	Prot		Perm					NA	Perm		NA	Perm
Protected Phases	7							2			6	
Permitted Phases			4						2			6
Detector Phase	7		4					2	2		6	6
Switch Phase												
Minimum Initial (s)	4.0		4.0					4.0	4.0		4.0	4.0
Minimum Split (s)	8.5		22.5					22.5	22.5		22.5	22.5
Total Split (s)	44.0		44.0					76.0	76.0		76.0	76.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	36.7%		36.7%					63.3%	63.3%		63.3%	63.3%
Maximum Green (s)	39.5		39.5					71.5	71.5		71.5	71.5
Yellow Time (s)	3.5		3.5					3.5	3.5		3.5	3.5
All-Red Time (s)	1.0		1.0					1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-0.5		-0.5					-0.5	0.0		-0.5	0.0
Total Lost Time (s)	4.0		4.0					4.0	4.5		4.0	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0		3.0					3.0	3.0		3.0	3.0
Recall Mode	None		None					Min	Min		Min	Min
Act Effct Green (s)	11.0		11.0					16.0	15.5		16.0	15.5
Actuated g/C Ratio	0.31		0.31					0.45	0.44		0.45	0.44
v/c Ratio	0.41		0.24					0.49	0.23		0.24	0.34
Control Delay (s/veh)	11.7		4.2					8.0	2.3		6.4	2.5
Queue Delay	0.0		0.0					0.0	0.0		0.0	0.0
Total Delay (s/veh)	11.7		4.2					8.0	2.3		6.4	2.5
LOS	B		A					A	A		A	A
Approach Delay (s/veh)		9.8						7.0			4.8	
Approach LOS		A						A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 35.2			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.49			
Intersection Signal Delay (s/veh): 7.0		Intersection LOS: A	
Intersection Capacity Utilization 38.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 20: 12th Ave & SR 198 EB Ramps





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	367	0	120	0	0	0	0	727	158	0	356	252
Future Volume (veh/h)	367	0	120	0	0	0	0	727	158	0	356	252
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1723	0	1723				0	1870	1723	0	1870	1723
Adj Flow Rate, veh/h	399	0	130				0	790	172	0	387	274
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	2
Cap, veh/h	879	0	403				0	1514	595	0	1514	595
Arrive On Green	0.28	0.00	0.28				0.00	0.43	0.41	0.00	0.43	0.41
Sat Flow, veh/h	3183	0	1460				0	3647	1460	0	3647	1460
Grp Volume(v), veh/h	399	0	130				0	790	172	0	387	274
Grp Sat Flow(s),veh/h/ln	1591	0	1460				0	1777	1460	0	1777	1460
Q Serve(g_s), s	2.8	0.0	1.9				0.0	4.4	2.1	0.0	1.9	3.7
Cycle Q Clear(g_c), s	2.8	0.0	1.9				0.0	4.4	2.1	0.0	1.9	3.7
Prop In Lane	1.00		1.00				0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	879	0	403				0	1514	595	0	1514	595
V/C Ratio(X)	0.45	0.00	0.32				0.00	0.52	0.29	0.00	0.26	0.46
Avail Cap(c_a), veh/h	4738	0	2173				0	9521	3884	0	9521	3884
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	8.0	0.0	7.7				0.0	5.7	5.3	0.0	5.0	5.8
Incr Delay (d2), s/veh	0.4	0.0	0.5				0.0	0.3	0.3	0.0	0.1	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.2				0.0	0.2	0.1	0.0	0.1	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.4	0.0	8.2				0.0	6.0	5.6	0.0	5.1	6.4
LnGrp LOS	A		A					A	A		A	A
Approach Vol, veh/h		529						962			661	
Approach Delay, s/veh		8.4						5.9			5.6	
Approach LOS		A						A			A	

Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		15.4		11.4		15.4						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		71.5		39.5		71.5						
Max Q Clear Time (g_c+I1), s		6.4		4.8		5.7						
Green Ext Time (p_c), s		4.5		2.3		2.9						

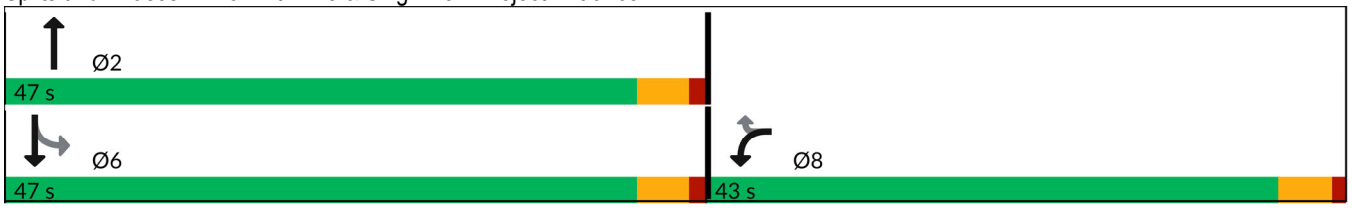
Intersection Summary												
HCM 7th Control Delay, s/veh		6.4										
HCM 7th LOS		A										

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	279	18	530	138	28	342
Future Volume (vph)	279	18	530	138	28	342
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt		0.850	0.969			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3430	0	1770	1863
Flt Permitted	0.950				0.346	
Satd. Flow (perm)	1770	1583	3430	0	645	1863
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		20	49			
Link Speed (mph)	55		55			55
Link Distance (ft)	1631		1771			2743
Travel Time (s)	20.2		22.0			34.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	303	20	576	150	30	372
Shared Lane Traffic (%)						
Lane Group Flow (vph)	303	20	726	0	30	372
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases		8			6	
Detector Phase	8	8	2		6	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5
Total Split (s)	43.0	43.0	47.0		47.0	47.0
Total Split (%)	47.8%	47.8%	52.2%		52.2%	52.2%
Maximum Green (s)	38.5	38.5	42.5		42.5	42.5
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5		4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	Min		Min	Min
Walk Time (s)	7.0	7.0	7.0		7.0	7.0
Flash Don't Walk (s)	11.0	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0	0		0	0
Act Effct Green (s)	12.4	12.4	15.8		15.8	15.8
Actuated g/C Ratio	0.33	0.33	0.42		0.42	0.42
v/c Ratio	0.52	0.04	0.49		0.11	0.47
Control Delay (s/veh)	13.8	5.1	9.1		8.9	10.9
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay (s/veh)	13.8	5.1	9.1		8.9	10.9
LOS	B	A	A		A	B
Approach Delay (s/veh)	13.2		9.1			10.7
Approach LOS	B		A			B

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 37.3			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.52			
Intersection Signal Delay (s/veh): 10.5		Intersection LOS: B	
Intersection Capacity Utilization 46.2%		ICU Level of Service A	
Analysis Period (min) 15			

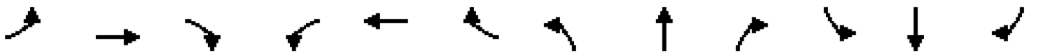
Splits and Phases: 23: 12th Ave & Singh Dev. Project Entrance



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	279	18	530	138	28	342
Future Volume (veh/h)	279	18	530	138	28	342
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	303	20	576	150	30	372
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	431	384	1120	291	464	750
Arrive On Green	0.24	0.24	0.40	0.40	0.40	0.40
Sat Flow, veh/h	1781	1585	2885	725	728	1870
Grp Volume(v), veh/h	303	20	366	360	30	372
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1740	728	1870
Q Serve(g_s), s	3.9	0.2	3.9	3.9	0.8	3.8
Cycle Q Clear(g_c), s	3.9	0.2	3.9	3.9	4.8	3.8
Prop In Lane	1.00	1.00		0.42	1.00	
Lane Grp Cap(c), veh/h	431	384	713	698	464	750
V/C Ratio(X)	0.70	0.05	0.51	0.52	0.06	0.50
Avail Cap(c_a), veh/h	2718	2419	2993	2931	1398	3150
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.7	7.3	5.7	5.7	7.5	5.6
Incr Delay (d2), s/veh	2.1	0.1	0.6	0.6	0.1	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.2	0.2	0.0	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	10.8	7.4	6.3	6.3	7.6	6.2
LnGrp LOS	B	A	A	A	A	A
Approach Vol, veh/h	323		726			402
Approach Delay, s/veh	10.6		6.3			6.3
Approach LOS	B		A			A

Timer - Assigned Phs	2			6	8
Phs Duration (G+Y+Rc), s	14.6			14.6	10.6
Change Period (Y+Rc), s	4.5			4.5	4.5
Max Green Setting (Gmax), s	42.5			42.5	38.5
Max Q Clear Time (g_c+I1), s	5.9			6.8	5.9
Green Ext Time (p_c), s	4.2			2.2	0.9

Intersection Summary	
HCM 7th Control Delay, s/veh	7.2
HCM 7th LOS	A



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	92	12	33	131	15	6	79	21	9	81	5
Future Volume (vph)	5	92	12	33	131	15	6	79	21	9	81	5
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985			0.989			0.973			0.993	
Flt Protected		0.998			0.991			0.997			0.995	
Satd. Flow (prot)	0	1831	0	0	1826	0	0	1807	0	0	1840	0
Flt Permitted		0.998			0.991			0.997			0.995	
Satd. Flow (perm)	0	1831	0	0	1826	0	0	1807	0	0	1840	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		2803			5317			5280			1167	
Travel Time (s)		34.7			65.9			65.5			14.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	100	13	36	142	16	7	86	23	10	88	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	118	0	0	194	0	0	116	0	0	103	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

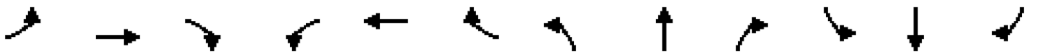
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.5%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	92	12	33	131	15	6	79	21	9	81	5
Future Vol, veh/h	5	92	12	33	131	15	6	79	21	9	81	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	100	13	36	142	16	7	86	23	10	88	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.5	9.1	8.6	8.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	5%	18%	9%
Vol Thru, %	75%	84%	73%	85%
Vol Right, %	20%	11%	8%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	106	109	179	95
LT Vol	6	5	33	9
Through Vol	79	92	131	81
RT Vol	21	12	15	5
Lane Flow Rate	115	118	195	103
Geometry Grp	1	1	1	1
Degree of Util (X)	0.15	0.152	0.248	0.137
Departure Headway (Hd)	4.686	4.629	4.584	4.793
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	763	772	782	746
Service Time	2.727	2.668	2.618	2.836
HCM Lane V/C Ratio	0.151	0.153	0.249	0.138
HCM Control Delay, s/veh	8.6	8.5	9.1	8.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.5	1	0.5



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	96	30	30	148	48	45	285	57	13	293	1
Future Volume (vph)	1	96	30	30	148	48	45	285	57	13	293	1
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	0		0	0		0	0		25	0		25
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.968			0.971				0.850			0.850
Flt Protected					0.993			0.993			0.998	
Satd. Flow (prot)	0	1803	0	0	1796	0	0	1850	1458	0	1859	1458
Flt Permitted					0.993			0.993			0.998	
Satd. Flow (perm)	0	1803	0	0	1796	0	0	1850	1458	0	1859	1458
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5317			205			4514			225	
Travel Time (s)		65.9			2.5			56.0			2.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	104	33	33	161	52	49	310	62	14	318	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	138	0	0	246	0	0	359	62	0	332	1
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

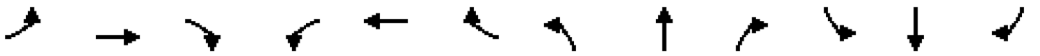
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	17.3
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	96	30	30	148	48	45	285	57	13	293	1
Future Vol, veh/h	1	96	30	30	148	48	45	285	57	13	293	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	104	33	33	161	52	49	310	62	14	318	1
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay, s/veh	12.2	14.6	19	19.2
HCM LOS	B	B	C	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	14%	0%	1%	13%	4%	0%
Vol Thru, %	86%	0%	76%	65%	96%	0%
Vol Right, %	0%	100%	24%	21%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	330	57	127	226	306	1
LT Vol	45	0	1	30	13	0
Through Vol	285	0	96	148	293	0
RT Vol	0	57	30	48	0	1
Lane Flow Rate	359	62	138	246	333	1
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.651	0.099	0.259	0.442	0.61	0.002
Departure Headway (Hd)	6.532	5.748	6.767	6.482	6.6	5.863
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	552	623	530	555	545	610
Service Time	4.272	3.487	4.821	4.527	4.341	3.604
HCM Lane V/C Ratio	0.65	0.1	0.26	0.443	0.611	0.002
HCM Control Delay, s/veh	20.7	9.1	12.2	14.6	19.2	8.6
HCM Lane LOS	C	A	B	B	C	A
HCM 95th-tile Q	4.7	0.3	1	2.2	4.1	0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	103	5	144	208	24	12	77	48	13	107	5
Future Volume (vph)	6	103	5	144	208	24	12	77	48	13	107	5
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.991			0.953			0.995	
Flt Protected		0.997			0.981			0.996			0.995	
Satd. Flow (prot)	0	1848	0	0	1811	0	0	1768	0	0	1844	0
Flt Permitted		0.997			0.981			0.996			0.995	
Satd. Flow (perm)	0	1848	0	0	1811	0	0	1768	0	0	1844	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		3132			4044			5270			5280	
Travel Time (s)		38.8			50.1			65.3			65.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	112	5	157	226	26	13	84	52	14	116	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	124	0	0	409	0	0	149	0	0	135	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

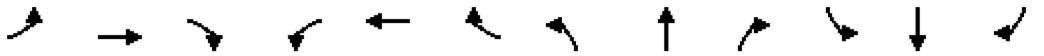
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	12.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	103	5	144	208	24	12	77	48	13	107	5
Future Vol, veh/h	6	103	5	144	208	24	12	77	48	13	107	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	112	5	157	226	26	13	84	52	14	116	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9.5	14.3	9.9	10.1
HCM LOS	A	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	9%	5%	38%	10%
Vol Thru, %	56%	90%	55%	86%
Vol Right, %	35%	4%	6%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	137	114	376	125
LT Vol	12	6	144	13
Through Vol	77	103	208	107
RT Vol	48	5	24	5
Lane Flow Rate	149	124	409	136
Geometry Grp	1	1	1	1
Degree of Util (X)	0.222	0.183	0.566	0.21
Departure Headway (Hd)	5.36	5.303	4.983	5.566
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	669	677	727	644
Service Time	3.4	3.336	2.983	3.607
HCM Lane V/C Ratio	0.223	0.183	0.563	0.211
HCM Control Delay, s/veh	9.9	9.5	14.3	10.1
HCM Lane LOS	A	A	B	B
HCM 95th-tile Q	0.8	0.7	3.6	0.8



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	139	18	154	314	6	46	1	162	0	0	0
Future Volume (vph)	0	139	18	154	314	6	46	1	162	0	0	0
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	0		100	100		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.997			0.895				
Flt Protected				0.950				0.989				
Satd. Flow (prot)	0	1863	1458	1630	1857	0	0	1649	0	0	1863	0
Flt Permitted				0.950				0.989				
Satd. Flow (perm)	0	1863	1458	1630	1857	0	0	1649	0	0	1863	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		4044			816			5340			496	
Travel Time (s)		50.1			10.1			66.2			6.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	151	20	167	341	7	50	1	176	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	151	20	167	348	0	0	227	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	46.8%	ICU Level of Service	A
Analysis Period (min)	15		

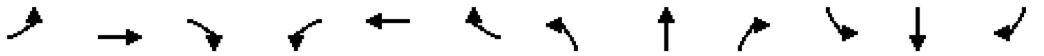
Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	139	18	154	314	6	46	1	162	0	0	0
Future Vol, veh/h	0	139	18	154	314	6	46	1	162	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	100	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	151	20	167	341	7	50	1	176	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	348	0	0	171	0	0	827	834	151	831	850	345
Stage 1	-	-	-	-	-	-	151	151	-	679	679	-
Stage 2	-	-	-	-	-	-	676	683	-	152	171	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1211	-	-	1407	-	-	291	304	895	289	298	698
Stage 1	-	-	-	-	-	-	851	772	-	441	451	-
Stage 2	-	-	-	-	-	-	443	449	-	851	757	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1211	-	-	1407	-	-	256	268	895	204	262	698
Mov Cap-2 Maneuver	-	-	-	-	-	-	256	268	-	204	262	-
Stage 1	-	-	-	-	-	-	851	772	-	389	397	-
Stage 2	-	-	-	-	-	-	390	396	-	683	757	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	2.57	15.33	0
HCM LOS			C	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	574	1211	-	-	1407	-	-	-
HCM Lane V/C Ratio	0.396	-	-	-	0.119	-	-	-
HCM Control Delay (s/veh)	15.3	0	-	-	7.9	-	-	0
HCM Lane LOS	C	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	1.9	0	-	-	0.4	-	-	-

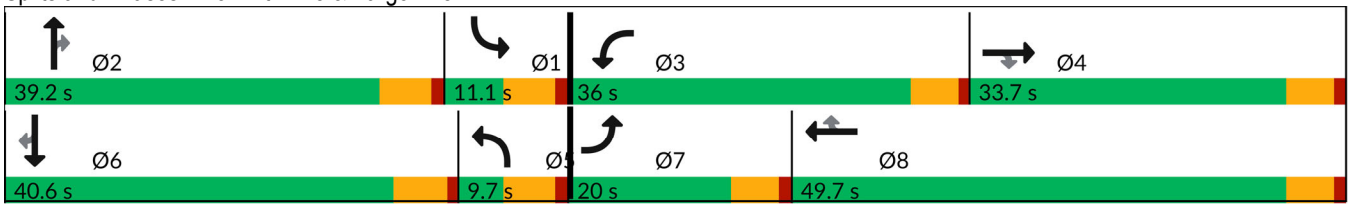


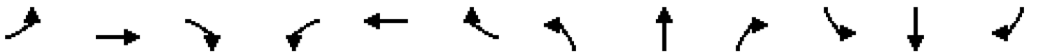
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	99	304	51	448	443	77	28	388	191	76	565	53
Future Volume (vph)	99	304	51	448	443	77	28	388	191	76	565	53
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	200		110	345		110	255		105	255		130
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.98			0.97			0.97			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1863	1458	1630	1863	1458	1630	1863	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1429	1630	1863	1411	1630	1863	1411	1630	1863	1412
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			173			125			169			169
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		488			5225			5338			853	
Travel Time (s)		6.0			64.8			66.2			10.6	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	108	330	55	487	482	84	30	422	208	83	614	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	108	330	55	487	482	84	30	422	208	83	614	58
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	33.7	33.7	9.3	33.7	33.7	9.7	34.5	34.5	9.7	36.0	36.0
Total Split (s)	20.0	33.7	33.7	36.0	49.7	49.7	9.7	39.2	39.2	11.1	40.6	40.6
Total Split (%)	16.7%	28.1%	28.1%	30.0%	41.4%	41.4%	8.1%	32.7%	32.7%	9.3%	33.8%	33.8%
Maximum Green (s)	14.7	28.4	28.4	30.7	44.4	44.4	4.0	33.5	33.5	5.4	34.9	34.9
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		21.4	21.4		21.4	21.4		21.8	21.8		23.3	23.3
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	13.2	24.9	24.9	32.2	43.9	43.9	5.7	30.3	30.3	8.4	37.3	37.3
Actuated g/C Ratio	0.12	0.22	0.22	0.29	0.39	0.39	0.05	0.27	0.27	0.08	0.33	0.33
v/c Ratio	0.56	0.80	0.12	1.04	0.66	0.13	0.36	0.84	0.41	0.68	0.99	0.10
Control Delay (s/veh)	59.7	56.6	0.5	92.8	34.3	1.8	66.9	54.5	10.8	80.7	72.9	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	59.7	56.6	0.5	92.8	34.3	1.8	66.9	54.5	10.8	80.7	72.9	0.3
LOS	E	E	A	F	C	A	E	D	B	F	E	A
Approach Delay (s/veh)		51.0			58.7			41.2			68.2	
Approach LOS		D			E			D			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 111.9			
Natural Cycle: 130			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.04			
Intersection Signal Delay (s/veh): 56.0		Intersection LOS: E	
Intersection Capacity Utilization 90.5%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 5: 12th Ave & Fargo Ave

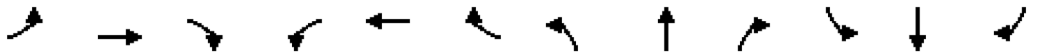




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	304	51	448	443	77	28	388	191	76	565	53
Future Volume (veh/h)	99	304	51	448	443	77	28	388	191	76	565	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	108	330	55	487	482	84	30	422	208	83	614	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	150	400	305	465	759	576	60	491	371	162	607	459
Arrive On Green	0.09	0.21	0.21	0.28	0.41	0.41	0.04	0.26	0.26	0.10	0.32	0.32
Sat Flow, veh/h	1641	1870	1429	1641	1870	1419	1641	1870	1413	1641	1870	1416
Grp Volume(v), veh/h	108	330	55	487	482	84	30	422	208	83	614	58
Grp Sat Flow(s),veh/h/ln	1641	1870	1429	1641	1870	1419	1641	1870	1413	1641	1870	1416
Q Serve(g_s), s	7.2	19.0	3.0	32.0	23.3	2.9	2.0	24.3	6.9	5.4	36.6	2.3
Cycle Q Clear(g_c), s	7.2	19.0	3.0	32.0	23.3	2.9	2.0	24.3	6.9	5.4	36.6	2.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	150	400	305	465	759	576	60	491	371	162	607	459
V/C Ratio(X)	0.72	0.83	0.18	1.05	0.64	0.15	0.50	0.86	0.56	0.51	1.01	0.13
Avail Cap(c_a), veh/h	233	492	376	465	759	576	83	583	441	162	607	459
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.9	42.4	25.2	40.4	26.9	9.7	53.3	39.6	8.2	48.3	38.1	13.7
Incr Delay (d2), s/veh	6.3	9.2	0.3	54.6	1.8	0.1	6.2	10.8	1.3	2.7	39.7	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	9.3	1.2	19.0	9.8	1.3	0.9	11.9	4.4	2.2	22.1	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	56.2	51.6	25.5	95.0	28.6	9.8	59.5	50.5	9.6	51.0	77.8	13.9
LnGrp LOS	E	D	C	F	C	A	E	D	A	D	F	B
Approach Vol, veh/h		493			1053			660			755	
Approach Delay, s/veh		49.7			57.8			38.0			69.9	
Approach LOS		D			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.1	33.6	36.0	28.1	8.2	40.6	14.3	49.8
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	5.4	33.5	30.7	28.4	4.0	34.9	14.7	44.4
Max Q Clear Time (g_c+I1), s	7.4	26.3	34.0	21.0	4.0	38.6	9.2	25.3
Green Ext Time (p_c), s	0.0	1.5	0.0	0.8	0.0	0.0	0.1	2.0

Intersection Summary	
HCM 7th Control Delay, s/veh	55.1
HCM 7th LOS	E

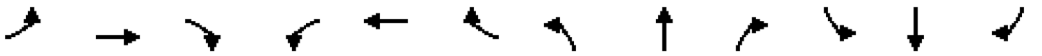


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	211	371	173	231	531	59	101	258	57	69	374	145
Future Volume (vph)	211	371	173	231	531	59	101	258	57	69	374	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	185		110	280		150	200		0	255		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor			0.97			0.98		0.99			0.99	
Frt			0.850			0.850		0.973			0.958	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	3539	1583	1770	3424	0	1770	3359	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1863	1529	1770	3539	1553	1770	3424	0	1770	3359	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			166			166		29			63	
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5225			5292			2018			1090	
Travel Time (s)		64.8			65.6			25.0			13.5	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	229	403	188	251	577	64	110	280	62	75	407	158
Shared Lane Traffic (%)												
Lane Group Flow (vph)	229	403	188	251	577	64	110	342	0	75	565	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	50	50	50	50	50	50	50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.3	25.2	25.2	9.3	29.5	29.5	9.7	28.8		9.7	26.0	
Total Split (s)	19.0	26.2	26.2	22.3	29.5	29.5	12.9	29.5		12.0	28.6	
Total Split (%)	21.1%	29.1%	29.1%	24.8%	32.8%	32.8%	14.3%	32.8%		13.3%	31.8%	
Maximum Green (s)	13.7	20.9	20.9	17.0	24.2	24.2	7.2	23.8		6.3	22.9	
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7		4.7	4.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7		-1.7	-1.7	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Don't Walk (s)		12.9	12.9		17.2	17.2		16.1			13.3	
Pedestrian Calls (#/hr)		5	5		5	5		5			5	
Act Effct Green (s)	14.5	21.5	21.5	16.5	23.5	23.5	9.1	20.0		8.1	19.3	
Actuated g/C Ratio	0.18	0.27	0.27	0.21	0.30	0.30	0.11	0.25		0.10	0.24	
v/c Ratio	0.71	0.80	0.35	0.68	0.55	0.11	0.54	0.39		0.42	0.65	
Control Delay (s/veh)	47.1	43.2	8.5	41.9	27.2	0.4	48.8	24.8		45.2	28.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	47.1	43.2	8.5	41.9	27.2	0.4	48.8	24.8		45.2	28.8	
LOS	D	D	A	D	C	A	D	C		D	C	
Approach Delay (s/veh)		36.3			29.4			30.6			30.7	
Approach LOS		D			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 79.3			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay (s/veh): 31.9		Intersection LOS: C	
Intersection Capacity Utilization 66.7%		ICU Level of Service C	
Analysis Period (min) 15			

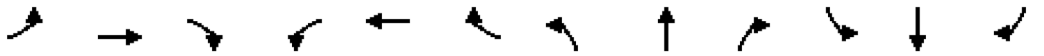
Splits and Phases: 6: 11th Ave & Fargo Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	211	371	173	231	531	59	101	258	57	69	374	145
Future Volume (veh/h)	211	371	173	231	531	59	101	258	57	69	374	145
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	229	403	188	251	577	64	110	280	62	75	407	158
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	301	493	404	327	987	432	180	742	161	136	579	222
Arrive On Green	0.17	0.26	0.26	0.18	0.28	0.28	0.10	0.26	0.23	0.08	0.23	0.21
Sat Flow, veh/h	1781	1870	1534	1781	3554	1555	1781	2883	626	1781	2484	951
Grp Volume(v), veh/h	229	403	188	251	577	64	110	170	172	75	289	276
Grp Sat Flow(s),veh/h/ln	1781	1870	1534	1781	1777	1555	1781	1777	1732	1781	1777	1658
Q Serve(g_s), s	8.9	14.8	7.5	9.8	10.2	2.3	4.3	5.8	6.0	3.0	10.9	11.2
Cycle Q Clear(g_c), s	8.9	14.8	7.5	9.8	10.2	2.3	4.3	5.8	6.0	3.0	10.9	11.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.36	1.00		0.57
Lane Grp Cap(c), veh/h	301	493	404	327	987	432	180	457	446	136	414	386
V/C Ratio(X)	0.76	0.82	0.46	0.77	0.58	0.15	0.61	0.37	0.38	0.55	0.70	0.71
Avail Cap(c_a), veh/h	366	569	467	447	1241	543	217	621	605	195	599	559
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.9	25.2	22.6	28.3	22.7	19.9	31.5	22.3	22.6	32.5	25.6	26.2
Incr Delay (d2), s/veh	7.3	8.1	0.8	5.4	0.6	0.2	3.5	0.5	0.5	3.4	2.1	2.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	6.7	2.4	4.2	3.7	0.7	1.8	2.1	2.2	1.3	4.2	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	36.3	33.3	23.4	33.8	23.3	20.0	35.0	22.8	23.2	35.9	27.8	28.7
LnGrp LOS	D	C	C	C	C	C	C	C	C	D	C	C
Approach Vol, veh/h		820			892			452			640	
Approach Delay, s/veh		31.9			26.0			25.9			29.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.6	22.8	17.4	23.2	11.4	21.0	16.3	24.3
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	6.3	23.8	17.0	20.9	7.2	22.9	13.7	24.2
Max Q Clear Time (g_c+I1), s	5.0	8.0	11.8	16.8	6.3	13.2	10.9	12.2
Green Ext Time (p_c), s	0.0	1.0	0.4	1.0	0.0	1.5	0.2	2.2

Intersection Summary	
HCM 7th Control Delay, s/veh	28.4
HCM 7th LOS	C

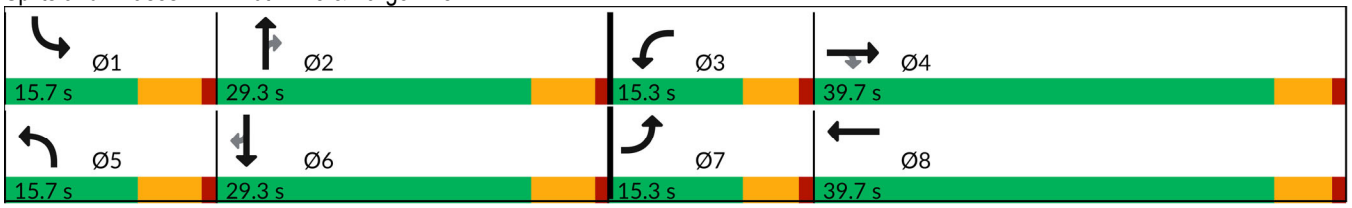


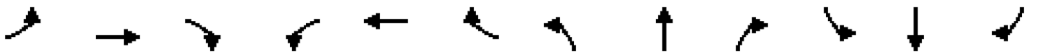
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	294	154	65	293	48	102	226	22	43	294	82
Future Volume (vph)	54	294	154	65	293	48	102	226	22	43	294	82
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	100		50	105		0	160		105	200		100
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98		1.00				0.96			0.98
Frt			0.850		0.979				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1819	0	1630	3539	1458	1630	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1431	1630	1819	0	1630	3539	1404	1630	3539	1427
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149		9				145			145
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5292			4849			2658			1358	
Travel Time (s)		65.6			60.1			33.0			16.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	59	320	167	71	318	52	111	246	24	47	320	89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	320	167	71	370	0	111	246	24	47	320	89
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Detector Phase	7	4	4	3	8		5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	32.3	32.3	9.3	33.7		9.7	23.7	23.7	9.7	24.5	24.5
Total Split (s)	15.3	39.7	39.7	15.3	39.7		15.7	29.3	29.3	15.7	29.3	29.3
Total Split (%)	15.3%	39.7%	39.7%	15.3%	39.7%		15.7%	29.3%	29.3%	15.7%	29.3%	29.3%
Maximum Green (s)	10.0	34.4	34.4	10.0	34.4		10.0	23.6	23.6	10.0	23.6	23.6
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3		4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3		-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)		20.0	20.0		21.4			10.4	10.4		11.8	11.8
Pedestrian Calls (#/hr)		5	5		5			5	5		5	5
Act Effct Green (s)	10.1	21.2	21.2	10.4	24.0		11.7	18.8	18.8	10.3	15.1	15.1
Actuated g/C Ratio	0.15	0.32	0.32	0.16	0.36		0.18	0.28	0.28	0.15	0.23	0.23
v/c Ratio	0.24	0.54	0.30	0.28	0.56		0.39	0.25	0.05	0.19	0.40	0.21
Control Delay (s/veh)	34.8	25.8	6.8	35.1	24.1		36.2	24.3	0.2	33.9	27.7	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	34.8	25.8	6.8	35.1	24.1		36.2	24.3	0.2	33.9	27.7	2.4
LOS	C	C	A	D	C		D	C	A	C	C	A
Approach Delay (s/veh)		21.0			25.9			26.3			23.4	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 66.6			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay (s/veh): 23.9		Intersection LOS: C	
Intersection Capacity Utilization 51.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 7: 10th Ave & Fargo Ave

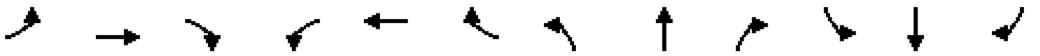




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	294	154	65	293	48	102	226	22	43	294	82
Future Volume (veh/h)	54	294	154	65	293	48	102	226	22	43	294	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	59	320	167	71	318	52	111	246	24	47	320	89
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	116	537	411	128	460	75	193	865	344	119	704	283
Arrive On Green	0.07	0.29	0.29	0.08	0.29	0.27	0.12	0.24	0.24	0.07	0.20	0.20
Sat Flow, veh/h	1641	1870	1433	1641	1563	256	1641	3554	1412	1641	3554	1428
Grp Volume(v), veh/h	59	320	167	71	0	370	111	246	24	47	320	89
Grp Sat Flow(s),veh/h/ln	1641	1870	1433	1641	0	1818	1641	1777	1412	1641	1777	1428
Q Serve(g_s), s	1.7	7.4	4.7	2.1	0.0	9.0	3.2	2.8	0.7	1.4	4.0	2.7
Cycle Q Clear(g_c), s	1.7	7.4	4.7	2.1	0.0	9.0	3.2	2.8	0.7	1.4	4.0	2.7
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	116	537	411	128	0	535	193	865	344	119	704	283
V/C Ratio(X)	0.51	0.60	0.41	0.55	0.00	0.69	0.58	0.28	0.07	0.40	0.45	0.31
Avail Cap(c_a), veh/h	370	1333	1021	370	0	1296	383	1794	713	383	1794	721
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.4	15.4	14.4	22.3	0.0	15.7	20.9	15.4	14.6	22.2	17.7	17.2
Incr Delay (d2), s/veh	3.4	1.1	0.6	3.7	0.0	1.6	2.7	0.2	0.1	2.1	0.5	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	2.4	1.2	0.8	0.0	2.9	1.1	0.9	0.2	0.5	1.3	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	25.9	16.4	15.1	26.0	0.0	17.4	23.6	15.6	14.7	24.3	18.2	17.8
LnGrp LOS	C	B	B	C		B	C	B	B	C	B	B
Approach Vol, veh/h		546			441			381			456	
Approach Delay, s/veh		17.0			18.7			17.9			18.7	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	16.2	7.9	18.4	9.9	13.9	7.5	18.7
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	10.0	23.6	10.0	34.4	10.0	23.6	10.0	34.4
Max Q Clear Time (g_c+I1), s	3.4	4.8	4.1	9.4	5.2	6.0	3.7	11.0
Green Ext Time (p_c), s	0.0	0.9	0.1	1.8	0.1	1.5	0.1	1.3

Intersection Summary	
HCM 7th Control Delay, s/veh	18.0
HCM 7th LOS	B



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	45	160	1	42	5	84	227	0	4	323	64
Future Volume (vph)	80	45	160	1	42	5	84	227	0	4	323	64
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.924			0.987						0.975	
Flt Protected		0.986			0.999			0.987				
Satd. Flow (prot)	0	1697	0	0	1837	0	0	3493	0	0	3451	0
Flt Permitted		0.986			0.999			0.987				
Satd. Flow (perm)	0	1697	0	0	1837	0	0	3493	0	0	3451	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		4849			614			1519			1547	
Travel Time (s)		60.1			7.6			18.8			19.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	49	174	1	46	5	91	247	0	4	351	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	310	0	0	52	0	0	338	0	0	425	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 53.1%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	11.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	80	45	160	1	42	5	84	227	0	4	323	64
Future Vol, veh/h	80	45	160	1	42	5	84	227	0	4	323	64
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	87	49	174	1	46	5	91	247	0	4	351	70

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	723	824	210	638	859	123	421	0	0	247	0	0
Stage 1	395	395	-	429	429	-	-	-	-	-	-	-
Stage 2	329	429	-	209	429	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	314	307	795	361	293	904	1135	-	-	1316	-	-
Stage 1	602	603	-	574	582	-	-	-	-	-	-	-
Stage 2	658	582	-	774	582	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	239	279	795	215	266	904	1135	-	-	1316	-	-
Mov Cap-2 Maneuver	239	279	-	215	266	-	-	-	-	-	-	-
Stage 1	600	601	-	525	532	-	-	-	-	-	-	-
Stage 2	546	532	-	553	580	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	36.64	20.38	2.59	0.1
HCM LOS	E	C		

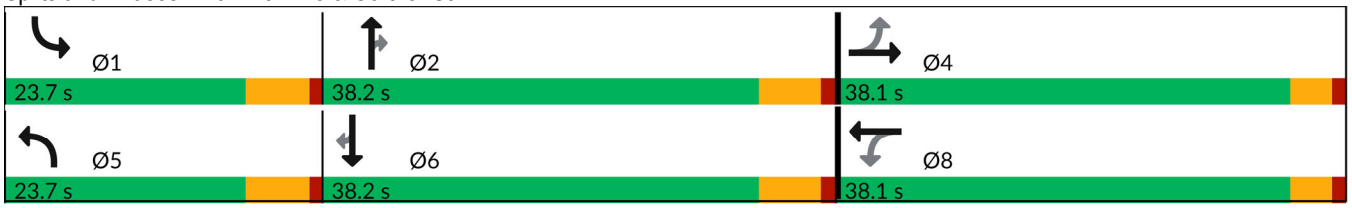
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	972	-	-	409	286	30	-	-
HCM Lane V/C Ratio	0.08	-	-	0.758	0.182	0.003	-	-
HCM Control Delay (s/veh)	8.4	0.4	-	36.6	20.4	7.7	0	-
HCM Lane LOS	A	A	-	E	C	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	6.2	0.7	0	-	-

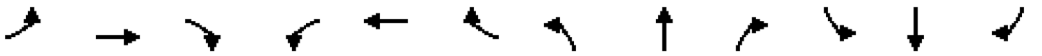
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	70	60	85	17	6	26	305	72	64	647	5
Future Volume (vph)	9	70	60	85	17	6	26	305	72	64	647	5
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	0		0	0		0	100		50	105		50
Storage Lanes	0		0	0		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00				0.96			0.96
Frt		0.942			0.992				0.850			0.850
Flt Protected		0.997			0.962		0.950			0.950		
Satd. Flow (prot)	0	1733	0	0	1775	0	1630	1863	1458	1630	1863	1458
Flt Permitted		0.978			0.601		0.950			0.950		
Satd. Flow (perm)	0	1700	0	0	1109	0	1630	1863	1403	1630	1863	1403
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		41			3				75			75
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		799			857			3291			2018	
Travel Time (s)		9.9			10.6			40.8			25.0	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	76	65	92	18	7	28	332	78	70	703	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	151	0	0	117	0	28	332	78	70	703	5
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.6	22.6		24.1	24.1		9.7	23.7	23.7	9.7	23.7	23.7
Total Split (s)	38.1	38.1		38.1	38.1		23.7	38.2	38.2	23.7	38.2	38.2
Total Split (%)	38.1%	38.1%		38.1%	38.1%		23.7%	38.2%	38.2%	23.7%	38.2%	38.2%
Maximum Green (s)	33.9	33.9		33.9	33.9		18.0	32.5	32.5	18.0	32.5	32.5
Yellow Time (s)	3.2	3.2		3.2	3.2		4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		-0.2			-0.2		-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)		4.0			4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Walk Time (s)	7.0	7.0		7.0	7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)	11.4	11.4		12.9	12.9			8.7	8.7		8.7	8.7
Pedestrian Calls (#/hr)	5	5		5	5			5	5		5	5
Act Effct Green (s)		11.5			11.5		8.5	34.3	34.3	9.9	38.3	38.3
Actuated g/C Ratio		0.18			0.18		0.14	0.55	0.55	0.16	0.61	0.61
v/c Ratio		0.44			0.57		0.13	0.33	0.10	0.27	0.62	0.01
Control Delay (s/veh)		20.5			33.9		27.8	12.3	4.3	27.4	14.8	0.0
Queue Delay		0.0			0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		20.5			33.9		27.8	12.3	4.3	27.4	14.8	0.0
LOS		C			C		C	B	A	C	B	A
Approach Delay (s/veh)		20.5			33.9			11.9			15.8	
Approach LOS		C			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 62.8			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay (s/veh): 16.6		Intersection LOS: B	
Intersection Capacity Utilization 67.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 9: 11th Ave & Cortner St

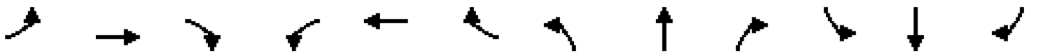




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	70	60	85	17	6	26	305	72	64	647	5
Future Volume (veh/h)	9	70	60	85	17	6	26	305	72	64	647	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	10	76	65	92	18	7	28	332	78	70	703	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	144	116	336	58	15	113	838	636	157	889	675
Arrive On Green	0.16	0.16	0.15	0.16	0.16	0.15	0.07	0.45	0.45	0.10	0.48	0.48
Sat Flow, veh/h	59	907	730	1111	363	94	1641	1870	1420	1641	1870	1421
Grp Volume(v), veh/h	151	0	0	117	0	0	28	332	78	70	703	5
Grp Sat Flow(s),veh/h/ln	1696	0	0	1568	0	0	1641	1870	1420	1641	1870	1421
Q Serve(g_s), s	0.3	0.0	0.0	0.0	0.0	0.0	0.7	4.8	1.3	1.6	12.8	0.1
Cycle Q Clear(g_c), s	3.3	0.0	0.0	2.4	0.0	0.0	0.7	4.8	1.3	1.6	12.8	0.1
Prop In Lane	0.07		0.43	0.79		0.06	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	365	0	0	409	0	0	113	838	636	157	889	675
V/C Ratio(X)	0.41	0.00	0.00	0.29	0.00	0.00	0.25	0.40	0.12	0.44	0.79	0.01
Avail Cap(c_a), veh/h	1515	0	0	1316	0	0	800	1583	1202	800	1583	1203
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.7	0.0	0.0	15.3	0.0	0.0	17.8	7.5	6.5	17.2	8.9	5.6
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.4	0.0	0.0	1.1	0.3	0.1	2.0	1.6	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.0	0.7	0.0	0.0	0.2	1.0	0.2	0.5	2.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	16.5	0.0	0.0	15.7	0.0	0.0	19.0	7.8	6.6	19.2	10.5	5.6
LnGrp LOS	B			B			B	A	A	B	B	A
Approach Vol, veh/h		151			117			438			778	
Approach Delay, s/veh		16.5			15.7			8.3			11.3	
Approach LOS		B			B			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.9	22.1		10.4	6.8	23.2		10.4				
Change Period (Y+Rc), s	5.7	5.7		4.2	5.7	5.7		4.2				
Max Green Setting (Gmax), s	18.0	32.5		33.9	18.0	32.5		33.9				
Max Q Clear Time (g_c+I1), s	3.6	6.8		5.3	2.7	14.8		4.4				
Green Ext Time (p_c), s	0.1	1.4		0.5	0.0	2.7		0.4				

Intersection Summary			
HCM 7th Control Delay, s/veh		11.3	
HCM 7th LOS		B	

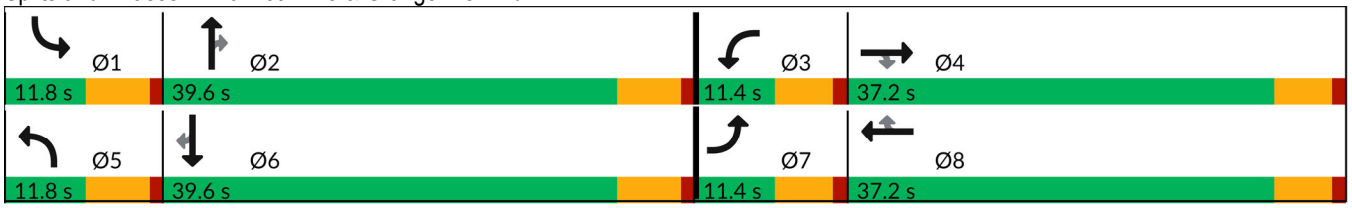


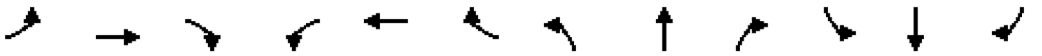
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	253	27	136	323	20	31	75	73	38	203	71
Future Volume (vph)	31	253	27	136	323	20	31	75	73	38	203	71
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	265		265	230		230	195		290	200		195
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.97			0.97			0.97			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1863	1458	1630	1863	1458	1630	1863	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1413	1630	1863	1414	1630	1863	1414	1630	1863	1413
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			149			145			145
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1096			3658			629			5270	
Travel Time (s)		13.6			45.3			7.8			65.3	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	34	275	29	148	351	22	34	82	79	41	221	77
Shared Lane Traffic (%)												
Lane Group Flow (vph)	34	275	29	148	351	22	34	82	79	41	221	77
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	32.3	32.3	9.3	35.2	35.2	9.7	34.5	34.5	9.7	33.1	33.1
Total Split (s)	11.4	37.2	37.2	11.4	37.2	37.2	11.8	39.6	39.6	11.8	39.6	39.6
Total Split (%)	11.4%	37.2%	37.2%	11.4%	37.2%	37.2%	11.8%	39.6%	39.6%	11.8%	39.6%	39.6%
Maximum Green (s)	6.1	31.9	31.9	6.1	31.9	31.9	6.1	33.9	33.9	6.1	33.9	33.9
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		20.0	20.0		22.9	22.9		21.8	21.8		20.4	20.4
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	8.0	17.5	17.5	8.2	26.7	26.7	8.4	15.2	15.2	8.5	17.7	17.7
Actuated g/C Ratio	0.13	0.29	0.29	0.14	0.44	0.44	0.14	0.25	0.25	0.14	0.29	0.29
v/c Ratio	0.16	0.51	0.06	0.67	0.42	0.03	0.15	0.17	0.17	0.18	0.40	0.15
Control Delay (s/veh)	34.5	23.3	0.2	50.6	18.7	0.1	33.9	21.5	1.1	34.0	21.9	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	34.5	23.3	0.2	50.6	18.7	0.1	33.9	21.5	1.1	34.0	21.9	0.7
LOS	C	C	A	D	B	A	C	C	A	C	C	A
Approach Delay (s/veh)		22.4			27.0			15.4			18.6	
Approach LOS		C			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 60.3			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay (s/veh): 22.2		Intersection LOS: C	
Intersection Capacity Utilization 52.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: 13th Ave & Grangeville Blvd

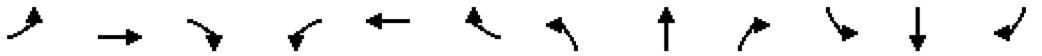




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	253	27	136	323	20	31	75	73	38	203	71
Future Volume (veh/h)	31	253	27	136	323	20	31	75	73	38	203	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	34	275	29	148	351	22	34	82	79	41	221	77
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	93	454	343	224	603	456	107	416	313	115	425	320
Arrive On Green	0.06	0.24	0.24	0.14	0.32	0.32	0.07	0.22	0.22	0.07	0.23	0.23
Sat Flow, veh/h	1641	1870	1412	1641	1870	1416	1641	1870	1410	1641	1870	1410
Grp Volume(v), veh/h	34	275	29	148	351	22	34	82	79	41	221	77
Grp Sat Flow(s),veh/h/ln	1641	1870	1412	1641	1870	1416	1641	1870	1410	1641	1870	1410
Q Serve(g_s), s	1.0	6.4	0.8	4.2	7.6	0.5	1.0	1.7	2.2	1.2	5.0	2.2
Cycle Q Clear(g_c), s	1.0	6.4	0.8	4.2	7.6	0.5	1.0	1.7	2.2	1.2	5.0	2.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	93	454	343	224	603	456	107	416	313	115	425	320
V/C Ratio(X)	0.36	0.61	0.08	0.66	0.58	0.05	0.32	0.20	0.25	0.36	0.52	0.24
Avail Cap(c_a), veh/h	249	1275	962	249	1275	966	263	1367	1031	263	1367	1031
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.1	16.4	14.2	20.0	13.8	11.4	21.7	15.4	15.6	21.6	16.5	15.4
Incr Delay (d2), s/veh	2.4	1.3	0.1	5.5	0.9	0.0	1.7	0.2	0.4	1.9	1.0	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	2.2	0.2	1.6	2.4	0.1	0.4	0.6	0.6	0.4	1.7	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	24.5	17.7	14.4	25.5	14.7	11.4	23.4	15.6	16.0	23.5	17.5	15.8
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		338			521			195			339	
Approach Delay, s/veh		18.1			17.6			17.1			17.8	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	14.8	10.6	15.8	7.2	15.1	6.8	19.7
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	6.1	33.9	6.1	31.9	6.1	33.9	6.1	31.9
Max Q Clear Time (g_c+I1), s	3.2	4.2	6.2	8.4	3.0	7.0	3.0	9.6
Green Ext Time (p_c), s	0.0	0.5	0.0	1.0	0.0	1.0	0.0	1.3

Intersection Summary	
HCM 7th Control Delay, s/veh	17.7
HCM 7th LOS	B

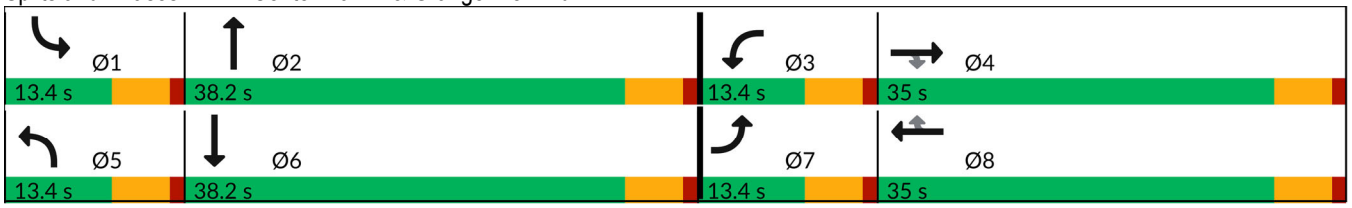


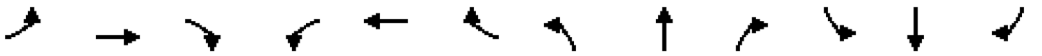
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	243	133	105	312	52	99	105	115	71	220	47
Future Volume (vph)	21	243	133	105	312	52	99	105	115	71	220	47
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	200		90	200		150	150		0	150		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.97			0.97		0.99			0.99	
Frt			0.850			0.850		0.922			0.974	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1863	1458	1630	1701	0	1630	1805	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1410	1630	1863	1410	1630	1701	0	1630	1805	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			141			141		60			12	
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		3658			1623			639			5340	
Travel Time (s)		45.3			20.1			7.9			66.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	23	264	145	114	339	57	108	114	125	77	239	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	23	264	145	114	339	57	108	239	0	77	290	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	50	50	50	50	50	50	50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.3	28.4	28.4	9.3	28.4	28.4	9.3	34.1		9.3	34.1	
Total Split (s)	13.4	35.0	35.0	13.4	35.0	35.0	13.4	38.2		13.4	38.2	
Total Split (%)	13.4%	35.0%	35.0%	13.4%	35.0%	35.0%	13.4%	38.2%		13.4%	38.2%	
Maximum Green (s)	8.1	29.7	29.7	8.1	29.7	29.7	8.1	32.9		8.1	32.9	
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3		4.3	4.3	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3		-1.3	-1.3	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Don't Walk (s)		16.1	16.1		16.1	16.1		21.8			21.8	
Pedestrian Calls (#/hr)		5	5		5	5		5			5	
Act Effct Green (s)	8.3	18.4	18.4	9.8	28.3	28.3	9.7	18.8		9.2	18.6	
Actuated g/C Ratio	0.12	0.26	0.26	0.14	0.41	0.41	0.14	0.27		0.13	0.27	
v/c Ratio	0.12	0.54	0.31	0.50	0.45	0.09	0.48	0.48		0.36	0.59	
Control Delay (s/veh)	36.2	28.2	6.7	43.2	22.2	0.3	42.4	21.0		39.0	28.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	36.2	28.2	6.7	43.2	22.2	0.3	42.4	21.0		39.0	28.6	
LOS	D	C	A	D	C	A	D	C		D	C	
Approach Delay (s/veh)		21.4			24.4			27.7			30.8	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 69.8			
Natural Cycle: 85			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay (s/veh): 25.7		Intersection LOS: C	
Intersection Capacity Utilization 55.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 11: Centennial Dr & Grangeville Blvd

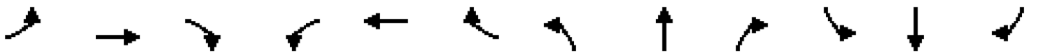




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	243	133	105	312	52	99	105	115	71	220	47
Future Volume (veh/h)	21	243	133	105	312	52	99	105	115	71	220	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	23	264	145	114	339	57	108	114	125	77	239	51
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	76	435	328	181	555	420	173	221	242	134	371	79
Arrive On Green	0.05	0.23	0.23	0.11	0.30	0.30	0.11	0.27	0.25	0.08	0.25	0.23
Sat Flow, veh/h	1641	1870	1411	1641	1870	1415	1641	806	884	1641	1484	317
Grp Volume(v), veh/h	23	264	145	114	339	57	108	0	239	77	0	290
Grp Sat Flow(s),veh/h/ln	1641	1870	1411	1641	1870	1415	1641	0	1690	1641	0	1800
Q Serve(g_s), s	0.7	6.7	4.7	3.5	8.3	1.6	3.3	0.0	6.4	2.4	0.0	7.7
Cycle Q Clear(g_c), s	0.7	6.7	4.7	3.5	8.3	1.6	3.3	0.0	6.4	2.4	0.0	7.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.52	1.00		0.18
Lane Grp Cap(c), veh/h	76	435	328	181	555	420	173	0	463	134	0	450
V/C Ratio(X)	0.30	0.61	0.44	0.63	0.61	0.14	0.62	0.00	0.52	0.58	0.00	0.64
Avail Cap(c_a), veh/h	291	1093	824	291	1093	827	291	0	1089	291	0	1160
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.5	18.2	17.4	22.6	16.0	13.7	22.7	0.0	16.6	23.5	0.0	17.9
Incr Delay (d2), s/veh	2.2	1.4	0.9	3.6	1.1	0.1	3.6	0.0	0.9	3.9	0.0	1.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.4	1.3	1.3	2.8	0.4	1.2	0.0	2.0	0.9	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.7	19.6	18.3	26.2	17.1	13.8	26.3	0.0	17.5	27.4	0.0	19.5
LnGrp LOS	C	B	B	C	B	B	C		B	C		B
Approach Vol, veh/h		432			510			347			367	
Approach Delay, s/veh		19.5			18.8			20.2			21.1	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.3	18.5	9.9	16.4	9.6	17.3	6.5	19.8
Change Period (Y+Rc), s	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
Max Green Setting (Gmax), s	8.1	32.9	8.1	29.7	8.1	32.9	8.1	29.7
Max Q Clear Time (g_c+I1), s	4.4	8.4	5.5	8.7	5.3	9.7	2.7	10.3
Green Ext Time (p_c), s	0.0	0.8	0.1	1.4	0.1	1.0	0.0	1.3

Intersection Summary	
HCM 7th Control Delay, s/veh	19.8
HCM 7th LOS	B

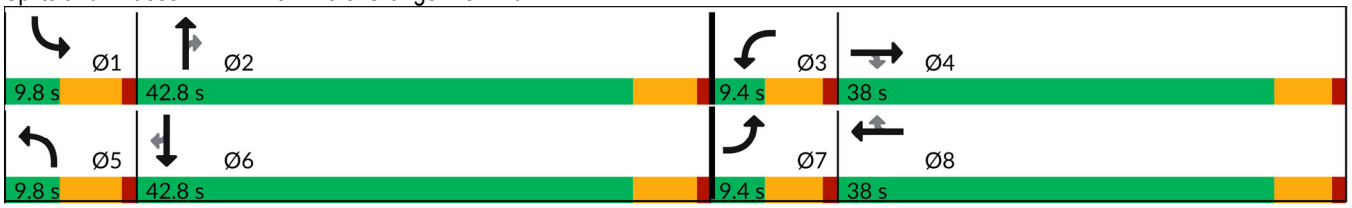


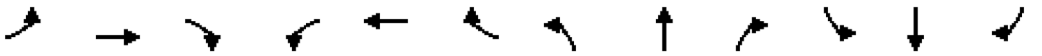
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	389	59	181	372	70	83	409	153	112	1008	130
Future Volume (vph)	79	389	59	181	372	70	83	409	153	112	1008	130
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	200		130	175		150	260		210	205		160
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor			0.98			0.97			0.98			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3162	3539	1458	3162	3539	1458	3162	3539	1458	3162	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3162	3539	1432	3162	3539	1415	3162	3539	1432	3162	3539	1415
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			149			166			145
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1623			5213			2228			5338	
Travel Time (s)		20.1			64.6			27.6			66.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	86	423	64	197	404	76	90	445	166	122	1096	141
Shared Lane Traffic (%)												
Lane Group Flow (vph)	86	423	64	197	404	76	90	445	166	122	1096	141
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	36.6	36.6	9.3	38.0	38.0	9.7	37.4	37.4	9.7	37.4	37.4
Total Split (s)	9.4	38.0	38.0	9.4	38.0	38.0	9.8	42.8	42.8	9.8	42.8	42.8
Total Split (%)	9.4%	38.0%	38.0%	9.4%	38.0%	38.0%	9.8%	42.8%	42.8%	9.8%	42.8%	42.8%
Maximum Green (s)	4.1	32.7	32.7	4.1	32.7	32.7	4.1	37.1	37.1	4.1	37.1	37.1
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		24.3	24.3		25.7	25.7		24.7	24.7		24.7	24.7
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	5.7	18.0	18.0	5.7	20.9	20.9	6.1	28.1	28.1	6.1	31.1	31.1
Actuated g/C Ratio	0.08	0.24	0.24	0.08	0.28	0.28	0.08	0.38	0.38	0.08	0.42	0.42
v/c Ratio	0.36	0.50	0.14	0.82	0.41	0.15	0.35	0.34	0.26	0.47	0.75	0.21
Control Delay (s/veh)	43.2	27.4	0.6	66.7	25.9	0.6	42.4	17.5	4.3	45.3	23.6	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	43.2	27.4	0.6	66.7	25.9	0.6	42.4	17.5	4.3	45.3	23.6	4.1
LOS	D	C	A	E	C	A	D	B	A	D	C	A
Approach Delay (s/veh)		26.8			34.9			17.5			23.5	
Approach LOS		C			C			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 74.8			
Natural Cycle: 95			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay (s/veh): 25.2		Intersection LOS: C	
Intersection Capacity Utilization 63.2%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 12: 12th Ave & Grangeville Blvd

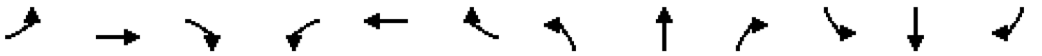




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	389	59	181	372	70	83	409	153	112	1008	130
Future Volume (veh/h)	79	389	59	181	372	70	83	409	153	112	1008	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	86	423	64	197	404	76	90	445	166	122	1096	141
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	210	746	300	251	792	314	231	1400	565	267	1440	575
Arrive On Green	0.07	0.21	0.21	0.08	0.22	0.22	0.07	0.39	0.39	0.08	0.41	0.41
Sat Flow, veh/h	3183	3554	1429	3183	3554	1410	3183	3554	1435	3183	3554	1419
Grp Volume(v), veh/h	86	423	64	197	404	76	90	445	166	122	1096	141
Grp Sat Flow(s),veh/h/ln	1591	1777	1429	1591	1777	1410	1591	1777	1435	1591	1777	1419
Q Serve(g_s), s	1.8	7.3	2.5	4.2	6.8	3.0	1.9	6.0	5.4	2.5	18.2	4.5
Cycle Q Clear(g_c), s	1.8	7.3	2.5	4.2	6.8	3.0	1.9	6.0	5.4	2.5	18.2	4.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	210	746	300	251	792	314	231	1400	565	267	1440	575
V/C Ratio(X)	0.41	0.57	0.21	0.79	0.51	0.24	0.39	0.32	0.29	0.46	0.76	0.25
Avail Cap(c_a), veh/h	251	1762	708	251	1762	699	269	2010	812	269	2010	803
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.8	24.3	22.4	31.0	23.4	21.9	30.4	14.4	14.2	29.9	17.5	13.5
Incr Delay (d2), s/veh	1.3	0.7	0.4	15.2	0.5	0.4	1.1	0.1	0.3	1.2	1.1	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.7	0.8	2.0	2.5	0.9	0.7	1.9	1.5	0.9	6.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	32.0	25.0	22.8	46.2	23.9	22.3	31.4	14.5	14.5	31.1	18.7	13.7
LnGrp LOS	C	C	C	D	C	C	C	B	B	C	B	B
Approach Vol, veh/h		573			677			701			1359	
Approach Delay, s/veh		25.8			30.2			16.7			19.3	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.8	31.0	9.4	18.4	9.0	31.8	8.5	19.3
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	4.1	37.1	4.1	32.7	4.1	37.1	4.1	32.7
Max Q Clear Time (g_c+I1), s	4.5	8.0	6.2	9.3	3.9	20.2	3.8	8.8
Green Ext Time (p_c), s	0.0	2.5	0.0	1.9	0.0	5.3	0.0	1.9

Intersection Summary	
HCM 7th Control Delay, s/veh	22.1
HCM 7th LOS	C

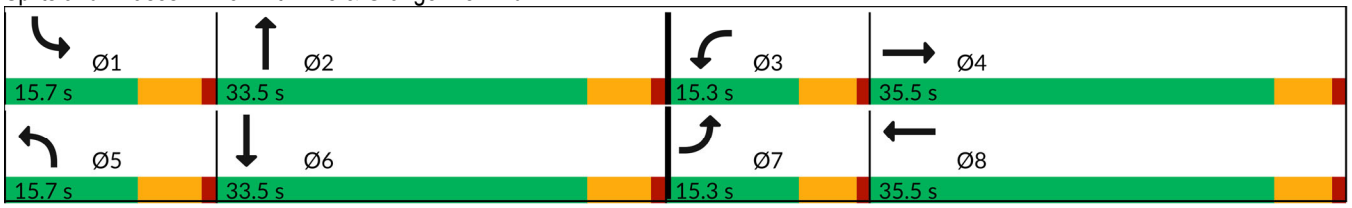


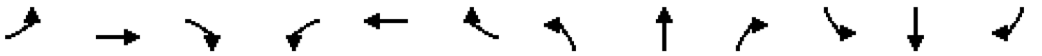
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	331	65	192	401	52	99	260	68	73	628	71
Future Volume (vph)	121	331	65	192	401	52	99	260	68	73	628	71
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	100		0	100		0	185		0	110		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			1.00			1.00			1.00	
Frt		0.975			0.983			0.969			0.985	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	3431	0	1630	3466	0	1630	3415	0	1630	3479	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	3431	0	1630	3466	0	1630	3415	0	1630	3479	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			15			33			12	
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5213			2670			5342			3291	
Travel Time (s)		64.6			33.1			66.2			40.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	132	360	71	209	436	57	108	283	74	79	683	77
Shared Lane Traffic (%)												
Lane Group Flow (vph)	132	431	0	209	493	0	108	357	0	79	760	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	9.3	25.2		9.3	29.5		9.7	26.0		9.7	26.0	
Total Split (s)	15.3	35.5		15.3	35.5		15.7	33.5		15.7	33.5	
Total Split (%)	15.3%	35.5%		15.3%	35.5%		15.7%	33.5%		15.7%	33.5%	
Maximum Green (s)	10.0	30.2		10.0	30.2		10.0	27.8		10.0	27.8	
Yellow Time (s)	4.3	4.3		4.3	4.3		4.7	4.7		4.7	4.7	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-1.3	-1.3		-1.3	-1.3		-1.7	-1.7		-1.7	-1.7	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		12.9			17.2			13.3			13.3	
Pedestrian Calls (#/hr)		5			5			5			5	
Act Effct Green (s)	11.1	18.1		11.8	18.8		11.0	24.6		10.4	24.2	
Actuated g/C Ratio	0.14	0.23		0.15	0.24		0.14	0.31		0.13	0.31	
v/c Ratio	0.57	0.53		0.85	0.58		0.47	0.33		0.36	0.70	
Control Delay (s/veh)	46.9	28.6		68.6	30.1		42.9	20.8		40.3	28.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	46.9	28.6		68.6	30.1		42.9	20.8		40.3	28.6	
LOS	D	C		E	C		D	C		D	C	
Approach Delay (s/veh)		32.9			41.5			25.9			29.7	
Approach LOS		C			D			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 78.1			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay (s/veh): 33.0		Intersection LOS: C	
Intersection Capacity Utilization 62.6%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 13: 11th Ave & Grangeville Blvd

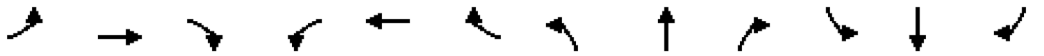




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	331	65	192	401	52	99	260	68	73	628	71
Future Volume (veh/h)	121	331	65	192	401	52	99	260	68	73	628	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	132	360	71	209	436	57	108	283	74	79	683	77
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	195	580	113	275	775	101	175	866	222	139	926	104
Arrive On Green	0.12	0.20	0.18	0.17	0.25	0.23	0.11	0.31	0.29	0.08	0.29	0.26
Sat Flow, veh/h	1641	2944	573	1641	3148	409	1641	2788	715	1641	3212	362
Grp Volume(v), veh/h	132	215	216	209	245	248	108	178	179	79	378	382
Grp Sat Flow(s),veh/h/ln	1641	1777	1741	1641	1777	1780	1641	1777	1726	1641	1777	1797
Q Serve(g_s), s	5.1	7.4	7.6	8.1	8.0	8.2	4.2	5.1	5.4	3.1	12.8	12.9
Cycle Q Clear(g_c), s	5.1	7.4	7.6	8.1	8.0	8.2	4.2	5.1	5.4	3.1	12.8	12.9
Prop In Lane	1.00		0.33	1.00		0.23	1.00		0.41	1.00		0.20
Lane Grp Cap(c), veh/h	195	350	343	275	437	438	175	552	536	139	512	518
V/C Ratio(X)	0.68	0.62	0.63	0.76	0.56	0.57	0.62	0.32	0.33	0.57	0.74	0.74
Avail Cap(c_a), veh/h	278	839	822	278	839	841	288	786	763	288	786	795
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.2	24.5	24.8	26.5	22.0	22.2	28.5	17.6	18.0	29.3	21.4	21.6
Incr Delay (d2), s/veh	4.1	1.8	1.9	11.4	1.1	1.2	3.5	0.3	0.4	3.6	2.1	2.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	2.8	2.9	3.6	3.0	3.0	1.6	1.8	1.8	1.2	4.7	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	32.3	26.2	26.7	37.9	23.1	23.3	31.9	18.0	18.3	32.9	23.5	23.7
LnGrp LOS	C	C	C	D	C	C	C	B	B	C	C	C
Approach Vol, veh/h		563			702			465			839	
Approach Delay, s/veh		27.8			27.6			21.4			24.5	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	24.7	15.2	17.1	11.1	23.2	11.9	20.4
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	10.0	27.8	10.0	30.2	10.0	27.8	10.0	30.2
Max Q Clear Time (g_c+I1), s	5.1	7.4	10.1	9.6	6.2	14.9	7.1	10.2
Green Ext Time (p_c), s	0.1	1.2	0.0	1.4	0.1	2.4	0.1	1.6

Intersection Summary	
HCM 7th Control Delay, s/veh	25.5
HCM 7th LOS	C

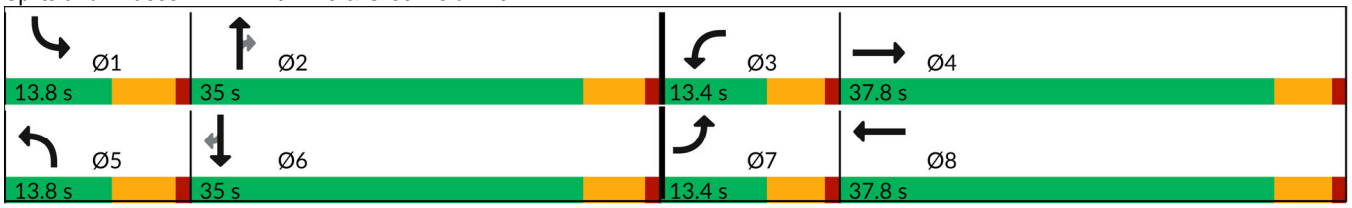


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	104	37	79	62	30	19	437	33	119	1016	36
Future Volume (vph)	105	104	37	79	62	30	19	437	33	119	1016	36
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	185		0	150		0	250		85	260		130
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor		1.00			0.99				0.98			0.98
Frt		0.961			0.950				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	3385	0	1630	3342	0	1630	3539	1458	1630	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	3385	0	1630	3342	0	1630	3539	1429	1630	3539	1429
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		40			33				145			145
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		327			331			1372			2228	
Travel Time (s)		4.1			4.1			17.0			27.6	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	114	113	40	86	67	33	21	475	36	129	1104	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	114	153	0	86	100	0	21	475	36	129	1104	39
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	32.3		9.3	33.7		9.7	28.8	28.8	9.7	27.4	27.4
Total Split (s)	13.4	37.8		13.4	37.8		13.8	35.0	35.0	13.8	35.0	35.0
Total Split (%)	13.4%	37.8%		13.4%	37.8%		13.8%	35.0%	35.0%	13.8%	35.0%	35.0%
Maximum Green (s)	8.1	32.5		8.1	32.5		8.1	29.3	29.3	8.1	29.3	29.3
Yellow Time (s)	4.3	4.3		4.3	4.3		4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3		-1.3	-1.3		-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)		20.0			21.4			16.1	16.1		14.7	14.7
Pedestrian Calls (#/hr)		5			5			5	5		5	5
Act Effct Green (s)	9.8	12.2		9.3	11.6		8.6	18.3	18.3	10.4	31.1	31.1
Actuated g/C Ratio	0.15	0.19		0.15	0.18		0.13	0.29	0.29	0.16	0.49	0.49
v/c Ratio	0.46	0.23		0.36	0.16		0.10	0.47	0.07	0.48	0.64	0.05
Control Delay (s/veh)	38.0	18.7		35.2	17.3		32.3	21.8	0.3	38.2	18.5	0.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	38.0	18.7		35.2	17.3		32.3	21.8	0.3	38.2	18.5	0.1
LOS	D	B		D	B		C	C	A	D	B	A
Approach Delay (s/veh)		27.0			25.6			20.8			20.0	
Approach LOS		C			C			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 63.9			
Natural Cycle: 85			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay (s/veh): 21.4		Intersection LOS: C	
Intersection Capacity Utilization 57.5%		ICU Level of Service B	
Analysis Period (min) 15			

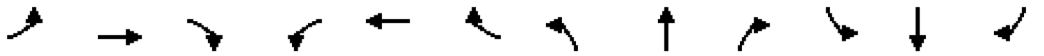
Splits and Phases: 14: 12th Ave & Greenfield Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	104	37	79	62	30	19	437	33	119	1016	36
Future Volume (veh/h)	105	104	37	79	62	30	19	437	33	119	1016	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	114	113	40	86	67	33	21	475	36	129	1104	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	180	394	133	144	306	139	84	1201	485	209	1472	595
Arrive On Green	0.11	0.15	0.13	0.09	0.13	0.11	0.05	0.34	0.34	0.13	0.41	0.41
Sat Flow, veh/h	1641	2589	872	1641	2347	1069	1641	3554	1434	1641	3554	1436
Grp Volume(v), veh/h	114	76	77	86	49	51	21	475	36	129	1104	39
Grp Sat Flow(s),veh/h/ln	1641	1777	1685	1641	1777	1639	1641	1777	1434	1641	1777	1436
Q Serve(g_s), s	3.6	2.1	2.2	2.7	1.4	1.5	0.7	5.6	0.9	4.0	14.3	0.9
Cycle Q Clear(g_c), s	3.6	2.1	2.2	2.7	1.4	1.5	0.7	5.6	0.9	4.0	14.3	0.9
Prop In Lane	1.00		0.52	1.00		0.65	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	180	270	256	144	232	214	84	1201	485	209	1472	595
V/C Ratio(X)	0.63	0.28	0.30	0.60	0.21	0.24	0.25	0.40	0.07	0.62	0.75	0.07
Avail Cap(c_a), veh/h	284	1105	1048	284	1105	1019	296	2027	818	296	2027	819
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.2	20.4	20.8	23.9	21.1	21.6	24.8	13.8	12.2	22.4	13.5	9.6
Incr Delay (d2), s/veh	3.7	0.6	0.7	3.9	0.5	0.6	1.5	0.2	0.1	2.9	1.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.7	0.8	1.0	0.5	0.5	0.3	1.7	0.2	1.5	4.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.8	21.0	21.5	27.7	21.6	22.2	26.3	14.0	12.3	25.4	14.6	9.6
LnGrp LOS	C	C	C	C	C	C	C	B	B	C	B	A
Approach Vol, veh/h		267			186			532			1272	
Approach Delay, s/veh		23.6			24.6			14.3			15.5	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.9	22.4	8.8	12.3	6.8	26.5	10.0	11.1
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	8.1	29.3	8.1	32.5	8.1	29.3	8.1	32.5
Max Q Clear Time (g_c+I1), s	6.0	7.6	4.7	4.2	2.7	16.3	5.6	3.5
Green Ext Time (p_c), s	0.1	2.0	0.1	0.5	0.0	4.4	0.1	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	16.9
HCM 7th LOS	B

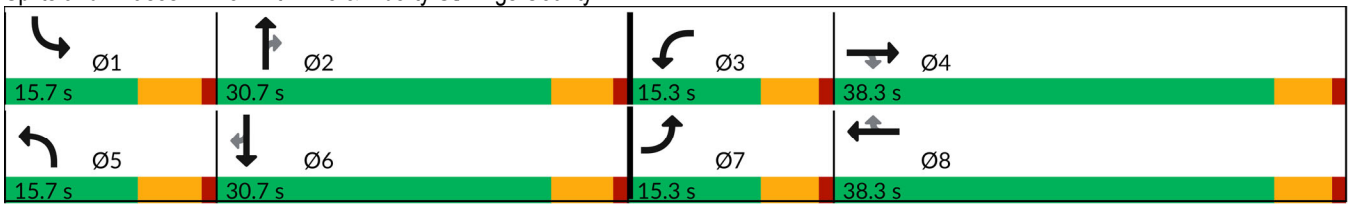


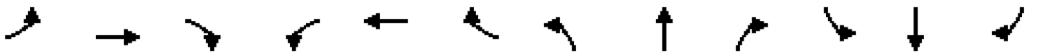
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	90	31	9	21	73	16	471	39	311	812	9
Future Volume (vph)	28	90	31	9	21	73	16	471	39	311	812	9
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	80		80	195		145	250		125	250		125
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98			0.98			0.97			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1863	1458	1630	3539	1458	1630	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1431	1630	1863	1431	1630	3539	1408	1630	3539	1408
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			149			145			145
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1718			718			1686			1372	
Travel Time (s)		21.3			8.9			20.9			17.0	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	30	98	34	10	23	79	17	512	42	338	883	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	98	34	10	23	79	17	512	42	338	883	10
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	32.3	32.3	9.3	30.9	30.9	9.7	26.0	26.0	9.7	26.0	26.0
Total Split (s)	15.3	38.3	38.3	15.3	38.3	38.3	15.7	30.7	30.7	15.7	30.7	30.7
Total Split (%)	15.3%	38.3%	38.3%	15.3%	38.3%	38.3%	15.7%	30.7%	30.7%	15.7%	30.7%	30.7%
Maximum Green (s)	10.0	33.0	33.0	10.0	33.0	33.0	10.0	25.0	25.0	10.0	25.0	25.0
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		20.0	20.0		18.6	18.6		13.3	13.3		13.3	13.3
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	8.9	14.1	14.1	8.2	11.5	11.5	8.9	16.2	16.2	13.4	34.0	34.0
Actuated g/C Ratio	0.16	0.26	0.26	0.15	0.21	0.21	0.16	0.30	0.30	0.24	0.62	0.62
v/c Ratio	0.11	0.21	0.07	0.04	0.06	0.19	0.06	0.49	0.08	0.85	0.40	0.01
Control Delay (s/veh)	29.0	19.2	0.3	30.6	22.2	1.1	29.5	20.3	0.3	50.1	13.1	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	29.0	19.2	0.3	30.6	22.2	1.1	29.5	20.3	0.3	50.1	13.1	0.0
LOS	C	B	A	C	C	A	C	C	A	D	B	A
Approach Delay (s/veh)		17.0			8.1			19.1			23.1	
Approach LOS		B			A			B			C	

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 54.8	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay (s/veh): 20.8	Intersection LOS: C
Intersection Capacity Utilization 52.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 15: 12th Ave & Liberty St/Kings County Dr

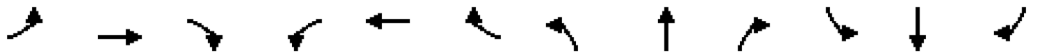




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	90	31	9	21	73	16	471	39	311	812	9
Future Volume (veh/h)	28	90	31	9	21	73	16	471	39	311	812	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	30	98	34	10	23	79	17	512	42	338	883	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	87	307	234	59	275	210	83	900	358	379	1541	616
Arrive On Green	0.05	0.16	0.16	0.04	0.15	0.15	0.05	0.25	0.25	0.23	0.43	0.43
Sat Flow, veh/h	1641	1870	1425	1641	1870	1423	1641	3554	1412	1641	3554	1420
Grp Volume(v), veh/h	30	98	34	10	23	79	17	512	42	338	883	10
Grp Sat Flow(s),veh/h/ln	1641	1870	1425	1641	1870	1423	1641	1777	1412	1641	1777	1420
Q Serve(g_s), s	0.9	2.3	1.0	0.3	0.5	2.5	0.5	6.4	1.2	10.1	9.5	0.2
Cycle Q Clear(g_c), s	0.9	2.3	1.0	0.3	0.5	2.5	0.5	6.4	1.2	10.1	9.5	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	87	307	234	59	275	210	83	900	358	379	1541	616
V/C Ratio(X)	0.35	0.32	0.15	0.17	0.08	0.38	0.21	0.57	0.12	0.89	0.57	0.02
Avail Cap(c_a), veh/h	366	1266	965	366	1266	964	379	1873	744	379	1873	748
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.1	18.7	18.1	23.7	18.6	19.5	23.1	16.5	14.6	18.9	10.8	8.2
Incr Delay (d2), s/veh	2.4	0.6	0.3	1.3	0.1	1.1	1.2	0.6	0.1	22.3	0.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.9	0.3	0.1	0.2	0.7	0.2	2.0	0.3	5.2	2.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	25.5	19.3	18.4	25.0	18.8	20.6	24.3	17.1	14.7	41.2	11.1	8.2
LnGrp LOS	C	B	B	C	B	C	C	B	B	D	B	A
Approach Vol, veh/h		162			112			571			1231	
Approach Delay, s/veh		20.2			20.6			17.1			19.4	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.7	16.8	5.8	12.3	6.6	26.0	6.7	11.5
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	10.0	25.0	10.0	33.0	10.0	25.0	10.0	33.0
Max Q Clear Time (g_c+I1), s	12.1	8.4	2.3	4.3	2.5	11.5	2.9	4.5
Green Ext Time (p_c), s	0.0	2.1	0.0	0.4	0.0	3.4	0.0	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	18.9
HCM 7th LOS	B

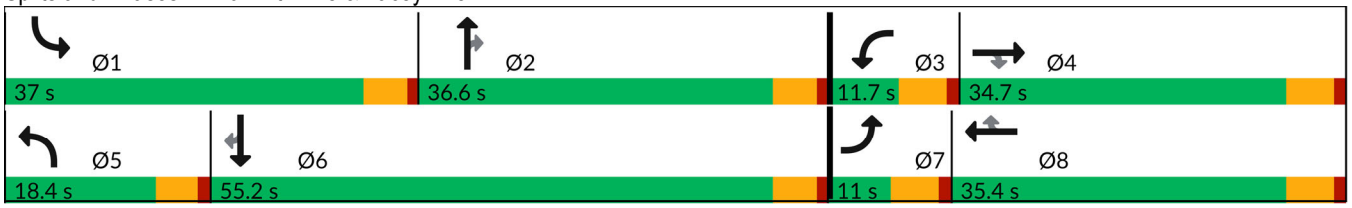


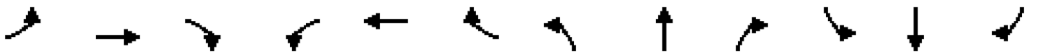
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	87	278	39	68	139	51	92	384	72	167	579	85
Future Volume (vph)	87	278	39	68	139	51	92	384	72	167	579	85
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	270		120	270		170	240		175	240		120
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98			0.98			0.98			0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3162	3539	1458	3162	3539	1458	1630	3539	1458	1630	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3162	3539	1429	3162	3539	1430	1630	3539	1430	1630	3539	1431
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			155			155			158			114
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		3432			5219			1893			1686	
Travel Time (s)		42.5			64.7			23.5			20.9	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	95	302	42	74	151	55	100	417	78	182	629	92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	95	302	42	74	151	55	100	417	78	182	629	92
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	31.7	31.7	9.3	34.5	34.5	8.9	36.6	36.6	8.9	35.2	35.2
Total Split (s)	11.0	34.7	34.7	11.7	35.4	35.4	18.4	36.6	36.6	37.0	55.2	55.2
Total Split (%)	9.2%	28.9%	28.9%	9.8%	29.5%	29.5%	15.3%	30.5%	30.5%	30.8%	46.0%	46.0%
Maximum Green (s)	5.7	29.4	29.4	6.4	30.1	30.1	13.5	31.7	31.7	32.1	50.3	50.3
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	3.9	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-0.9	-0.9	-0.9	-0.9	1.0	1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.9	5.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		19.4	19.4		22.2	22.2		24.7	24.7		23.3	23.3
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	7.8	15.0	15.0	8.3	15.5	15.5	11.1	17.6	17.6	15.2	23.5	23.5
Actuated g/C Ratio	0.11	0.21	0.21	0.12	0.22	0.22	0.16	0.25	0.25	0.22	0.34	0.34
v/c Ratio	0.27	0.40	0.10	0.20	0.19	0.13	0.39	0.47	0.16	0.51	0.53	0.17
Control Delay (s/veh)	38.7	27.7	0.5	37.4	26.0	0.6	37.7	26.1	0.7	34.1	23.8	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	38.7	27.7	0.5	37.4	26.0	0.6	37.7	26.1	0.7	34.1	23.8	3.8
LOS	D	C	A	D	C	A	D	C	A	C	C	A
Approach Delay (s/veh)		27.5			24.0			24.7			23.8	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 70			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.53			
Intersection Signal Delay (s/veh): 24.8		Intersection LOS: C	
Intersection Capacity Utilization 51.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 16: 12th Ave & Lacey Ave

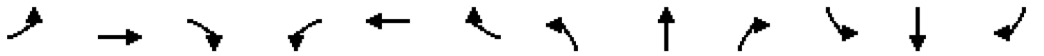




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	278	39	68	139	51	92	384	72	167	579	85
Future Volume (veh/h)	87	278	39	68	139	51	92	384	72	167	579	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	95	302	42	74	151	55	100	417	78	182	629	92
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	273	694	279	249	668	268	155	845	340	266	948	382
Arrive On Green	0.09	0.20	0.20	0.08	0.19	0.19	0.09	0.24	0.24	0.16	0.27	0.27
Sat Flow, veh/h	3183	3554	1428	3183	3554	1428	1641	3554	1431	1641	3554	1432
Grp Volume(v), veh/h	95	302	42	74	151	55	100	417	78	182	629	92
Grp Sat Flow(s),veh/h/ln	1591	1777	1428	1591	1777	1428	1641	1777	1431	1641	1777	1432
Q Serve(g_s), s	1.4	3.7	1.2	1.1	1.8	1.6	2.9	5.0	2.2	5.1	7.7	2.5
Cycle Q Clear(g_c), s	1.4	3.7	1.2	1.1	1.8	1.6	2.9	5.0	2.2	5.1	7.7	2.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	273	694	279	249	668	268	155	845	340	266	948	382
V/C Ratio(X)	0.35	0.44	0.15	0.30	0.23	0.21	0.64	0.49	0.23	0.68	0.66	0.24
Avail Cap(c_a), veh/h	454	2224	894	500	2275	914	482	2362	951	1104	3572	1439
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.1	17.4	16.4	21.3	16.9	16.8	21.4	16.1	15.1	19.4	16.0	14.1
Incr Delay (d2), s/veh	0.8	0.4	0.2	0.7	0.2	0.4	4.4	0.4	0.3	3.1	0.8	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.2	0.3	0.3	0.6	0.4	1.1	1.6	0.6	1.7	2.4	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.9	17.8	16.6	22.0	17.1	17.2	25.8	16.6	15.4	22.4	16.8	14.4
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		439			280			595			903	
Approach Delay, s/veh		18.6			18.4			18.0			17.7	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	15.7	7.8	13.6	8.6	19.0	8.2	13.2
Change Period (Y+Rc), s	4.9	4.9	5.3	5.3	4.9	4.9	5.3	5.3
Max Green Setting (Gmax), s	32.1	31.7	6.4	29.4	13.5	50.3	5.7	30.1
Max Q Clear Time (g_c+I1), s	7.1	7.0	3.1	5.7	4.9	9.7	3.4	3.8
Green Ext Time (p_c), s	0.6	2.0	0.0	1.3	0.2	3.2	0.1	0.8

Intersection Summary	
HCM 7th Control Delay, s/veh	18.0
HCM 7th LOS	B

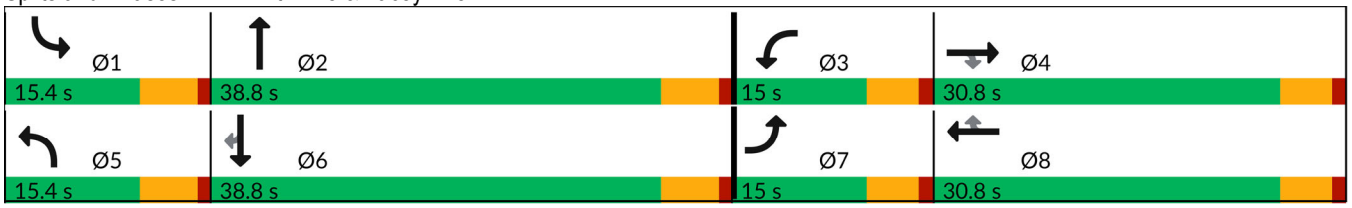


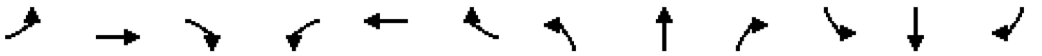
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	152	78	102	192	61	159	490	65	85	541	117
Future Volume (vph)	84	152	78	102	192	61	159	490	65	85	541	117
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	200		100	130		100	70		0	160		105
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.96			0.98		1.00				0.98
Frt			0.850			0.850		0.982				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	3539	1458	1630	3539	1458	1630	1825	0	1630	1863	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	3539	1403	1630	3539	1425	1630	1825	0	1630	1863	1431
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136			136		7				132
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5219			6528			4809			5342	
Travel Time (s)		64.7			80.9			59.6			66.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	91	165	85	111	209	66	173	533	71	92	588	127
Shared Lane Traffic (%)												
Lane Group Flow (vph)	91	165	85	111	209	66	173	604	0	92	588	127
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50		50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.9	22.9	22.9	8.9	22.9	22.9	9.3	31.3		9.3	32.7	32.7
Total Split (s)	15.0	30.8	30.8	15.0	30.8	30.8	15.4	38.8		15.4	38.8	38.8
Total Split (%)	15.0%	30.8%	30.8%	15.0%	30.8%	30.8%	15.4%	38.8%		15.4%	38.8%	38.8%
Maximum Green (s)	10.1	25.9	25.9	10.1	25.9	25.9	10.1	33.5		10.1	33.5	33.5
Yellow Time (s)	3.9	3.9	3.9	3.9	3.9	3.9	4.3	4.3		4.3	4.3	4.3
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-1.3	-1.3		-1.3	-1.3	-1.3
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Don't Walk (s)		9.4	9.4		9.4	9.4		19.0			20.4	20.4
Pedestrian Calls (#/hr)		5	5		5	5		5			5	5
Act Effct Green (s)	9.9	11.5	11.5	10.3	11.7	11.7	11.8	36.7		10.3	31.9	31.9
Actuated g/C Ratio	0.13	0.15	0.15	0.13	0.15	0.15	0.15	0.47		0.13	0.41	0.41
v/c Ratio	0.44	0.32	0.27	0.52	0.40	0.20	0.71	0.71		0.43	0.78	0.19
Control Delay (s/veh)	42.7	33.7	3.8	44.9	34.4	1.4	53.5	26.7		41.7	30.5	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	42.7	33.7	3.8	44.9	34.4	1.4	53.5	26.7		41.7	30.5	4.1
LOS	D	C	A	D	C	A	D	C		D	C	A
Approach Delay (s/veh)		28.6			31.8			32.7			27.6	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 78.6			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay (s/veh): 30.2		Intersection LOS: C	
Intersection Capacity Utilization 63.2%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 17: 11th Ave & Lacey Ave

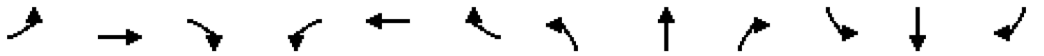




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	152	78	102	192	61	159	490	65	85	541	117
Future Volume (veh/h)	84	152	78	102	192	61	159	490	65	85	541	117
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	91	165	85	111	209	66	173	533	71	92	588	127
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	136	456	179	161	511	204	241	703	94	147	709	544
Arrive On Green	0.08	0.13	0.13	0.10	0.14	0.14	0.15	0.44	0.42	0.09	0.38	0.38
Sat Flow, veh/h	1641	3554	1395	1641	3554	1423	1641	1613	215	1641	1870	1435
Grp Volume(v), veh/h	91	165	85	111	209	66	173	0	604	92	588	127
Grp Sat Flow(s),veh/h/ln	1641	1777	1395	1641	1777	1423	1641	0	1827	1641	1870	1435
Q Serve(g_s), s	3.5	2.7	3.7	4.2	3.5	2.7	6.5	0.0	18.0	3.5	18.4	3.9
Cycle Q Clear(g_c), s	3.5	2.7	3.7	4.2	3.5	2.7	6.5	0.0	18.0	3.5	18.4	3.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	136	456	179	161	511	204	241	0	797	147	709	544
V/C Ratio(X)	0.67	0.36	0.47	0.69	0.41	0.32	0.72	0.00	0.76	0.62	0.83	0.23
Avail Cap(c_a), veh/h	279	1472	578	279	1472	590	289	0	983	289	1006	772
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.8	25.8	26.2	28.2	25.2	24.9	26.3	0.0	15.4	28.4	18.2	13.7
Incr Delay (d2), s/veh	5.5	0.5	1.9	5.1	0.5	0.9	6.7	0.0	2.7	4.3	4.1	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.0	1.1	1.7	1.3	0.8	2.6	0.0	6.2	1.4	6.9	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	34.3	26.2	28.1	33.3	25.7	25.8	33.0	0.0	18.2	32.7	22.3	13.9
LnGrp LOS	C	C	C	C	C	C	C		B	C	C	B
Approach Vol, veh/h		341			386			777			807	
Approach Delay, s/veh		28.9			27.9			21.5			22.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.8	32.2	10.4	12.3	13.5	28.5	9.4	13.3
Change Period (Y+Rc), s	5.3	5.3	4.9	4.9	5.3	5.3	4.9	4.9
Max Green Setting (Gmax), s	10.1	33.5	10.1	25.9	10.1	33.5	10.1	25.9
Max Q Clear Time (g_c+I1), s	5.5	20.0	6.2	5.7	8.5	20.4	5.5	5.5
Green Ext Time (p_c), s	0.1	2.1	0.1	0.9	0.1	2.4	0.1	1.0

Intersection Summary	
HCM 7th Control Delay, s/veh	23.9
HCM 7th LOS	C

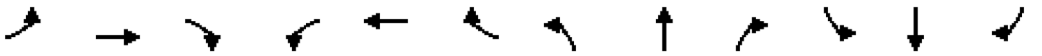


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	81	222	143	40	11	189	495	408	54	524	38
Future Volume (vph)	33	81	222	143	40	11	189	495	408	54	524	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	265		260	230		140	250		0	180		180
Storage Lanes	1		1	1		1	2		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	0.97	0.91	0.91	1.00	0.91	1.00
Ped Bike Factor						0.98		0.98				0.98
Frt			0.850			0.850		0.932				0.850
Flt Protected	0.950	0.998		0.950	0.972		0.950			0.950		
Satd. Flow (prot)	1681	1766	1583	1681	1720	1583	3433	4663	0	1770	5085	1583
Flt Permitted	0.950	0.995		0.950	0.832		0.950			0.950		
Satd. Flow (perm)	1681	1761	1583	1681	1472	1556	3433	4663	0	1770	5085	1549
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			241			136		201				132
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1154			586			1240			1893	
Travel Time (s)		14.3			7.3			15.4			23.5	
Confl. Peds. (#/hr)						5			5			5
Confl. Bikes (#/hr)						2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	36	88	241	155	43	12	205	538	443	59	570	41
Shared Lane Traffic (%)	10%			37%								
Lane Group Flow (vph)	32	92	241	98	100	12	205	981	0	59	570	41
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50		50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.9	22.9	22.9	8.9	39.9	39.9	9.3	24.1		9.3	24.1	24.1
Total Split (s)	12.9	43.9	43.9	12.9	43.9	43.9	13.3	29.9		13.3	29.9	29.9
Total Split (%)	12.9%	43.9%	43.9%	12.9%	43.9%	43.9%	13.3%	29.9%		13.3%	29.9%	29.9%
Maximum Green (s)	8.0	39.0	39.0	8.0	39.0	39.0	8.0	24.6		8.0	24.6	24.6
Yellow Time (s)	3.9	3.9	3.9	3.9	3.9	3.9	4.3	4.3		4.3	4.3	4.3
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-1.3	-1.3		-1.3	-1.3	-1.3
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	Min
Walk Time (s)					7.0	7.0		7.0			7.0	7.0
Flash Don't Walk (s)					28.0	28.0		11.8			11.8	11.8
Pedestrian Calls (#/hr)					5	5		5			5	5
Act Effct Green (s)	7.9	4.9	40.4	8.7	6.8	43.1	9.4	25.4		8.7	21.9	21.9
Actuated g/C Ratio	0.08	0.05	0.43	0.09	0.07	0.46	0.10	0.27		0.09	0.23	0.23
v/c Ratio	0.23	1.00	0.29	0.63	0.81	0.02	0.60	0.70		0.36	0.48	0.09
Control Delay (s/veh)	46.6	139.6	3.7	62.3	86.1	0.0	50.2	28.3		49.1	32.5	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	46.6	139.6	3.7	62.3	86.1	0.0	50.2	28.3		49.1	32.5	0.4
LOS	D	F	A	E	F	A	D	C		D	C	A
Approach Delay (s/veh)		41.7			70.1			32.1			32.0	
Approach LOS		D			E			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 93.7			
Natural Cycle: 85			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.00			
Intersection Signal Delay (s/veh): 36.8		Intersection LOS: D	
Intersection Capacity Utilization 46.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 18: 12th Ave & Centennial Dr



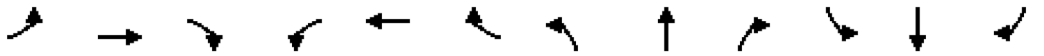
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	81	222	143	40	11	189	495	408	54	524	38
Future Volume (veh/h)	33	81	222	143	40	11	189	495	408	54	524	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	88	241	99	121	12	205	538	443	59	570	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	397	336	154	473	393	388	1235	558	115	1607	490
Arrive On Green	0.05	0.21	0.21	0.09	0.25	0.25	0.11	0.36	0.34	0.06	0.31	0.31
Sat Flow, veh/h	1781	1870	1585	1781	1870	1554	3456	3404	1539	1781	5106	1556
Grp Volume(v), veh/h	36	88	241	99	121	12	205	538	443	59	570	41
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1554	1728	1702	1539	1781	1702	1556
Q Serve(g_s), s	1.1	2.3	8.2	3.1	3.0	0.3	3.3	7.0	15.2	1.9	5.0	1.1
Cycle Q Clear(g_c), s	1.1	2.3	8.2	3.1	3.0	0.3	3.3	7.0	15.2	1.9	5.0	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	81	397	336	154	473	393	388	1235	558	115	1607	490
V/C Ratio(X)	0.44	0.22	0.72	0.64	0.26	0.03	0.53	0.44	0.79	0.51	0.35	0.08
Avail Cap(c_a), veh/h	272	1278	1083	272	1278	1062	550	1510	682	284	2265	690
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.1	19.0	21.4	25.8	17.4	16.4	24.4	14.1	17.3	26.4	15.4	14.1
Incr Delay (d2), s/veh	3.7	0.3	2.9	4.4	0.3	0.0	1.1	0.2	5.3	3.5	0.1	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.8	2.8	1.3	1.1	0.1	1.2	2.1	5.0	0.8	1.5	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.9	19.3	24.2	30.2	17.7	16.4	25.6	14.3	22.6	29.9	15.6	14.2
LnGrp LOS	C	B	C	C	B	B	C	B	C	C	B	B
Approach Vol, veh/h		365			232			1186			670	
Approach Delay, s/veh		23.7			23.0			19.3			16.7	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	25.2	9.1	16.4	10.6	22.4	6.7	18.8
Change Period (Y+Rc), s	5.3	5.3	4.9	4.9	5.3	5.3	4.9	4.9
Max Green Setting (Gmax), s	8.0	24.6	8.0	39.0	8.0	24.6	8.0	39.0
Max Q Clear Time (g_c+I1), s	3.9	17.2	5.1	10.2	5.3	7.0	3.1	5.0
Green Ext Time (p_c), s	0.0	2.7	0.1	1.2	0.2	2.4	0.0	0.4

Intersection Summary	
HCM 7th Control Delay, s/veh	19.6
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

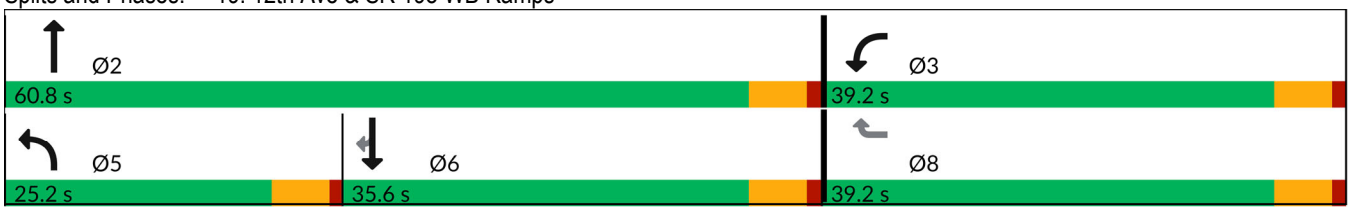


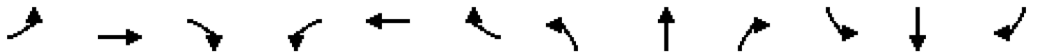
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	68	0	477	212	839	0	0	547	307
Future Volume (vph)	0	0	0	68	0	477	212	839	0	0	547	307
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	0		0	200		200	405		0	130		0
Storage Lanes	0		0	2		1	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	0.88	1.00	0.95	1.00	1.00	0.95	1.00
Frt						0.850						0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	3162	0	2567	1630	3539	0	0	3539	1458
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	3162	0	2567	1630	3539	0	0	3539	1458
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						231						334
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		239			374			625			1240	
Travel Time (s)		3.0			4.6			7.7			15.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	74	0	518	230	912	0	0	595	334
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	74	0	518	230	912	0	0	595	334
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1		1	1	1			1	1
Detector Template												
Leading Detector (ft)				50		50	50	50			50	50
Trailing Detector (ft)				0		0	0	0			0	0
Detector 1 Position(ft)				0		0	0	0			0	0
Detector 1 Size(ft)				50		50	50	50			50	50
Detector 1 Type				Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0		0.0	0.0	0.0			0.0	0.0
Detector 1 Queue (s)				0.0		0.0	0.0	0.0			0.0	0.0
Detector 1 Delay (s)				0.0		0.0	0.0	0.0			0.0	0.0
Turn Type				Prot		Perm	Prot	NA			NA	Perm
Protected Phases				3			5	2			6	
Permitted Phases						8						6
Detector Phase				3		8	5	2			6	6
Switch Phase												
Minimum Initial (s)				4.0		4.0	4.0	4.0			4.0	4.0
Minimum Split (s)				9.3		23.3	9.3	23.3			23.3	23.3
Total Split (s)				39.2		39.2	25.2	60.8			35.6	35.6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)				39.2%		39.2%	25.2%	60.8%			35.6%	35.6%
Maximum Green (s)				33.9		33.9	19.9	55.5			30.3	30.3
Yellow Time (s)				4.3		4.3	4.3	4.3			4.3	4.3
All-Red Time (s)				1.0		1.0	1.0	1.0			1.0	1.0
Lost Time Adjust (s)				-1.3		-1.3	-1.3	-1.3			-1.3	-1.3
Total Lost Time (s)				4.0		4.0	4.0	4.0			4.0	4.0
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	3.0
Recall Mode				None		None	None	Min			Min	Min
Act Effct Green (s)				13.6		15.3	15.7	38.7			18.8	18.8
Actuated g/C Ratio				0.22		0.24	0.25	0.62			0.30	0.30
v/c Ratio				0.11		0.65	0.56	0.42			0.56	0.50
Control Delay (s/veh)				21.0		16.3	28.8	7.1			21.7	5.6
Queue Delay				0.0		0.0	0.0	0.0			0.0	0.0
Total Delay (s/veh)				21.0		16.3	28.8	7.1			21.7	5.6
LOS				C		B	C	A			C	A
Approach Delay (s/veh)					16.9			11.5			15.9	
Approach LOS					B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 62.5			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay (s/veh): 14.2		Intersection LOS: B	
Intersection Capacity Utilization 48.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 19: 12th Ave & SR 198 WB Ramps

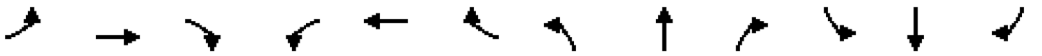




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	68	0	477	212	839	0	0	547	307
Future Volume (veh/h)	0	0	0	68	0	477	212	839	0	0	547	307
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1723	0	1723	1723	1870	0	0	1870	1723
Adj Flow Rate, veh/h				74	0	518	230	912	0	0	595	334
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	0	2	2	2	0	0	2	2
Cap, veh/h				902	0	728	316	2064	0	0	1137	467
Arrive On Green				0.28	0.00	0.28	0.19	0.58	0.00	0.00	0.32	0.32
Sat Flow, veh/h				3183	0	2569	1641	3647	0	0	3647	1460
Grp Volume(v), veh/h				74	0	518	230	912	0	0	595	334
Grp Sat Flow(s),veh/h/ln				1591	0	1285	1641	1777	0	0	1777	1460
Q Serve(g_s), s				1.0	0.0	10.7	7.7	8.5	0.0	0.0	8.1	11.9
Cycle Q Clear(g_c), s				1.0	0.0	10.7	7.7	8.5	0.0	0.0	8.1	11.9
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				902	0	728	316	2064	0	0	1137	467
V/C Ratio(X)				0.08	0.00	0.71	0.73	0.44	0.00	0.00	0.52	0.71
Avail Cap(c_a), veh/h				1903	0	1536	591	3428	0	0	1907	784
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				15.5	0.0	18.9	22.3	7.0	0.0	0.0	16.3	17.6
Incr Delay (d2), s/veh				0.0	0.0	1.3	3.2	0.1	0.0	0.0	0.4	2.1
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.3	0.0	2.6	2.7	1.8	0.0	0.0	2.6	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				15.5	0.0	20.2	25.5	7.1	0.0	0.0	16.7	19.7
LnGrp LOS				B		C	C	A			B	B
Approach Vol, veh/h					592			1142			929	
Approach Delay, s/veh					19.6			10.8			17.8	
Approach LOS					B			B			B	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		38.2			15.3	22.8		20.7				
Change Period (Y+Rc), s		5.3			5.3	5.3		5.3				
Max Green Setting (Gmax), s		55.5			19.9	30.3		33.9				
Max Q Clear Time (g_c+I1), s		10.5			9.7	13.9		12.7				
Green Ext Time (p_c), s		4.4			0.5	3.7		2.7				

Intersection Summary												
HCM 7th Control Delay, s/veh			15.2									
HCM 7th LOS			B									

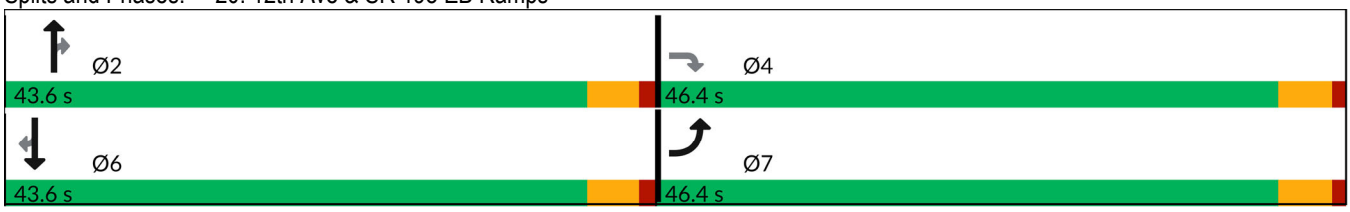


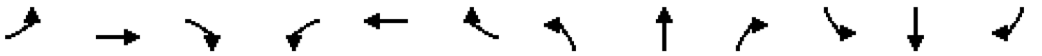
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	369	0	120	0	0	0	0	728	158	0	360	259
Future Volume (vph)	369	0	120	0	0	0	0	728	158	0	360	259
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	210		210	0		0	0		0	0		160
Storage Lanes	2		0	0		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850						0.850			0.850
Flt Protected	0.950											
Satd. Flow (prot)	3162	0	1458	0	0	0	0	3539	1458	0	3539	1458
Flt Permitted	0.950											
Satd. Flow (perm)	3162	0	1458	0	0	0	0	3539	1458	0	3539	1458
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			130						172			282
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		206			226			520			625	
Travel Time (s)		2.6			2.8			6.4			7.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	401	0	130	0	0	0	0	791	172	0	391	282
Shared Lane Traffic (%)												
Lane Group Flow (vph)	401	0	130	0	0	0	0	791	172	0	391	282
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1		1					1	1		1	1
Detector Template												
Leading Detector (ft)	50		50					50	50		50	50
Trailing Detector (ft)	0		0					0	0		0	0
Detector 1 Position(ft)	0		0					0	0		0	0
Detector 1 Size(ft)	50		50					50	50		50	50
Detector 1 Type	Cl+Ex		Cl+Ex					Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0					0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0					0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0					0.0	0.0		0.0	0.0
Turn Type	Prot		Perm					NA	Perm		NA	Perm
Protected Phases	7							2			6	
Permitted Phases			4						2			6
Detector Phase	7		4					2	2		6	6
Switch Phase												
Minimum Initial (s)	4.0		4.0					4.0	4.0		4.0	4.0
Minimum Split (s)	8.5		22.5					22.5	22.5		22.5	22.5
Total Split (s)	46.4		46.4					43.6	43.6		43.6	43.6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	51.6%		51.6%					48.4%	48.4%		48.4%	48.4%
Maximum Green (s)	41.9		41.9					39.1	39.1		39.1	39.1
Yellow Time (s)	3.5		3.5					3.5	3.5		3.5	3.5
All-Red Time (s)	1.0		1.0					1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-0.5		-0.5					-0.5	0.0		-0.5	0.0
Total Lost Time (s)	4.0		4.0					4.0	4.5		4.0	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0		3.0					3.0	3.0		3.0	3.0
Recall Mode	None		None					Min	Min		Min	Min
Act Effct Green (s)	11.1		11.1					14.6	14.1		14.6	14.1
Actuated g/C Ratio	0.33		0.33					0.43	0.41		0.43	0.41
v/c Ratio	0.39		0.23					0.52	0.24		0.26	0.37
Control Delay (s/veh)	10.7		3.8					8.6	2.6		6.8	2.8
Queue Delay	0.0		0.0					0.0	0.0		0.0	0.0
Total Delay (s/veh)	10.7		3.8					8.6	2.6		6.8	2.8
LOS	B		A					A	A		A	A
Approach Delay (s/veh)		9.0						7.6			5.1	
Approach LOS		A						A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 34			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.52			
Intersection Signal Delay (s/veh): 7.2		Intersection LOS: A	
Intersection Capacity Utilization 38.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 20: 12th Ave & SR 198 EB Ramps

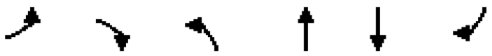




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	369	0	120	0	0	0	0	728	158	0	360	259
Future Volume (veh/h)	369	0	120	0	0	0	0	728	158	0	360	259
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1723	0	1723				0	1870	1723	0	1870	1723
Adj Flow Rate, veh/h	401	0	130				0	791	172	0	391	282
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	2
Cap, veh/h	884	0	406				0	1506	592	0	1506	592
Arrive On Green	0.28	0.00	0.28				0.00	0.42	0.41	0.00	0.42	0.41
Sat Flow, veh/h	3183	0	1460				0	3647	1460	0	3647	1460
Grp Volume(v), veh/h	401	0	130				0	791	172	0	391	282
Grp Sat Flow(s),veh/h/ln	1591	0	1460				0	1777	1460	0	1777	1460
Q Serve(g_s), s	2.8	0.0	1.9				0.0	4.4	2.1	0.0	1.9	3.8
Cycle Q Clear(g_c), s	2.8	0.0	1.9				0.0	4.4	2.1	0.0	1.9	3.8
Prop In Lane	1.00		1.00				0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	884	0	406				0	1506	592	0	1506	592
V/C Ratio(X)	0.45	0.00	0.32				0.00	0.53	0.29	0.00	0.26	0.48
Avail Cap(c_a), veh/h	5034	0	2309				0	5249	2129	0	5249	2129
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	8.0	0.0	7.7				0.0	5.7	5.4	0.0	5.0	5.9
Incr Delay (d2), s/veh	0.4	0.0	0.5				0.0	0.3	0.3	0.0	0.1	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.2				0.0	0.2	0.1	0.0	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.4	0.0	8.1				0.0	6.0	5.6	0.0	5.1	6.5
LnGrp LOS	A		A					A	A		A	A
Approach Vol, veh/h		531						963			673	
Approach Delay, s/veh		8.3						5.9			5.7	
Approach LOS		A						A			A	

Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		15.4		11.4		15.4						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		39.1		41.9		39.1						
Max Q Clear Time (g_c+I1), s		6.4		4.8		5.8						
Green Ext Time (p_c), s		4.4		2.3		2.9						

Intersection Summary												
HCM 7th Control Delay, s/veh			6.4									
HCM 7th LOS			A									



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	32	124	41	277	273	11
Future Volume (vph)	32	124	41	277	273	11
Ideal Flow (vphpl)	1750	1750	1750	1900	1900	1750
Storage Length (ft)	200	0	0			0
Storage Lanes	0	0	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.893				0.995	
Flt Protected	0.990			0.994		
Satd. Flow (prot)	1517	0	0	1852	1853	0
Flt Permitted	0.990			0.994		
Satd. Flow (perm)	1517	0	0	1852	1853	0
Link Speed (mph)	55			55	55	
Link Distance (ft)	246			853	4514	
Travel Time (s)	3.0			10.6	56.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	135	45	301	297	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	170	0	0	346	309	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.11	1.11	1.11	1.00	1.00	1.11
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 52.1%		ICU Level of Service A	
Analysis Period (min) 15			

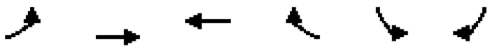
Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	32	124	41	277	273	11
Future Vol, veh/h	32	124	41	277	273	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	135	45	301	297	12

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	693	303	309	0	-	0
Stage 1	303	-	-	-	-	-
Stage 2	390	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	409	737	1252	-	-	-
Stage 1	749	-	-	-	-	-
Stage 2	684	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	392	737	1252	-	-	-
Mov Cap-2 Maneuver	392	-	-	-	-	-
Stage 1	717	-	-	-	-	-
Stage 2	684	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	12.9	1.03	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	232	-	624	-	-
HCM Lane V/C Ratio	0.036	-	0.272	-	-
HCM Control Delay (s/veh)	8	0	12.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	1.1	-	-



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	19	303	470	27	79	57
Future Volume (vph)	19	303	470	27	79	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0			0	200	0
Storage Lanes	0			0	0	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.993		0.943	
Flt Protected		0.997			0.972	
Satd. Flow (prot)	0	1857	1850	0	1707	0
Flt Permitted		0.997			0.972	
Satd. Flow (perm)	0	1857	1850	0	1707	0
Link Speed (mph)		55	55		55	
Link Distance (ft)		816	488		422	
Travel Time (s)		10.1	6.0		5.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	329	511	29	86	62
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	350	540	0	148	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	46.0%	ICU Level of Service	A
Analysis Period (min)	15		

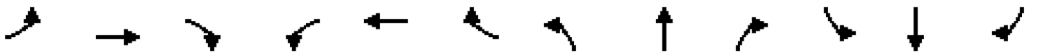
Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	19	303	470	27	79	57
Future Vol, veh/h	19	303	470	27	79	57
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	329	511	29	86	62

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	540	0	-	0	896	526
Stage 1	-	-	-	-	526	-
Stage 2	-	-	-	-	371	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1028	-	-	-	311	552
Stage 1	-	-	-	-	593	-
Stage 2	-	-	-	-	698	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1028	-	-	-	303	552
Mov Cap-2 Maneuver	-	-	-	-	303	-
Stage 1	-	-	-	-	579	-
Stage 2	-	-	-	-	698	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.51	0	20.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	106	-	-	-	374
HCM Lane V/C Ratio	0.02	-	-	-	0.396
HCM Control Delay (s/veh)	8.6	0	-	-	20.8
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	1.8

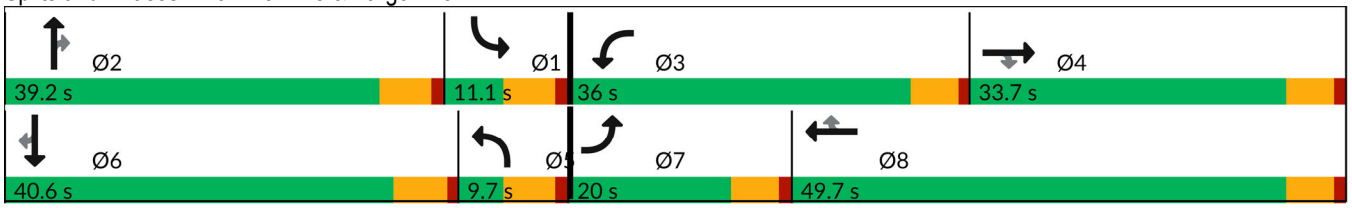


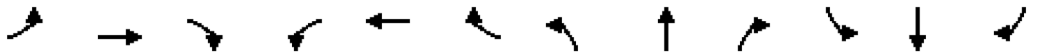
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	99	304	51	448	443	77	28	388	191	76	565	53
Future Volume (vph)	99	304	51	448	443	77	28	388	191	76	565	53
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	200		110	345		110	255		105	255		130
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98			0.97			0.97			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	3539	1458	1630	3539	1458	1630	3539	1458	1630	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	3539	1429	1630	3539	1411	1630	3539	1411	1630	3539	1412
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			173			125			207			169
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		488			5225			5338			853	
Travel Time (s)		6.0			64.8			66.2			10.6	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	108	330	55	487	482	84	30	422	208	83	614	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	108	330	55	487	482	84	30	422	208	83	614	58
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	33.7	33.7	9.3	33.7	33.7	9.7	34.5	34.5	9.7	36.0	36.0
Total Split (s)	20.0	33.7	33.7	36.0	49.7	49.7	9.7	39.2	39.2	11.1	40.6	40.6
Total Split (%)	16.7%	28.1%	28.1%	30.0%	41.4%	41.4%	8.1%	32.7%	32.7%	9.3%	33.8%	33.8%
Maximum Green (s)	14.7	28.4	28.4	30.7	44.4	44.4	4.0	33.5	33.5	5.4	34.9	34.9
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		21.4	21.4		21.4	21.4		21.8	21.8		23.3	23.3
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	12.5	16.8	16.8	32.6	36.9	36.9	5.8	19.3	19.3	8.8	26.8	26.8
Actuated g/C Ratio	0.13	0.18	0.18	0.35	0.39	0.39	0.06	0.21	0.21	0.09	0.29	0.29
v/c Ratio	0.50	0.52	0.14	0.86	0.35	0.13	0.30	0.58	0.46	0.54	0.61	0.11
Control Delay (s/veh)	48.7	38.3	0.7	47.9	22.1	1.7	55.4	37.4	8.3	58.2	33.3	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	48.7	38.3	0.7	47.9	22.1	1.7	55.4	37.4	8.3	58.2	33.3	0.4
LOS	D	D	A	D	C	A	E	D	A	E	C	A
Approach Delay (s/veh)		36.3			32.4			29.0			33.5	
Approach LOS		D			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 93.8			
Natural Cycle: 110			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay (s/veh): 32.6		Intersection LOS: C	
Intersection Capacity Utilization 71.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 5: 12th Ave & Fargo Ave





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	304	51	448	443	77	28	388	191	76	565	53
Future Volume (veh/h)	99	304	51	448	443	77	28	388	191	76	565	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	108	330	55	487	482	84	30	422	208	83	614	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	161	597	240	549	1437	574	74	731	290	152	900	358
Arrive On Green	0.10	0.17	0.17	0.33	0.40	0.40	0.05	0.21	0.21	0.09	0.25	0.25
Sat Flow, veh/h	1641	3554	1426	1641	3554	1419	1641	3554	1408	1641	3554	1412
Grp Volume(v), veh/h	108	330	55	487	482	84	30	422	208	83	614	58
Grp Sat Flow(s),veh/h/ln	1641	1777	1426	1641	1777	1419	1641	1777	1408	1641	1777	1412
Q Serve(g_s), s	5.1	6.9	2.1	22.6	7.5	1.9	1.4	8.6	4.4	3.9	12.6	1.7
Cycle Q Clear(g_c), s	5.1	6.9	2.1	22.6	7.5	1.9	1.4	8.6	4.4	3.9	12.6	1.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	161	597	240	549	1437	574	74	731	290	152	900	358
V/C Ratio(X)	0.67	0.55	0.23	0.89	0.34	0.15	0.40	0.58	0.72	0.55	0.68	0.16
Avail Cap(c_a), veh/h	326	1310	526	652	2016	805	116	1553	615	152	1615	642
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.1	30.7	18.0	25.4	16.5	5.9	37.4	28.8	4.8	34.9	27.2	10.8
Incr Delay (d2), s/veh	4.7	0.8	0.5	12.5	0.1	0.1	3.5	0.7	3.3	4.0	0.9	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	2.7	0.9	9.4	2.6	0.8	0.6	3.4	3.2	1.6	4.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	39.8	31.5	18.5	37.8	16.7	6.0	40.9	29.6	8.1	38.9	28.1	11.0
LnGrp LOS	D	C	B	D	B	A	D	C	A	D	C	B
Approach Vol, veh/h		493			1053			660			755	
Approach Delay, s/veh		31.9			25.6			23.3			28.0	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	20.6	31.0	17.5	7.7	24.4	11.9	36.6
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	5.4	33.5	30.7	28.4	4.0	34.9	14.7	44.4
Max Q Clear Time (g_c+I1), s	5.9	10.6	24.6	8.9	3.4	14.6	7.1	9.5
Green Ext Time (p_c), s	0.0	2.6	1.0	1.4	0.0	2.7	0.2	2.4

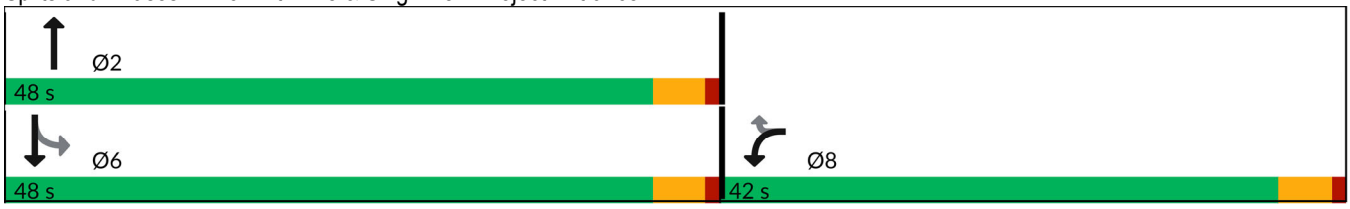
Intersection Summary	
HCM 7th Control Delay, s/veh	26.7
HCM 7th LOS	C

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	279	18	572	138	28	353
Future Volume (vph)	279	18	572	138	28	353
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt		0.850	0.971			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3437	0	1770	1863
Flt Permitted	0.950				0.334	
Satd. Flow (perm)	1770	1583	3437	0	622	1863
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		20	45			
Link Speed (mph)	55		55			55
Link Distance (ft)	1631		1771			2743
Travel Time (s)	20.2		22.0			34.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	303	20	622	150	30	384
Shared Lane Traffic (%)						
Lane Group Flow (vph)	303	20	772	0	30	384
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases		8			6	
Detector Phase	8	8	2		6	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5
Total Split (s)	42.0	42.0	48.0		48.0	48.0
Total Split (%)	46.7%	46.7%	53.3%		53.3%	53.3%
Maximum Green (s)	37.5	37.5	43.5		43.5	43.5
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5		4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	Max		Max	Max
Walk Time (s)	7.0	7.0	7.0		7.0	7.0
Flash Don't Walk (s)	11.0	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0	0		0	0
Act Effct Green (s)	17.0	17.0	44.4		44.4	44.4
Actuated g/C Ratio	0.24	0.24	0.63		0.63	0.63
v/c Ratio	0.71	0.05	0.35		0.08	0.33
Control Delay (s/veh)	33.8	9.1	7.0		7.1	7.8
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay (s/veh)	33.8	9.1	7.0		7.1	7.8
LOS	C	A	A		A	A
Approach Delay (s/veh)	32.2		7.0			7.8
Approach LOS	C		A			A

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 70.4			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay (s/veh): 12.6		Intersection LOS: B	
Intersection Capacity Utilization 46.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 23: 12th Ave & Singh Dev. Project Entrance



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	279	18	572	138	28	353
Future Volume (veh/h)	279	18	572	138	28	353
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	303	20	622	150	30	384
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	366	326	1869	450	501	1231
Arrive On Green	0.21	0.21	0.66	0.66	0.66	0.66
Sat Flow, veh/h	1781	1585	2934	684	698	1870
Grp Volume(v), veh/h	303	20	389	383	30	384
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1747	698	1870
Q Serve(g_s), s	10.8	0.7	6.3	6.4	1.3	5.8
Cycle Q Clear(g_c), s	10.8	0.7	6.3	6.4	7.7	5.8
Prop In Lane	1.00	1.00		0.39	1.00	
Lane Grp Cap(c), veh/h	366	326	1169	1150	501	1231
V/C Ratio(X)	0.83	0.06	0.33	0.33	0.06	0.31
Avail Cap(c_a), veh/h	1011	899	1169	1150	501	1231
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.1	21.1	4.9	4.9	6.6	4.9
Incr Delay (d2), s/veh	4.8	0.1	0.8	0.8	0.2	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	0.2	1.4	1.4	0.2	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	29.9	21.2	5.7	5.7	6.9	5.5
LnGrp LOS	C	C	A	A	A	A
Approach Vol, veh/h	323		772			414
Approach Delay, s/veh	29.4		5.7			5.6
Approach LOS	C		A			A

Timer - Assigned Phs	2			6	8
Phs Duration (G+Y+Rc), s	48.0			48.0	18.1
Change Period (Y+Rc), s	4.5			4.5	4.5
Max Green Setting (Gmax), s	43.5			43.5	37.5
Max Q Clear Time (g_c+I1), s	8.4			9.7	12.8
Green Ext Time (p_c), s	4.5			2.3	0.9

Intersection Summary	
HCM 7th Control Delay, s/veh	10.8
HCM 7th LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	45	160	1	42	5	84	227	0	4	323	64
Future Volume (vph)	80	45	160	1	42	5	84	227	0	4	323	64
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.924			0.987						0.975	
Flt Protected		0.986			0.999			0.987				
Satd. Flow (prot)	0	1697	0	0	1837	0	0	3493	0	0	3451	0
Flt Permitted		0.986			0.999			0.987				
Satd. Flow (perm)	0	1697	0	0	1837	0	0	3493	0	0	3451	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		4849			614			1519			1547	
Travel Time (s)		60.1			7.6			18.8			19.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	49	174	1	46	5	91	247	0	4	351	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	310	0	0	52	0	0	338	0	0	425	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

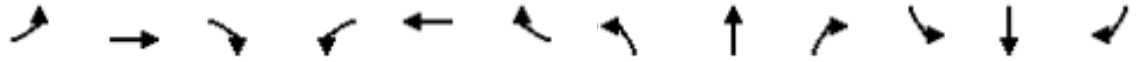
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 53.1%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	12.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	80	45	160	1	42	5	84	227	0	4	323	64
Future Vol, veh/h	80	45	160	1	42	5	84	227	0	4	323	64
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	87	49	174	1	46	5	91	247	0	4	351	70
Number of Lanes	0	1	0	0	1	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay, s/veh	14	10.3	11.9	12.3
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	53%	0%	28%	2%	2%	0%
Vol Thru, %	47%	100%	16%	88%	98%	72%
Vol Right, %	0%	0%	56%	10%	0%	28%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	160	151	285	48	166	226
LT Vol	84	0	80	1	4	0
Through Vol	76	151	45	42	162	162
RT Vol	0	0	160	5	0	64
Lane Flow Rate	174	164	310	52	180	245
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.314	0.286	0.487	0.094	0.308	0.405
Departure Headway (Hd)	6.517	6.249	5.663	6.5	6.166	5.951
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	550	572	635	548	581	603
Service Time	4.277	4.009	3.718	4.583	3.923	3.708
HCM Lane V/C Ratio	0.316	0.287	0.488	0.095	0.31	0.406
HCM Control Delay, s/veh	12.3	11.5	14	10.3	11.7	12.7
HCM Lane LOS	B	B	B	B	B	B
HCM 95th-tile Q	1.3	1.2	2.7	0.3	1.3	2



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	39	3	10	26	4	6	58	7	1	70	0
Future Volume (vph)	3	39	3	10	26	4	6	58	7	1	70	0
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992			0.987			0.986				
Flt Protected		0.997			0.987			0.996			0.999	
Satd. Flow (prot)	0	1842	0	0	1815	0	0	1829	0	0	1861	0
Flt Permitted		0.997			0.987			0.996			0.999	
Satd. Flow (perm)	0	1842	0	0	1815	0	0	1829	0	0	1861	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		2803			5317			5280			1167	
Travel Time (s)		34.7			65.9			65.5			14.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	42	3	11	28	4	7	63	8	1	76	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	48	0	0	43	0	0	78	0	0	77	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

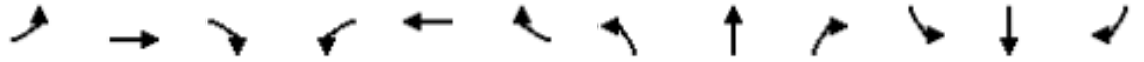
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 18.8%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	39	3	10	26	4	6	58	7	1	70	0
Future Vol, veh/h	3	39	3	10	26	4	6	58	7	1	70	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	42	3	11	28	4	7	63	8	1	76	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	7.6	7.5	7.6	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	7%	25%	1%
Vol Thru, %	82%	87%	65%	99%
Vol Right, %	10%	7%	10%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	71	45	40	71
LT Vol	6	3	10	1
Through Vol	58	39	26	70
RT Vol	7	3	4	0
Lane Flow Rate	77	49	43	77
Geometry Grp	1	1	1	1
Degree of Util (X)	0.088	0.057	0.051	0.089
Departure Headway (Hd)	4.111	4.21	4.23	4.156
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	862	839	834	854
Service Time	2.18	2.296	2.318	2.224
HCM Lane V/C Ratio	0.089	0.058	0.052	0.09
HCM Control Delay, s/veh	7.6	7.6	7.5	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.2	0.2	0.3



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	50	2	34	38	25	14	229	31	58	185	2
Future Volume (vph)	1	50	2	34	38	25	14	229	31	58	185	2
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	0		0	0		0	0		25	0		25
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.965				0.850			0.850
Flt Protected		0.999			0.983			0.997			0.988	
Satd. Flow (prot)	0	1852	0	0	1767	0	0	1857	1458	0	1840	1458
Flt Permitted		0.999			0.983			0.997			0.988	
Satd. Flow (perm)	0	1852	0	0	1767	0	0	1857	1458	0	1840	1458
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5317			205			5367			225	
Travel Time (s)		65.9			2.5			66.5			2.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	54	2	37	41	27	15	249	34	63	201	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	57	0	0	105	0	0	264	34	0	264	2
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

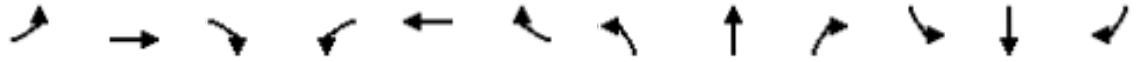
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	47.8%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	50	2	34	38	25	14	229	31	58	185	2
Future Vol, veh/h	1	50	2	34	38	25	14	229	31	58	185	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	54	2	37	41	27	15	249	34	63	201	2
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay, s/veh	9.1	9.4	10.9	11.6
HCM LOS	A	A	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	6%	0%	2%	35%	24%	0%
Vol Thru, %	94%	0%	94%	39%	76%	0%
Vol Right, %	0%	100%	4%	26%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	243	31	53	97	243	2
LT Vol	14	0	1	34	58	0
Through Vol	229	0	50	38	185	0
RT Vol	0	31	2	25	0	2
Lane Flow Rate	264	34	58	105	264	2
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.385	0.042	0.088	0.156	0.394	0.003
Departure Headway (Hd)	5.254	4.52	5.482	5.333	5.369	4.544
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	681	786	647	667	666	781
Service Time	3.02	2.285	3.57	3.411	3.137	2.311
HCM Lane V/C Ratio	0.388	0.043	0.09	0.157	0.396	0.003
HCM Control Delay, s/veh	11.3	7.5	9.1	9.4	11.6	7.3
HCM Lane LOS	B	A	A	A	B	A
HCM 95th-tile Q	1.8	0.1	0.3	0.6	1.9	0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	84	4	34	57	16	4	54	53	17	65	2
Future Volume (vph)	0	84	4	34	57	16	4	54	53	17	65	2
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.980			0.935			0.997	
Flt Protected					0.984			0.998			0.990	
Satd. Flow (prot)	0	1852	0	0	1796	0	0	1738	0	0	1839	0
Flt Permitted					0.984			0.998			0.990	
Satd. Flow (perm)	0	1852	0	0	1796	0	0	1738	0	0	1839	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		3132			4044			5270			5280	
Travel Time (s)		38.8			50.1			65.3			65.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	91	4	37	62	17	4	59	58	18	71	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	95	0	0	116	0	0	121	0	0	91	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

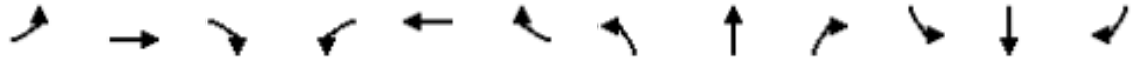
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.3%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	84	4	34	57	16	4	54	53	17	65	2
Future Vol, veh/h	0	84	4	34	57	16	4	54	53	17	65	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	91	4	37	62	17	4	59	58	18	71	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.2	8.3	8	8.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	0%	32%	20%
Vol Thru, %	49%	95%	53%	77%
Vol Right, %	48%	5%	15%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	111	88	107	84
LT Vol	4	0	34	17
Through Vol	54	84	57	65
RT Vol	53	4	16	2
Lane Flow Rate	121	96	116	91
Geometry Grp	1	1	1	1
Degree of Util (X)	0.143	0.12	0.145	0.116
Departure Headway (Hd)	4.253	4.519	4.496	4.585
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	845	794	798	783
Service Time	2.273	2.542	2.519	2.606
HCM Lane V/C Ratio	0.143	0.121	0.145	0.116
HCM Control Delay, s/veh	8	8.2	8.3	8.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.4	0.5	0.4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	124	32	84	86	0	20	0	98	0	0	1
Future Volume (vph)	1	124	32	84	86	0	20	0	98	0	0	1
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	0		100	100		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.888			0.865	
Flt Protected				0.950				0.992				
Satd. Flow (prot)	0	1863	1458	1630	1863	0	0	1641	0	0	1611	0
Flt Permitted				0.950				0.992				
Satd. Flow (perm)	0	1863	1458	1630	1863	0	0	1641	0	0	1611	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		4044			1304			5340			496	
Travel Time (s)		50.1			16.2			66.2			6.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	135	35	91	93	0	22	0	107	0	0	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	136	35	91	93	0	0	129	0	0	1	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.5%		ICU Level of Service A	
Analysis Period (min) 15			

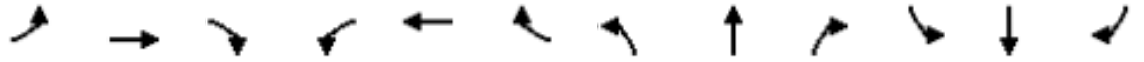
Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	124	32	84	86	0	20	0	98	0	0	1
Future Vol, veh/h	1	124	32	84	86	0	20	0	98	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	100	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	135	35	91	93	0	22	0	107	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	93	0	0	170	0	0	413	413	135	413	448	93
Stage 1	-	-	-	-	-	-	137	137	-	276	276	-
Stage 2	-	-	-	-	-	-	276	276	-	137	172	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1501	-	-	1408	-	-	549	529	914	549	506	964
Stage 1	-	-	-	-	-	-	866	783	-	730	682	-
Stage 2	-	-	-	-	-	-	730	682	-	866	757	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1501	-	-	1408	-	-	513	495	914	454	473	964
Mov Cap-2 Maneuver	-	-	-	-	-	-	513	495	-	454	473	-
Stage 1	-	-	-	-	-	-	866	783	-	683	638	-
Stage 2	-	-	-	-	-	-	682	638	-	765	756	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.05	3.82	10.3	8.74
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	807	14	-	-	1408	-	-	964
HCM Lane V/C Ratio	0.159	0.001	-	-	0.065	-	-	0.001
HCM Control Delay (s/veh)	10.3	7.4	0	-	7.7	-	-	8.7
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.6	0	-	-	0.2	-	-	0

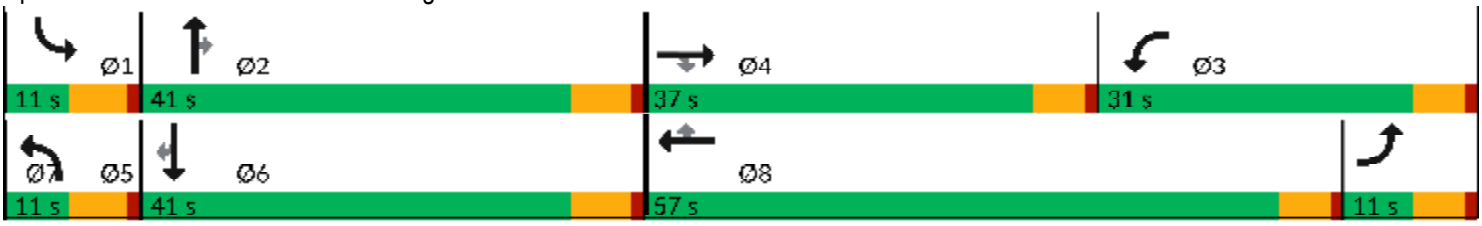


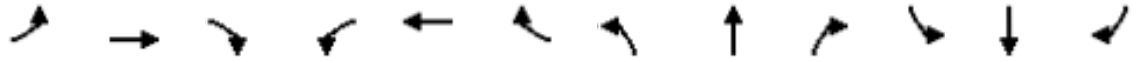
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	236	8	176	168	19	16	235	259	22	170	22
Future Volume (vph)	20	236	8	176	168	19	16	235	259	22	170	22
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	200		110	345		110	255		105	255		130
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.98			0.97			0.97			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1863	1458	1630	1863	1458	1630	1863	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1429	1630	1863	1412	1630	1863	1411	1630	1863	1412
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			173			125			249			169
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1304			5225			5338			5367	
Travel Time (s)		16.2			64.8			66.2			66.5	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	257	9	191	183	21	17	255	282	24	185	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	257	9	191	183	21	17	255	282	24	185	24
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	33.7	33.7	9.3	33.7	33.7	9.7	34.5	34.5	9.7	36.0	36.0
Total Split (s)	11.0	37.0	37.0	31.0	57.0	57.0	11.0	41.0	41.0	11.0	41.0	41.0
Total Split (%)	9.2%	30.8%	30.8%	25.8%	47.5%	47.5%	9.2%	34.2%	34.2%	9.2%	34.2%	34.2%
Maximum Green (s)	5.7	31.7	31.7	25.7	51.7	51.7	5.3	35.3	35.3	5.3	35.3	35.3
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		21.4	21.4		21.4	21.4		21.8	21.8		23.3	23.3
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	10.2	18.2	18.2	16.5	35.4	35.4	7.9	18.9	18.9	7.9	18.9	18.9
Actuated g/C Ratio	0.14	0.26	0.26	0.23	0.50	0.50	0.11	0.27	0.27	0.11	0.27	0.27
v/c Ratio	0.09	0.53	0.02	0.50	0.20	0.03	0.09	0.51	0.50	0.13	0.37	0.05
Control Delay (s/veh)	33.7	30.4	0.1	32.9	17.2	0.1	42.1	29.0	9.2	42.1	26.8	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	33.7	30.4	0.1	32.9	17.2	0.1	42.1	29.0	9.2	42.1	26.8	0.2
LOS	C	C	A	C	B	A	D	C	A	D	C	A
Approach Delay (s/veh)		29.7			23.9			19.3			25.7	
Approach LOS		C			C			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 70.4			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.53			
Intersection Signal Delay (s/veh): 23.6		Intersection LOS: C	
Intersection Capacity Utilization 55.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 5: 12th Ave & Fargo Ave

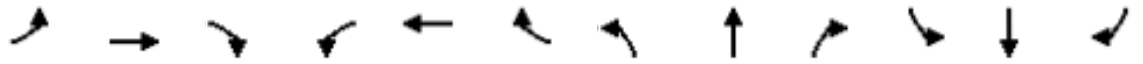




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	236	8	176	168	19	16	235	259	22	170	22
Future Volume (veh/h)	20	236	8	176	168	19	16	235	259	22	170	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.96	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	22	257	9	191	183	21	17	255	282	24	185	24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	340	423	323	282	356	268	79	469	354	89	480	362
Arrive On Green	0.21	0.23	0.23	0.17	0.19	0.19	0.05	0.25	0.25	0.05	0.26	0.26
Sat Flow, veh/h	1641	1870	1430	1641	1870	1406	1641	1870	1412	1641	1870	1413
Grp Volume(v), veh/h	22	257	9	191	183	21	17	255	282	24	185	24
Grp Sat Flow(s),veh/h/ln	1641	1870	1430	1641	1870	1406	1641	1870	1412	1641	1870	1413
Q Serve(g_s), s	0.6	6.6	0.2	5.9	4.7	0.5	0.5	6.4	4.9	0.8	4.4	0.3
Cycle Q Clear(g_c), s	0.6	6.6	0.2	5.9	4.7	0.5	0.5	6.4	4.9	0.8	4.4	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	340	423	323	282	356	268	79	469	354	89	480	362
V/C Ratio(X)	0.06	0.61	0.03	0.68	0.51	0.08	0.21	0.54	0.80	0.27	0.39	0.07
Avail Cap(c_a), veh/h	340	1147	877	823	1842	1385	213	1286	971	213	1286	971
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.1	18.7	7.6	20.9	19.5	8.5	24.6	17.5	4.5	24.4	16.5	2.9
Incr Delay (d2), s/veh	0.1	1.4	0.0	2.9	1.1	0.1	1.3	1.0	4.1	1.6	0.5	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.4	0.1	2.0	1.8	0.2	0.2	2.3	2.5	0.3	1.5	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	17.2	20.1	7.6	23.7	20.7	8.6	26.0	18.5	8.6	26.1	17.0	3.0
LnGrp LOS	B	C	A	C	C	A	C	B	A	C	B	A
Approach Vol, veh/h		288			395			554			233	
Approach Delay, s/veh		19.5			21.5			13.7			16.5	
Approach LOS		B			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.9	17.5	13.2	16.2	6.6	17.8	15.1	14.3
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	5.3	35.3	25.7	31.7	5.3	35.3	5.7	51.7
Max Q Clear Time (g_c+I1), s	2.8	8.4	7.9	8.6	2.5	6.4	2.6	6.7
Green Ext Time (p_c), s	0.0	2.1	0.6	0.8	0.0	0.7	0.0	0.7

Intersection Summary	
HCM 7th Control Delay, s/veh	17.4
HCM 7th LOS	B

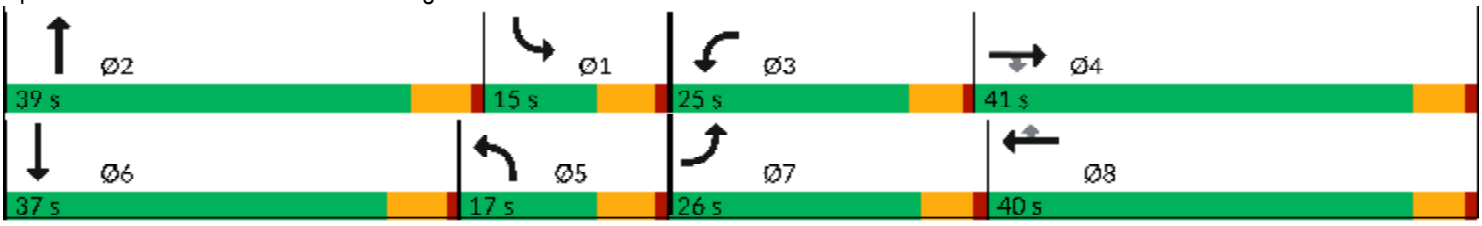


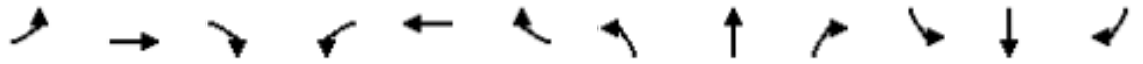
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	128	270	80	118	260	53	63	357	117	46	222	87
Future Volume (vph)	128	270	80	118	260	53	63	357	117	46	222	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	185		110	280		150	200		0	255		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor			0.96			0.98		0.99			0.99	
Frt			0.850			0.850		0.963			0.958	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	3539	1583	1770	3379	0	1770	3355	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1863	1525	1770	3539	1550	1770	3379	0	1770	3355	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			125			125		37			48	
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5225			5292			2018			1090	
Travel Time (s)		64.8			65.6			25.0			13.5	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	139	293	87	128	283	58	68	388	127	50	241	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	139	293	87	128	283	58	68	515	0	50	336	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	50	50	50	50	50	50	50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.3	25.2	25.2	9.3	29.5	29.5	9.7	28.8		9.7	26.0	
Total Split (s)	26.0	41.0	41.0	25.0	40.0	40.0	17.0	39.0		15.0	37.0	
Total Split (%)	21.7%	34.2%	34.2%	20.8%	33.3%	33.3%	14.2%	32.5%		12.5%	30.8%	
Maximum Green (s)	20.7	35.7	35.7	19.7	34.7	34.7	11.3	33.3		9.3	31.3	
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7		4.7	4.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7		-1.7	-1.7	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Don't Walk (s)		12.9	12.9		17.2	17.2		16.1			13.3	
Pedestrian Calls (#/hr)		5	5		5	5		5			5	
Act Effct Green (s)	13.6	23.3	23.3	13.1	18.4	18.4	12.4	21.1		9.8	15.8	
Actuated g/C Ratio	0.18	0.32	0.32	0.18	0.25	0.25	0.17	0.29		0.13	0.21	
v/c Ratio	0.43	0.50	0.15	0.41	0.32	0.12	0.23	0.52		0.21	0.45	
Control Delay (s/veh)	36.2	29.4	2.7	36.4	25.7	0.5	34.2	25.5		38.2	27.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	36.2	29.4	2.7	36.4	25.7	0.5	34.2	25.5		38.2	27.0	
LOS	D	C	A	D	C	A	C	C		D	C	
Approach Delay (s/veh)		26.8			25.5			26.5			28.4	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 73.7			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.52			
Intersection Signal Delay (s/veh): 26.7		Intersection LOS: C	
Intersection Capacity Utilization 52.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 6: 11th Ave & Fargo Ave

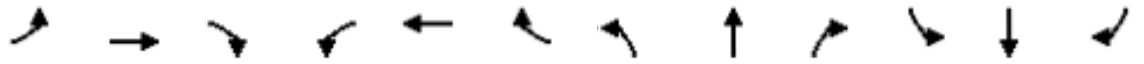




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	270	80	118	260	53	63	357	117	46	222	87
Future Volume (veh/h)	128	270	80	118	260	53	63	357	117	46	222	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	139	293	87	128	283	58	68	388	127	50	241	95
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	228	454	372	213	833	364	229	672	217	129	500	190
Arrive On Green	0.13	0.24	0.24	0.12	0.23	0.23	0.13	0.26	0.22	0.07	0.20	0.17
Sat Flow, veh/h	1781	1870	1533	1781	3554	1553	1781	2617	844	1781	2486	946
Grp Volume(v), veh/h	139	293	87	128	283	58	68	262	253	50	170	166
Grp Sat Flow(s),veh/h/ln	1781	1870	1533	1781	1777	1553	1781	1777	1683	1781	1777	1655
Q Serve(g_s), s	3.8	7.3	1.3	3.5	3.4	1.0	1.8	6.7	6.9	1.4	4.4	4.7
Cycle Q Clear(g_c), s	3.8	7.3	1.3	3.5	3.4	1.0	1.8	6.7	6.9	1.4	4.4	4.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.50	1.00		0.57
Lane Grp Cap(c), veh/h	228	454	372	213	833	364	229	456	432	129	357	333
V/C Ratio(X)	0.61	0.65	0.23	0.60	0.34	0.16	0.30	0.57	0.59	0.39	0.48	0.50
Avail Cap(c_a), veh/h	755	1334	1093	721	2466	1078	446	1199	1136	378	1130	1053
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.4	17.6	5.0	21.7	16.5	6.4	20.5	16.8	17.3	23.0	18.3	18.9
Incr Delay (d2), s/veh	2.6	1.5	0.3	2.7	0.2	0.2	0.7	1.1	1.3	1.9	1.0	1.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	2.6	0.6	1.4	1.1	0.4	0.7	2.2	2.2	0.5	1.5	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	24.0	19.2	5.3	24.4	16.8	6.6	21.2	17.9	18.5	24.9	19.3	20.0
LnGrp LOS	C	B	A	C	B	A	C	B	B	C	B	C
Approach Vol, veh/h		519			469			583			386	
Approach Delay, s/veh		18.2			17.6			18.6			20.3	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	17.3	10.2	16.6	10.7	14.4	10.6	16.2
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	9.3	33.3	19.7	35.7	11.3	31.3	20.7	34.7
Max Q Clear Time (g_c+I1), s	3.4	8.9	5.5	9.3	3.8	6.7	5.8	5.4
Green Ext Time (p_c), s	0.0	1.8	0.3	1.3	0.1	1.1	0.3	1.3

Intersection Summary	
HCM 7th Control Delay, s/veh	18.6
HCM 7th LOS	B

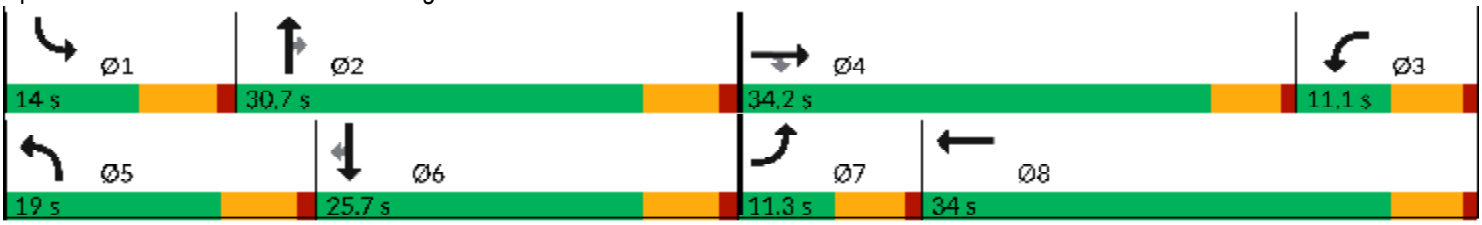


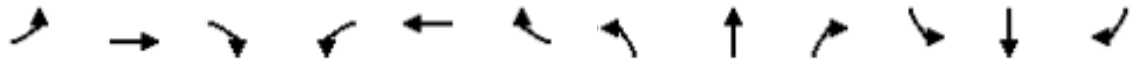
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	187	85	42	229	32	127	255	39	66	274	42
Future Volume (vph)	47	187	85	42	229	32	127	255	39	66	274	42
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	100		50	105		0	160		105	200		100
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98		1.00				0.96			0.98
Frt			0.850		0.982				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1825	0	1630	3539	1458	1630	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1432	1630	1825	0	1630	3539	1407	1630	3539	1428
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			166		8				225			225
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5292			4849			2658			1358	
Travel Time (s)		65.6			60.1			33.0			16.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	51	203	92	46	249	35	138	277	42	72	298	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	51	203	92	46	284	0	138	277	42	72	298	46
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Detector Phase	7	4	4	3	8		5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	32.3	32.3	9.3	33.7		9.7	23.7	23.7	9.7	24.5	24.5
Total Split (s)	11.3	34.2	34.2	11.1	34.0		19.0	30.7	30.7	14.0	25.7	25.7
Total Split (%)	12.6%	38.0%	38.0%	12.3%	37.8%		21.1%	34.1%	34.1%	15.6%	28.6%	28.6%
Maximum Green (s)	6.0	28.9	28.9	5.8	28.7		13.3	25.0	25.0	8.3	20.0	20.0
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3		4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3		-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)		20.0	20.0		21.4			10.4	10.4		11.8	11.8
Pedestrian Calls (#/hr)		5	5		5			5	5		5	5
Act Effct Green (s)	8.5	16.6	16.6	9.7	17.9		13.1	19.8	19.8	10.3	14.1	14.1
Actuated g/C Ratio	0.14	0.28	0.28	0.16	0.30		0.22	0.33	0.33	0.17	0.24	0.24
v/c Ratio	0.22	0.39	0.18	0.17	0.51		0.38	0.23	0.07	0.26	0.35	0.09
Control Delay (s/veh)	34.9	24.2	0.9	32.2	23.8		30.3	19.6	0.2	32.5	24.6	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	34.9	24.2	0.9	32.2	23.8		30.3	19.6	0.2	32.5	24.6	0.4
LOS	C	C	A	C	C		C	B	A	C	C	A
Approach Delay (s/veh)		19.6			25.0			21.1			23.3	
Approach LOS		B			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 59.4			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay (s/veh): 22.2		Intersection LOS: C	
Intersection Capacity Utilization 48.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 7: 10th Ave & Fargo Ave

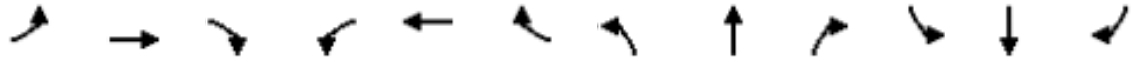




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	187	85	42	229	32	127	255	39	66	274	42
Future Volume (veh/h)	47	187	85	42	229	32	127	255	39	66	274	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	51	203	92	46	249	35	138	277	42	72	298	46
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	113	400	306	179	406	57	232	878	349	145	689	277
Arrive On Green	0.07	0.21	0.21	0.11	0.25	0.23	0.14	0.25	0.25	0.09	0.19	0.19
Sat Flow, veh/h	1641	1870	1429	1641	1600	225	1641	3554	1412	1641	3554	1428
Grp Volume(v), veh/h	51	203	92	46	0	284	138	277	42	72	298	46
Grp Sat Flow(s),veh/h/ln	1641	1870	1429	1641	0	1824	1641	1777	1412	1641	1777	1428
Q Serve(g_s), s	1.4	4.5	1.3	1.2	0.0	6.5	3.7	3.0	0.6	2.0	3.5	1.3
Cycle Q Clear(g_c), s	1.4	4.5	1.3	1.2	0.0	6.5	3.7	3.0	0.6	2.0	3.5	1.3
Prop In Lane	1.00		1.00	1.00		0.12	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	113	400	306	179	0	463	232	878	349	145	689	277
V/C Ratio(X)	0.45	0.51	0.30	0.26	0.00	0.61	0.59	0.32	0.12	0.50	0.43	0.17
Avail Cap(c_a), veh/h	256	1206	922	249	0	1169	525	2026	805	350	1647	662
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.9	16.2	4.4	19.1	0.0	15.5	18.8	14.4	3.9	20.4	16.6	15.7
Incr Delay (d2), s/veh	2.8	1.0	0.5	0.7	0.0	1.3	2.4	0.2	0.2	2.6	0.4	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.5	0.6	0.4	0.0	2.1	1.2	0.9	0.3	0.7	1.1	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	23.7	17.2	4.9	19.9	0.0	16.8	21.3	14.6	4.0	23.0	17.0	16.0
LnGrp LOS	C	B	A	B		B	C	B	A	C	B	B
Approach Vol, veh/h		346			330			457			416	
Approach Delay, s/veh		14.9			17.3			15.6			18.0	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.1	15.6	9.1	14.0	10.6	13.1	7.2	15.9
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	8.3	25.0	5.8	28.9	13.3	20.0	6.0	28.7
Max Q Clear Time (g_c+I1), s	4.0	5.0	3.2	6.5	5.7	5.5	3.4	8.5
Green Ext Time (p_c), s	0.1	1.2	0.0	1.0	0.2	1.1	0.0	0.9

Intersection Summary	
HCM 7th Control Delay, s/veh	16.4
HCM 7th LOS	B



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	14	92	1	25	3	140	263	1	2	207	9
Future Volume (vph)	5	14	92	1	25	3	140	263	1	2	207	9
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.887			0.987						0.994	
Flt Protected		0.998			0.998			0.983				
Satd. Flow (prot)	0	1649	0	0	1835	0	0	3479	0	0	3518	0
Flt Permitted		0.998			0.998			0.983				
Satd. Flow (perm)	0	1649	0	0	1835	0	0	3479	0	0	3518	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		4849			614			1519			1547	
Travel Time (s)		60.1			7.6			18.8			19.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	15	100	1	27	3	152	286	1	2	225	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	120	0	0	31	0	0	439	0	0	237	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.1%		ICU Level of Service A	
Analysis Period (min) 15			

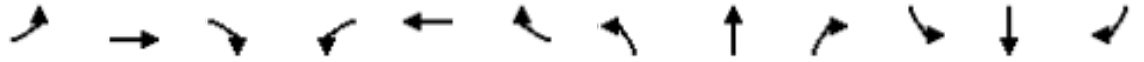
Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	14	92	1	25	3	140	263	1	2	207	9
Future Vol, veh/h	5	14	92	1	25	3	140	263	1	2	207	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	15	100	1	27	3	152	286	1	2	225	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	695	826	117	715	830	143	235	0	0	287	0	0
Stage 1	234	234	-	591	591	-	-	-	-	-	-	-
Stage 2	461	591	-	124	239	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	329	306	912	318	304	878	1330	-	-	1272	-	-
Stage 1	748	710	-	460	493	-	-	-	-	-	-	-
Stage 2	550	493	-	866	706	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	260	267	912	235	266	878	1330	-	-	1272	-	-
Mov Cap-2 Maneuver	260	267	-	235	266	-	-	-	-	-	-	-
Stage 1	746	708	-	403	431	-	-	-	-	-	-	-
Stage 2	450	431	-	753	705	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	11.88	19.19	3.11	0.09
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1224	-	-	644	285	31	-	-
HCM Lane V/C Ratio	0.114	-	-	0.187	0.111	0.002	-	-
HCM Control Delay (s/veh)	8.1	0.5	-	11.9	19.2	7.8	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0.7	0.4	0	-	-

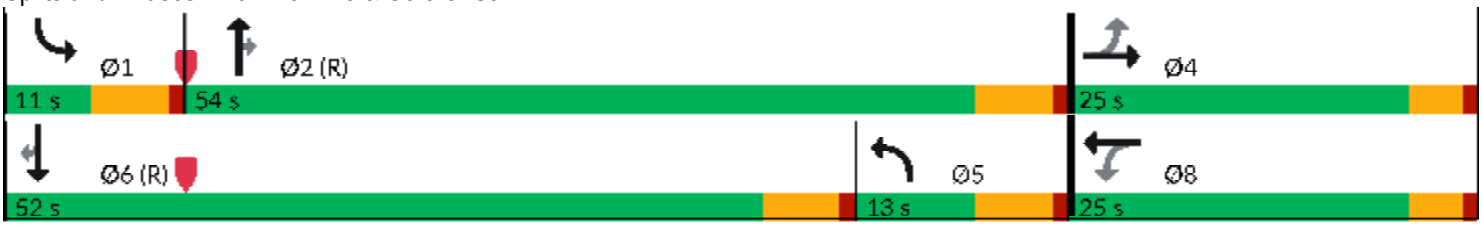


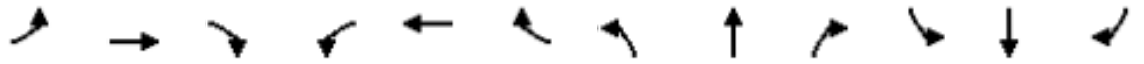
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	17	40	43	16	21	45	519	78	16	392	5
Future Volume (vph)	3	17	40	43	16	21	45	519	78	16	392	5
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	0		0	0		0	100		50	105		50
Storage Lanes	0		0	0		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			0.99				0.96			0.96
Frt		0.909			0.964				0.850			0.850
Flt Protected		0.998			0.974		0.950			0.950		
Satd. Flow (prot)	0	1666	0	0	1740	0	1630	1863	1458	1630	1863	1458
Flt Permitted		0.987			0.829		0.950			0.950		
Satd. Flow (perm)	0	1648	0	0	1481	0	1630	1863	1407	1630	1863	1407
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43			19				84			84
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		799			857			3291			2018	
Travel Time (s)		9.9			10.6			40.8			25.0	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	18	43	47	17	23	49	564	85	17	426	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	64	0	0	87	0	49	564	85	17	426	5
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.6	22.6		24.1	24.1		9.7	23.7	23.7	9.7	23.7	23.7
Total Split (s)	25.0	25.0		25.0	25.0		13.0	54.0	54.0	11.0	52.0	52.0
Total Split (%)	27.8%	27.8%		27.8%	27.8%		14.4%	60.0%	60.0%	12.2%	57.8%	57.8%
Maximum Green (s)	20.8	20.8		20.8	20.8		7.3	48.3	48.3	5.3	46.3	46.3
Yellow Time (s)	3.2	3.2		3.2	3.2		4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		-0.2			-0.2		-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)		4.0			4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)	7.0	7.0		7.0	7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)	11.4	11.4		12.9	12.9			8.7	8.7		8.7	8.7
Pedestrian Calls (#/hr)	5	5		5	5			5	5		5	5
Act Effct Green (s)		11.0			11.0		10.4	68.5	68.5	8.2	64.1	64.1
Actuated g/C Ratio		0.12			0.12		0.12	0.76	0.76	0.09	0.71	0.71
v/c Ratio		0.27			0.44		0.26	0.40	0.08	0.11	0.32	0.00
Control Delay (s/veh)		18.1			34.6		38.5	8.1	2.4	38.7	9.5	0.0
Queue Delay		0.0			0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		18.1			34.6		38.5	8.1	2.4	38.7	9.5	0.0
LOS		B			C		D	A	A	D	A	A
Approach Delay (s/veh)		18.1			34.6			9.5			10.5	
Approach LOS		B			C			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 66 (73%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.44			
Intersection Signal Delay (s/veh): 12.0		Intersection LOS: B	
Intersection Capacity Utilization 52.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: 11th Ave & Cortner St

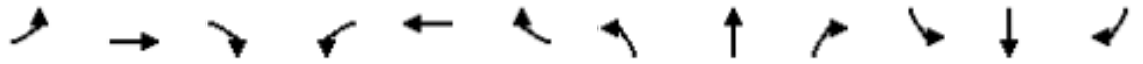




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	17	40	43	16	21	45	519	78	16	392	5
Future Volume (veh/h)	3	17	40	43	16	21	45	519	78	16	392	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	3	18	43	47	17	23	49	564	85	17	426	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	45	46	99	129	40	39	825	1386	1056	56	510	385
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.50	0.74	0.74	0.03	0.27	0.27
Sat Flow, veh/h	32	499	1087	736	439	422	1641	1870	1424	1641	1870	1414
Grp Volume(v), veh/h	64	0	0	87	0	0	49	564	85	17	426	5
Grp Sat Flow(s),veh/h/ln	1618	0	0	1597	0	0	1641	1870	1424	1641	1870	1414
Q Serve(g_s), s	0.0	0.0	0.0	1.0	0.0	0.0	1.4	10.1	1.5	0.9	19.3	0.2
Cycle Q Clear(g_c), s	3.3	0.0	0.0	4.4	0.0	0.0	1.4	10.1	1.5	0.9	19.3	0.2
Prop In Lane	0.05		0.67	0.54		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	190	0	0	207	0	0	825	1386	1056	56	510	385
V/C Ratio(X)	0.34	0.00	0.00	0.42	0.00	0.00	0.06	0.41	0.08	0.30	0.84	0.01
Avail Cap(c_a), veh/h	417	0	0	415	0	0	825	1386	1056	128	998	754
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.70	0.70	0.70	0.93	0.93	0.93
Uniform Delay (d), s/veh	38.7	0.0	0.0	39.1	0.0	0.0	11.5	4.3	3.2	42.4	30.8	23.9
Incr Delay (d2), s/veh	1.0	0.0	0.0	1.3	0.0	0.0	0.0	0.6	0.1	2.8	14.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.0	1.8	0.0	0.0	0.4	2.2	0.3	0.4	9.8	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	39.8	0.0	0.0	40.4	0.0	0.0	11.5	4.9	3.3	45.2	44.8	23.9
LnGrp LOS	D			D			B	A	A	D	D	C
Approach Vol, veh/h		64			87			698			448	
Approach Delay, s/veh		39.8			40.4			5.2			44.6	
Approach LOS		D			D			A			D	

Timer - Assigned Phs	1	2	4	5	6	8
Phs Duration (G+Y+Rc), s	7.1	70.7	12.2	49.2	28.5	12.2
Change Period (Y+Rc), s	5.7	5.7	4.2	5.7	5.7	4.2
Max Green Setting (Gmax), s	5.3	48.3	20.8	7.3	46.3	20.8
Max Q Clear Time (g_c+I1), s	2.9	12.1	5.3	3.4	21.3	6.4
Green Ext Time (p_c), s	0.0	2.6	0.1	0.0	1.5	0.2

Intersection Summary	
HCM 7th Control Delay, s/veh	22.9
HCM 7th LOS	C

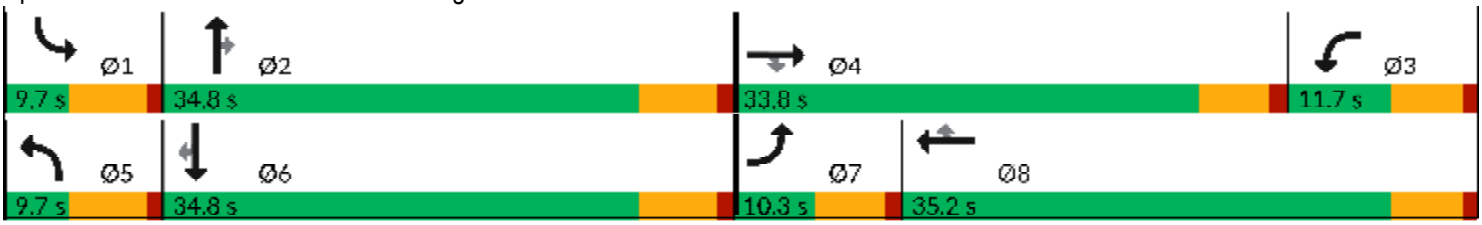


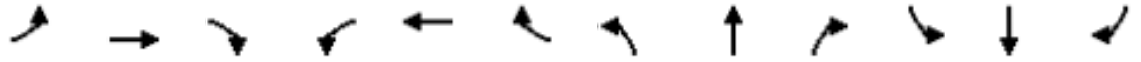
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	232	10	52	182	24	12	120	73	15	84	15
Future Volume (vph)	29	232	10	52	182	24	12	120	73	15	84	15
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	265		265	230		230	195		290	200		195
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.97			0.97			0.97			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1863	1458	1630	1863	1458	1630	1863	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1414	1630	1863	1415	1630	1863	1415	1630	1863	1414
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			166			166			225			225
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1096			3658			629			5270	
Travel Time (s)		13.6			45.3			7.8			65.3	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	252	11	57	198	26	13	130	79	16	91	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	32	252	11	57	198	26	13	130	79	16	91	16
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	32.3	32.3	9.3	35.2	35.2	9.7	34.5	34.5	9.7	33.1	33.1
Total Split (s)	10.3	33.8	33.8	11.7	35.2	35.2	9.7	34.8	34.8	9.7	34.8	34.8
Total Split (%)	11.4%	37.6%	37.6%	13.0%	39.1%	39.1%	10.8%	38.7%	38.7%	10.8%	38.7%	38.7%
Maximum Green (s)	5.0	28.5	28.5	6.4	29.9	29.9	4.0	29.1	29.1	4.0	29.1	29.1
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		20.0	20.0		22.9	22.9		21.8	21.8		20.4	20.4
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	7.8	15.6	15.6	9.3	16.1	16.1	7.0	14.5	14.5	7.0	14.5	14.5
Actuated g/C Ratio	0.18	0.35	0.35	0.21	0.36	0.36	0.16	0.33	0.33	0.16	0.33	0.33
v/c Ratio	0.11	0.39	0.02	0.17	0.29	0.04	0.05	0.21	0.13	0.06	0.15	0.03
Control Delay (s/veh)	27.6	16.2	0.1	25.1	14.3	0.1	28.7	15.7	0.4	28.5	15.3	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	27.6	16.2	0.1	25.1	14.3	0.1	28.7	15.7	0.4	28.5	15.3	0.1
LOS	C	B	A	C	B	A	C	B	A	C	B	A
Approach Delay (s/veh)		16.8			15.2			11.0			15.0	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 44.4			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.39			
Intersection Signal Delay (s/veh): 14.7		Intersection LOS: B	
Intersection Capacity Utilization 37.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: 13th Ave & Grangeville Blvd

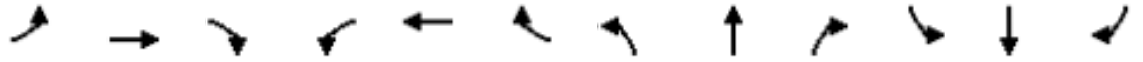




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	232	10	52	182	24	12	120	73	15	84	15
Future Volume (veh/h)	29	232	10	52	182	24	12	120	73	15	84	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	32	252	11	57	198	26	13	130	79	16	91	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	465	351	132	497	375	93	382	287	98	387	291
Arrive On Green	0.06	0.25	0.25	0.08	0.27	0.27	0.06	0.20	0.20	0.06	0.21	0.21
Sat Flow, veh/h	1641	1870	1412	1641	1870	1413	1641	1870	1408	1641	1870	1408
Grp Volume(v), veh/h	32	252	11	57	198	26	13	130	79	16	91	16
Grp Sat Flow(s),veh/h/ln	1641	1870	1412	1641	1870	1413	1641	1870	1408	1641	1870	1408
Q Serve(g_s), s	0.7	4.6	0.1	1.3	3.4	0.5	0.3	2.3	1.0	0.4	1.6	0.4
Cycle Q Clear(g_c), s	0.7	4.6	0.1	1.3	3.4	0.5	0.3	2.3	1.0	0.4	1.6	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	104	465	351	132	497	375	93	382	287	98	387	291
V/C Ratio(X)	0.31	0.54	0.03	0.43	0.40	0.07	0.14	0.34	0.28	0.16	0.24	0.05
Avail Cap(c_a), veh/h	263	1420	1072	322	1486	1123	238	1467	1105	238	1467	1105
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.6	12.8	3.6	17.2	11.8	10.8	17.6	13.4	3.8	17.5	13.0	12.5
Incr Delay (d2), s/veh	1.7	1.0	0.0	2.2	0.5	0.1	0.7	0.5	0.5	0.8	0.3	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.3	0.0	0.4	1.0	0.1	0.1	0.7	0.4	0.1	0.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	19.2	13.8	3.6	19.4	12.4	10.9	18.3	13.9	4.3	18.3	13.3	12.6
LnGrp LOS	B	B	A	B	B	B	B	B	A	B	B	B
Approach Vol, veh/h		295			281			222			123	
Approach Delay, s/veh		14.0			13.7			10.7			13.8	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.3	12.0	7.2	13.8	6.2	12.1	6.5	14.4
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	4.0	29.1	6.4	28.5	4.0	29.1	5.0	29.9
Max Q Clear Time (g_c+I1), s	2.4	4.3	3.3	6.6	2.3	3.6	2.7	5.4
Green Ext Time (p_c), s	0.0	0.7	0.0	0.8	0.0	0.3	0.0	0.7

Intersection Summary	
HCM 7th Control Delay, s/veh	13.1
HCM 7th LOS	B

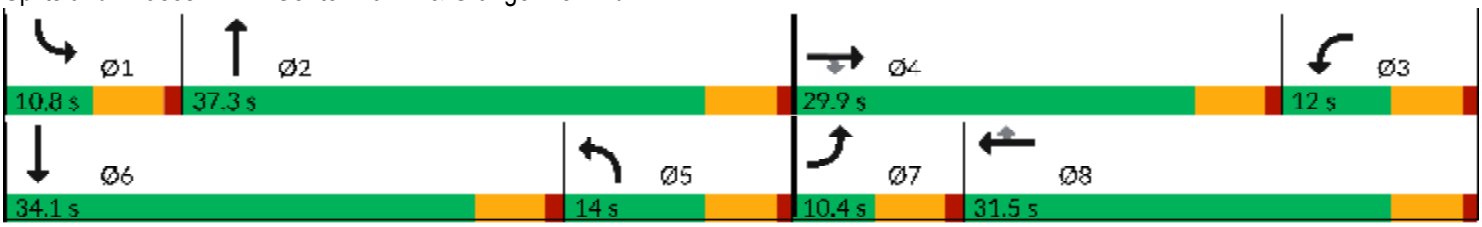


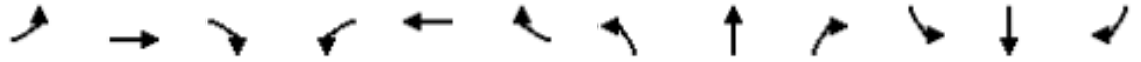
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	222	95	63	161	39	90	213	70	38	145	26
Future Volume (vph)	31	222	95	63	161	39	90	213	70	38	145	26
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	200		90	200		150	150		0	150		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.97			0.97		1.00			1.00	
Frt			0.850			0.850		0.963			0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1863	1458	1630	1786	0	1630	1812	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1412	1630	1863	1412	1630	1786	0	1630	1812	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			221			221		21			11	
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		3658			1623			639			5340	
Travel Time (s)		45.3			20.1			7.9			66.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	34	241	103	68	175	42	98	232	76	41	158	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	34	241	103	68	175	42	98	308	0	41	186	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	50	50	50	50	50	50	50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.3	28.4	28.4	9.3	28.4	28.4	9.3	34.1		9.3	34.1	
Total Split (s)	10.4	29.9	29.9	12.0	31.5	31.5	14.0	37.3		10.8	34.1	
Total Split (%)	11.6%	33.2%	33.2%	13.3%	35.0%	35.0%	15.6%	41.4%		12.0%	37.9%	
Maximum Green (s)	5.1	24.6	24.6	6.7	26.2	26.2	8.7	32.0		5.5	28.8	
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3		4.3	4.3	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3		-1.3	-1.3	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Don't Walk (s)		16.1	16.1		16.1	16.1		21.8			21.8	
Pedestrian Calls (#/hr)		5	5		5	5		5			5	
Act Effct Green (s)	7.7	15.8	15.8	9.0	18.5	18.5	10.8	21.3		8.1	15.9	
Actuated g/C Ratio	0.13	0.27	0.27	0.16	0.32	0.32	0.19	0.37		0.14	0.28	
v/c Ratio	0.16	0.47	0.19	0.27	0.29	0.07	0.32	0.46		0.18	0.37	
Control Delay (s/veh)	34.5	25.2	0.8	33.6	20.2	0.2	31.7	19.1		34.0	22.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	34.5	25.2	0.8	33.6	20.2	0.2	31.7	19.1		34.0	22.0	
LOS	C	C	A	C	C	A	C	B		C	C	
Approach Delay (s/veh)		19.4			20.4			22.1			24.2	
Approach LOS		B			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 57.7			
Natural Cycle: 85			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.47			
Intersection Signal Delay (s/veh): 21.3		Intersection LOS: C	
Intersection Capacity Utilization 50.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 11: Centennial Dr & Grangeville Blvd

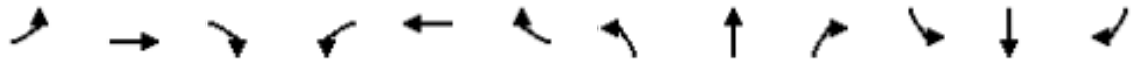




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	222	95	63	161	39	90	213	70	38	145	26
Future Volume (veh/h)	31	222	95	63	161	39	90	213	70	38	145	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	34	241	103	68	175	42	98	232	76	41	158	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	97	432	325	130	469	354	216	368	120	105	317	56
Arrive On Green	0.06	0.23	0.23	0.08	0.25	0.25	0.13	0.27	0.25	0.06	0.21	0.18
Sat Flow, veh/h	1641	1870	1411	1641	1870	1412	1641	1341	439	1641	1536	272
Grp Volume(v), veh/h	34	241	103	68	175	42	98	0	308	41	0	186
Grp Sat Flow(s),veh/h/ln	1641	1870	1411	1641	1870	1412	1641	0	1781	1641	0	1809
Q Serve(g_s), s	0.9	5.2	2.8	1.8	3.5	1.0	2.5	0.0	6.9	1.1	0.0	4.1
Cycle Q Clear(g_c), s	0.9	5.2	2.8	1.8	3.5	1.0	2.5	0.0	6.9	1.1	0.0	4.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.25	1.00		0.15
Lane Grp Cap(c), veh/h	97	432	325	130	469	354	216	0	488	105	0	374
V/C Ratio(X)	0.35	0.56	0.32	0.52	0.37	0.12	0.45	0.00	0.63	0.39	0.00	0.50
Avail Cap(c_a), veh/h	231	1065	803	289	1131	854	361	0	1304	245	0	1197
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.6	15.5	14.5	20.1	14.1	13.2	18.2	0.0	14.6	20.4	0.0	16.1
Incr Delay (d2), s/veh	2.1	1.1	0.6	3.2	0.5	0.1	1.5	0.0	1.4	2.3	0.0	1.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.7	0.7	0.7	1.1	0.3	0.8	0.0	2.1	0.4	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	22.7	16.6	15.1	23.3	14.6	13.3	19.7	0.0	16.0	22.8	0.0	17.1
LnGrp LOS	C	B	B	C	B	B	B		B	C		B
Approach Vol, veh/h		378			285			406			227	
Approach Delay, s/veh		16.7			16.5			16.9			18.1	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.9	16.5	7.6	14.5	10.0	13.4	6.7	15.4
Change Period (Y+Rc), s	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
Max Green Setting (Gmax), s	5.5	32.0	6.7	24.6	8.7	28.8	5.1	26.2
Max Q Clear Time (g_c+I1), s	3.1	8.9	3.8	7.2	4.5	6.1	2.9	5.5
Green Ext Time (p_c), s	0.0	1.1	0.0	1.1	0.1	0.6	0.0	0.7

Intersection Summary	
HCM 7th Control Delay, s/veh	17.0
HCM 7th LOS	B

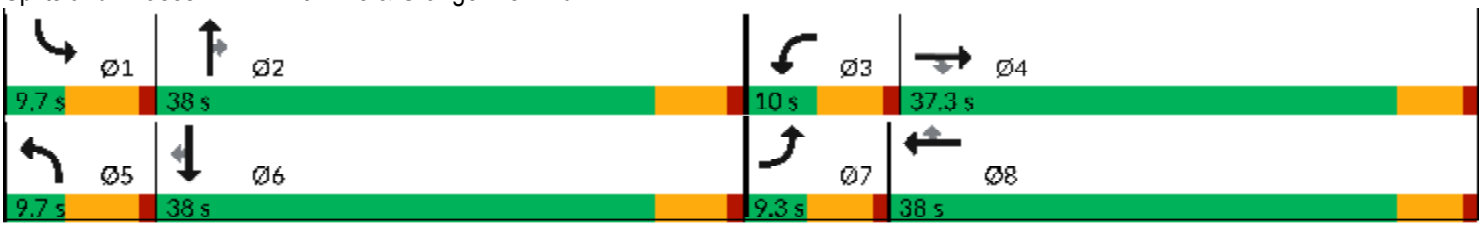


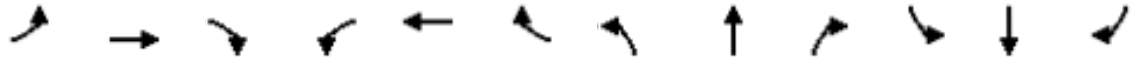
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	266	70	219	262	57	116	552	232	62	319	32
Future Volume (vph)	50	266	70	219	262	57	116	552	232	62	319	32
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	200		130	175		150	260		210	205		160
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor			0.98			0.97			0.98			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3162	3539	1458	3162	3539	1458	3162	3539	1458	3162	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3162	3539	1432	3162	3539	1416	3162	3539	1433	3162	3539	1415
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			157			157			252			153
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1623			5213			2228			5338	
Travel Time (s)		20.1			64.6			27.6			66.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	289	76	238	285	62	126	600	252	67	347	35
Shared Lane Traffic (%)												
Lane Group Flow (vph)	54	289	76	238	285	62	126	600	252	67	347	35
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	36.6	36.6	9.3	38.0	38.0	9.7	37.4	37.4	9.7	37.4	37.4
Total Split (s)	9.3	37.3	37.3	10.0	38.0	38.0	9.7	38.0	38.0	9.7	38.0	38.0
Total Split (%)	9.8%	39.3%	39.3%	10.5%	40.0%	40.0%	10.2%	40.0%	40.0%	10.2%	40.0%	40.0%
Maximum Green (s)	4.0	32.0	32.0	4.7	32.7	32.7	4.0	32.3	32.3	4.0	32.3	32.3
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		24.3	24.3		25.7	25.7		24.7	24.7		24.7	24.7
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	5.8	14.4	14.4	6.6	20.4	20.4	6.2	20.4	20.4	6.2	18.0	18.0
Actuated g/C Ratio	0.10	0.24	0.24	0.11	0.34	0.34	0.10	0.34	0.34	0.10	0.30	0.30
v/c Ratio	0.18	0.34	0.16	0.69	0.24	0.11	0.38	0.50	0.38	0.20	0.32	0.07
Control Delay (s/veh)	33.5	20.8	0.8	43.2	18.3	0.4	35.5	18.6	4.8	33.1	18.0	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	33.5	20.8	0.8	43.2	18.3	0.4	35.5	18.6	4.8	33.1	18.0	0.3
LOS	C	C	A	D	B	A	D	B	A	C	B	A
Approach Delay (s/veh)		18.8			26.5			17.2			18.9	
Approach LOS		B			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 59.7			
Natural Cycle: 95			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay (s/veh): 20.1		Intersection LOS: C	
Intersection Capacity Utilization 50.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 12: 12th Ave & Grangeville Blvd

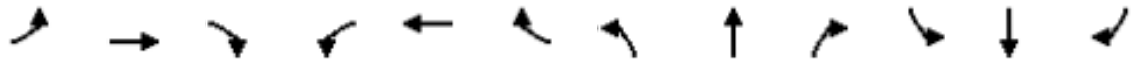




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	266	70	219	262	57	116	552	232	62	319	32
Future Volume (veh/h)	50	266	70	219	262	57	116	552	232	62	319	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	54	289	76	238	285	62	126	600	252	67	347	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	210	688	277	361	857	340	305	1103	445	253	1045	416
Arrive On Green	0.07	0.19	0.19	0.11	0.24	0.24	0.10	0.31	0.31	0.08	0.29	0.29
Sat Flow, veh/h	3183	3554	1428	3183	3554	1411	3183	3554	1433	3183	3554	1415
Grp Volume(v), veh/h	54	289	76	238	285	62	126	600	252	67	347	35
Grp Sat Flow(s),veh/h/ln	1591	1777	1428	1591	1777	1411	1591	1777	1433	1591	1777	1415
Q Serve(g_s), s	0.9	3.8	2.4	3.8	3.5	1.8	2.0	7.4	7.8	1.0	4.0	0.9
Cycle Q Clear(g_c), s	0.9	3.8	2.4	3.8	3.5	1.8	2.0	7.4	7.8	1.0	4.0	0.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	210	688	277	361	857	340	305	1103	445	253	1045	416
V/C Ratio(X)	0.26	0.42	0.27	0.66	0.33	0.18	0.41	0.54	0.57	0.26	0.33	0.08
Avail Cap(c_a), veh/h	319	2239	900	361	2286	908	343	2286	922	343	2286	910
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.4	18.7	18.1	22.4	16.5	15.9	22.5	15.1	15.2	22.9	14.6	13.5
Incr Delay (d2), s/veh	0.6	0.4	0.5	4.3	0.2	0.3	0.9	0.4	1.1	0.6	0.2	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.3	0.7	1.4	1.1	0.5	0.6	2.3	2.0	0.3	1.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	24.1	19.1	18.7	26.8	16.8	16.2	23.4	15.5	16.4	23.4	14.8	13.6
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		419			585			978			449	
Approach Delay, s/veh		19.7			20.8			16.8			16.0	
Approach LOS		B			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	20.4	10.0	14.2	9.1	19.5	7.5	16.7
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	4.0	32.3	4.7	32.0	4.0	32.3	4.0	32.7
Max Q Clear Time (g_c+I1), s	3.0	9.8	5.8	5.8	4.0	6.0	2.9	5.5
Green Ext Time (p_c), s	0.0	3.6	0.0	1.4	0.0	1.5	0.0	1.4

Intersection Summary	
HCM 7th Control Delay, s/veh	18.1
HCM 7th LOS	B

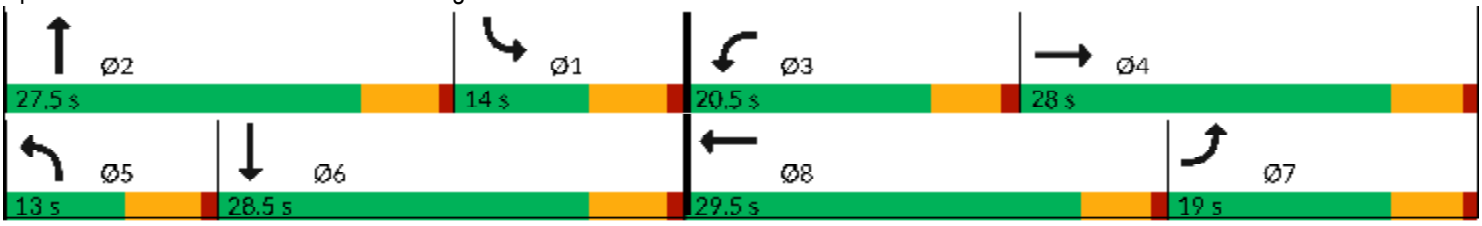


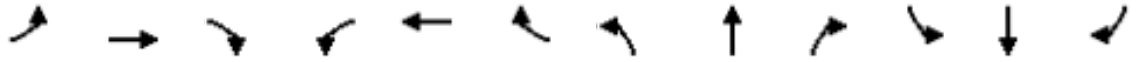
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	375	35	141	380	82	83	457	138	95	366	69
Future Volume (vph)	152	375	35	141	380	82	83	457	138	95	366	69
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	100		0	100		0	185		0	110		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00			0.99			1.00			1.00	
Frt		0.987			0.973			0.965			0.976	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	3483	0	1630	3424	0	1630	3399	0	1630	3443	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	3483	0	1630	3424	0	1630	3399	0	1630	3443	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			28			43			24	
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5213			2670			5342			3291	
Travel Time (s)		64.6			33.1			66.2			40.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	165	408	38	153	413	89	90	497	150	103	398	75
Shared Lane Traffic (%)												
Lane Group Flow (vph)	165	446	0	153	502	0	90	647	0	103	473	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	9.3	25.2		9.3	29.5		9.7	26.0		9.7	26.0	
Total Split (s)	19.0	28.0		20.5	29.5		13.0	27.5		14.0	28.5	
Total Split (%)	21.1%	31.1%		22.8%	32.8%		14.4%	30.6%		15.6%	31.7%	
Maximum Green (s)	13.7	22.7		15.2	24.2		7.3	21.8		8.3	22.8	
Yellow Time (s)	4.3	4.3		4.3	4.3		4.7	4.7		4.7	4.7	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-1.3	-1.3		-1.3	-1.3		-1.7	-1.7		-1.7	-1.7	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		12.9			17.2			13.3			13.3	
Pedestrian Calls (#/hr)		5			5			5			5	
Act Effct Green (s)	13.2	21.7		13.4	17.7		9.2	19.8		10.0	20.5	
Actuated g/C Ratio	0.18	0.29		0.18	0.24		0.12	0.27		0.14	0.28	
v/c Ratio	0.57	0.43		0.52	0.60		0.45	0.69		0.47	0.49	
Control Delay (s/veh)	40.1	26.6		37.8	28.2		43.4	28.6		42.8	24.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	40.1	26.6		37.8	28.2		43.4	28.6		42.8	24.7	
LOS	D	C		D	C		D	C		D	C	
Approach Delay (s/veh)		30.2			30.4			30.4			27.9	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 73.8			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay (s/veh): 29.8		Intersection LOS: C	
Intersection Capacity Utilization 59.6%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 13: 11th Ave & Grangeville Blvd

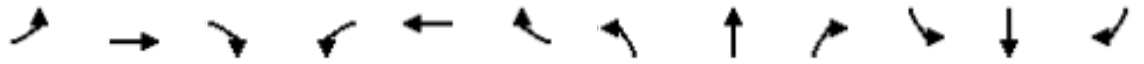




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	375	35	141	380	82	83	457	138	95	366	69
Future Volume (veh/h)	152	375	35	141	380	82	83	457	138	95	366	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	165	408	38	153	413	89	90	497	150	103	398	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	238	767	71	225	654	140	155	712	214	172	822	153
Arrive On Green	0.14	0.23	0.21	0.14	0.23	0.21	0.09	0.27	0.24	0.10	0.28	0.25
Sat Flow, veh/h	1641	3276	303	1641	2893	617	1641	2680	803	1641	2978	556
Grp Volume(v), veh/h	165	220	226	153	252	250	90	328	319	103	236	237
Grp Sat Flow(s),veh/h/ln	1641	1777	1803	1641	1777	1733	1641	1777	1706	1641	1777	1757
Q Serve(g_s), s	5.9	6.7	6.8	5.5	7.9	8.1	3.3	10.3	10.5	3.7	6.9	7.0
Cycle Q Clear(g_c), s	5.9	6.7	6.8	5.5	7.9	8.1	3.3	10.3	10.5	3.7	6.9	7.0
Prop In Lane	1.00		0.17	1.00		0.36	1.00		0.47	1.00		0.32
Lane Grp Cap(c), veh/h	238	416	422	225	402	392	155	472	454	172	490	485
V/C Ratio(X)	0.69	0.53	0.54	0.68	0.63	0.64	0.58	0.70	0.70	0.60	0.48	0.49
Avail Cap(c_a), veh/h	397	688	698	437	731	713	238	674	647	265	703	695
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.2	20.7	20.9	25.4	21.6	21.9	26.9	20.5	20.9	26.5	18.7	19.0
Incr Delay (d2), s/veh	3.6	1.0	1.1	3.6	1.6	1.7	3.4	1.9	2.0	3.3	0.7	0.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	2.4	2.5	2.1	2.9	2.9	1.2	3.7	3.7	1.4	2.4	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	28.8	21.8	21.9	29.0	23.2	23.6	30.2	22.3	22.9	29.8	19.5	19.8
LnGrp LOS	C	C	C	C	C	C	C	C	C	C	B	B
Approach Vol, veh/h		611			655			737			576	
Approach Delay, s/veh		23.7			24.7			23.5			21.4	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.5	20.5	12.5	18.5	9.9	21.1	13.0	18.0
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	8.3	21.8	15.2	22.7	7.3	22.8	13.7	24.2
Max Q Clear Time (g_c+I1), s	5.7	12.5	7.5	8.8	5.3	9.0	7.9	10.1
Green Ext Time (p_c), s	0.1	1.8	0.3	1.3	0.0	1.4	0.2	1.5

Intersection Summary	
HCM 7th Control Delay, s/veh	23.4
HCM 7th LOS	C

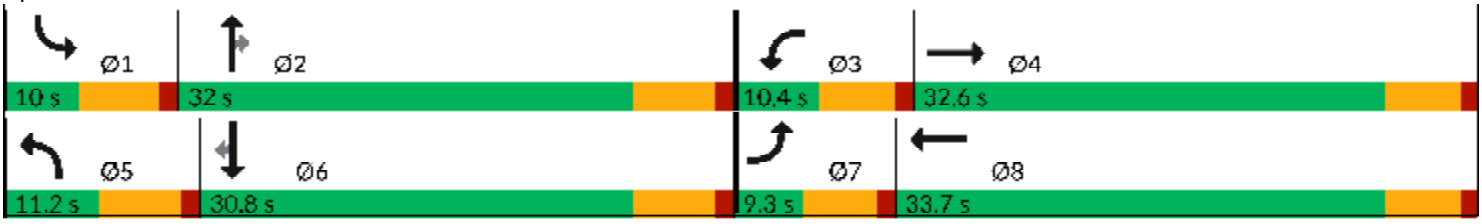


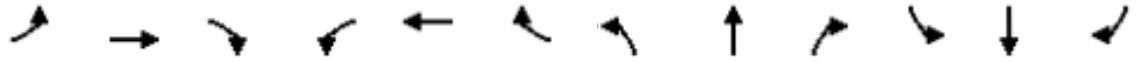
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	66	21	41	81	72	46	786	71	29	531	36
Future Volume (vph)	28	66	21	41	81	72	46	786	71	29	531	36
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	185		0	150		0	250		85	260		130
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor		1.00			0.99				0.98			0.98
Frt		0.964			0.930				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	3397	0	1630	3264	0	1630	3539	1458	1630	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	3397	0	1630	3264	0	1630	3539	1431	1630	3539	1430
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			78				171			171
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		327			331			1372			2228	
Travel Time (s)		4.1			4.1			17.0			27.6	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	30	72	23	45	88	78	50	854	77	32	577	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	95	0	45	166	0	50	854	77	32	577	39
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	32.3		9.3	33.7		9.7	28.8	28.8	9.7	27.4	27.4
Total Split (s)	9.3	32.6		10.4	33.7		11.2	32.0	32.0	10.0	30.8	30.8
Total Split (%)	10.9%	38.4%		12.2%	39.6%		13.2%	37.6%	37.6%	11.8%	36.2%	36.2%
Maximum Green (s)	4.0	27.3		5.1	28.4		5.5	26.3	26.3	4.3	25.1	25.1
Yellow Time (s)	4.3	4.3		4.3	4.3		4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3		-1.3	-1.3		-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)		20.0			21.4			16.1	16.1		14.7	14.7
Pedestrian Calls (#/hr)		5			5			5	5		5	5
Act Effct Green (s)	6.0	11.3		7.3	13.7		8.2	25.1	25.1	6.8	22.5	22.5
Actuated g/C Ratio	0.11	0.21		0.14	0.25		0.15	0.47	0.47	0.13	0.42	0.42
v/c Ratio	0.16	0.13		0.20	0.19		0.20	0.52	0.10	0.15	0.39	0.06
Control Delay (s/veh)	33.2	16.3		31.7	11.0		30.6	15.2	0.3	32.1	15.9	0.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	33.2	16.3		31.7	11.0		30.6	15.2	0.3	32.1	15.9	0.2
LOS	C	B		C	B		C	B	A	C	B	A
Approach Delay (s/veh)		20.3			15.4			14.8			15.8	
Approach LOS		C			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 53.8			
Natural Cycle: 85			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.52			
Intersection Signal Delay (s/veh): 15.5		Intersection LOS: B	
Intersection Capacity Utilization 49.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 14: 12th Ave & Greenfield Ave

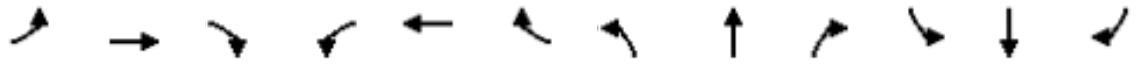




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	66	21	41	81	72	46	786	71	29	531	36
Future Volume (veh/h)	28	66	21	41	81	72	46	786	71	29	531	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	30	72	23	45	88	78	50	854	77	32	577	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	92	403	122	109	301	238	128	1315	531	108	1273	514
Arrive On Green	0.06	0.15	0.12	0.07	0.16	0.13	0.08	0.37	0.37	0.07	0.36	0.36
Sat Flow, veh/h	1641	2666	809	1641	1864	1472	1641	3554	1435	1641	3554	1435
Grp Volume(v), veh/h	30	47	48	45	83	83	50	854	77	32	577	39
Grp Sat Flow(s),veh/h/ln	1641	1777	1698	1641	1777	1559	1641	1777	1435	1641	1777	1435
Q Serve(g_s), s	0.8	1.1	1.2	1.2	1.9	2.2	1.3	9.2	1.6	0.9	5.7	0.8
Cycle Q Clear(g_c), s	0.8	1.1	1.2	1.2	1.9	2.2	1.3	9.2	1.6	0.9	5.7	0.8
Prop In Lane	1.00		0.48	1.00		0.94	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	92	269	257	109	287	252	128	1315	531	108	1273	514
V/C Ratio(X)	0.33	0.17	0.19	0.41	0.29	0.33	0.39	0.65	0.15	0.30	0.45	0.08
Avail Cap(c_a), veh/h	188	1101	1052	227	1143	1003	256	2156	870	213	2063	833
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.0	17.1	17.4	20.7	17.0	17.7	20.2	12.1	9.7	20.5	11.3	9.8
Incr Delay (d2), s/veh	2.1	0.3	0.4	2.5	0.6	0.8	1.9	0.5	0.1	1.5	0.3	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.4	0.4	0.4	0.6	0.7	0.5	2.4	0.3	0.3	1.5	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	23.0	17.4	17.7	23.2	17.6	18.5	22.2	12.6	9.8	22.0	11.6	9.8
LnGrp LOS	C	B	B	C	B	B	C	B	A	C	B	A
Approach Vol, veh/h		125			211			981			648	
Approach Delay, s/veh		18.9			19.1			12.9			12.0	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.0	21.1	7.1	11.0	7.6	20.5	6.6	11.5
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	4.3	26.3	5.1	27.3	5.5	25.1	4.0	28.4
Max Q Clear Time (g_c+I1), s	2.9	11.2	3.2	3.2	3.3	7.7	2.8	4.2
Green Ext Time (p_c), s	0.0	3.7	0.0	0.3	0.0	2.4	0.0	0.5

Intersection Summary	
HCM 7th Control Delay, s/veh	13.6
HCM 7th LOS	B

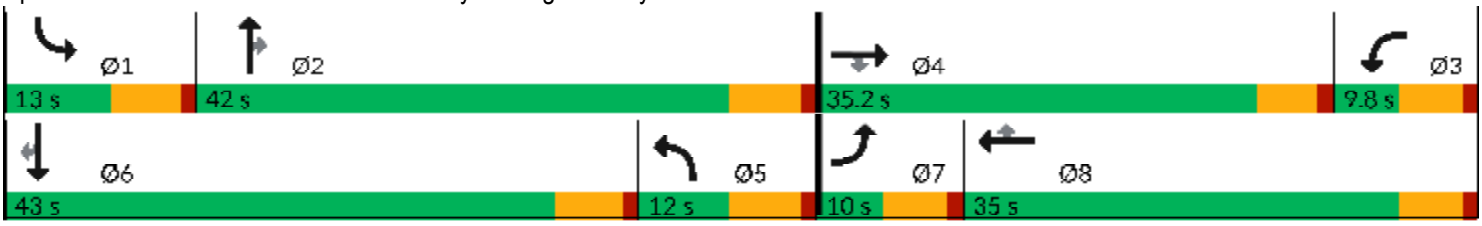


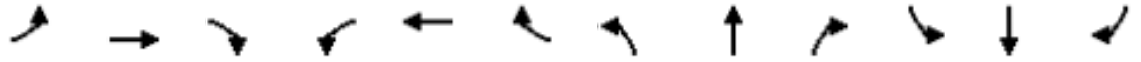
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	21	23	17	73	187	31	656	6	42	546	11
Future Volume (vph)	4	21	23	17	73	187	31	656	6	42	546	11
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	80		80	195		145	250		125	250		125
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98			0.98			0.97			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1863	1458	1630	3539	1458	1630	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1431	1630	1863	1430	1630	3539	1409	1630	3539	1409
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			212			212			203			203
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1718			718			1686			1372	
Travel Time (s)		21.3			8.9			20.9			17.0	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	4	23	25	18	79	203	34	713	7	46	593	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	23	25	18	79	203	34	713	7	46	593	12
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	32.3	32.3	9.3	30.9	30.9	9.7	26.0	26.0	9.7	26.0	26.0
Total Split (s)	10.0	35.2	35.2	9.8	35.0	35.0	12.0	42.0	42.0	13.0	43.0	43.0
Total Split (%)	10.0%	35.2%	35.2%	9.8%	35.0%	35.0%	12.0%	42.0%	42.0%	13.0%	43.0%	43.0%
Maximum Green (s)	4.7	29.9	29.9	4.5	29.7	29.7	6.3	36.3	36.3	7.3	37.3	37.3
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		20.0	20.0		18.6	18.6		13.3	13.3		13.3	13.3
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	7.1	11.9	11.9	6.8	11.9	11.9	9.9	22.1	22.1	9.6	21.5	21.5
Actuated g/C Ratio	0.15	0.25	0.25	0.14	0.25	0.25	0.20	0.46	0.46	0.20	0.45	0.45
v/c Ratio	0.02	0.05	0.05	0.08	0.17	0.40	0.10	0.44	0.01	0.14	0.38	0.02
Control Delay (s/veh)	29.8	18.1	0.2	29.6	18.0	5.9	24.3	13.3	0.0	25.7	13.7	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	29.8	18.1	0.2	29.6	18.0	5.9	24.3	13.3	0.0	25.7	13.7	0.0
LOS	C	B	A	C	B	A	C	B	A	C	B	A
Approach Delay (s/veh)		10.4			10.5			13.7			14.3	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 48.3			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.44			
Intersection Signal Delay (s/veh): 13.3		Intersection LOS: B	
Intersection Capacity Utilization 45.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 15: 12th Ave & Liberty St/Kings County Dr

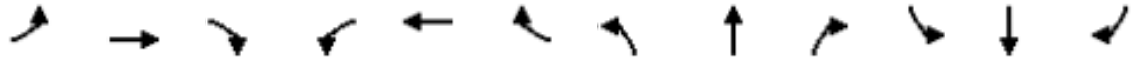




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	21	23	17	73	187	31	656	6	42	546	11
Future Volume (veh/h)	4	21	23	17	73	187	31	656	6	42	546	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	4	23	25	18	79	203	34	713	7	46	593	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	52	265	201	209	444	339	181	1146	457	121	1018	405
Arrive On Green	0.03	0.14	0.14	0.13	0.24	0.24	0.11	0.32	0.32	0.07	0.29	0.29
Sat Flow, veh/h	1641	1870	1423	1641	1870	1431	1641	3554	1416	1641	3554	1414
Grp Volume(v), veh/h	4	23	25	18	79	203	34	713	7	46	593	12
Grp Sat Flow(s),veh/h/ln	1641	1870	1423	1641	1870	1431	1641	1777	1416	1641	1777	1414
Q Serve(g_s), s	0.1	0.5	0.7	0.5	1.6	6.0	0.9	8.1	0.1	1.3	6.8	0.2
Cycle Q Clear(g_c), s	0.1	0.5	0.7	0.5	1.6	6.0	0.9	8.1	0.1	1.3	6.8	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	52	265	201	209	444	339	181	1146	457	121	1018	405
V/C Ratio(X)	0.08	0.09	0.12	0.09	0.18	0.60	0.19	0.62	0.02	0.38	0.58	0.03
Avail Cap(c_a), veh/h	206	1221	929	209	1213	928	275	2826	1126	309	2900	1154
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.5	17.8	17.9	18.4	14.5	16.2	19.3	13.7	2.3	21.1	14.6	4.7
Incr Delay (d2), s/veh	0.6	0.1	0.3	0.2	0.2	1.7	0.5	0.6	0.0	2.0	0.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.2	0.1	0.5	1.6	0.3	2.3	0.0	0.5	2.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	23.1	18.0	18.2	18.6	14.7	17.9	19.8	14.3	2.3	23.0	15.1	4.8
LnGrp LOS	C	B	B	B	B	B	B	B	A	C	B	A
Approach Vol, veh/h		52			300			754			651	
Approach Delay, s/veh		18.5			17.1			14.4			15.5	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.5	19.4	10.1	10.8	9.3	17.7	5.5	15.3
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	7.3	36.3	4.5	29.9	6.3	37.3	4.7	29.7
Max Q Clear Time (g_c+I1), s	3.3	10.1	2.5	2.7	2.9	8.8	2.1	8.0
Green Ext Time (p_c), s	0.0	3.1	0.0	0.1	0.0	2.6	0.0	1.0

Intersection Summary	
HCM 7th Control Delay, s/veh	15.4
HCM 7th LOS	B

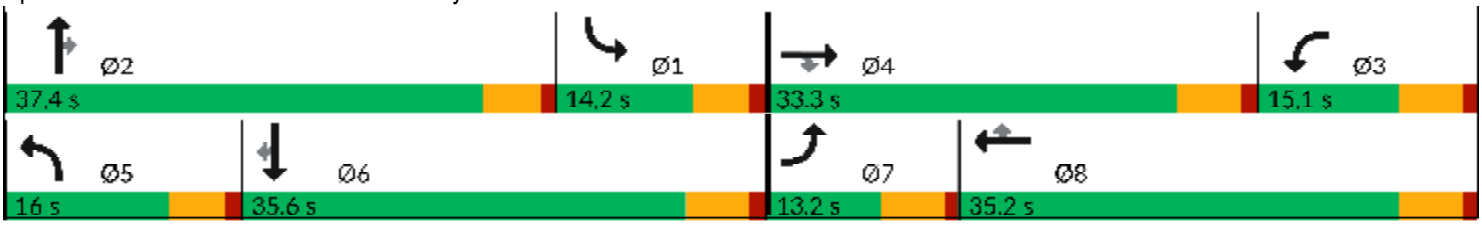


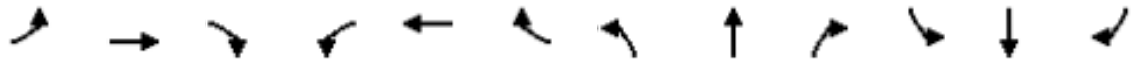
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	239	257	129	294	394	70	153	434	89	104	512	74
Future Volume (vph)	239	257	129	294	394	70	153	434	89	104	512	74
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	270		120	270		170	240		175	240		120
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98			0.98			0.98			0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3162	3539	1458	3162	3539	1458	1630	3539	1458	1630	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3162	3539	1431	3162	3539	1431	1630	3539	1432	1630	3539	1432
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			190			190			199			194
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		3432			5219			1893			1686	
Travel Time (s)		42.5			64.7			23.5			20.9	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	260	279	140	320	428	76	166	472	97	113	557	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	260	279	140	320	428	76	166	472	97	113	557	80
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	31.7	31.7	9.3	34.5	34.5	8.9	36.6	36.6	8.9	35.6	35.6
Total Split (s)	13.2	33.3	33.3	15.1	35.2	35.2	16.0	37.4	37.4	14.2	35.6	35.6
Total Split (%)	13.2%	33.3%	33.3%	15.1%	35.2%	35.2%	16.0%	37.4%	37.4%	14.2%	35.6%	35.6%
Maximum Green (s)	7.9	28.0	28.0	9.8	29.9	29.9	11.1	32.5	32.5	9.3	30.3	30.3
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	3.9	3.9	3.9	3.9	4.3	4.3
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-0.9	-0.9	-0.9	-0.9	1.0	1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.3	6.3
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		19.4	19.4		22.2	22.2		24.7	24.7		23.3	23.3
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	9.5	14.3	14.3	12.2	17.0	17.0	12.0	21.6	21.6	12.6	16.9	16.9
Actuated g/C Ratio	0.13	0.19	0.19	0.16	0.23	0.23	0.16	0.29	0.29	0.17	0.23	0.23
v/c Ratio	0.65	0.41	0.33	0.61	0.53	0.16	0.63	0.46	0.17	0.41	0.69	0.17
Control Delay (s/veh)	42.5	28.6	3.7	37.6	27.9	0.7	45.1	25.2	0.7	36.6	31.4	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	42.5	28.6	3.7	37.6	27.9	0.7	45.1	25.2	0.7	36.6	31.4	0.8
LOS	D	C	A	D	C	A	D	C	A	D	C	A
Approach Delay (s/veh)		28.8			29.1			26.4			29.0	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 74.2			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay (s/veh): 28.3		Intersection LOS: C	
Intersection Capacity Utilization 60.7%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 16: 12th Ave & Lacey Ave





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	239	257	129	294	394	70	153	434	89	104	512	74
Future Volume (veh/h)	239	257	129	294	394	70	153	434	89	104	512	74
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	260	279	140	320	428	76	166	472	97	113	557	80
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	416	617	247	552	769	309	227	811	326	268	793	319
Arrive On Green	0.13	0.17	0.17	0.17	0.22	0.22	0.14	0.23	0.23	0.16	0.22	0.22
Sat Flow, veh/h	3183	3554	1426	3183	3554	1430	1641	3554	1430	1641	3554	1430
Grp Volume(v), veh/h	260	279	140	320	428	76	166	472	97	113	557	80
Grp Sat Flow(s),veh/h/ln	1591	1777	1426	1591	1777	1430	1641	1777	1430	1641	1777	1430
Q Serve(g_s), s	4.9	4.4	3.5	5.8	6.7	1.6	6.1	7.4	3.5	3.9	9.1	2.9
Cycle Q Clear(g_c), s	4.9	4.4	3.5	5.8	6.7	1.6	6.1	7.4	3.5	3.9	9.1	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	416	617	247	552	769	309	227	811	326	268	793	319
V/C Ratio(X)	0.63	0.45	0.57	0.58	0.56	0.25	0.73	0.58	0.30	0.42	0.70	0.25
Avail Cap(c_a), veh/h	467	1660	666	563	1768	711	314	1893	762	268	1660	668
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.8	23.2	9.4	23.8	21.9	6.6	25.9	21.5	20.0	23.6	22.4	20.0
Incr Delay (d2), s/veh	2.2	0.5	2.0	1.4	0.6	0.4	5.4	0.7	0.5	1.1	1.1	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	1.6	1.7	2.0	2.4	0.8	2.4	2.6	1.0	1.4	3.3	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	28.0	23.8	11.4	25.3	22.5	7.0	31.3	22.2	20.5	24.6	23.6	20.5
LnGrp LOS	C	C	B	C	C	A	C	C	C	C	C	C
Approach Vol, veh/h		679			824			735			750	
Approach Delay, s/veh		22.8			22.2			24.1			23.4	
Approach LOS		C			C			C			C	

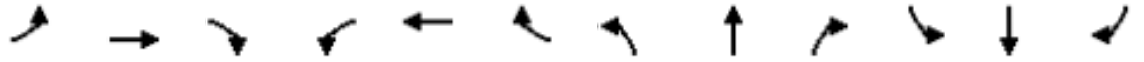
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.7	18.3	14.9	14.9	12.7	20.3	12.2	17.6
Change Period (Y+Rc), s	5.3	* 4.9	5.3	5.3	4.9	5.3	5.3	5.3
Max Green Setting (Gmax), s	9.3	* 33	9.8	28.0	11.1	30.3	7.9	29.9
Max Q Clear Time (g_c+I1), s	5.9	9.4	7.8	6.4	8.1	11.1	6.9	8.7
Green Ext Time (p_c), s	0.1	2.3	0.3	1.6	0.1	2.5	0.1	2.0

Intersection Summary	
HCM 7th Control Delay, s/veh	23.1
HCM 7th LOS	C

Notes

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

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

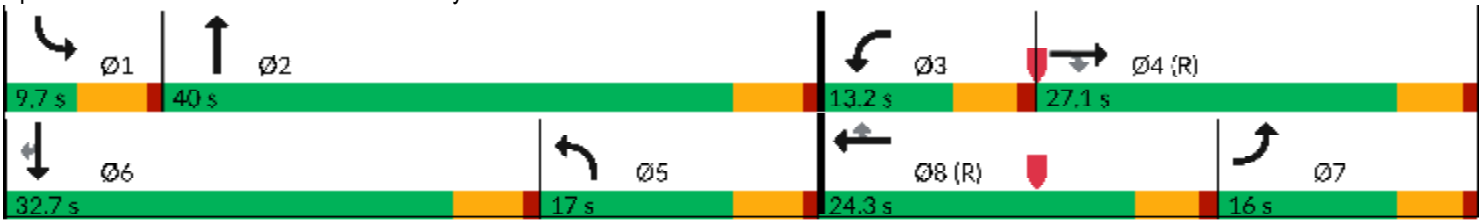


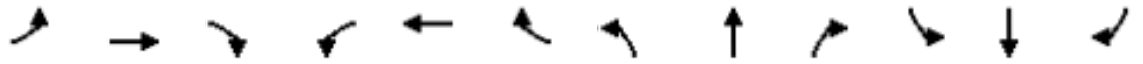
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	216	277	158	99	273	68	239	504	69	74	392	103
Future Volume (vph)	216	277	158	99	273	68	239	504	69	74	392	103
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	200		100	130		100	70		0	160		105
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.96			0.98		1.00				0.98
Frt			0.850			0.850		0.982				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	3539	1458	1630	3539	1458	1630	1825	0	1630	1863	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	3539	1405	1630	3539	1426	1630	1825	0	1630	1863	1432
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			216			216		9				206
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5219			6528			4809			5342	
Travel Time (s)		64.7			80.9			59.6			66.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	235	301	172	108	297	74	260	548	75	80	426	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	235	301	172	108	297	74	260	623	0	80	426	112
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50		50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.9	22.9	22.9	8.9	22.9	22.9	9.3	31.3		9.3	32.7	32.7
Total Split (s)	16.0	27.1	27.1	13.2	24.3	24.3	17.0	40.0		9.7	32.7	32.7
Total Split (%)	17.8%	30.1%	30.1%	14.7%	27.0%	27.0%	18.9%	44.4%		10.8%	36.3%	36.3%
Maximum Green (s)	11.1	22.2	22.2	8.3	19.4	19.4	11.7	34.7		4.4	27.4	27.4
Yellow Time (s)	3.9	3.9	3.9	3.9	3.9	3.9	4.3	4.3		4.3	4.3	4.3
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-1.3	-1.3		-1.3	-1.3	-1.3
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Don't Walk (s)		9.4	9.4		9.4	9.4		19.0			20.4	20.4
Pedestrian Calls (#/hr)		5	5		5	5		5			5	5
Act Effct Green (s)	12.0	23.3	23.3	9.0	20.3	20.3	16.3	37.9		5.7	25.4	25.4
Actuated g/C Ratio	0.13	0.26	0.26	0.10	0.23	0.23	0.18	0.42		0.06	0.28	0.28
v/c Ratio	1.08	0.33	0.33	0.67	0.37	0.15	0.88	0.80		0.78	0.81	0.20
Control Delay (s/veh)	124.3	28.3	3.6	60.2	31.1	0.7	69.5	33.2		87.0	42.6	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	124.3	28.3	3.6	60.2	31.1	0.7	69.5	33.2		87.0	42.6	0.8
LOS	F	C	A	E	C	A	E	C		F	D	A
Approach Delay (s/veh)		54.2			32.9			43.9			40.8	
Approach LOS		D			C			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 5 (6%), Referenced to phase 4:EBT and 8:WBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.08			
Intersection Signal Delay (s/veh): 43.9		Intersection LOS: D	
Intersection Capacity Utilization 75.3%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 17: 11th Ave & Lacey Ave

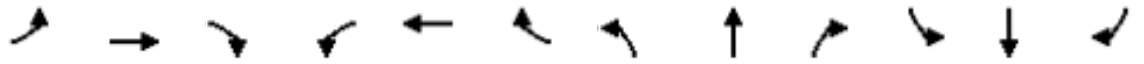




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	216	277	158	99	273	68	239	504	69	74	392	103
Future Volume (veh/h)	216	277	158	99	273	68	239	504	69	74	392	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	235	301	172	108	297	74	260	548	75	80	426	112
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	264	1052	419	149	802	323	270	598	82	104	506	388
Arrive On Green	0.16	0.30	0.30	0.09	0.23	0.23	0.16	0.37	0.36	0.06	0.27	0.27
Sat Flow, veh/h	1641	3554	1415	1641	3554	1430	1641	1606	220	1641	1870	1432
Grp Volume(v), veh/h	235	301	172	108	297	74	260	0	623	80	426	112
Grp Sat Flow(s),veh/h/ln	1641	1777	1415	1641	1777	1430	1641	0	1826	1641	1870	1432
Q Serve(g_s), s	12.6	5.9	5.4	5.8	6.4	3.0	14.2	0.0	29.3	4.3	19.4	5.6
Cycle Q Clear(g_c), s	12.6	5.9	5.4	5.8	6.4	3.0	14.2	0.0	29.3	4.3	19.4	5.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	264	1052	419	149	802	323	270	0	680	104	506	388
V/C Ratio(X)	0.89	0.29	0.41	0.73	0.37	0.23	0.96	0.00	0.92	0.77	0.84	0.29
Avail Cap(c_a), veh/h	264	1052	419	168	802	323	270	0	730	104	596	457
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94	0.94	1.00	1.00	1.00	1.00	0.00	1.00	0.86	0.86	0.86
Uniform Delay (d), s/veh	37.0	24.4	9.5	39.8	29.5	17.2	37.3	0.0	27.0	41.5	31.0	26.0
Incr Delay (d2), s/veh	27.3	0.6	2.8	12.8	1.3	1.7	44.2	0.0	15.8	25.6	8.0	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	2.3	2.8	2.7	2.6	1.3	8.5	0.0	14.1	2.4	9.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	64.2	25.0	12.3	52.7	30.8	18.9	81.5	0.0	42.8	67.1	39.0	26.3
LnGrp LOS	E	C	B	D	C	B	F		D	E	D	C
Approach Vol, veh/h		708			479			883			618	
Approach Delay, s/veh		34.9			33.9			54.2			40.4	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	37.5	12.2	30.7	18.8	28.4	18.5	24.3
Change Period (Y+Rc), s	5.3	5.3	4.9	4.9	5.3	5.3	4.9	4.9
Max Green Setting (Gmax), s	4.4	34.7	8.3	22.2	11.7	27.4	11.1	19.4
Max Q Clear Time (g_c+I1), s	6.3	31.3	7.8	7.9	16.2	21.4	14.6	8.4
Green Ext Time (p_c), s	0.0	0.9	0.0	1.6	0.0	1.1	0.0	1.1

Intersection Summary	
HCM 7th Control Delay, s/veh	42.3
HCM 7th LOS	D

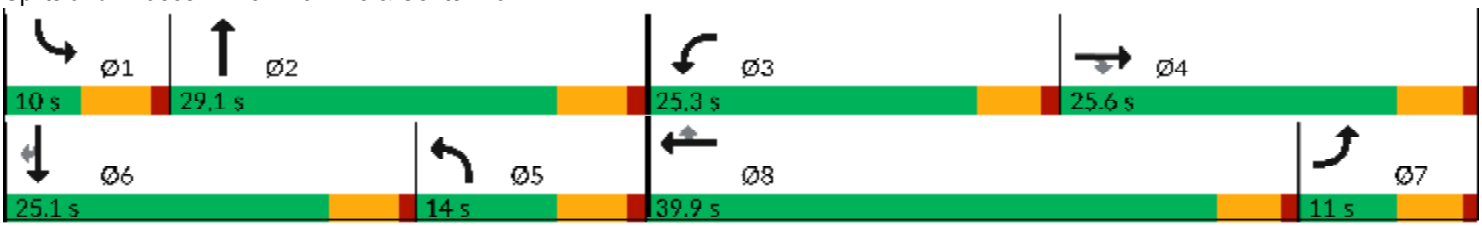


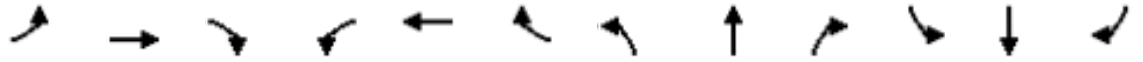
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	92	175	456	127	27	287	602	212	58	862	50
Future Volume (vph)	89	92	175	456	127	27	287	602	212	58	862	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	265		260	230		140	250		0	180		180
Storage Lanes	1		1	1		1	2		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	0.97	0.91	0.91	1.00	0.91	1.00
Ped Bike Factor						0.98		0.99				0.98
Frt			0.850			0.850		0.961				0.850
Flt Protected	0.950	0.995		0.950	0.972		0.950			0.950		
Satd. Flow (prot)	1681	1761	1583	1681	1720	1583	3433	4843	0	1770	5085	1583
Flt Permitted	0.950	0.973		0.950	0.556		0.950			0.950		
Satd. Flow (perm)	1681	1722	1583	1681	984	1557	3433	4843	0	1770	5085	1550
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			216			216		98				206
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1154			586			1240			1893	
Travel Time (s)		14.3			7.3			15.4			23.5	
Confl. Peds. (#/hr)						5			5			5
Confl. Bikes (#/hr)						2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	97	100	190	496	138	29	312	654	230	63	937	54
Shared Lane Traffic (%)	10%			37%								
Lane Group Flow (vph)	87	110	190	312	322	29	312	884	0	63	937	54
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50		50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.9	22.9	22.9	8.9	39.9	39.9	9.3	24.1		9.3	24.1	24.1
Total Split (s)	11.0	25.6	25.6	25.3	39.9	39.9	14.0	29.1		10.0	25.1	25.1
Total Split (%)	12.2%	28.4%	28.4%	28.1%	44.3%	44.3%	15.6%	32.3%		11.1%	27.9%	27.9%
Maximum Green (s)	6.1	20.7	20.7	20.4	35.0	35.0	8.7	23.8		4.7	19.8	19.8
Yellow Time (s)	3.9	3.9	3.9	3.9	3.9	3.9	4.3	4.3		4.3	4.3	4.3
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-1.3	-1.3		-1.3	-1.3	-1.3
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	Min
Walk Time (s)					7.0	7.0		7.0			7.0	7.0
Flash Don't Walk (s)					28.0	28.0		11.8			11.8	11.8
Pedestrian Calls (#/hr)					5	5		5			5	5
Act Effct Green (s)	7.0	5.5	21.8	19.7	19.7	37.0	10.0	26.5		6.0	20.3	20.3
Actuated g/C Ratio	0.08	0.06	0.25	0.22	0.22	0.42	0.11	0.30		0.07	0.23	0.23
v/c Ratio	0.65	1.01	0.34	0.83	0.83	0.04	0.80	0.58		0.52	0.80	0.10
Control Delay (s/veh)	64.4	132.3	4.8	52.3	52.6	0.1	55.2	25.6		56.9	38.0	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	64.4	132.3	4.8	52.3	52.6	0.1	55.2	25.6		56.9	38.0	0.4
LOS	E	F	A	D	D	A	E	C		E	D	A
Approach Delay (s/veh)		54.4			50.1			33.3			37.2	
Approach LOS		D			D			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 87.9			
Natural Cycle: 85			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.01			
Intersection Signal Delay (s/veh): 40.4		Intersection LOS: D	
Intersection Capacity Utilization 61.1%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 18: 12th Ave & Centennial Dr





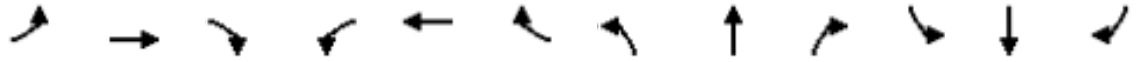
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	92	175	456	127	27	287	602	212	58	862	50
Future Volume (veh/h)	89	92	175	456	127	27	287	602	212	58	862	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	97	100	190	317	389	29	312	654	230	63	937	54
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	156	254	215	396	506	421	476	1243	428	114	1331	405
Arrive On Green	0.09	0.14	0.14	0.22	0.27	0.27	0.14	0.33	0.31	0.06	0.26	0.26
Sat Flow, veh/h	1781	1870	1585	1781	1870	1555	3456	3717	1280	1781	5106	1554
Grp Volume(v), veh/h	97	100	190	317	389	29	312	598	286	63	937	54
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1555	1728	1702	1593	1781	1702	1554
Q Serve(g_s), s	3.5	3.2	5.2	11.1	12.6	0.6	5.6	9.3	9.7	2.3	10.9	1.7
Cycle Q Clear(g_c), s	3.5	3.2	5.2	11.1	12.6	0.6	5.6	9.3	9.7	2.3	10.9	1.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.80	1.00		1.00
Lane Grp Cap(c), veh/h	156	254	215	396	506	421	476	1138	532	114	1331	405
V/C Ratio(X)	0.62	0.39	0.88	0.80	0.77	0.07	0.66	0.53	0.54	0.55	0.70	0.13
Avail Cap(c_a), veh/h	190	615	521	578	1023	850	526	1301	609	163	1641	500
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.9	25.9	12.4	24.2	22.1	8.9	26.8	17.6	18.2	29.8	22.0	18.6
Incr Delay (d2), s/veh	4.3	1.0	11.2	5.1	2.5	0.1	2.6	0.4	0.8	4.1	1.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	1.3	3.1	4.5	4.9	0.3	2.2	3.0	3.0	1.0	3.7	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	33.2	26.9	23.6	29.2	24.6	9.0	29.4	18.0	19.1	33.9	23.0	18.7
LnGrp LOS	C	C	C	C	C	A	C	B	B	C	C	B
Approach Vol, veh/h		387			735			1196			1054	
Approach Delay, s/veh		26.9			26.0			21.2			23.5	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	25.9	18.6	12.9	13.0	21.1	9.7	21.8
Change Period (Y+Rc), s	5.3	5.3	4.9	4.9	5.3	5.3	4.9	4.9
Max Green Setting (Gmax), s	4.7	23.8	20.4	20.7	8.7	19.8	6.1	35.0
Max Q Clear Time (g_c+I1), s	4.3	11.7	13.1	7.2	7.6	12.9	5.5	14.6
Green Ext Time (p_c), s	0.0	3.1	0.7	0.9	0.1	2.6	0.0	1.4

Intersection Summary	
HCM 7th Control Delay, s/veh	23.6
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

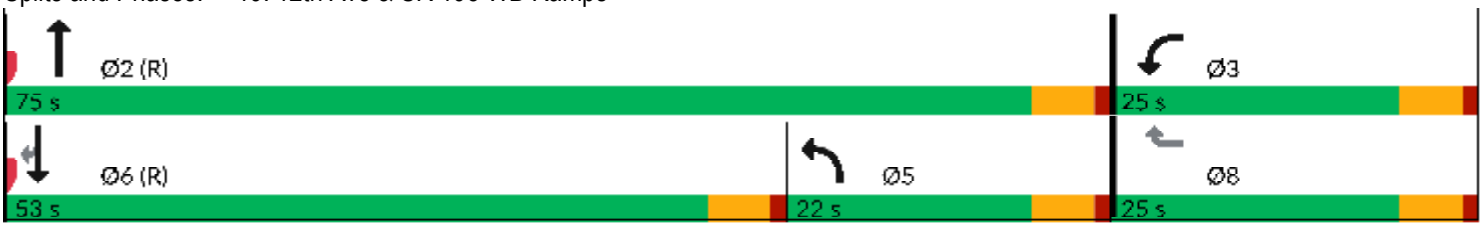


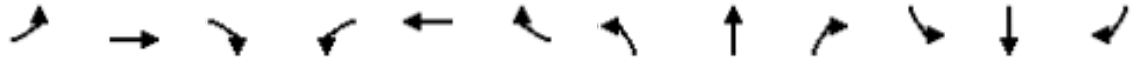
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	113	0	432	140	893	0	0	1016	578
Future Volume (vph)	0	0	0	113	0	432	140	893	0	0	1016	578
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	0		0	200		200	405		0	130		0
Storage Lanes	0		0	2		1	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	0.88	1.00	0.95	1.00	1.00	0.95	1.00
Frt						0.850						0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	3162	0	2567	1630	3539	0	0	3539	1458
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	3162	0	2567	1630	3539	0	0	3539	1458
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						319						628
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		239			374			625			1240	
Travel Time (s)		3.0			4.6			7.7			15.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	123	0	470	152	971	0	0	1104	628
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	123	0	470	152	971	0	0	1104	628
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1		1	1	1			1	1
Detector Template												
Leading Detector (ft)				50		50	50	50			50	50
Trailing Detector (ft)				0		0	0	0			0	0
Detector 1 Position(ft)				0		0	0	0			0	0
Detector 1 Size(ft)				50		50	50	50			50	50
Detector 1 Type				Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0		0.0	0.0	0.0			0.0	0.0
Detector 1 Queue (s)				0.0		0.0	0.0	0.0			0.0	0.0
Detector 1 Delay (s)				0.0		0.0	0.0	0.0			0.0	0.0
Turn Type				Prot		Perm	Prot	NA			NA	Perm
Protected Phases				3			5	2			6	
Permitted Phases						8						6
Detector Phase				3		8	5	2			6	6
Switch Phase												
Minimum Initial (s)				4.0		4.0	4.0	4.0			4.0	4.0
Minimum Split (s)				9.3		23.3	9.3	23.3			23.3	23.3
Total Split (s)				25.0		25.0	22.0	75.0			53.0	53.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)				25.0%		25.0%	22.0%	75.0%			53.0%	53.0%
Maximum Green (s)				19.7		19.7	16.7	69.7			47.7	47.7
Yellow Time (s)				4.3		4.3	4.3	4.3			4.3	4.3
All-Red Time (s)				1.0		1.0	1.0	1.0			1.0	1.0
Lost Time Adjust (s)				-1.3		-1.3	-1.3	-1.3			-1.3	-1.3
Total Lost Time (s)				4.0		4.0	4.0	4.0			4.0	4.0
Lead/Lag							Lag				Lead	Lead
Lead-Lag Optimize?							Yes				Yes	Yes
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	3.0
Recall Mode				None		None	None	C-Min			C-Min	C-Min
Act Effct Green (s)				13.7		13.7	15.1	78.3			59.2	59.2
Actuated g/C Ratio				0.14		0.14	0.15	0.78			0.59	0.59
v/c Ratio				0.29		0.75	0.62	0.35			0.53	0.56
Control Delay (s/veh)				38.9		20.8	38.3	2.3			14.6	3.4
Queue Delay				0.0		0.0	0.0	0.0			0.0	0.0
Total Delay (s/veh)				38.9		20.8	38.3	2.3			14.6	3.4
LOS				D		C	D	A			B	A
Approach Delay (s/veh)					24.5			7.2			10.5	
Approach LOS					C			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 10 (10%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay (s/veh): 11.9		Intersection LOS: B	
Intersection Capacity Utilization 53.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 19: 12th Ave & SR 198 WB Ramps

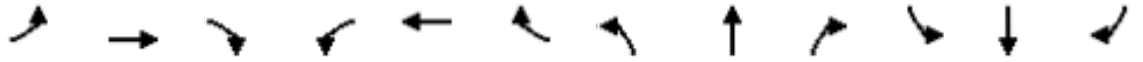




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	113	0	432	140	893	0	0	1016	578
Future Volume (veh/h)	0	0	0	113	0	432	140	893	0	0	1016	578
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1723	0	1723	1723	1870	0	0	1870	1723
Adj Flow Rate, veh/h				123	0	470	152	971	0	0	1104	628
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	0	2	2	2	0	0	2	2
Cap, veh/h				668	0	539	328	2523	0	0	1671	687
Arrive On Green				0.21	0.00	0.21	0.40	1.00	0.00	0.00	0.47	0.47
Sat Flow, veh/h				3183	0	2569	1641	3647	0	0	3647	1460
Grp Volume(v), veh/h				123	0	470	152	971	0	0	1104	628
Grp Sat Flow(s),veh/h/ln				1591	0	1285	1641	1777	0	0	1777	1460
Q Serve(g_s), s				3.2	0.0	17.7	6.8	0.0	0.0	0.0	23.9	40.0
Cycle Q Clear(g_c), s				3.2	0.0	17.7	6.8	0.0	0.0	0.0	23.9	40.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				668	0	539	328	2523	0	0	1671	687
V/C Ratio(X)				0.18	0.00	0.87	0.46	0.38	0.00	0.00	0.66	0.91
Avail Cap(c_a), veh/h				668	0	540	328	2523	0	0	1741	715
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.88	0.88	0.00	0.00	0.59	0.59
Uniform Delay (d), s/veh				32.5	0.0	38.2	26.1	0.0	0.0	0.0	20.4	24.6
Incr Delay (d2), s/veh				0.1	0.0	14.4	0.9	0.4	0.0	0.0	1.2	12.5
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.2	0.0	6.2	2.3	0.1	0.0	0.0	8.8	14.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				32.6	0.0	52.6	27.0	0.4	0.0	0.0	21.6	37.1
LnGrp LOS				C		D	C	A			C	D
Approach Vol, veh/h					593			1123			1732	
Approach Delay, s/veh					48.5			4.0			27.2	
Approach LOS					D			A			C	

Timer - Assigned Phs	2	5	6	8
Phs Duration (G+Y+Rc), s	75.0	24.0	51.0	25.0
Change Period (Y+Rc), s	5.3	5.3	5.3	5.3
Max Green Setting (Gmax), s	69.7	16.7	47.7	19.7
Max Q Clear Time (g_c+I1), s	2.0	8.8	42.0	19.7
Green Ext Time (p_c), s	4.8	0.3	3.7	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	23.3
HCM 7th LOS	C

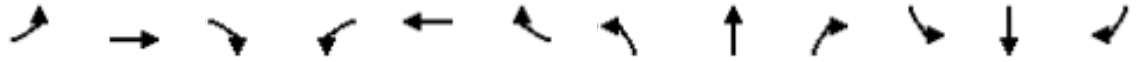


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	432	0	170	0	0	0	0	607	93	0	683	476
Future Volume (vph)	432	0	170	0	0	0	0	607	93	0	683	476
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	210		210	0		0	0		0	0		160
Storage Lanes	2		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.980				0.850
Flt Protected	0.950											
Satd. Flow (prot)	3162	0	1458	0	0	0	0	3468	0	0	3539	1458
Flt Permitted	0.950											
Satd. Flow (perm)	3162	0	1458	0	0	0	0	3468	0	0	3539	1458
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			185					37				517
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		206			226			520			625	
Travel Time (s)		2.6			2.8			6.4			7.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	470	0	185	0	0	0	0	660	101	0	742	517
Shared Lane Traffic (%)												
Lane Group Flow (vph)	470	0	185	0	0	0	0	761	0	0	742	517
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1		1					1			1	1
Detector Template												
Leading Detector (ft)	50		50					50			50	50
Trailing Detector (ft)	0		0					0			0	0
Detector 1 Position(ft)	0		0					0			0	0
Detector 1 Size(ft)	50		50					50			50	50
Detector 1 Type	Cl+Ex		Cl+Ex					Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0					0.0			0.0	0.0
Detector 1 Queue (s)	0.0		0.0					0.0			0.0	0.0
Detector 1 Delay (s)	0.0		0.0					0.0			0.0	0.0
Turn Type	Prot		Perm					NA			NA	Perm
Protected Phases	7							2			6	
Permitted Phases			4									6
Detector Phase	7		4					2			6	6
Switch Phase												
Minimum Initial (s)	4.0		4.0					4.0			4.0	4.0
Minimum Split (s)	8.5		22.5					22.5			22.5	22.5
Total Split (s)	29.0		29.0					71.0			71.0	71.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	29.0%		29.0%					71.0%			71.0%	71.0%
Maximum Green (s)	24.5		24.5					66.5			66.5	66.5
Yellow Time (s)	3.5		3.5					3.5			3.5	3.5
All-Red Time (s)	1.0		1.0					1.0			1.0	1.0
Lost Time Adjust (s)	-0.5		-0.5					-0.5			-0.5	0.0
Total Lost Time (s)	4.0		4.0					4.0			4.0	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0		3.0					3.0			3.0	3.0
Recall Mode	None		None					C-Min			C-Min	C-Min
Act Effct Green (s)	20.5		20.5					71.5			71.5	71.0
Actuated g/C Ratio	0.21		0.21					0.72			0.72	0.71
v/c Ratio	0.73		0.42					0.31			0.29	0.44
Control Delay (s/veh)	43.7		7.7					5.6			9.5	6.3
Queue Delay	0.0		0.0					0.0			0.0	0.0
Total Delay (s/veh)	43.7		7.7					5.6			9.5	6.3
LOS	D		A					A			A	A
Approach Delay (s/veh)		33.5						5.6			8.2	
Approach LOS		C						A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay (s/veh): 13.7		Intersection LOS: B	
Intersection Capacity Utilization 39.8%		ICU Level of Service A	
Analysis Period (min) 15			

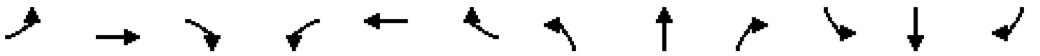
Splits and Phases: 20: 12th Ave & SR 198 EB Ramps



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	432	0	170	0	0	0	0	607	93	0	683	476
Future Volume (veh/h)	432	0	170	0	0	0	0	607	93	0	683	476
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1723	0	1723				0	1870	1723	0	1870	1723
Adj Flow Rate, veh/h	470	0	185				0	660	101	0	742	517
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	2
Cap, veh/h	589	0	270				0	2271	347	0	2612	1066
Arrive On Green	0.18	0.00	0.18				0.00	0.74	0.73	0.00	1.00	1.00
Sat Flow, veh/h	3183	0	1460				0	3183	472	0	3647	1460
Grp Volume(v), veh/h	470	0	185				0	379	382	0	742	517
Grp Sat Flow(s),veh/h/ln	1591	0	1460				0	1777	1785	0	1777	1460
Q Serve(g_s), s	14.1	0.0	11.8				0.0	7.2	7.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	14.1	0.0	11.8				0.0	7.2	7.2	0.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.26	0.00		1.00
Lane Grp Cap(c), veh/h	589	0	270				0	1306	1312	0	2612	1066
V/C Ratio(X)	0.80	0.00	0.69				0.00	0.29	0.29	0.00	0.28	0.49
Avail Cap(c_a), veh/h	796	0	365				0	1306	1312	0	2612	1066
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.00	0.86	0.86
Uniform Delay (d), s/veh	39.0	0.0	38.0				0.0	4.5	4.5	0.0	0.0	0.0
Incr Delay (d2), s/veh	4.1	0.0	3.2				0.0	0.6	0.6	0.0	0.2	1.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	0.0	4.2				0.0	1.8	1.8	0.0	0.1	14.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	43.1	0.0	41.2				0.0	5.0	5.1	0.0	0.2	1.4
LnGrp LOS	D		D					A	A		A	A
Approach Vol, veh/h		655						761			1259	
Approach Delay, s/veh		42.6						5.0			0.7	
Approach LOS		D						A			A	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	77.5	22.5	77.5
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	66.5	24.5	66.5
Max Q Clear Time (g_c+I1), s	9.2	16.1	2.0
Green Ext Time (p_c), s	2.9	1.9	6.6

Intersection Summary	
HCM 7th Control Delay, s/veh	12.2
HCM 7th LOS	B



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	48	3	10	37	7	6	58	7	6	70	0
Future Volume (vph)	3	48	3	10	37	7	6	58	7	6	70	0
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993			0.982			0.986				
Flt Protected		0.997			0.991			0.996			0.996	
Satd. Flow (prot)	0	1844	0	0	1813	0	0	1829	0	0	1855	0
Flt Permitted		0.997			0.991			0.996			0.996	
Satd. Flow (perm)	0	1844	0	0	1813	0	0	1829	0	0	1855	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		2803			5317			5280			1167	
Travel Time (s)		34.7			65.9			65.5			14.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	52	3	11	40	8	7	63	8	7	76	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	58	0	0	59	0	0	78	0	0	83	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

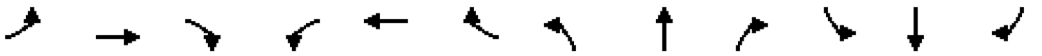
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 17.9%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	48	3	10	37	7	6	58	7	6	70	0
Future Vol, veh/h	3	48	3	10	37	7	6	58	7	6	70	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	52	3	11	40	8	7	63	8	7	76	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	7.7	7.6	7.7	7.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	6%	19%	8%
Vol Thru, %	82%	89%	69%	92%
Vol Right, %	10%	6%	13%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	71	54	54	76
LT Vol	6	3	10	6
Through Vol	58	48	37	70
RT Vol	7	3	7	0
Lane Flow Rate	77	59	59	83
Geometry Grp	1	1	1	1
Degree of Util (X)	0.089	0.071	0.07	0.097
Departure Headway (Hd)	4.158	4.334	4.315	4.213
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	848	831	835	838
Service Time	2.252	2.335	2.317	2.303
HCM Lane V/C Ratio	0.091	0.071	0.071	0.099
HCM Control Delay, s/veh	7.7	7.7	7.6	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.2	0.2	0.3



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	50	25	34	38	25	28	237	31	58	199	2
Future Volume (vph)	1	50	25	34	38	25	28	237	31	58	199	2
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	0		0	0		0	0		25	0		25
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.956			0.965				0.850			0.850
Flt Protected		0.999			0.983			0.995			0.989	
Satd. Flow (prot)	0	1779	0	0	1767	0	0	1853	1458	0	1842	1458
Flt Permitted		0.999			0.983			0.995			0.989	
Satd. Flow (perm)	0	1779	0	0	1767	0	0	1853	1458	0	1842	1458
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5317			205			4514			225	
Travel Time (s)		65.9			2.5			56.0			2.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	54	27	37	41	27	30	258	34	63	216	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	82	0	0	105	0	0	288	34	0	279	2
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	49.8%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	11.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	50	25	34	38	25	28	237	31	58	199	2
Future Vol, veh/h	1	50	25	34	38	25	28	237	31	58	199	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	54	27	37	41	27	30	258	34	63	216	2
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay, s/veh	9.4	9.7	11.9	12.4
HCM LOS	A	A	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	11%	0%	1%	35%	23%	0%
Vol Thru, %	89%	0%	66%	39%	77%	0%
Vol Right, %	0%	100%	33%	26%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	265	31	76	97	257	2
LT Vol	28	0	1	34	58	0
Through Vol	237	0	50	38	199	0
RT Vol	0	31	25	25	0	2
Lane Flow Rate	288	34	83	105	279	2
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.438	0.043	0.127	0.164	0.432	0.003
Departure Headway (Hd)	5.47	4.716	5.53	5.589	5.568	4.747
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	663	764	648	642	651	757
Service Time	3.176	2.416	3.562	3.621	3.274	2.453
HCM Lane V/C Ratio	0.434	0.045	0.128	0.164	0.429	0.003
HCM Control Delay, s/veh	12.4	7.6	9.4	9.7	12.4	7.5
HCM Lane LOS	B	A	A	A	B	A
HCM 95th-tile Q	2.2	0.1	0.4	0.6	2.2	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	84	4	51	57	16	4	54	81	17	65	2
Future Volume (vph)	0	84	4	51	57	16	4	54	81	17	65	2
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.983			0.921			0.997	
Flt Protected					0.980			0.999			0.990	
Satd. Flow (prot)	0	1852	0	0	1794	0	0	1714	0	0	1839	0
Flt Permitted					0.980			0.999			0.990	
Satd. Flow (perm)	0	1852	0	0	1794	0	0	1714	0	0	1839	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		3132			4044			5270			5280	
Travel Time (s)		38.8			50.1			65.3			65.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	91	4	55	62	17	4	59	88	18	71	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	95	0	0	134	0	0	151	0	0	91	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

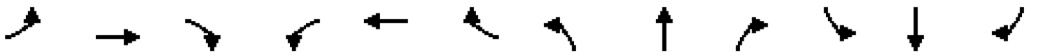
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.3%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	84	4	51	57	16	4	54	81	17	65	2
Future Vol, veh/h	0	84	4	51	57	16	4	54	81	17	65	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	91	4	55	62	17	4	59	88	18	71	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.3	8.6	8.2	8.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	0%	41%	20%
Vol Thru, %	39%	95%	46%	77%
Vol Right, %	58%	5%	13%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	139	88	124	84
LT Vol	4	0	51	17
Through Vol	54	84	57	65
RT Vol	81	4	16	2
Lane Flow Rate	151	96	135	91
Geometry Grp	1	1	1	1
Degree of Util (X)	0.178	0.123	0.172	0.118
Departure Headway (Hd)	4.243	4.612	4.597	4.669
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	846	777	780	768
Service Time	2.268	2.641	2.625	2.699
HCM Lane V/C Ratio	0.178	0.124	0.173	0.118
HCM Control Delay, s/veh	8.2	8.3	8.6	8.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.4	0.6	0.4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	152	32	93	103	0	20	0	113	0	0	1
Future Volume (vph)	1	152	32	93	103	0	20	0	113	0	0	1
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	0		100	100		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.885			0.865	
Flt Protected				0.950				0.992				
Satd. Flow (prot)	0	1863	1458	1630	1863	0	0	1635	0	0	1611	0
Flt Permitted				0.950				0.992				
Satd. Flow (perm)	0	1863	1458	1630	1863	0	0	1635	0	0	1611	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		4044			816			5340			496	
Travel Time (s)		50.1			10.1			66.2			6.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	165	35	101	112	0	22	0	123	0	0	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	166	35	101	112	0	0	145	0	0	1	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 38.4%		ICU Level of Service A	
Analysis Period (min) 15			

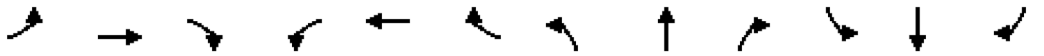
Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	152	32	93	103	0	20	0	113	0	0	1
Future Vol, veh/h	1	152	32	93	103	0	20	0	113	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	100	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	165	35	101	112	0	22	0	123	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	112	0	0	200	0	0	482	482	165	482	516	112
Stage 1	-	-	-	-	-	-	167	167	-	314	314	-
Stage 2	-	-	-	-	-	-	314	314	-	167	202	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1478	-	-	1372	-	-	495	484	879	495	463	941
Stage 1	-	-	-	-	-	-	835	760	-	697	656	-
Stage 2	-	-	-	-	-	-	697	656	-	835	734	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1478	-	-	1372	-	-	458	448	879	394	428	941
Mov Cap-2 Maneuver	-	-	-	-	-	-	458	448	-	394	428	-
Stage 1	-	-	-	-	-	-	834	759	-	645	608	-
Stage 2	-	-	-	-	-	-	645	608	-	717	733	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.04	3.72	10.73	8.83
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	772	12	-	-	1372	-	-	941
HCM Lane V/C Ratio	0.187	0.001	-	-	0.074	-	-	0.001
HCM Control Delay (s/veh)	10.7	7.4	0	-	7.8	-	-	8.8
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.7	0	-	-	0.2	-	-	0

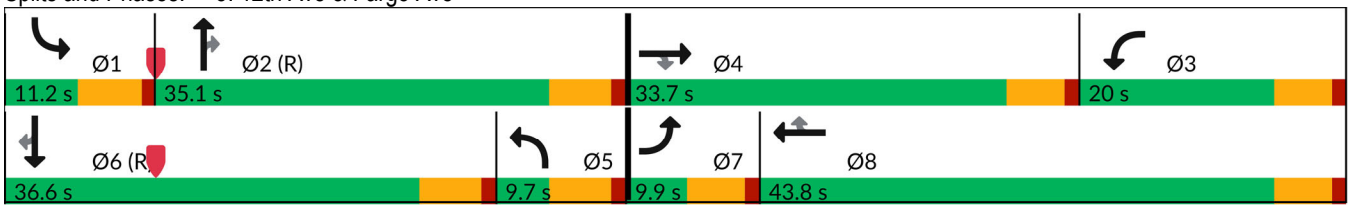


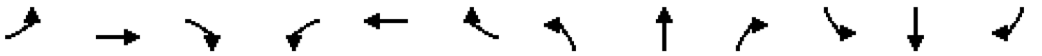
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	276	23	176	237	91	42	308	259	65	213	22
Future Volume (vph)	20	276	23	176	237	91	42	308	259	65	213	22
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	200		110	345		110	255		105	255		130
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.98			0.97			0.97			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1863	1458	1630	1863	1458	1630	1863	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1431	1630	1863	1414	1630	1863	1413	1630	1863	1414
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			212			212			229			203
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		488			5225			5338			853	
Travel Time (s)		6.0			64.8			66.2			10.6	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	300	25	191	258	99	46	335	282	71	232	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	300	25	191	258	99	46	335	282	71	232	24
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	33.7	33.7	9.3	33.7	33.7	9.7	34.5	34.5	9.7	36.0	36.0
Total Split (s)	9.9	33.7	33.7	20.0	43.8	43.8	9.7	35.1	35.1	11.2	36.6	36.6
Total Split (%)	9.9%	33.7%	33.7%	20.0%	43.8%	43.8%	9.7%	35.1%	35.1%	11.2%	36.6%	36.6%
Maximum Green (s)	4.6	28.4	28.4	14.7	38.5	38.5	4.0	29.4	29.4	5.5	30.9	30.9
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		21.4	21.4		21.4	21.4		21.8	21.8		23.3	23.3
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	7.3	22.6	22.6	16.9	39.0	39.0	9.8	37.8	37.8	9.1	39.5	39.5
Actuated g/C Ratio	0.07	0.23	0.23	0.17	0.39	0.39	0.10	0.38	0.38	0.09	0.40	0.40
v/c Ratio	0.19	0.71	0.05	0.70	0.35	0.15	0.29	0.48	0.42	0.48	0.32	0.04
Control Delay (s/veh)	47.8	44.8	0.2	53.4	22.9	0.5	31.5	15.4	4.4	55.5	26.5	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	47.8	44.8	0.2	53.4	22.9	0.5	31.5	15.4	4.4	55.5	26.5	0.1
LOS	D	D	A	D	C	A	C	B	A	E	C	A
Approach Delay (s/veh)		41.8			29.5			11.9			30.9	
Approach LOS		D			C			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 68 (68%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay (s/veh): 25.8		Intersection LOS: C	
Intersection Capacity Utilization 68.4%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 5: 12th Ave & Fargo Ave

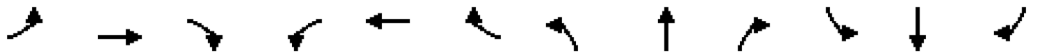




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	276	23	176	237	91	42	308	259	65	213	22
Future Volume (veh/h)	20	276	23	176	237	91	42	308	259	65	213	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	22	300	25	191	258	99	46	335	282	71	232	24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	51	387	295	239	601	455	502	780	592	116	339	255
Arrive On Green	0.03	0.21	0.21	0.15	0.32	0.32	0.31	0.42	0.42	0.07	0.18	0.18
Sat Flow, veh/h	1641	1870	1429	1641	1870	1416	1641	1870	1420	1641	1870	1405
Grp Volume(v), veh/h	22	300	25	191	258	99	46	335	282	71	232	24
Grp Sat Flow(s),veh/h/ln	1641	1870	1429	1641	1870	1416	1641	1870	1420	1641	1870	1405
Q Serve(g_s), s	1.3	15.2	1.4	11.3	10.9	5.1	2.0	12.7	8.0	4.2	11.6	1.2
Cycle Q Clear(g_c), s	1.3	15.2	1.4	11.3	10.9	5.1	2.0	12.7	8.0	4.2	11.6	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	51	387	295	239	601	455	502	780	592	116	339	255
V/C Ratio(X)	0.43	0.78	0.08	0.80	0.43	0.22	0.09	0.43	0.48	0.61	0.68	0.09
Avail Cap(c_a), veh/h	97	555	424	263	744	564	502	780	592	118	610	458
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.87	0.87	0.87	0.94	0.94	0.94	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.6	37.5	32.0	41.3	26.7	24.8	24.8	20.7	6.5	45.2	38.2	23.1
Incr Delay (d2), s/veh	5.6	4.3	0.1	13.0	0.4	0.2	0.1	1.6	2.6	8.9	10.6	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	6.9	0.5	5.1	4.5	1.6	0.7	5.3	4.2	1.9	6.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	53.1	41.8	32.1	54.3	27.1	25.0	24.8	22.3	9.1	54.0	48.9	23.8
LnGrp LOS	D	D	C	D	C	C	C	C	A	D	D	C
Approach Vol, veh/h		347			548			663			327	
Approach Delay, s/veh		41.8			36.2			16.9			48.2	
Approach LOS		D			D			B			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	45.7	18.6	24.7	34.6	22.2	7.1	36.1
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	5.5	29.4	14.7	28.4	4.0	30.9	4.6	38.5
Max Q Clear Time (g_c+I1), s	6.2	14.7	13.3	17.2	4.0	13.6	3.3	12.9
Green Ext Time (p_c), s	0.0	2.1	0.1	0.8	0.0	0.8	0.0	1.2

Intersection Summary	
HCM 7th Control Delay, s/veh	32.5
HCM 7th LOS	C

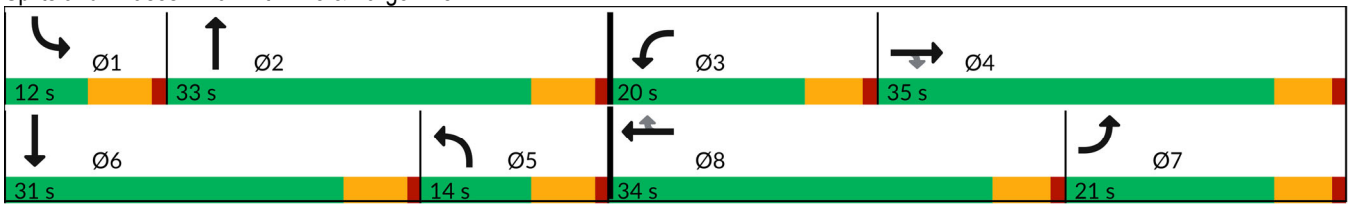


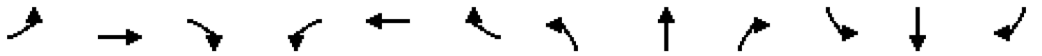
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	316	111	118	338	53	117	357	117	46	222	90
Future Volume (vph)	130	316	111	118	338	53	117	357	117	46	222	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	185		110	280		150	200		0	255		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor			0.97			0.98		0.99			0.99	
Frt			0.850			0.850		0.963			0.957	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	3539	1583	1770	3380	0	1770	3353	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1863	1528	1770	3539	1552	1770	3380	0	1770	3353	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			212			212		45			60	
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5225			5292			2018			1090	
Travel Time (s)		64.8			65.6			25.0			13.5	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	141	343	121	128	367	58	127	388	127	50	241	98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	343	121	128	367	58	127	515	0	50	339	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	50	50	50	50	50	50	50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.3	25.2	25.2	9.3	29.5	29.5	9.7	28.8		9.7	26.0	
Total Split (s)	21.0	35.0	35.0	20.0	34.0	34.0	14.0	33.0		12.0	31.0	
Total Split (%)	21.0%	35.0%	35.0%	20.0%	34.0%	34.0%	14.0%	33.0%		12.0%	31.0%	
Maximum Green (s)	15.7	29.7	29.7	14.7	28.7	28.7	8.3	27.3		6.3	25.3	
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7		4.7	4.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7		-1.7	-1.7	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Don't Walk (s)		12.9	12.9		17.2	17.2		16.1			13.3	
Pedestrian Calls (#/hr)		5	5		5	5		5			5	
Act Effct Green (s)	16.6	23.5	23.5	12.1	15.7	15.7	11.5	23.6		8.1	14.3	
Actuated g/C Ratio	0.22	0.31	0.31	0.16	0.21	0.21	0.15	0.32		0.11	0.19	
v/c Ratio	0.36	0.59	0.19	0.45	0.49	0.12	0.47	0.47		0.26	0.49	
Control Delay (s/veh)	29.7	29.0	0.7	37.1	29.8	0.5	39.6	23.6		40.3	26.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	29.7	29.0	0.7	37.1	29.8	0.5	39.6	23.6		40.3	26.1	
LOS	C	C	A	D	C	A	D	C		D	C	
Approach Delay (s/veh)		23.5			28.4			26.8			27.9	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 74.8			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay (s/veh): 26.5		Intersection LOS: C	
Intersection Capacity Utilization 54.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 6: 11th Ave & Fargo Ave

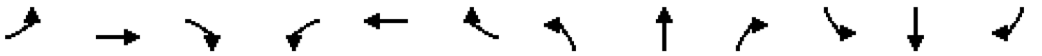




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	316	111	118	338	53	117	357	117	46	222	90
Future Volume (veh/h)	130	316	111	118	338	53	117	357	117	46	222	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	141	343	121	128	367	58	127	388	127	50	241	98
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	318	496	407	209	725	317	222	657	212	126	485	190
Arrive On Green	0.18	0.27	0.27	0.12	0.20	0.20	0.12	0.25	0.22	0.07	0.20	0.17
Sat Flow, veh/h	1781	1870	1534	1781	3554	1551	1781	2616	843	1781	2462	965
Grp Volume(v), veh/h	141	343	121	128	367	58	127	262	253	50	171	168
Grp Sat Flow(s),veh/h/ln	1781	1870	1534	1781	1777	1551	1781	1777	1683	1781	1777	1650
Q Serve(g_s), s	3.8	8.9	1.9	3.7	5.0	1.1	3.6	7.0	7.3	1.5	4.6	5.0
Cycle Q Clear(g_c), s	3.8	8.9	1.9	3.7	5.0	1.1	3.6	7.0	7.3	1.5	4.6	5.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.50	1.00		0.58
Lane Grp Cap(c), veh/h	318	496	407	209	725	317	222	446	423	126	350	325
V/C Ratio(X)	0.44	0.69	0.30	0.61	0.51	0.18	0.57	0.59	0.60	0.40	0.49	0.52
Avail Cap(c_a), veh/h	560	1072	879	527	1970	860	329	952	902	263	887	823
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.8	17.9	5.0	22.7	19.1	7.9	22.3	17.8	18.3	24.1	19.3	19.9
Incr Delay (d2), s/veh	1.0	1.7	0.4	2.9	0.5	0.3	2.3	1.2	1.4	2.0	1.1	1.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	3.2	0.9	1.4	1.7	0.5	1.4	2.4	2.4	0.6	1.6	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.8	19.6	5.4	25.6	19.7	8.2	24.7	19.0	19.6	26.1	20.4	21.1
LnGrp LOS	C	B	A	C	B	A	C	B	B	C	C	C
Approach Vol, veh/h		605			553			642			389	
Approach Delay, s/veh		17.1			19.8			20.4			21.4	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	17.6	10.4	18.4	10.7	14.7	13.7	15.0
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	6.3	27.3	14.7	29.7	8.3	25.3	15.7	28.7
Max Q Clear Time (g_c+I1), s	3.5	9.3	5.7	10.9	5.6	7.0	5.8	7.0
Green Ext Time (p_c), s	0.0	1.7	0.2	1.6	0.1	1.1	0.3	1.6

Intersection Summary	
HCM 7th Control Delay, s/veh	19.5
HCM 7th LOS	B

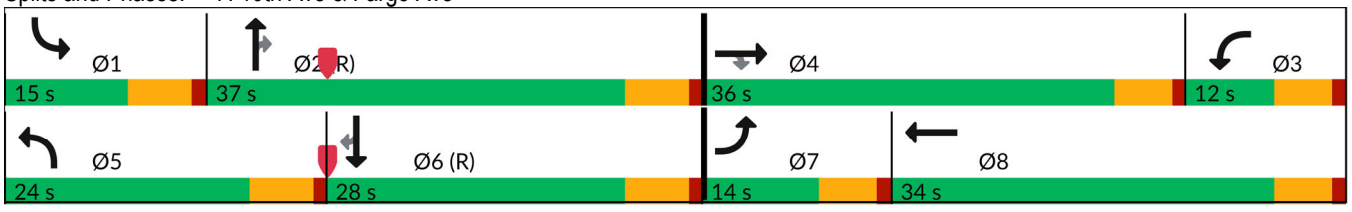


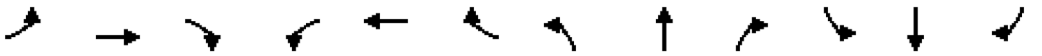
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	200	98	42	251	32	149	255	39	66	274	47
Future Volume (vph)	50	200	98	42	251	32	149	255	39	66	274	47
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	100		50	105		0	160		105	200		100
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98		1.00				0.96			0.98
Frt			0.850		0.983				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1827	0	1630	3539	1458	1630	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1431	1630	1827	0	1630	3539	1405	1630	3539	1427
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			212		7				203			265
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5292			4849			2658			1358	
Travel Time (s)		65.6			60.1			33.0			16.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	217	107	46	273	35	162	277	42	72	298	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	54	217	107	46	308	0	162	277	42	72	298	51
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Detector Phase	7	4	4	3	8		5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	32.3	32.3	9.3	33.7		9.7	23.7	23.7	9.7	24.5	24.5
Total Split (s)	14.0	36.0	36.0	12.0	34.0		24.0	37.0	37.0	15.0	28.0	28.0
Total Split (%)	14.0%	36.0%	36.0%	12.0%	34.0%		24.0%	37.0%	37.0%	15.0%	28.0%	28.0%
Maximum Green (s)	8.7	30.7	30.7	6.7	28.7		18.3	31.3	31.3	9.3	22.3	22.3
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3		4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3		-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)		20.0	20.0		21.4			10.4	10.4		11.8	11.8
Pedestrian Calls (#/hr)		5	5		5			5	5		5	5
Act Effct Green (s)	10.0	23.2	23.2	12.3	23.0		16.3	44.9	44.9	10.6	36.9	36.9
Actuated g/C Ratio	0.10	0.23	0.23	0.12	0.23		0.16	0.45	0.45	0.11	0.37	0.37
v/c Ratio	0.33	0.50	0.22	0.23	0.72		0.61	0.17	0.06	0.42	0.23	0.07
Control Delay (s/veh)	46.5	37.6	1.0	40.8	44.3		48.4	21.1	0.2	49.0	26.4	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	46.5	37.6	1.0	40.8	44.3		48.4	21.1	0.2	49.0	26.4	0.2
LOS	D	D	A	D	D		D	C	A	D	C	A
Approach Delay (s/veh)		28.5			43.9			28.4			27.1	
Approach LOS		C			D			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 12 (12%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay (s/veh): 31.4		Intersection LOS: C	
Intersection Capacity Utilization 57.8%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 7: 10th Ave & Fargo Ave

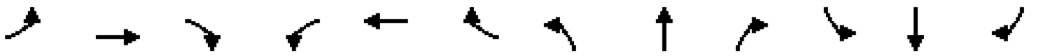




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	200	98	42	251	32	149	255	39	66	274	47
Future Volume (veh/h)	50	200	98	42	251	32	149	255	39	66	274	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	54	217	107	46	273	35	162	277	42	72	298	51
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	88	317	242	160	345	44	219	1783	713	117	1563	632
Arrive On Green	0.05	0.17	0.17	0.10	0.21	0.20	0.13	0.50	0.50	0.07	0.44	0.44
Sat Flow, veh/h	1641	1870	1426	1641	1620	208	1641	3554	1421	1641	3554	1436
Grp Volume(v), veh/h	54	217	107	46	0	308	162	277	42	72	298	51
Grp Sat Flow(s),veh/h/ln	1641	1870	1426	1641	0	1828	1641	1777	1421	1641	1777	1436
Q Serve(g_s), s	3.2	10.9	4.8	2.6	0.0	16.0	9.5	4.2	0.9	4.3	5.1	2.1
Cycle Q Clear(g_c), s	3.2	10.9	4.8	2.6	0.0	16.0	9.5	4.2	0.9	4.3	5.1	2.1
Prop In Lane	1.00		1.00	1.00		0.11	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	88	317	242	160	0	390	219	1783	713	117	1563	632
V/C Ratio(X)	0.61	0.68	0.44	0.29	0.00	0.79	0.74	0.16	0.06	0.61	0.19	0.08
Avail Cap(c_a), veh/h	164	599	456	160	0	548	328	1783	713	180	1563	632
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.82	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.3	39.0	18.9	41.9	0.0	37.3	41.7	13.5	4.2	45.1	17.1	16.3
Incr Delay (d2), s/veh	5.5	2.1	1.0	1.0	0.0	5.2	4.9	0.2	0.2	5.1	0.3	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	4.9	2.2	1.0	0.0	7.2	3.9	1.5	0.4	1.8	1.9	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	51.8	41.2	19.9	42.9	0.0	42.5	46.6	13.7	4.4	50.2	17.4	16.5
LnGrp LOS	D	D	B	D		D	D	B	A	D	B	B
Approach Vol, veh/h		378			354			481			421	
Approach Delay, s/veh		36.7			42.5			23.9			22.9	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	54.2	13.7	21.0	17.3	48.0	9.4	25.3
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	9.3	31.3	6.7	30.7	18.3	22.3	8.7	28.7
Max Q Clear Time (g_c+I1), s	6.3	6.2	4.6	12.9	11.5	7.1	5.2	18.0
Green Ext Time (p_c), s	0.0	1.2	0.0	1.0	0.3	1.2	0.0	0.8

Intersection Summary	
HCM 7th Control Delay, s/veh	30.6
HCM 7th LOS	C



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	22	94	1	38	3	144	263	1	2	207	14
Future Volume (vph)	8	22	94	1	38	3	144	263	1	2	207	14
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.898			0.991						0.991	
Flt Protected		0.997			0.999			0.983				
Satd. Flow (prot)	0	1668	0	0	1844	0	0	3479	0	0	3507	0
Flt Permitted		0.997			0.999			0.983				
Satd. Flow (perm)	0	1668	0	0	1844	0	0	3479	0	0	3507	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		4849			614			1519			1547	
Travel Time (s)		60.1			7.6			18.8			19.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	9	24	102	1	41	3	157	286	1	2	225	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	135	0	0	45	0	0	444	0	0	242	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.0%		ICU Level of Service A	
Analysis Period (min) 15			

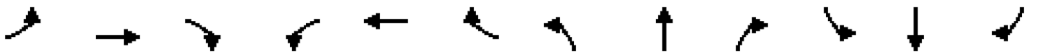
Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	22	94	1	38	3	144	263	1	2	207	14
Future Vol, veh/h	8	22	94	1	38	3	144	263	1	2	207	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	24	102	1	41	3	157	286	1	2	225	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	714	837	120	728	844	143	240	0	0	287	0	0
Stage 1	237	237	-	599	599	-	-	-	-	-	-	-
Stage 2	477	600	-	129	245	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	319	301	909	311	298	878	1324	-	-	1272	-	-
Stage 1	745	708	-	455	488	-	-	-	-	-	-	-
Stage 2	538	488	-	861	702	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	237	262	909	221	260	878	1324	-	-	1272	-	-
Mov Cap-2 Maneuver	237	262	-	221	260	-	-	-	-	-	-	-
Stage 1	744	706	-	396	426	-	-	-	-	-	-	-
Stage 2	422	425	-	737	701	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	13.44	20.87	3.17	0.08
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1218	-	-	561	272	30	-	-
HCM Lane V/C Ratio	0.118	-	-	0.24	0.168	0.002	-	-
HCM Control Delay (s/veh)	8.1	0.5	-	13.4	20.9	7.8	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0.9	0.6	0	-	-

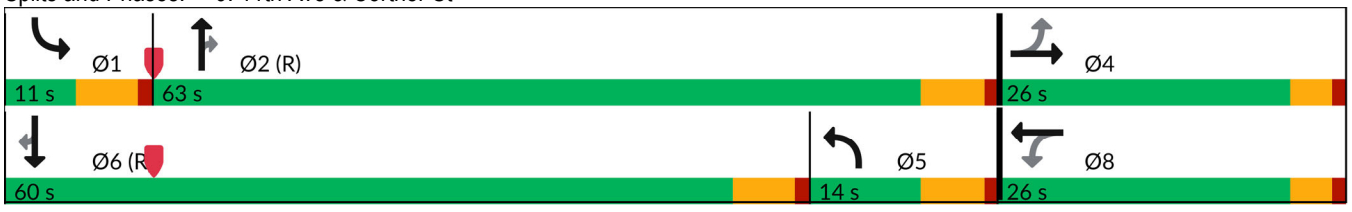


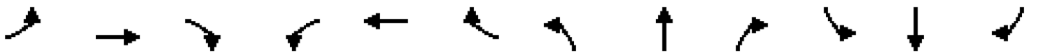
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	17	40	43	16	32	45	562	78	22	417	5
Future Volume (vph)	3	17	40	43	16	32	45	562	78	22	417	5
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	0		0	0		0	100		50	105		50
Storage Lanes	0		0	0		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			0.99				0.96			0.96
Frt		0.909			0.952				0.850			0.850
Flt Protected		0.998			0.977		0.950			0.950		
Satd. Flow (prot)	0	1665	0	0	1719	0	1630	1863	1458	1630	1863	1458
Flt Permitted		0.991			0.823		0.950			0.950		
Satd. Flow (perm)	0	1653	0	0	1448	0	1630	1863	1405	1630	1863	1405
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43			25				75			75
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		799			857			3291			2018	
Travel Time (s)		9.9			10.6			40.8			25.0	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	18	43	47	17	35	49	611	85	24	453	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	64	0	0	99	0	49	611	85	24	453	5
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.6	22.6		24.1	24.1		9.7	23.7	23.7	9.7	23.7	23.7
Total Split (s)	26.0	26.0		26.0	26.0		14.0	63.0	63.0	11.0	60.0	60.0
Total Split (%)	26.0%	26.0%		26.0%	26.0%		14.0%	63.0%	63.0%	11.0%	60.0%	60.0%
Maximum Green (s)	21.8	21.8		21.8	21.8		8.3	57.3	57.3	5.3	54.3	54.3
Yellow Time (s)	3.2	3.2		3.2	3.2		4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		-0.2			-0.2		-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)		4.0			4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)	7.0	7.0		7.0	7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)	11.4	11.4		12.9	12.9			8.7	8.7		8.7	8.7
Pedestrian Calls (#/hr)	5	5		5	5			5	5		5	5
Act Effct Green (s)		11.5			11.5		11.2	77.6	77.6	8.8	72.8	72.8
Actuated g/C Ratio		0.12			0.12		0.11	0.78	0.78	0.09	0.73	0.73
v/c Ratio		0.28			0.53		0.27	0.42	0.08	0.17	0.33	0.00
Control Delay (s/veh)		20.1			39.8		42.7	8.1	2.6	44.4	9.5	0.0
Queue Delay		0.0			0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		20.1			39.8		42.7	8.1	2.6	44.4	9.5	0.0
LOS		C			D		D	A	A	D	A	A
Approach Delay (s/veh)		20.1			39.8			9.7			11.2	
Approach LOS		C			D			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 82 (82%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.53			
Intersection Signal Delay (s/veh): 12.8		Intersection LOS: B	
Intersection Capacity Utilization 55.6%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 9: 11th Ave & Cortner St

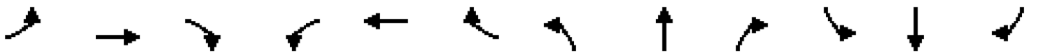




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	17	40	43	16	32	45	562	78	22	417	5
Future Volume (veh/h)	3	17	40	43	16	32	45	562	78	22	417	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	3	18	43	47	17	35	49	611	85	24	453	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	41	48	105	114	38	54	822	1398	1065	60	529	400
Arrive On Green	0.10	0.10	0.09	0.10	0.10	0.09	0.50	0.75	0.75	0.04	0.28	0.28
Sat Flow, veh/h	29	502	1088	635	394	563	1641	1870	1424	1641	1870	1414
Grp Volume(v), veh/h	64	0	0	99	0	0	49	611	85	24	453	5
Grp Sat Flow(s),veh/h/ln	1620	0	0	1591	0	0	1641	1870	1424	1641	1870	1414
Q Serve(g_s), s	0.0	0.0	0.0	2.0	0.0	0.0	1.5	12.3	1.6	1.4	22.9	0.3
Cycle Q Clear(g_c), s	3.7	0.0	0.0	5.7	0.0	0.0	1.5	12.3	1.6	1.4	22.9	0.3
Prop In Lane	0.05		0.67	0.47		0.35	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	193	0	0	206	0	0	822	1398	1065	60	529	400
V/C Ratio(X)	0.33	0.00	0.00	0.48	0.00	0.00	0.06	0.44	0.08	0.40	0.86	0.01
Avail Cap(c_a), veh/h	392	0	0	388	0	0	822	1398	1065	115	1047	792
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.37	0.37	0.37	0.91	0.91	0.91
Uniform Delay (d), s/veh	42.6	0.0	0.0	43.3	0.0	0.0	12.8	4.7	3.4	47.1	33.9	25.8
Incr Delay (d2), s/veh	1.0	0.0	0.0	1.7	0.0	0.0	0.0	0.4	0.1	3.9	14.9	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	0.0	2.3	0.0	0.0	0.5	2.9	0.3	0.6	11.7	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	43.6	0.0	0.0	45.1	0.0	0.0	12.8	5.1	3.4	51.0	48.9	25.9
LnGrp LOS	D			D			B	A	A	D	D	C
Approach Vol, veh/h		64			99			745			482	
Approach Delay, s/veh		43.6			45.1			5.4			48.7	
Approach LOS		D			D			A			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.6	78.7		13.6	54.1	32.3		13.6				
Change Period (Y+Rc), s	5.7	5.7		4.2	5.7	5.7		4.2				
Max Green Setting (Gmax), s	5.3	57.3		21.8	8.3	54.3		21.8				
Max Q Clear Time (g_c+I1), s	3.4	14.3		5.7	3.5	24.9		7.7				
Green Ext Time (p_c), s	0.0	2.9		0.1	0.0	1.7		0.2				

Intersection Summary												
HCM 7th Control Delay, s/veh			25.0									
HCM 7th LOS			C									

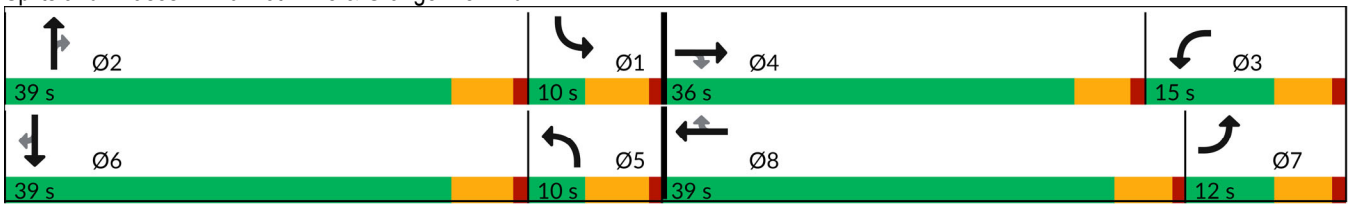


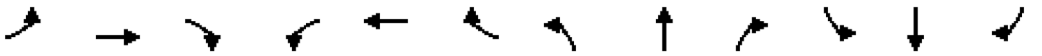
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	232	10	57	182	35	12	131	81	21	91	19
Future Volume (vph)	35	232	10	57	182	35	12	131	81	21	91	19
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	265		265	230		230	195		290	200		195
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.97			0.97			0.97			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1863	1458	1630	1863	1458	1630	1863	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1413	1630	1863	1414	1630	1863	1414	1630	1863	1413
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			149			145			145
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1096			3658			629			5270	
Travel Time (s)		13.6			45.3			7.8			65.3	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	252	11	62	198	38	13	142	88	23	99	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	38	252	11	62	198	38	13	142	88	23	99	21
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	32.3	32.3	9.3	35.2	35.2	9.7	34.5	34.5	9.7	33.1	33.1
Total Split (s)	12.0	36.0	36.0	15.0	39.0	39.0	10.0	39.0	39.0	10.0	39.0	39.0
Total Split (%)	12.0%	36.0%	36.0%	15.0%	39.0%	39.0%	10.0%	39.0%	39.0%	10.0%	39.0%	39.0%
Maximum Green (s)	6.7	30.7	30.7	9.7	33.7	33.7	4.3	33.3	33.3	4.3	33.3	33.3
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		20.0	20.0		22.9	22.9		21.8	21.8		20.4	20.4
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	9.8	15.9	15.9	10.1	18.6	18.6	7.5	14.8	14.8	7.4	14.6	14.6
Actuated g/C Ratio	0.20	0.33	0.33	0.21	0.38	0.38	0.15	0.31	0.31	0.15	0.30	0.30
v/c Ratio	0.12	0.41	0.02	0.18	0.28	0.06	0.05	0.25	0.17	0.09	0.18	0.04
Control Delay (s/veh)	27.1	18.7	0.1	26.1	15.3	0.2	30.1	18.1	1.6	30.9	18.0	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	27.1	18.7	0.1	26.1	15.3	0.2	30.1	18.1	1.6	30.9	18.0	0.2
LOS	C	B	A	C	B	A	C	B	A	C	B	A
Approach Delay (s/veh)		19.1			15.6			12.8			17.4	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 48.5			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.41			
Intersection Signal Delay (s/veh): 16.2		Intersection LOS: B	
Intersection Capacity Utilization 43.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: 13th Ave & Grangeville Blvd

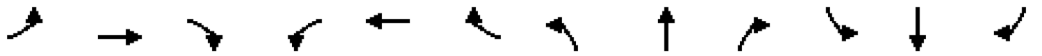




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	232	10	57	182	35	12	131	81	21	91	19
Future Volume (veh/h)	35	232	10	57	182	35	12	131	81	21	91	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	38	252	11	62	198	38	13	142	88	23	99	21
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	170	461	348	135	421	317	156	391	294	106	334	251
Arrive On Green	0.10	0.25	0.25	0.08	0.23	0.23	0.09	0.21	0.21	0.06	0.18	0.18
Sat Flow, veh/h	1641	1870	1412	1641	1870	1410	1641	1870	1408	1641	1870	1405
Grp Volume(v), veh/h	38	252	11	62	198	38	13	142	88	23	99	21
Grp Sat Flow(s),veh/h/ln	1641	1870	1412	1641	1870	1410	1641	1870	1408	1641	1870	1405
Q Serve(g_s), s	0.9	4.7	0.2	1.5	3.7	0.9	0.3	2.6	2.1	0.5	1.8	0.5
Cycle Q Clear(g_c), s	0.9	4.7	0.2	1.5	3.7	0.9	0.3	2.6	2.1	0.5	1.8	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	170	461	348	135	421	317	156	391	294	106	334	251
V/C Ratio(X)	0.22	0.55	0.03	0.46	0.47	0.12	0.08	0.36	0.30	0.22	0.30	0.08
Avail Cap(c_a), veh/h	326	1488	1123	449	1627	1227	245	1627	1225	245	1627	1222
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.5	13.2	11.5	17.6	13.5	12.4	16.6	13.6	13.4	17.8	14.3	13.8
Incr Delay (d2), s/veh	0.7	1.0	0.0	2.4	0.8	0.2	0.2	0.6	0.6	1.0	0.5	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.4	0.1	0.5	1.1	0.2	0.1	0.8	0.5	0.2	0.6	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	17.2	14.2	11.5	20.1	14.3	12.6	16.8	14.2	14.0	18.9	14.8	13.9
LnGrp LOS	B	B	B	C	B	B	B	B	B	B	B	B
Approach Vol, veh/h		301			298			243			143	
Approach Delay, s/veh		14.5			15.3			14.3			15.3	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.6	12.4	7.3	13.9	7.8	11.2	8.2	13.1
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	4.3	33.3	9.7	30.7	4.3	33.3	6.7	33.7
Max Q Clear Time (g_c+I1), s	2.5	4.6	3.5	6.7	2.3	3.8	2.9	5.7
Green Ext Time (p_c), s	0.0	0.8	0.1	0.8	0.0	0.4	0.0	0.8

Intersection Summary	
HCM 7th Control Delay, s/veh	14.8
HCM 7th LOS	B

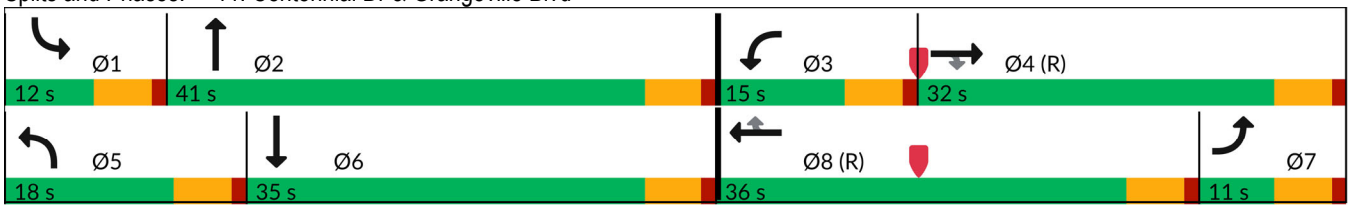


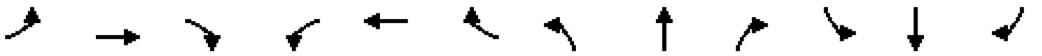
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	222	95	63	161	39	90	213	70	38	145	31
Future Volume (vph)	39	222	95	63	161	39	90	213	70	38	145	31
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	200		90	200		150	150		0	150		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.97			0.97		1.00			0.99	
Frt			0.850			0.850		0.963			0.973	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1863	1458	1630	1786	0	1630	1803	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1410	1630	1863	1410	1630	1786	0	1630	1803	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			199			199		19			11	
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		3658			1623			639			5340	
Travel Time (s)		45.3			20.1			7.9			66.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	42	241	103	68	175	42	98	232	76	41	158	34
Shared Lane Traffic (%)												
Lane Group Flow (vph)	42	241	103	68	175	42	98	308	0	41	192	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	50	50	50	50	50	50	50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.3	28.4	28.4	9.3	28.4	28.4	9.3	34.1		9.3	34.1	
Total Split (s)	11.0	32.0	32.0	15.0	36.0	36.0	18.0	41.0		12.0	35.0	
Total Split (%)	11.0%	32.0%	32.0%	15.0%	36.0%	36.0%	18.0%	41.0%		12.0%	35.0%	
Maximum Green (s)	5.7	26.7	26.7	9.7	30.7	30.7	12.7	35.7		6.7	29.7	
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3		4.3	4.3	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3		-1.3	-1.3	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min		None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Don't Walk (s)		16.1	16.1		16.1	16.1		21.8			21.8	
Pedestrian Calls (#/hr)		5	5		5	5		5			5	
Act Effct Green (s)	7.0	46.8	46.8	10.3	52.2	52.2	11.9	26.0		7.8	19.7	
Actuated g/C Ratio	0.07	0.47	0.47	0.10	0.52	0.52	0.12	0.26		0.08	0.20	
v/c Ratio	0.37	0.28	0.13	0.41	0.18	0.05	0.51	0.65		0.33	0.53	
Control Delay (s/veh)	54.2	22.4	0.4	22.4	12.0	1.5	50.2	36.5		49.6	43.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	54.2	22.4	0.4	22.4	12.0	1.5	50.2	36.5		49.6	43.2	
LOS	D	C	A	C	B	A	D	D		D	D	
Approach Delay (s/veh)		19.9			12.9			39.8			44.3	
Approach LOS		B			B			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 2 (2%), Referenced to phase 4:EBT and 8:WBT, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay (s/veh): 28.9		Intersection LOS: C	
Intersection Capacity Utilization 56.6%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 11: Centennial Dr & Grangeville Blvd

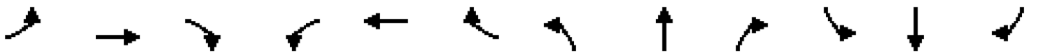




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	222	95	63	161	39	90	213	70	38	145	31
Future Volume (veh/h)	39	222	95	63	161	39	90	213	70	38	145	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	42	241	103	68	175	42	98	232	76	41	158	34
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	423	961	731	105	599	453	142	294	96	71	260	56
Arrive On Green	0.26	0.51	0.51	0.13	0.64	0.64	0.09	0.22	0.21	0.04	0.18	0.16
Sat Flow, veh/h	1641	1870	1422	1641	1870	1416	1641	1341	439	1641	1479	318
Grp Volume(v), veh/h	42	241	103	68	175	42	98	0	308	41	0	192
Grp Sat Flow(s),veh/h/ln	1641	1870	1422	1641	1870	1416	1641	0	1780	1641	0	1798
Q Serve(g_s), s	2.0	7.2	3.8	3.9	4.1	0.9	5.8	0.0	16.4	2.5	0.0	9.9
Cycle Q Clear(g_c), s	2.0	7.2	3.8	3.9	4.1	0.9	5.8	0.0	16.4	2.5	0.0	9.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.25	1.00		0.18
Lane Grp Cap(c), veh/h	423	961	731	105	599	453	142	0	390	71	0	316
V/C Ratio(X)	0.10	0.25	0.14	0.65	0.29	0.09	0.69	0.00	0.79	0.58	0.00	0.61
Avail Cap(c_a), veh/h	423	961	731	180	599	453	230	0	659	131	0	557
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	0.95	0.95	0.95	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.3	13.6	12.7	42.6	13.0	7.6	44.4	0.0	37.0	46.9	0.0	38.2
Incr Delay (d2), s/veh	0.1	0.6	0.4	6.3	1.2	0.4	5.8	0.0	3.6	7.2	0.0	1.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	2.8	1.1	1.6	1.6	0.4	2.5	0.0	7.0	1.1	0.0	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	28.4	14.2	13.1	48.9	14.2	8.0	50.1	0.0	40.7	54.1	0.0	40.1
LnGrp LOS	C	B	B	D	B	A	D		D	D		D
Approach Vol, veh/h		386			285			406			233	
Approach Delay, s/veh		15.4			21.5			43.0			42.5	
Approach LOS		B			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.3	25.9	10.4	55.4	12.7	21.6	29.8	36.0
Change Period (Y+Rc), s	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
Max Green Setting (Gmax), s	6.7	35.7	9.7	26.7	12.7	29.7	5.7	30.7
Max Q Clear Time (g_c+I1), s	4.5	18.4	5.9	9.2	7.8	11.9	4.0	6.1
Green Ext Time (p_c), s	0.0	1.0	0.0	1.1	0.1	0.6	0.0	0.7

Intersection Summary	
HCM 7th Control Delay, s/veh	30.1
HCM 7th LOS	C

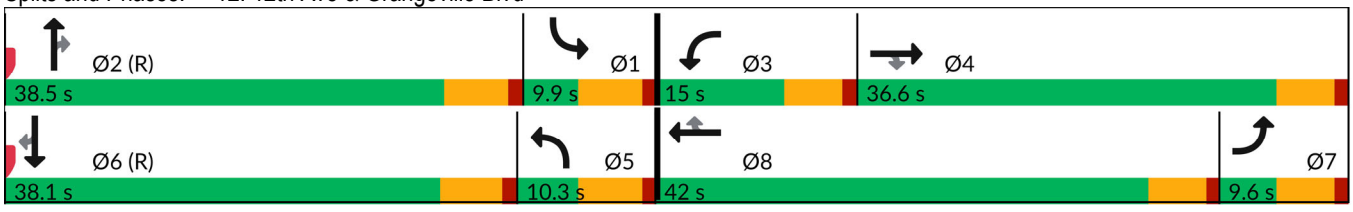


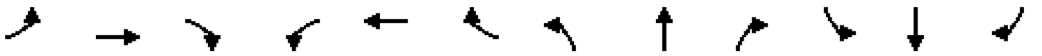
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	266	70	219	262	68	116	632	232	68	366	37
Future Volume (vph)	58	266	70	219	262	68	116	632	232	68	366	37
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	200		130	175		150	260		210	205		160
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor			0.98			0.97			0.98			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3162	3539	1458	3162	3539	1458	3162	3539	1458	3162	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3162	3539	1432	3162	3539	1415	3162	3539	1432	3162	3539	1415
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			149			252			203
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1623			5213			2228			5338	
Travel Time (s)		20.1			64.6			27.6			66.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	63	289	76	238	285	74	126	687	252	74	398	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	63	289	76	238	285	74	126	687	252	74	398	40
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	36.6	36.6	9.3	38.0	38.0	9.7	37.4	37.4	9.7	37.4	37.4
Total Split (s)	9.6	36.6	36.6	15.0	42.0	42.0	10.3	38.5	38.5	9.9	38.1	38.1
Total Split (%)	9.6%	36.6%	36.6%	15.0%	42.0%	42.0%	10.3%	38.5%	38.5%	9.9%	38.1%	38.1%
Maximum Green (s)	4.3	31.3	31.3	9.7	36.7	36.7	4.6	32.8	32.8	4.2	32.4	32.4
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		24.3	24.3		25.7	25.7		24.7	24.7		24.7	24.7
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	11.9	17.6	17.6	12.8	20.8	20.8	12.7	47.4	47.4	8.4	40.9	40.9
Actuated g/C Ratio	0.12	0.18	0.18	0.13	0.21	0.21	0.13	0.47	0.47	0.08	0.41	0.41
v/c Ratio	0.17	0.46	0.20	0.59	0.39	0.18	0.32	0.41	0.31	0.28	0.28	0.06
Control Delay (s/veh)	44.4	40.3	9.1	47.5	35.5	1.0	29.8	15.6	4.3	33.6	11.6	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	44.4	40.3	9.1	47.5	35.5	1.0	29.8	15.6	4.3	33.6	11.6	0.2
LOS	D	D	A	D	D	A	C	B	A	C	B	A
Approach Delay (s/veh)		35.4			36.0			14.6			13.8	
Approach LOS		D			D			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 10 (10%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay (s/veh): 22.8		Intersection LOS: C	
Intersection Capacity Utilization 60.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 12: 12th Ave & Grangeville Blvd

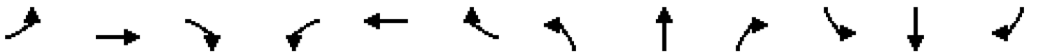




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	266	70	219	262	68	116	632	232	68	366	37
Future Volume (veh/h)	58	266	70	219	262	68	116	632	232	68	366	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.96	1.00		0.98	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	63	289	76	238	285	74	126	687	252	74	398	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	542	217	336	533	210	1278	875	352	1068	641	253
Arrive On Green	0.04	0.05	0.05	0.11	0.15	0.15	0.80	0.49	0.49	0.34	0.18	0.18
Sat Flow, veh/h	3183	3554	1424	3183	3554	1400	3183	3554	1431	3183	3554	1405
Grp Volume(v), veh/h	63	289	76	238	285	74	126	687	252	74	398	40
Grp Sat Flow(s),veh/h/ln	1591	1777	1424	1591	1777	1400	1591	1777	1431	1591	1777	1405
Q Serve(g_s), s	1.9	7.9	2.1	7.2	7.4	4.7	0.8	16.0	9.8	1.6	10.3	2.4
Cycle Q Clear(g_c), s	1.9	7.9	2.1	7.2	7.4	4.7	0.8	16.0	9.8	1.6	10.3	2.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	542	217	336	533	210	1278	875	352	1068	641	253
V/C Ratio(X)	0.18	0.53	0.35	0.71	0.53	0.35	0.10	0.78	0.71	0.07	0.62	0.16
Avail Cap(c_a), veh/h	344	1159	464	350	1350	532	1278	1226	494	1068	1212	479
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.97	0.77	0.77	0.77	0.92	0.92	0.92	0.88	0.88	0.88
Uniform Delay (d), s/veh	43.9	44.0	6.9	43.2	39.3	38.1	6.0	23.2	11.4	22.6	37.8	34.6
Incr Delay (d2), s/veh	0.2	0.8	0.9	4.8	0.6	0.8	0.0	6.5	10.9	0.0	4.0	1.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.5	1.7	2.9	3.1	1.6	0.3	5.3	4.2	0.6	4.6	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	44.2	44.8	7.8	48.0	39.9	38.9	6.0	29.7	22.2	22.6	41.8	35.7
LnGrp LOS	D	D	A	D	D	D	A	C	C	C	D	D
Approach Vol, veh/h		428			597			1065			512	
Approach Delay, s/veh		38.1			43.0			25.1			38.5	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	37.6	28.6	14.6	19.2	44.2	22.0	14.8	19.0
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	4.2	32.8	9.7	31.3	4.6	32.4	4.3	36.7
Max Q Clear Time (g_c+I1), s	3.6	18.0	9.2	9.9	2.8	12.3	3.9	9.4
Green Ext Time (p_c), s	0.0	3.6	0.0	1.4	0.1	1.7	0.0	1.4

Intersection Summary	
HCM 7th Control Delay, s/veh	34.0
HCM 7th LOS	C

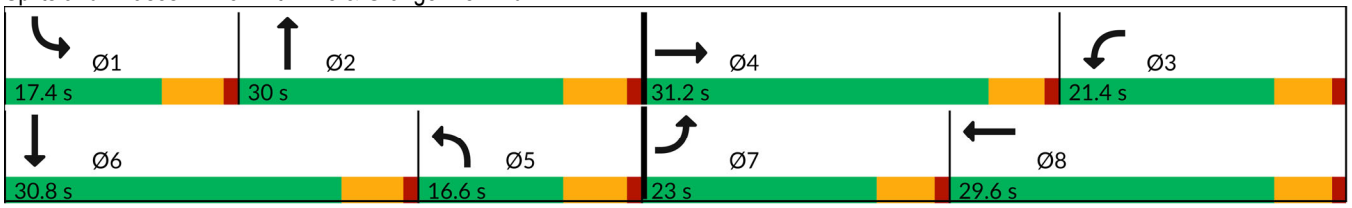


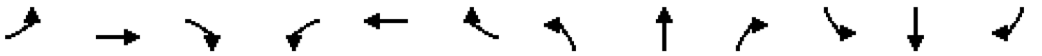
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	375	35	141	380	87	83	795	138	95	388	69
Future Volume (vph)	152	375	35	141	380	87	83	795	138	95	388	69
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	100		0	100		0	185		0	110		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00			0.99			1.00			1.00	
Frt		0.987			0.972			0.978			0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	3483	0	1630	3419	0	1630	3451	0	1630	3447	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	3483	0	1630	3419	0	1630	3451	0	1630	3447	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			27			19			20	
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5213			2670			5342			3291	
Travel Time (s)		64.6			33.1			66.2			40.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	165	408	38	153	413	95	90	864	150	103	422	75
Shared Lane Traffic (%)												
Lane Group Flow (vph)	165	446	0	153	508	0	90	1014	0	103	497	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	9.3	25.2		9.3	29.5		9.7	26.0		9.7	26.0	
Total Split (s)	23.0	31.2		21.4	29.6		16.6	30.0		17.4	30.8	
Total Split (%)	23.0%	31.2%		21.4%	29.6%		16.6%	30.0%		17.4%	30.8%	
Maximum Green (s)	17.7	25.9		16.1	24.3		10.9	24.3		11.7	25.1	
Yellow Time (s)	4.3	4.3		4.3	4.3		4.7	4.7		4.7	4.7	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-1.3	-1.3		-1.3	-1.3		-1.7	-1.7		-1.7	-1.7	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		12.9			17.2			13.3			13.3	
Pedestrian Calls (#/hr)		5			5			5			5	
Act Effct Green (s)	14.8	17.5		16.1	18.8		15.5	26.9		11.7	23.0	
Actuated g/C Ratio	0.17	0.21		0.19	0.22		0.18	0.32		0.14	0.27	
v/c Ratio	0.58	0.62		0.50	0.66		0.30	0.92		0.46	0.53	
Control Delay (s/veh)	43.7	35.4		39.2	34.1		37.2	45.3		45.1	31.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	43.7	35.4		39.2	34.1		37.2	45.3		45.1	31.0	
LOS	D	D		D	C		D	D		D	C	
Approach Delay (s/veh)		37.6			35.3			44.7			33.4	
Approach LOS		D			D			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 85.3			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.92			
Intersection Signal Delay (s/veh): 38.9		Intersection LOS: D	
Intersection Capacity Utilization 69.1%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 13: 11th Ave & Grangeville Blvd

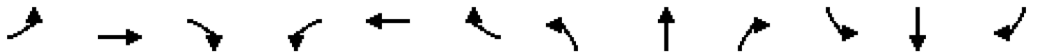




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	375	35	141	380	87	83	795	138	95	388	69
Future Volume (veh/h)	152	375	35	141	380	87	83	795	138	95	388	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	165	408	38	153	413	95	90	864	150	103	422	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	230	619	57	270	609	139	366	1001	174	165	630	111
Arrive On Green	0.14	0.19	0.17	0.16	0.21	0.20	0.22	0.33	0.31	0.10	0.21	0.19
Sat Flow, veh/h	1641	3275	303	1641	2853	649	1641	3018	524	1641	3007	530
Grp Volume(v), veh/h	165	220	226	153	255	253	90	509	505	103	248	249
Grp Sat Flow(s),veh/h/ln	1641	1777	1801	1641	1777	1725	1641	1777	1765	1641	1777	1761
Q Serve(g_s), s	7.2	8.6	8.7	6.4	9.9	10.1	3.4	20.1	20.1	4.5	9.6	9.8
Cycle Q Clear(g_c), s	7.2	8.6	8.7	6.4	9.9	10.1	3.4	20.1	20.1	4.5	9.6	9.8
Prop In Lane	1.00		0.17	1.00		0.38	1.00		0.30	1.00		0.30
Lane Grp Cap(c), veh/h	230	336	341	270	379	368	366	589	585	165	372	369
V/C Ratio(X)	0.72	0.66	0.66	0.57	0.67	0.69	0.25	0.86	0.86	0.62	0.67	0.68
Avail Cap(c_a), veh/h	417	646	655	382	608	590	366	618	613	294	637	631
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.7	28.1	28.2	28.8	27.0	27.3	23.9	23.4	23.7	32.3	27.2	27.5
Incr Delay (d2), s/veh	4.2	2.2	2.2	1.9	2.1	2.3	0.3	11.7	11.8	3.8	2.1	2.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	3.4	3.5	2.4	3.9	3.9	1.2	9.0	9.0	1.8	3.8	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	34.9	30.2	30.4	30.6	29.1	29.6	24.2	35.1	35.5	36.1	29.2	29.6
LnGrp LOS	C	C	C	C	C	C	C	D	D	D	C	C
Approach Vol, veh/h		611			661			1104			600	
Approach Delay, s/veh		31.6			29.7			34.4			30.6	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	28.8	16.3	18.1	20.7	19.7	14.5	20.0
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	11.7	24.3	16.1	25.9	10.9	25.1	17.7	24.3
Max Q Clear Time (g_c+I1), s	6.5	22.1	8.4	10.7	5.4	11.8	9.2	12.1
Green Ext Time (p_c), s	0.1	1.0	0.3	1.4	0.1	1.5	0.3	1.5

Intersection Summary	
HCM 7th Control Delay, s/veh	32.0
HCM 7th LOS	C

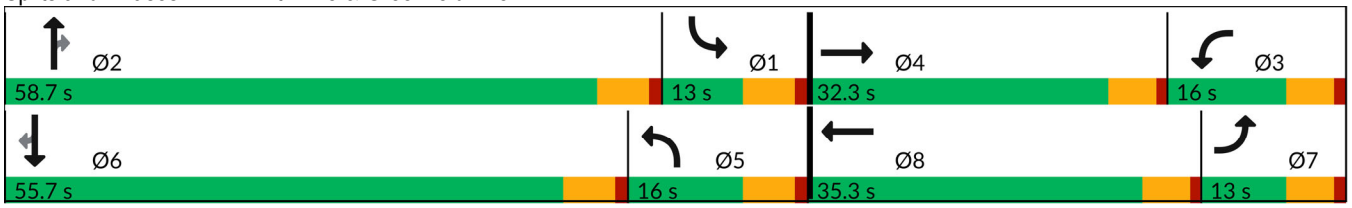


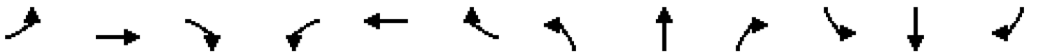
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	66	21	41	81	77	46	858	71	32	573	38
Future Volume (vph)	31	66	21	41	81	77	46	858	71	32	573	38
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	185		0	150		0	250		85	260		130
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor		1.00			0.99				0.98			0.98
Frt		0.964			0.927				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	3395	0	1630	3249	0	1630	3539	1458	1630	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	3395	0	1630	3249	0	1630	3539	1428	1630	3539	1427
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			84				121			121
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		327			331			1372			2228	
Travel Time (s)		4.1			4.1			17.0			27.6	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	34	72	23	45	88	84	50	933	77	35	623	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	34	95	0	45	172	0	50	933	77	35	623	41
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	32.3		9.3	33.7		9.7	28.8	28.8	9.7	27.4	27.4
Total Split (s)	13.0	32.3		16.0	35.3		16.0	58.7	58.7	13.0	55.7	55.7
Total Split (%)	10.8%	26.9%		13.3%	29.4%		13.3%	48.9%	48.9%	10.8%	46.4%	46.4%
Maximum Green (s)	7.7	27.0		10.7	30.0		10.3	53.0	53.0	7.3	50.0	50.0
Yellow Time (s)	4.3	4.3		4.3	4.3		4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3		-1.3	-1.3		-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lead		Lag	Lead		Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)		20.0			21.4			16.1	16.1		14.7	14.7
Pedestrian Calls (#/hr)		5			5			5	5		5	5
Act Effct Green (s)	9.4	11.6		10.0	14.4		13.4	30.9	30.9	9.6	27.2	27.2
Actuated g/C Ratio	0.14	0.18		0.15	0.22		0.21	0.47	0.47	0.15	0.42	0.42
v/c Ratio	0.14	0.15		0.18	0.22		0.15	0.56	0.10	0.15	0.42	0.06
Control Delay (s/veh)	37.2	22.8		36.1	15.0		29.7	18.0	1.4	37.7	20.9	0.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	37.2	22.8		36.1	15.0		29.7	18.0	1.4	37.7	20.9	0.2
LOS	D	C		D	B		C	B	A	D	C	A
Approach Delay (s/veh)		26.6			19.4			17.3			20.5	
Approach LOS		C			B			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 65.1			
Natural Cycle: 85			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay (s/veh): 19.2		Intersection LOS: B	
Intersection Capacity Utilization 51.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 14: 12th Ave & Greenfield Ave

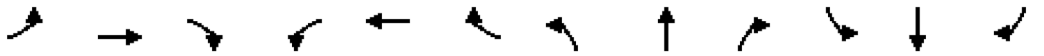




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	66	21	41	81	77	46	858	71	32	573	38
Future Volume (veh/h)	31	66	21	41	81	77	46	858	71	32	573	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	34	72	23	45	88	84	50	933	77	35	623	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	93	366	111	128	286	242	272	1409	569	107	1052	424
Arrive On Green	0.06	0.14	0.11	0.08	0.16	0.13	0.17	0.40	0.40	0.07	0.30	0.30
Sat Flow, veh/h	1641	2665	808	1641	1802	1522	1641	3554	1435	1641	3554	1433
Grp Volume(v), veh/h	34	47	48	45	87	85	50	933	77	35	623	41
Grp Sat Flow(s),veh/h/ln	1641	1777	1696	1641	1777	1548	1641	1777	1435	1641	1777	1433
Q Serve(g_s), s	1.0	1.2	1.3	1.3	2.1	2.5	1.3	10.6	1.7	1.0	7.4	1.0
Cycle Q Clear(g_c), s	1.0	1.2	1.3	1.3	2.1	2.5	1.3	10.6	1.7	1.0	7.4	1.0
Prop In Lane	1.00		0.48	1.00		0.98	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	93	244	233	128	282	246	272	1409	569	107	1052	424
V/C Ratio(X)	0.37	0.19	0.21	0.35	0.31	0.35	0.18	0.66	0.14	0.33	0.59	0.10
Avail Cap(c_a), veh/h	298	1016	969	398	1123	978	398	3926	1586	298	3711	1496
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.5	18.9	19.2	21.6	18.4	19.1	17.8	12.2	9.5	22.1	14.9	12.6
Incr Delay (d2), s/veh	2.4	0.4	0.4	1.6	0.6	0.8	0.3	0.5	0.1	1.8	0.5	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.4	0.4	0.5	0.7	0.8	0.4	2.8	0.4	0.4	2.2	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	24.9	19.3	19.7	23.3	19.0	20.0	18.1	12.8	9.6	23.9	15.4	12.7
LnGrp LOS	C	B	B	C	B	B	B	B	A	C	B	B
Approach Vol, veh/h		129			217			1060			699	
Approach Delay, s/veh		20.9			20.3			12.8			15.7	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.2	23.6	7.9	10.8	12.2	18.7	6.8	11.9
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	7.3	53.0	10.7	27.0	10.3	50.0	7.7	30.0
Max Q Clear Time (g_c+I1), s	3.0	12.6	3.3	3.3	3.3	9.4	3.0	4.5
Green Ext Time (p_c), s	0.0	4.9	0.0	0.3	0.0	2.9	0.0	0.6

Intersection Summary	
HCM 7th Control Delay, s/veh	15.0
HCM 7th LOS	B

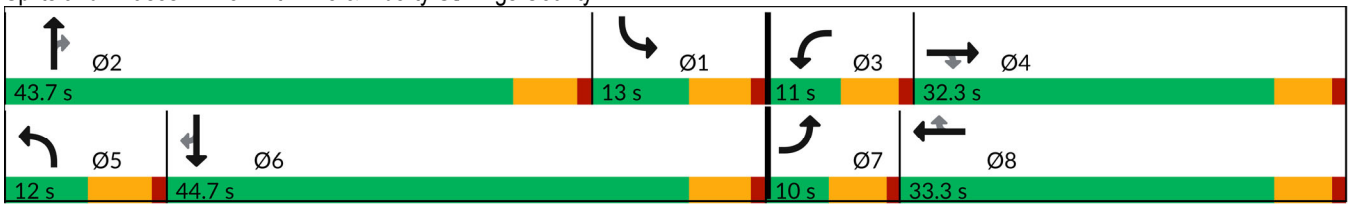


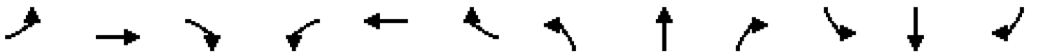
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	21	23	17	73	194	31	721	6	46	584	11
Future Volume (vph)	4	21	23	17	73	194	31	721	6	46	584	11
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	80		80	195		145	250		125	250		125
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98			0.98			0.97			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1863	1458	1630	3539	1458	1630	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1431	1630	1863	1430	1630	3539	1409	1630	3539	1409
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			212			212			145			145
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1718			718			1686			1372	
Travel Time (s)		21.3			8.9			20.9			17.0	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	4	23	25	18	79	211	34	784	7	50	635	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	23	25	18	79	211	34	784	7	50	635	12
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	32.3	32.3	9.3	30.9	30.9	9.7	26.0	26.0	9.7	26.0	26.0
Total Split (s)	10.0	32.3	32.3	11.0	33.3	33.3	12.0	43.7	43.7	13.0	44.7	44.7
Total Split (%)	10.0%	32.3%	32.3%	11.0%	33.3%	33.3%	12.0%	43.7%	43.7%	13.0%	44.7%	44.7%
Maximum Green (s)	4.7	27.0	27.0	5.7	28.0	28.0	6.3	38.0	38.0	7.3	39.0	39.0
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		20.0	20.0		18.6	18.6		13.3	13.3		13.3	13.3
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	6.9	11.8	11.8	7.9	11.9	11.9	8.8	24.4	24.4	9.4	27.6	27.6
Actuated g/C Ratio	0.13	0.22	0.22	0.15	0.22	0.22	0.16	0.46	0.46	0.18	0.52	0.52
v/c Ratio	0.02	0.06	0.05	0.08	0.19	0.44	0.13	0.49	0.01	0.17	0.35	0.02
Control Delay (s/veh)	32.5	20.9	0.2	31.2	20.8	6.9	29.9	14.7	0.0	28.9	11.6	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	32.5	20.9	0.2	31.2	20.8	6.9	29.9	14.7	0.0	28.9	11.6	0.0
LOS	C	C	A	C	C	A	C	B	A	C	B	A
Approach Delay (s/veh)		11.8			11.9			15.2			12.7	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 53.5			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.49			
Intersection Signal Delay (s/veh): 13.6		Intersection LOS: B	
Intersection Capacity Utilization 48.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 15: 12th Ave & Liberty St/Kings County Dr

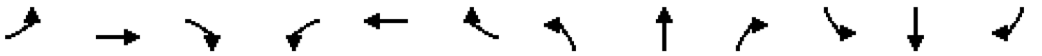




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	21	23	17	73	194	31	721	6	46	584	11
Future Volume (veh/h)	4	21	23	17	73	194	31	721	6	46	584	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	4	23	25	18	79	211	34	784	7	50	635	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	53	353	270	75	379	289	110	1234	492	126	1271	507
Arrive On Green	0.03	0.19	0.19	0.05	0.20	0.20	0.07	0.35	0.35	0.08	0.36	0.36
Sat Flow, veh/h	1641	1870	1428	1641	1870	1429	1641	3554	1417	1641	3554	1418
Grp Volume(v), veh/h	4	23	25	18	79	211	34	784	7	50	635	12
Grp Sat Flow(s),veh/h/ln	1641	1870	1428	1641	1870	1429	1641	1777	1417	1641	1777	1418
Q Serve(g_s), s	0.1	0.5	0.7	0.5	1.6	4.0	0.9	8.7	0.1	1.4	6.6	0.3
Cycle Q Clear(g_c), s	0.1	0.5	0.7	0.5	1.6	4.0	0.9	8.7	0.1	1.4	6.6	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	53	353	270	75	379	289	110	1234	492	126	1271	507
V/C Ratio(X)	0.08	0.07	0.09	0.24	0.21	0.73	0.31	0.64	0.01	0.40	0.50	0.02
Avail Cap(c_a), veh/h	210	1129	862	245	1169	893	280	3009	1200	315	3084	1230
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.0	15.6	15.7	21.6	15.6	6.7	20.9	12.8	3.1	20.6	11.8	9.8
Incr Delay (d2), s/veh	0.6	0.1	0.1	1.6	0.3	3.5	1.6	0.5	0.0	2.0	0.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.2	0.2	0.6	1.7	0.3	2.4	0.0	0.5	1.7	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	22.6	15.7	15.8	23.2	15.8	10.3	22.4	13.4	3.1	22.6	12.1	9.8
LnGrp LOS	C	B	B	C	B	B	C	B	A	C	B	A
Approach Vol, veh/h		52			308			825			697	
Approach Delay, s/veh		16.3			12.4			13.7			12.8	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	20.3	6.1	12.9	7.1	20.8	5.5	13.5
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	7.3	38.0	5.7	27.0	6.3	39.0	4.7	28.0
Max Q Clear Time (g_c+I1), s	3.4	10.7	2.5	2.7	2.9	8.6	2.1	6.0
Green Ext Time (p_c), s	0.0	3.5	0.0	0.1	0.0	2.8	0.0	1.0

Intersection Summary	
HCM 7th Control Delay, s/veh	13.2
HCM 7th LOS	B

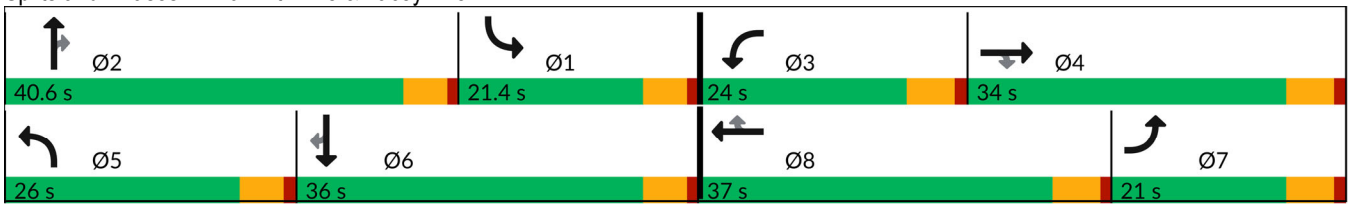


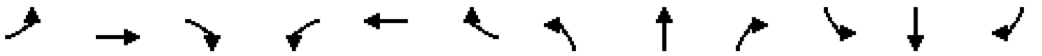
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	247	257	129	294	394	89	153	472	89	115	535	78
Future Volume (vph)	247	257	129	294	394	89	153	472	89	115	535	78
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	270		120	270		170	240		175	240		120
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98			0.98			0.98			0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3162	3539	1458	3162	3539	1458	1630	3539	1458	1630	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3162	3539	1429	3162	3539	1430	1630	3539	1431	1630	3539	1430
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			155			155			162			162
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		3432			5219			1893			1686	
Travel Time (s)		42.5			64.7			23.5			20.9	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	268	279	140	320	428	97	166	513	97	125	582	85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	268	279	140	320	428	97	166	513	97	125	582	85
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	31.7	31.7	9.3	34.5	34.5	8.9	36.6	36.6	8.9	35.2	35.2
Total Split (s)	21.0	34.0	34.0	24.0	37.0	37.0	26.0	40.6	40.6	21.4	36.0	36.0
Total Split (%)	17.5%	28.3%	28.3%	20.0%	30.8%	30.8%	21.7%	33.8%	33.8%	17.8%	30.0%	30.0%
Maximum Green (s)	15.7	28.7	28.7	18.7	31.7	31.7	21.1	35.7	35.7	16.5	31.1	31.1
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	3.9	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-0.9	-0.9	-0.9	-0.9	1.0	1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.9	5.9
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		19.4	19.4		22.2	22.2		24.7	24.7		23.3	23.3
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	14.2	17.2	17.2	15.7	18.7	18.7	15.4	20.5	20.5	16.3	19.4	19.4
Actuated g/C Ratio	0.16	0.20	0.20	0.18	0.22	0.22	0.18	0.24	0.24	0.19	0.22	0.22
v/c Ratio	0.52	0.40	0.34	0.56	0.56	0.23	0.57	0.61	0.21	0.41	0.73	0.19
Control Delay (s/veh)	40.1	33.8	7.1	39.1	34.7	2.1	44.3	34.1	1.4	39.2	38.5	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	40.1	33.8	7.1	39.1	34.7	2.1	44.3	34.1	1.4	39.2	38.5	0.9
LOS	D	C	A	D	C	A	D	C	A	D	D	A
Approach Delay (s/veh)		30.8			32.6			32.2			34.5	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 86.5			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay (s/veh): 32.6		Intersection LOS: C	
Intersection Capacity Utilization 61.1%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 16: 12th Ave & Lacey Ave





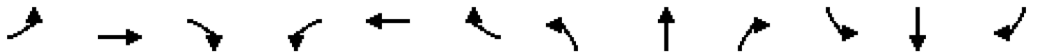
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	247	257	129	294	394	89	153	472	89	115	535	78
Future Volume (veh/h)	247	257	129	294	394	89	153	472	89	115	535	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	268	279	140	320	428	97	166	513	97	125	582	85
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	444	694	279	506	764	307	231	845	340	265	813	327
Arrive On Green	0.14	0.20	0.20	0.16	0.22	0.22	0.14	0.24	0.24	0.16	0.23	0.23
Sat Flow, veh/h	3183	3554	1428	3183	3554	1429	1641	3554	1431	1641	3554	1430
Grp Volume(v), veh/h	268	279	140	320	428	97	166	513	97	125	582	85
Grp Sat Flow(s),veh/h/ln	1591	1777	1428	1591	1777	1429	1641	1777	1431	1641	1777	1430
Q Serve(g_s), s	5.1	4.4	5.7	6.1	7.0	3.7	6.3	8.3	2.1	4.5	9.8	2.1
Cycle Q Clear(g_c), s	5.1	4.4	5.7	6.1	7.0	3.7	6.3	8.3	2.1	4.5	9.8	2.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	444	694	279	506	764	307	231	845	340	265	813	327
V/C Ratio(X)	0.60	0.40	0.50	0.63	0.56	0.32	0.72	0.61	0.29	0.47	0.72	0.26
Avail Cap(c_a), veh/h	834	1644	660	981	1808	727	556	2005	807	440	1649	664
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.2	22.8	23.3	25.5	22.7	21.4	26.6	22.0	7.1	24.7	23.1	9.0
Incr Delay (d2), s/veh	1.3	0.4	1.4	1.3	0.6	0.6	4.2	0.7	0.5	1.3	1.2	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	1.6	1.7	2.1	2.5	1.1	2.4	3.0	1.0	1.6	3.6	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.6	23.2	24.7	26.8	23.4	22.0	30.8	22.7	7.6	26.0	24.3	9.4
LnGrp LOS	C	C	C	C	C	C	C	C	A	C	C	A
Approach Vol, veh/h		687			845			776			792	
Approach Delay, s/veh		25.2			24.5			22.6			22.9	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.5	19.4	14.3	16.7	13.1	20.7	13.0	17.9
Change Period (Y+Rc), s	4.9	4.9	5.3	5.3	4.9	4.9	5.3	5.3
Max Green Setting (Gmax), s	16.5	35.7	18.7	28.7	21.1	31.1	15.7	31.7
Max Q Clear Time (g_c+I1), s	6.5	10.3	8.1	7.7	8.3	11.8	7.1	9.0
Green Ext Time (p_c), s	0.2	2.5	0.9	1.6	0.4	2.7	0.7	2.1

Intersection Summary	
HCM 7th Control Delay, s/veh	23.8
HCM 7th LOS	C

Notes

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

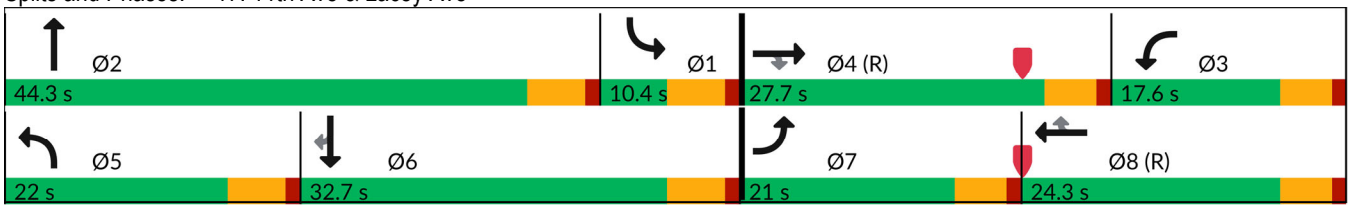


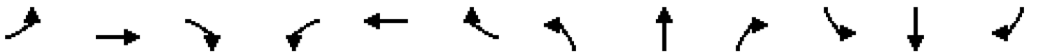
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	216	288	158	99	292	88	239	522	69	86	402	103
Future Volume (vph)	216	288	158	99	292	88	239	522	69	86	402	103
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	200		100	130		100	70		0	160		105
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.96			0.98		1.00				0.98
Frt			0.850			0.850		0.982				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	3539	1458	1630	3539	1458	1630	1825	0	1630	1863	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	3539	1403	1630	3539	1425	1630	1825	0	1630	1863	1431
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			194			194		8				185
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5219			6528			4809			5342	
Travel Time (s)		64.7			80.9			59.6			66.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	235	313	172	108	317	96	260	567	75	93	437	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	235	313	172	108	317	96	260	642	0	93	437	112
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50		50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.9	22.9	22.9	8.9	22.9	22.9	9.3	31.3		9.3	32.7	32.7
Total Split (s)	21.0	27.7	27.7	17.6	24.3	24.3	22.0	44.3		10.4	32.7	32.7
Total Split (%)	21.0%	27.7%	27.7%	17.6%	24.3%	24.3%	22.0%	44.3%		10.4%	32.7%	32.7%
Maximum Green (s)	16.1	22.8	22.8	12.7	19.4	19.4	16.7	39.0		5.1	27.4	27.4
Yellow Time (s)	3.9	3.9	3.9	3.9	3.9	3.9	4.3	4.3		4.3	4.3	4.3
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-1.3	-1.3		-1.3	-1.3	-1.3
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Don't Walk (s)		9.4	9.4		9.4	9.4		19.0			20.4	20.4
Pedestrian Calls (#/hr)		5	5		5	5		5			5	5
Act Effct Green (s)	16.6	24.5	24.5	13.6	21.5	21.5	17.8	38.3		7.5	28.0	28.0
Actuated g/C Ratio	0.17	0.25	0.25	0.14	0.22	0.22	0.18	0.38		0.08	0.28	0.28
v/c Ratio	0.87	0.36	0.35	0.49	0.42	0.21	0.90	0.91		0.76	0.84	0.21
Control Delay (s/veh)	71.3	33.0	5.5	48.3	36.3	1.0	73.3	47.5		83.5	49.4	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	71.3	33.0	5.5	48.3	36.3	1.0	73.3	47.5		83.5	49.4	1.3
LOS	E	C	A	D	D	A	E	D		F	D	A
Approach Delay (s/veh)		38.9			32.3			54.9			45.9	
Approach LOS		D			C			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 10 (10%), Referenced to phase 4:EBT and 8:WBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay (s/veh): 44.5		Intersection LOS: D	
Intersection Capacity Utilization 76.9%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 17: 11th Ave & Lacey Ave

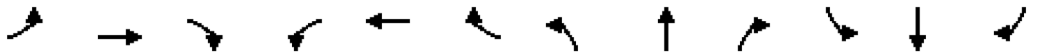




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	216	288	158	99	292	88	239	522	69	86	402	103
Future Volume (veh/h)	216	288	158	99	292	88	239	522	69	86	402	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	235	313	172	108	317	96	260	567	75	93	437	112
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	276	842	334	257	801	322	295	611	81	111	499	382
Arrive On Green	0.17	0.24	0.24	0.16	0.23	0.23	0.18	0.38	0.37	0.07	0.27	0.27
Sat Flow, veh/h	1641	3554	1411	1641	3554	1430	1641	1614	213	1641	1870	1432
Grp Volume(v), veh/h	235	313	172	108	317	96	260	0	642	93	437	112
Grp Sat Flow(s),veh/h/ln	1641	1777	1411	1641	1777	1430	1641	0	1828	1641	1870	1432
Q Serve(g_s), s	13.9	7.4	6.7	5.9	7.6	4.4	15.4	0.0	33.6	5.6	22.4	6.2
Cycle Q Clear(g_c), s	13.9	7.4	6.7	5.9	7.6	4.4	15.4	0.0	33.6	5.6	22.4	6.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	276	842	334	257	801	322	295	0	692	111	499	382
V/C Ratio(X)	0.85	0.37	0.51	0.42	0.40	0.30	0.88	0.00	0.93	0.84	0.88	0.29
Avail Cap(c_a), veh/h	279	842	334	257	801	322	295	0	736	111	537	411
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94	0.94	1.00	1.00	1.00	1.00	0.00	1.00	0.84	0.84	0.84
Uniform Delay (d), s/veh	40.4	31.9	13.4	38.1	32.9	19.9	40.0	0.0	29.8	46.1	35.1	29.2
Incr Delay (d2), s/veh	20.4	1.2	5.2	1.1	1.5	2.4	24.9	0.0	17.3	35.2	12.5	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	3.1	3.7	2.3	3.2	2.0	7.8	0.0	16.5	3.2	11.1	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	60.8	33.1	18.6	39.2	34.4	22.2	64.9	0.0	47.1	81.3	47.6	29.5
LnGrp LOS	E	C	B	D	C	C	E		D	F	D	C
Approach Vol, veh/h		720			521			902			642	
Approach Delay, s/veh		38.7			33.1			52.2			49.3	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.8	41.9	19.6	27.7	22.0	30.7	20.8	26.5
Change Period (Y+Rc), s	5.3	5.3	4.9	4.9	5.3	5.3	4.9	4.9
Max Green Setting (Gmax), s	5.1	39.0	12.7	22.8	16.7	27.4	16.1	19.4
Max Q Clear Time (g_c+I1), s	7.6	35.6	7.9	9.4	17.4	24.4	15.9	9.6
Green Ext Time (p_c), s	0.0	0.9	0.1	1.6	0.0	0.7	0.0	1.2

Intersection Summary	
HCM 7th Control Delay, s/veh	44.5
HCM 7th LOS	D

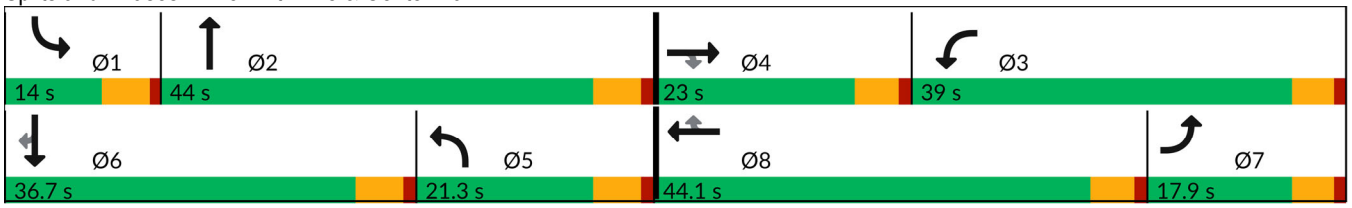


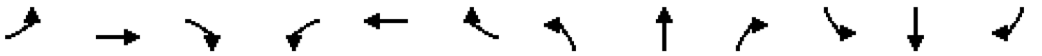
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	101	92	175	456	127	27	287	628	212	58	878	57
Future Volume (vph)	101	92	175	456	127	27	287	628	212	58	878	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	265		260	230		140	250		0	180		180
Storage Lanes	1		1	1		1	2		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	0.97	0.91	0.91	1.00	0.91	1.00
Ped Bike Factor						0.98		0.99				0.98
Frt			0.850			0.850		0.962				0.850
Flt Protected	0.950	0.995		0.950	0.972		0.950			0.950		
Satd. Flow (prot)	1681	1761	1583	1681	1720	1583	3433	4845	0	1770	5085	1583
Flt Permitted	0.950	0.980		0.950	0.708		0.950			0.950		
Satd. Flow (perm)	1681	1734	1583	1681	1253	1554	3433	4845	0	1770	5085	1547
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			206			162		76				155
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1154			586			1240			1893	
Travel Time (s)		14.3			7.3			15.4			23.5	
Confl. Peds. (#/hr)						5			5			5
Confl. Bikes (#/hr)						2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	110	100	190	496	138	29	312	683	230	63	954	62
Shared Lane Traffic (%)	10%			37%								
Lane Group Flow (vph)	99	111	190	312	322	29	312	913	0	63	954	62
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50		50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.9	22.9	22.9	8.9	39.9	39.9	9.3	24.1		9.3	24.1	24.1
Total Split (s)	17.9	23.0	23.0	39.0	44.1	44.1	21.3	44.0		14.0	36.7	36.7
Total Split (%)	14.9%	19.2%	19.2%	32.5%	36.8%	36.8%	17.8%	36.7%		11.7%	30.6%	30.6%
Maximum Green (s)	13.0	18.1	18.1	34.1	39.2	39.2	16.0	38.7		8.7	31.4	31.4
Yellow Time (s)	3.9	3.9	3.9	3.9	3.9	3.9	4.3	4.3		4.3	4.3	4.3
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-1.3	-1.3		-1.3	-1.3	-1.3
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	Min
Walk Time (s)					7.0	7.0		7.0			7.0	7.0
Flash Don't Walk (s)					28.0	28.0		11.8			11.8	11.8
Pedestrian Calls (#/hr)					5	5		5			5	5
Act Effct Green (s)	11.8	11.8	19.1	33.0	33.0	40.3	15.6	37.1		9.2	28.1	28.1
Actuated g/C Ratio	0.11	0.11	0.17	0.29	0.29	0.36	0.14	0.33		0.08	0.25	0.25
v/c Ratio	0.56	0.60	0.43	0.63	0.64	0.04	0.65	0.55		0.43	0.75	0.12
Control Delay (s/veh)	61.7	63.2	8.1	41.8	41.9	0.1	53.5	30.1		61.0	42.9	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	61.7	63.2	8.1	41.8	41.9	0.1	53.5	30.1		61.0	42.9	0.5
LOS	E	E	A	D	D	A	D	C		E	D	A
Approach Delay (s/veh)		36.6			40.0			36.1			41.5	
Approach LOS		D			D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 112			
Natural Cycle: 85			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay (s/veh): 38.7		Intersection LOS: D	
Intersection Capacity Utilization 61.7%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 18: 12th Ave & Centennial Dr





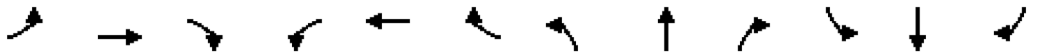
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	92	175	456	127	27	287	628	212	58	878	57
Future Volume (veh/h)	101	92	175	456	127	27	287	628	212	58	878	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	105	107	190	317	389	29	312	683	230	63	954	62
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	212	301	255	393	491	408	480	1296	428	111	1368	416
Arrive On Green	0.12	0.16	0.16	0.22	0.26	0.26	0.14	0.34	0.33	0.06	0.27	0.27
Sat Flow, veh/h	1781	1870	1585	1781	1870	1555	3456	3762	1244	1781	5106	1555
Grp Volume(v), veh/h	105	107	190	317	389	29	312	617	296	63	954	62
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1555	1728	1702	1602	1781	1702	1555
Q Serve(g_s), s	4.2	3.8	8.6	12.8	14.6	0.8	6.5	11.0	11.4	2.6	12.7	2.3
Cycle Q Clear(g_c), s	4.2	3.8	8.6	12.8	14.6	0.8	6.5	11.0	11.4	2.6	12.7	2.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.78	1.00		1.00
Lane Grp Cap(c), veh/h	212	301	255	393	491	408	480	1173	552	111	1368	416
V/C Ratio(X)	0.50	0.36	0.74	0.81	0.79	0.07	0.65	0.53	0.54	0.57	0.70	0.15
Avail Cap(c_a), veh/h	327	470	398	824	992	824	791	1801	847	236	2208	672
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.2	28.2	30.2	27.9	25.9	11.5	30.8	19.8	20.4	34.5	24.9	21.1
Incr Delay (d2), s/veh	1.8	0.7	4.3	3.9	2.9	0.1	1.5	0.4	0.8	4.5	0.7	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	1.6	3.2	5.2	6.0	0.3	2.5	3.7	3.8	1.2	4.5	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	33.0	28.9	34.5	31.9	28.9	11.5	32.3	20.2	21.2	39.0	25.6	21.3
LnGrp LOS	C	C	C	C	C	B	C	C	C	D	C	C
Approach Vol, veh/h		402			735			1225			1079	
Approach Delay, s/veh		32.6			29.5			23.5			26.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	30.0	20.7	16.2	14.5	24.3	13.0	23.9
Change Period (Y+Rc), s	5.3	5.3	4.9	4.9	5.3	5.3	4.9	4.9
Max Green Setting (Gmax), s	8.7	38.7	34.1	18.1	16.0	31.4	13.0	39.2
Max Q Clear Time (g_c+I1), s	4.6	13.4	14.8	10.6	8.5	14.7	6.2	16.6
Green Ext Time (p_c), s	0.0	4.0	1.1	0.6	0.7	4.2	0.1	1.4

Intersection Summary	
HCM 7th Control Delay, s/veh	26.7
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

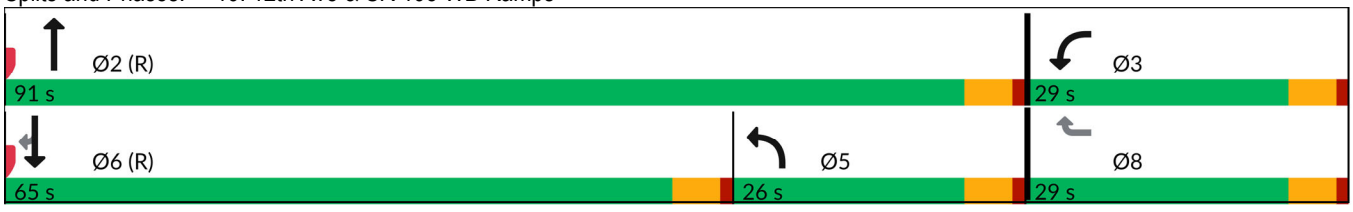


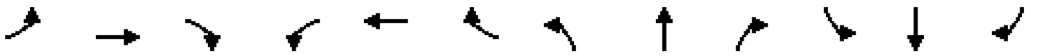
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	113	0	446	140	905	0	0	1024	586
Future Volume (vph)	0	0	0	113	0	446	140	905	0	0	1024	586
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	0		0	200		200	405		0	130		0
Storage Lanes	0		0	2		1	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	0.88	1.00	0.95	1.00	1.00	0.95	1.00
Frt						0.850						0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	3162	0	2567	1630	3539	0	0	3539	1458
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	3162	0	2567	1630	3539	0	0	3539	1458
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						324						637
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		239			374			625			1240	
Travel Time (s)		3.0			4.6			7.7			15.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	123	0	485	152	984	0	0	1113	637
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	123	0	485	152	984	0	0	1113	637
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1		1	1	1			1	1
Detector Template												
Leading Detector (ft)				50		50	50	50			50	50
Trailing Detector (ft)				0		0	0	0			0	0
Detector 1 Position(ft)				0		0	0	0			0	0
Detector 1 Size(ft)				50		50	50	50			50	50
Detector 1 Type				Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0		0.0	0.0	0.0			0.0	0.0
Detector 1 Queue (s)				0.0		0.0	0.0	0.0			0.0	0.0
Detector 1 Delay (s)				0.0		0.0	0.0	0.0			0.0	0.0
Turn Type				Prot		Perm	Prot	NA			NA	Perm
Protected Phases				3			5	2			6	
Permitted Phases						8						6
Detector Phase				3		8	5	2			6	6
Switch Phase												
Minimum Initial (s)				4.0		4.0	4.0	4.0			4.0	4.0
Minimum Split (s)				9.3		23.3	9.3	23.3			23.3	23.3
Total Split (s)				29.0		29.0	26.0	91.0			65.0	65.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)				24.2%		24.2%	21.7%	75.8%			54.2%	54.2%
Maximum Green (s)				23.7		23.7	20.7	85.7			59.7	59.7
Yellow Time (s)				4.3		4.3	4.3	4.3			4.3	4.3
All-Red Time (s)				1.0		1.0	1.0	1.0			1.0	1.0
Lost Time Adjust (s)				-1.3		-1.3	-1.3	-1.3			-1.3	-1.3
Total Lost Time (s)				4.0		4.0	4.0	4.0			4.0	4.0
Lead/Lag							Lag				Lead	Lead
Lead-Lag Optimize?							Yes				Yes	Yes
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	3.0
Recall Mode				None		None	None	C-Min			C-Min	C-Min
Act Effct Green (s)				15.5		15.5	17.7	96.5			74.9	74.9
Actuated g/C Ratio				0.13		0.13	0.15	0.80			0.62	0.62
v/c Ratio				0.30		0.79	0.63	0.35			0.50	0.55
Control Delay (s/veh)				47.7		25.9	59.4	4.0			15.0	3.2
Queue Delay				0.0		0.0	0.0	0.3			0.0	0.0
Total Delay (s/veh)				47.7		25.9	59.4	4.3			15.0	3.2
LOS				D		C	E	A			B	A
Approach Delay (s/veh)					30.3			11.7			10.7	
Approach LOS					C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay (s/veh): 14.4		Intersection LOS: B	
Intersection Capacity Utilization 54.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 19: 12th Ave & SR 198 WB Ramps

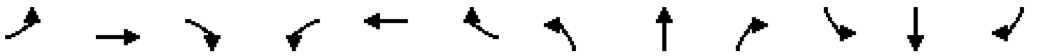




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	113	0	446	140	905	0	0	1024	586
Future Volume (veh/h)	0	0	0	113	0	446	140	905	0	0	1024	586
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1723	0	1723	1723	1870	0	0	1870	1723
Adj Flow Rate, veh/h				123	0	485	152	984	0	0	1113	637
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	0	2	2	2	0	0	2	2
Cap, veh/h				663	0	535	352	2576	0	0	1696	697
Arrive On Green				0.21	0.00	0.21	0.21	0.73	0.00	0.00	0.48	0.48
Sat Flow, veh/h				3183	0	2569	1641	3647	0	0	3647	1460
Grp Volume(v), veh/h				123	0	485	152	984	0	0	1113	637
Grp Sat Flow(s),veh/h/ln				1591	0	1285	1641	1777	0	0	1777	1460
Q Serve(g_s), s				3.8	0.0	22.1	9.6	12.6	0.0	0.0	28.6	48.6
Cycle Q Clear(g_c), s				3.8	0.0	22.1	9.6	12.6	0.0	0.0	28.6	48.6
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				663	0	535	352	2576	0	0	1696	697
V/C Ratio(X)				0.19	0.00	0.91	0.43	0.38	0.00	0.00	0.66	0.91
Avail Cap(c_a), veh/h				663	0	535	352	2576	0	0	1806	742
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.89	0.89	0.00	0.00	0.68	0.68
Uniform Delay (d), s/veh				39.1	0.0	46.4	40.8	6.3	0.0	0.0	23.9	29.1
Incr Delay (d2), s/veh				0.1	0.0	19.1	0.7	0.4	0.0	0.0	1.4	13.8
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.4	0.0	8.1	3.8	3.6	0.0	0.0	11.2	17.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				39.2	0.0	65.4	41.6	6.7	0.0	0.0	25.2	42.9
LnGrp LOS				D		E	D	A			C	D
Approach Vol, veh/h					608			1136			1750	
Approach Delay, s/veh					60.1			11.3			31.7	
Approach LOS					E			B			C	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	91.0		29.7	61.3		29.0						
Change Period (Y+Rc), s	5.3		5.3	5.3		5.3						
Max Green Setting (Gmax), s	85.7		20.7	59.7		23.7						
Max Q Clear Time (g_c+I1), s	14.6		11.6	50.6		24.1						
Green Ext Time (p_c), s	4.9		0.3	5.4		0.0						

Intersection Summary		
HCM 7th Control Delay, s/veh	30.0	
HCM 7th LOS	C	

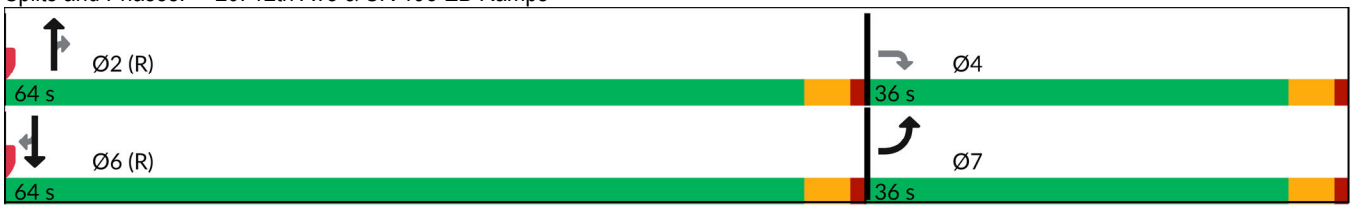


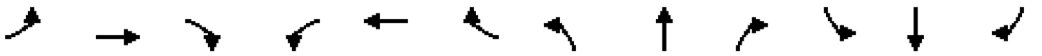
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	440	0	170	0	0	0	0	611	93	0	686	481
Future Volume (vph)	440	0	170	0	0	0	0	611	93	0	686	481
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	210		210	0		0	0		0	0		160
Storage Lanes	2		0	0		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850						0.850			0.850
Flt Protected	0.950											
Satd. Flow (prot)	3162	0	1458	0	0	0	0	3539	1458	0	3539	1458
Flt Permitted	0.950											
Satd. Flow (perm)	3162	0	1458	0	0	0	0	3539	1458	0	3539	1458
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			185						101			523
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		206			226			520			625	
Travel Time (s)		2.6			2.8			6.4			7.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	478	0	185	0	0	0	0	664	101	0	746	523
Shared Lane Traffic (%)												
Lane Group Flow (vph)	478	0	185	0	0	0	0	664	101	0	746	523
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1		1					1	1		1	1
Detector Template												
Leading Detector (ft)	50		50					50	50		50	50
Trailing Detector (ft)	0		0					0	0		0	0
Detector 1 Position(ft)	0		0					0	0		0	0
Detector 1 Size(ft)	50		50					50	50		50	50
Detector 1 Type	Cl+Ex		Cl+Ex					Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0					0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0					0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0					0.0	0.0		0.0	0.0
Turn Type	Prot		Perm					NA	Perm		NA	Perm
Protected Phases	7							2			6	
Permitted Phases			4						2			6
Detector Phase	7		4					2	2		6	6
Switch Phase												
Minimum Initial (s)	4.0		4.0					4.0	4.0		4.0	4.0
Minimum Split (s)	8.5		22.5					22.5	22.5		22.5	22.5
Total Split (s)	36.0		36.0					64.0	64.0		64.0	64.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	36.0%		36.0%					64.0%	64.0%		64.0%	64.0%
Maximum Green (s)	31.5		31.5					59.5	59.5		59.5	59.5
Yellow Time (s)	3.5		3.5					3.5	3.5		3.5	3.5
All-Red Time (s)	1.0		1.0					1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-0.5		-0.5					-0.5	0.0		-0.5	0.0
Total Lost Time (s)	4.0		4.0					4.0	4.5		4.0	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0		3.0					3.0	3.0		3.0	3.0
Recall Mode	None		None					C-Min	C-Min		C-Min	C-Min
Act Effct Green (s)	21.0		21.0					71.0	70.5		71.0	70.5
Actuated g/C Ratio	0.21		0.21					0.71	0.71		0.71	0.71
v/c Ratio	0.72		0.41					0.26	0.10		0.30	0.44
Control Delay (s/veh)	43.0		7.5					5.9	1.5		6.1	1.9
Queue Delay	0.0		0.0					0.0	0.0		0.0	0.0
Total Delay (s/veh)	43.0		7.5					5.9	1.5		6.1	1.9
LOS	D		A					A	A		A	A
Approach Delay (s/veh)		33.1						5.3			4.3	
Approach LOS		C						A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 28 (28%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay (s/veh): 11.7		Intersection LOS: B	
Intersection Capacity Utilization 39.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 20: 12th Ave & SR 198 EB Ramps

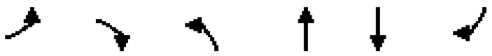




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	440	0	170	0	0	0	0	611	93	0	686	481
Future Volume (veh/h)	440	0	170	0	0	0	0	611	93	0	686	481
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1723	0	1723				0	1870	1723	0	1870	1723
Adj Flow Rate, veh/h	478	0	185				0	664	101	0	746	523
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	2
Cap, veh/h	613	0	281				0	2584	1054	0	2584	1054
Arrive On Green	0.19	0.00	0.19				0.00	0.73	0.72	0.00	0.73	0.72
Sat Flow, veh/h	3183	0	1460				0	3647	1460	0	3647	1460
Grp Volume(v), veh/h	478	0	185				0	664	101	0	746	523
Grp Sat Flow(s),veh/h/ln	1591	0	1460				0	1777	1460	0	1777	1460
Q Serve(g_s), s	14.3	0.0	11.7				0.0	6.3	2.1	0.0	7.2	15.5
Cycle Q Clear(g_c), s	14.3	0.0	11.7				0.0	6.3	2.1	0.0	7.2	15.5
Prop In Lane	1.00		1.00				0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	613	0	281				0	2584	1054	0	2584	1054
V/C Ratio(X)	0.78	0.00	0.66				0.00	0.26	0.10	0.00	0.29	0.50
Avail Cap(c_a), veh/h	1019	0	467				0	2584	1054	0	2584	1054
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.00	0.87	0.87
Uniform Delay (d), s/veh	38.3	0.0	37.3				0.0	4.6	4.1	0.0	4.7	6.0
Incr Delay (d2), s/veh	2.2	0.0	2.6				0.0	0.2	0.2	0.0	0.2	1.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	0.0	4.1				0.0	1.5	0.5	0.0	1.8	19.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	40.5	0.0	39.9				0.0	4.8	4.3	0.0	5.0	7.5
LnGrp LOS	D		D					A	A		A	A
Approach Vol, veh/h		663						765			1269	
Approach Delay, s/veh		40.4						4.7			6.0	
Approach LOS		D						A			A	

Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		76.7		23.3		76.7						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		59.5		31.5		59.5						
Max Q Clear Time (g_c+I1), s		8.3		16.3		17.5						
Green Ext Time (p_c), s		3.4		2.5		6.5						

Intersection Summary												
HCM 7th Control Delay, s/veh			14.1									
HCM 7th LOS			B									



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	22	86	145	274	221	37
Future Volume (vph)	22	86	145	274	221	37
Ideal Flow (vphpl)	1750	1750	1750	1900	1900	1750
Storage Length (ft)	200	0	0			0
Storage Lanes	0	0	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.893				0.981	
Flt Protected	0.990			0.983		
Satd. Flow (prot)	1517	0	0	1831	1827	0
Flt Permitted	0.990			0.983		
Satd. Flow (perm)	1517	0	0	1831	1827	0
Link Speed (mph)	55			55	55	
Link Distance (ft)	246			853	4514	
Travel Time (s)	3.0			10.6	56.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	93	158	298	240	40
Shared Lane Traffic (%)						
Lane Group Flow (vph)	117	0	0	456	280	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.11	1.11	1.11	1.00	1.00	1.11
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 53.4%		ICU Level of Service A	
Analysis Period (min) 15			

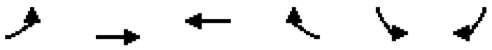
Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	22	86	145	274	221	37
Future Vol, veh/h	22	86	145	274	221	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	93	158	298	240	40

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	873	260	280	0	-	0
Stage 1	260	-	-	-	-	-
Stage 2	613	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	320	778	1282	-	-	-
Stage 1	783	-	-	-	-	-
Stage 2	540	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	273	778	1282	-	-	-
Mov Cap-2 Maneuver	273	-	-	-	-	-
Stage 1	668	-	-	-	-	-
Stage 2	540	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	13.03	2.84	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	623	-	565	-	-
HCM Lane V/C Ratio	0.123	-	0.208	-	-
HCM Control Delay (s/veh)	8.2	0	13	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.4	-	0.8	-	-



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	68	222	206	95	55	40
Future Volume (vph)	68	222	206	95	55	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0			0	200	0
Storage Lanes	0			0	0	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.957		0.944	
Flt Protected		0.988			0.972	
Satd. Flow (prot)	0	1840	1783	0	1709	0
Flt Permitted		0.988			0.972	
Satd. Flow (perm)	0	1840	1783	0	1709	0
Link Speed (mph)		55	55		55	
Link Distance (ft)		816	488		422	
Travel Time (s)		10.1	6.0		5.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	74	241	224	103	60	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	315	327	0	103	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	47.6%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	68	222	206	95	55	40
Future Vol, veh/h	68	222	206	95	55	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	74	241	224	103	60	43

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	327	0	-	0	665	276
Stage 1	-	-	-	-	276	-
Stage 2	-	-	-	-	389	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1232	-	-	-	425	763
Stage 1	-	-	-	-	771	-
Stage 2	-	-	-	-	685	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1232	-	-	-	396	763
Mov Cap-2 Maneuver	-	-	-	-	396	-
Stage 1	-	-	-	-	718	-
Stage 2	-	-	-	-	685	-

Approach	EB	WB	SB
HCM Control Delay, s/v	1.9	0	14.15
HCM LOS			B

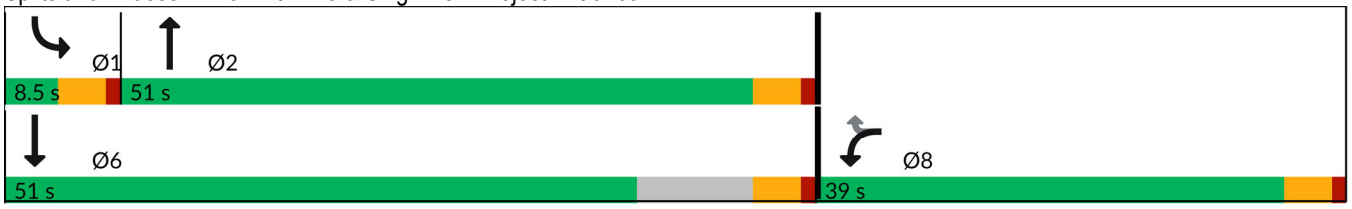
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	422	-	-	-	496
HCM Lane V/C Ratio	0.06	-	-	-	0.208
HCM Control Delay (s/veh)	8.1	0	-	-	14.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.8

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	163	5	310	251	8	258
Future Volume (vph)	163	5	310	251	8	258
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt		0.850	0.933			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3302	0	1770	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3302	0	1770	1863
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		5	273			
Link Speed (mph)	55		55			55
Link Distance (ft)	1631		1771			2743
Travel Time (s)	20.2		22.0			34.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	177	5	337	273	9	280
Shared Lane Traffic (%)						
Lane Group Flow (vph)	177	5	610	0	9	280
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Split (s)	22.5	22.5	22.5		8.5	22.5
Total Split (s)	39.0	39.0	51.0		8.5	51.0
Total Split (%)	39.6%	39.6%	51.8%		8.6%	51.8%
Maximum Green (s)	34.5	34.5	46.5		4.0	46.5
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5		4.5	4.5
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	Min		None	Min
Walk Time (s)	7.0	7.0	7.0			7.0
Flash Don't Walk (s)	11.0	11.0	11.0			11.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effct Green (s)	9.4	9.4	16.5		4.1	17.9
Actuated g/C Ratio	0.26	0.26	0.45		0.11	0.49
v/c Ratio	0.39	0.01	0.37		0.05	0.31
Control Delay (s/veh)	13.7	7.4	5.2		16.5	7.1
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay (s/veh)	13.7	7.4	5.2		16.5	7.1
LOS	B	A	A		B	A
Approach Delay (s/veh)	13.6		5.2			7.4
Approach LOS	B		A			A

Intersection Summary			
Area Type:	Other		
Cycle Length: 98.5			
Actuated Cycle Length: 36.4			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.39			
Intersection Signal Delay (s/veh): 7.2		Intersection LOS: A	
Intersection Capacity Utilization 33.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 23: 12th Ave & Singh Dev. Project Entrance



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	163	5	310	251	8	258
Future Volume (veh/h)	163	5	310	251	8	258
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	177	5	337	273	9	280
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	247	220	660	524	17	986
Arrive On Green	0.14	0.14	0.35	0.35	0.01	0.53
Sat Flow, veh/h	1781	1585	1976	1496	1781	1870
Grp Volume(v), veh/h	177	5	318	292	9	280
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1601	1781	1870
Q Serve(g_s), s	2.6	0.1	3.8	3.9	0.1	2.2
Cycle Q Clear(g_c), s	2.6	0.1	3.8	3.9	0.1	2.2
Prop In Lane	1.00	1.00		0.93	1.00	
Lane Grp Cap(c), veh/h	247	220	623	561	17	986
V/C Ratio(X)	0.72	0.02	0.51	0.52	0.52	0.28
Avail Cap(c_a), veh/h	2281	2030	3067	2763	264	3228
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.1	10.0	6.9	7.0	13.3	3.5
Incr Delay (d2), s/veh	3.8	0.0	0.6	0.8	22.4	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.4	0.4	0.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	14.9	10.1	7.6	7.7	35.6	3.7
LnGrp LOS	B	B	A	A	D	A
Approach Vol, veh/h	182		610			289
Approach Delay, s/veh	14.8		7.6			4.7
Approach LOS	B		A			A

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	4.8	13.9				18.7	8.2
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	4.0	46.5				46.5	34.5
Max Q Clear Time (g_c+I1), s	2.1	5.9				4.2	4.6
Green Ext Time (p_c), s	0.0	3.5				1.4	0.5

Intersection Summary							
HCM 7th Control Delay, s/veh			8.1				
HCM 7th LOS			A				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	73	5	14	43	6	8	73	9	1	83	0
Future Volume (vph)	5	73	5	14	43	6	8	73	9	1	83	0
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992			0.986			0.986				
Flt Protected		0.997			0.989			0.995			0.999	
Satd. Flow (prot)	0	1842	0	0	1816	0	0	1827	0	0	1861	0
Flt Permitted		0.997			0.989			0.995			0.999	
Satd. Flow (perm)	0	1842	0	0	1816	0	0	1827	0	0	1861	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		2803			5317			5280			1167	
Travel Time (s)		34.7			65.9			65.5			14.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	79	5	15	47	7	9	79	10	1	90	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	89	0	0	69	0	0	98	0	0	91	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

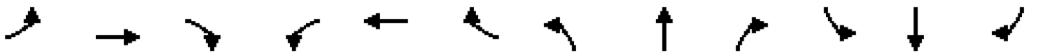
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 23.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	73	5	14	43	6	8	73	9	1	83	0
Future Vol, veh/h	5	73	5	14	43	6	8	73	9	1	83	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	79	5	15	47	7	9	79	10	1	90	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8	7.9	8	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	9%	6%	22%	1%
Vol Thru, %	81%	88%	68%	99%
Vol Right, %	10%	6%	10%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	90	83	63	84
LT Vol	8	5	14	1
Through Vol	73	73	43	83
RT Vol	9	5	6	0
Lane Flow Rate	98	90	68	91
Geometry Grp	1	1	1	1
Degree of Util (X)	0.118	0.111	0.085	0.112
Departure Headway (Hd)	4.359	4.418	4.454	4.409
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	825	814	807	815
Service Time	2.373	2.432	2.468	2.424
HCM Lane V/C Ratio	0.119	0.111	0.084	0.112
HCM Control Delay, s/veh	8	8	7.9	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.4	0.3	0.4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	76	7	46	54	34	23	308	51	73	232	3
Future Volume (vph)	1	76	7	46	54	34	23	308	51	73	232	3
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	0		0	0		0	0		25	0		25
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988			0.966				0.850			0.850
Flt Protected		0.999			0.983			0.997			0.988	
Satd. Flow (prot)	0	1839	0	0	1769	0	0	1857	1458	0	1840	1458
Flt Permitted		0.999			0.983			0.997			0.988	
Satd. Flow (perm)	0	1839	0	0	1769	0	0	1857	1458	0	1840	1458
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5317			205			5367			225	
Travel Time (s)		65.9			2.5			66.5			2.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	83	8	50	59	37	25	335	55	79	252	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	92	0	0	146	0	0	360	55	0	331	3
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

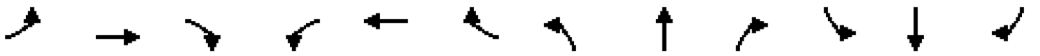
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	57.9%	ICU Level of Service	B
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	14.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	76	7	46	54	34	23	308	51	73	232	3
Future Vol, veh/h	1	76	7	46	54	34	23	308	51	73	232	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	83	8	50	59	37	25	335	55	79	252	3
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay, s/veh	10.5	11.1	15	15.5
HCM LOS	B	B	B	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	7%	0%	1%	34%	24%	0%
Vol Thru, %	93%	0%	90%	40%	76%	0%
Vol Right, %	0%	100%	8%	25%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	331	51	84	134	305	3
LT Vol	23	0	1	46	73	0
Through Vol	308	0	76	54	232	0
RT Vol	0	51	7	34	0	3
Lane Flow Rate	360	55	91	146	332	3
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.576	0.077	0.158	0.245	0.546	0.005
Departure Headway (Hd)	5.763	5.018	6.242	6.064	5.932	5.101
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	626	712	572	590	607	700
Service Time	3.502	2.758	4.306	4.123	3.673	2.842
HCM Lane V/C Ratio	0.575	0.077	0.159	0.247	0.547	0.004
HCM Control Delay, s/veh	16.1	8.2	10.5	11.1	15.6	7.9
HCM Lane LOS	C	A	B	B	C	A
HCM 95th-tile Q	3.7	0.2	0.6	1	3.3	0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	117	5	50	85	20	5	66	80	21	79	2
Future Volume (vph)	0	117	5	50	85	20	5	66	80	21	79	2
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.982			0.928			0.998	
Flt Protected					0.984			0.998			0.990	
Satd. Flow (prot)	0	1853	0	0	1800	0	0	1725	0	0	1840	0
Flt Permitted					0.984			0.998			0.990	
Satd. Flow (perm)	0	1853	0	0	1800	0	0	1725	0	0	1840	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		3132			4044			5270			5280	
Travel Time (s)		38.8			50.1			65.3			65.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	127	5	54	92	22	5	72	87	23	86	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	132	0	0	168	0	0	164	0	0	111	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

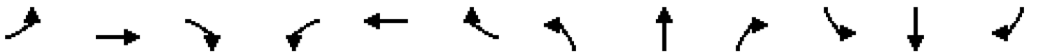
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.2%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	117	5	50	85	20	5	66	80	21	79	2
Future Vol, veh/h	0	117	5	50	85	20	5	66	80	21	79	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	127	5	54	92	22	5	72	87	23	86	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.8	9.1	8.7	8.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	0%	32%	21%
Vol Thru, %	44%	96%	55%	77%
Vol Right, %	53%	4%	13%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	151	122	155	102
LT Vol	5	0	50	21
Through Vol	66	117	85	79
RT Vol	80	5	20	2
Lane Flow Rate	164	133	168	111
Geometry Grp	1	1	1	1
Degree of Util (X)	0.204	0.175	0.221	0.15
Departure Headway (Hd)	4.484	4.759	4.727	4.88
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	798	751	756	733
Service Time	2.526	2.807	2.772	2.926
HCM Lane V/C Ratio	0.206	0.177	0.222	0.151
HCM Control Delay, s/veh	8.7	8.8	9.1	8.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0.6	0.8	0.5



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	157	40	106	111	0	22	0	108	0	0	1
Future Volume (vph)	1	157	40	106	111	0	22	0	108	0	0	1
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	0		100	100		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.888			0.865	
Flt Protected				0.950				0.992				
Satd. Flow (prot)	0	1863	1458	1630	1863	0	0	1641	0	0	1611	0
Flt Permitted				0.950				0.992				
Satd. Flow (perm)	0	1863	1458	1630	1863	0	0	1641	0	0	1611	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		4044			1304			5340			496	
Travel Time (s)		50.1			16.2			66.2			6.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	171	43	115	121	0	24	0	117	0	0	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	172	43	115	121	0	0	141	0	0	1	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.2%		ICU Level of Service A	
Analysis Period (min) 15			

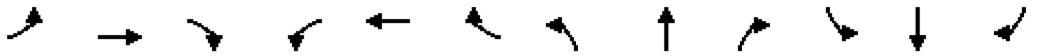
Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	157	40	106	111	0	22	0	108	0	0	1
Future Vol, veh/h	1	157	40	106	111	0	22	0	108	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	100	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	171	43	115	121	0	24	0	117	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	121	0	0	214	0	0	524	524	171	524	567	121
Stage 1	-	-	-	-	-	-	173	173	-	351	351	-
Stage 2	-	-	-	-	-	-	351	351	-	173	216	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1467	-	-	1356	-	-	464	458	873	464	433	931
Stage 1	-	-	-	-	-	-	829	756	-	666	632	-
Stage 2	-	-	-	-	-	-	666	632	-	829	724	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1467	-	-	1356	-	-	424	419	873	367	396	931
Mov Cap-2 Maneuver	-	-	-	-	-	-	424	419	-	367	396	-
Stage 1	-	-	-	-	-	-	828	755	-	609	578	-
Stage 2	-	-	-	-	-	-	608	578	-	717	723	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.04	3.86	11.01	8.87
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	740	11	-	-	1356	-	-	931
HCM Lane V/C Ratio	0.191	0.001	-	-	0.085	-	-	0.001
HCM Control Delay (s/veh)	11	7.5	0	-	7.9	-	-	8.9
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.7	0	-	-	0.3	-	-	0

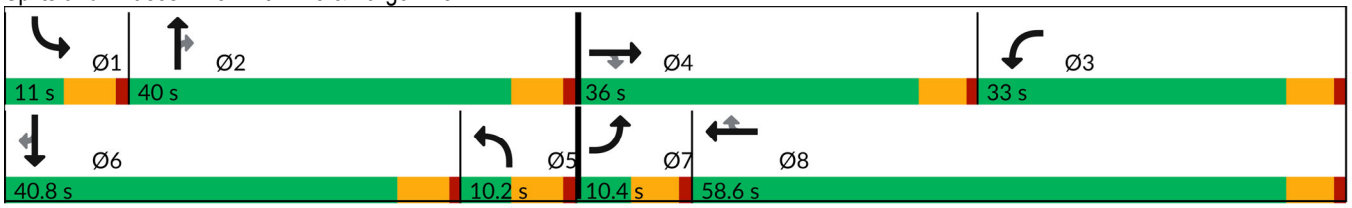


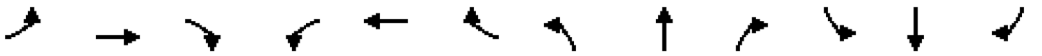
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	288	10	215	205	24	20	295	325	28	213	28
Future Volume (vph)	24	288	10	215	205	24	20	295	325	28	213	28
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	200		110	345		110	255		105	255		130
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.98			0.97			0.97			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1863	1458	1630	1863	1458	1630	1863	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1429	1630	1863	1412	1630	1863	1411	1630	1863	1412
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			176			176			245			169
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1304			5225			5338			5367	
Travel Time (s)		16.2			64.8			66.2			66.5	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	313	11	234	223	26	22	321	353	30	232	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	313	11	234	223	26	22	321	353	30	232	30
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	33.7	33.7	9.3	33.7	33.7	9.7	34.5	34.5	9.7	36.0	36.0
Total Split (s)	10.4	36.0	36.0	33.0	58.6	58.6	10.2	40.0	40.0	11.0	40.8	40.8
Total Split (%)	8.7%	30.0%	30.0%	27.5%	48.8%	48.8%	8.5%	33.3%	33.3%	9.2%	34.0%	34.0%
Maximum Green (s)	5.1	30.7	30.7	27.7	53.3	53.3	4.5	34.3	34.3	5.3	35.1	35.1
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		21.4	21.4		21.4	21.4		21.8	21.8		23.3	23.3
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	7.2	21.8	21.8	19.7	42.9	42.9	8.7	23.2	23.2	7.9	23.8	23.8
Actuated g/C Ratio	0.09	0.26	0.26	0.24	0.51	0.51	0.10	0.28	0.28	0.09	0.28	0.28
v/c Ratio	0.19	0.65	0.02	0.61	0.23	0.03	0.13	0.62	0.62	0.20	0.44	0.06
Control Delay (s/veh)	51.3	38.0	0.1	40.4	15.9	0.1	46.2	35.4	15.5	50.3	31.9	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	51.3	38.0	0.1	40.4	15.9	0.1	46.2	35.4	15.5	50.3	31.9	0.2
LOS	D	D	A	D	B	A	D	D	B	D	C	A
Approach Delay (s/veh)		37.8			26.9			25.6			30.5	
Approach LOS		D			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 83.6			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay (s/veh): 29.1		Intersection LOS: C	
Intersection Capacity Utilization 62.9%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 5: 12th Ave & Fargo Ave

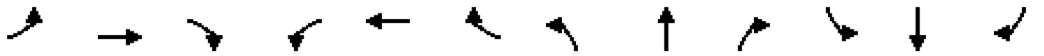




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	288	10	215	205	24	20	295	325	28	213	28
Future Volume (veh/h)	24	288	10	215	205	24	20	295	325	28	213	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	26	313	11	234	223	26	22	321	353	30	232	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	449	344	317	730	554	182	502	380	85	392	295
Arrive On Green	0.04	0.24	0.24	0.19	0.39	0.39	0.11	0.27	0.27	0.05	0.21	0.21
Sat Flow, veh/h	1641	1870	1431	1641	1870	1419	1641	1870	1413	1641	1870	1409
Grp Volume(v), veh/h	26	313	11	234	223	26	22	321	353	30	232	30
Grp Sat Flow(s),veh/h/ln	1641	1870	1431	1641	1870	1419	1641	1870	1413	1641	1870	1409
Q Serve(g_s), s	1.0	9.9	0.4	8.7	5.4	0.7	0.8	9.8	7.8	1.1	7.3	0.8
Cycle Q Clear(g_c), s	1.0	9.9	0.4	8.7	5.4	0.7	0.8	9.8	7.8	1.1	7.3	0.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	71	449	344	317	730	554	182	502	380	85	392	295
V/C Ratio(X)	0.37	0.70	0.03	0.74	0.31	0.05	0.12	0.64	0.93	0.35	0.59	0.10
Avail Cap(c_a), veh/h	162	921	705	732	1571	1192	182	1036	783	177	1059	798
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.2	22.5	18.9	24.7	13.7	12.3	26.0	21.0	5.7	29.8	23.2	10.9
Incr Delay (d2), s/veh	3.2	2.0	0.0	3.4	0.2	0.0	0.3	1.4	10.2	2.5	1.4	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.9	0.1	3.2	1.8	0.2	0.3	3.8	4.6	0.5	2.9	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	33.4	24.5	18.9	28.0	14.0	12.3	26.3	22.3	15.9	32.2	24.6	11.0
LnGrp LOS	C	C	B	C	B	B	C	C	B	C	C	B
Approach Vol, veh/h		350			483			696			292	
Approach Delay, s/veh		25.0			20.7			19.2			24.0	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	21.5	16.6	19.6	11.2	17.6	6.8	29.4
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	5.3	34.3	27.7	30.7	4.5	35.1	5.1	53.3
Max Q Clear Time (g_c+I1), s	3.1	11.8	10.7	11.9	2.8	9.3	3.0	7.4
Green Ext Time (p_c), s	0.0	2.7	0.7	1.0	0.0	0.9	0.0	0.9

Intersection Summary	
HCM 7th Control Delay, s/veh	21.5
HCM 7th LOS	C

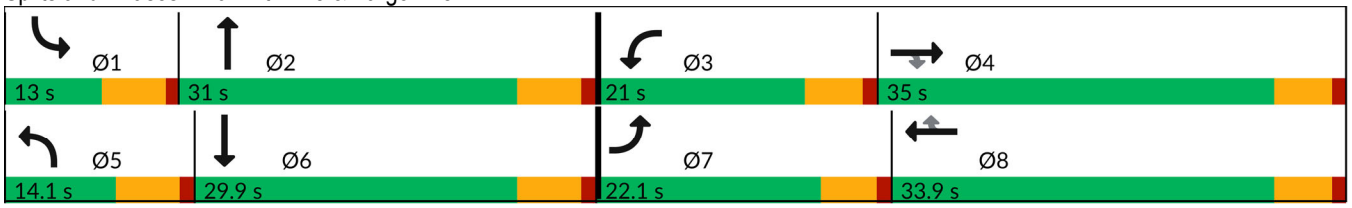


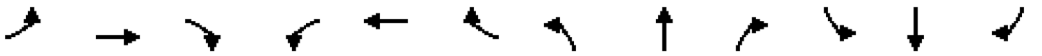
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	172	411	125	148	412	66	111	417	137	54	259	114
Future Volume (vph)	172	411	125	148	412	66	111	417	137	54	259	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	185		110	280		150	200		0	255		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor			0.97			0.98		0.99			0.99	
Frt			0.850			0.850		0.963			0.954	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	3539	1583	1770	3380	0	1770	3340	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1863	1528	1770	3539	1552	1770	3380	0	1770	3340	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			149		44			67	
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5225			5292			2018			1090	
Travel Time (s)		64.8			65.6			25.0			13.5	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	187	447	136	161	448	72	121	453	149	59	282	124
Shared Lane Traffic (%)												
Lane Group Flow (vph)	187	447	136	161	448	72	121	602	0	59	406	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	50	50	50	50	50	50	50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.3	25.2	25.2	9.3	29.5	29.5	9.7	28.8		9.7	26.0	
Total Split (s)	22.1	35.0	35.0	21.0	33.9	33.9	14.1	31.0		13.0	29.9	
Total Split (%)	22.1%	35.0%	35.0%	21.0%	33.9%	33.9%	14.1%	31.0%		13.0%	29.9%	
Maximum Green (s)	16.8	29.7	29.7	15.7	28.6	28.6	8.4	25.3		7.3	24.2	
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7		4.7	4.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7		-1.7	-1.7	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Don't Walk (s)		12.9	12.9		17.2	17.2		16.1			13.3	
Pedestrian Calls (#/hr)		5	5		5	5		5			5	
Act Effct Green (s)	15.0	25.8	25.8	13.9	24.8	24.8	10.1	23.9		8.8	19.5	
Actuated g/C Ratio	0.17	0.30	0.30	0.16	0.29	0.29	0.12	0.28		0.10	0.23	
v/c Ratio	0.61	0.80	0.24	0.56	0.44	0.13	0.58	0.62		0.33	0.50	
Control Delay (s/veh)	44.2	40.8	4.9	43.9	27.3	0.5	52.9	30.4		46.0	26.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	44.2	40.8	4.9	43.9	27.3	0.5	52.9	30.4		46.0	26.9	
LOS	D	D	A	D	C	A	D	C		D	C	
Approach Delay (s/veh)		35.3			28.4			34.1			29.3	
Approach LOS		D			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 85.8			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay (s/veh): 32.1		Intersection LOS: C	
Intersection Capacity Utilization 63.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 6: 11th Ave & Fargo Ave

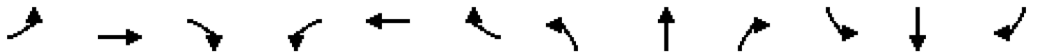




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	172	411	125	148	412	66	111	417	137	54	259	114
Future Volume (veh/h)	172	411	125	148	412	66	111	417	137	54	259	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	187	447	136	161	448	72	121	453	149	59	282	124
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	268	562	461	239	1008	441	198	667	217	120	507	216
Arrive On Green	0.15	0.30	0.30	0.13	0.28	0.28	0.11	0.26	0.23	0.07	0.21	0.19
Sat Flow, veh/h	1781	1870	1537	1781	3554	1555	1781	2609	850	1781	2396	1021
Grp Volume(v), veh/h	187	447	136	161	448	72	121	307	295	59	207	199
Grp Sat Flow(s),veh/h/ln	1781	1870	1537	1781	1777	1555	1781	1777	1682	1781	1777	1640
Q Serve(g_s), s	6.6	14.5	4.5	5.7	6.8	2.3	4.3	10.2	10.5	2.1	6.8	7.3
Cycle Q Clear(g_c), s	6.6	14.5	4.5	5.7	6.8	2.3	4.3	10.2	10.5	2.1	6.8	7.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.51	1.00		0.62
Lane Grp Cap(c), veh/h	268	562	461	239	1008	441	198	454	430	120	376	347
V/C Ratio(X)	0.70	0.80	0.29	0.67	0.44	0.16	0.61	0.68	0.69	0.49	0.55	0.57
Avail Cap(c_a), veh/h	489	880	723	460	1612	706	273	728	689	243	698	645
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.6	21.2	17.7	27.2	19.3	17.7	27.9	22.1	22.6	29.7	23.2	23.8
Incr Delay (d2), s/veh	3.3	2.8	0.4	3.3	0.3	0.2	3.0	1.8	1.9	3.1	1.3	1.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	5.6	1.4	2.3	2.4	0.7	1.8	3.8	3.8	0.9	2.6	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	29.8	24.0	18.1	30.5	19.7	17.9	30.9	23.8	24.5	32.8	24.4	25.3
LnGrp LOS	C	C	B	C	B	B	C	C	C	C	C	C
Approach Vol, veh/h		770			681			723			465	
Approach Delay, s/veh		24.3			22.0			25.3			25.9	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.4	20.8	12.8	23.8	11.3	17.9	13.9	22.7
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	7.3	25.3	15.7	29.7	8.4	24.2	16.8	28.6
Max Q Clear Time (g_c+I1), s	4.1	12.5	7.7	16.5	6.3	9.3	8.6	8.8
Green Ext Time (p_c), s	0.0	1.9	0.3	1.9	0.1	1.3	0.4	2.0

Intersection Summary	
HCM 7th Control Delay, s/veh	24.3
HCM 7th LOS	C

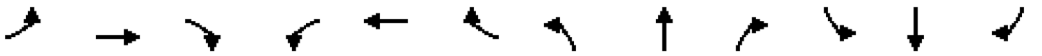


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	287	113	56	352	40	149	293	45	76	315	54
Future Volume (vph)	65	287	113	56	352	40	149	293	45	76	315	54
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	100		50	105		0	160		105	200		100
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98		1.00				0.96			0.98
Frt			0.850		0.985				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1831	0	1630	3539	1458	1630	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1430	1630	1831	0	1630	3539	1401	1630	3539	1424
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			176		5				121			121
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5292			4849			2658			1358	
Travel Time (s)		65.6			60.1			33.0			16.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	71	312	123	61	383	43	162	318	49	83	342	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	71	312	123	61	426	0	162	318	49	83	342	59
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Detector Phase	7	4	4	3	8		5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	32.3	32.3	9.3	33.7		9.7	23.7	23.7	9.7	24.5	24.5
Total Split (s)	16.0	49.0	49.0	15.0	48.0		27.0	38.0	38.0	18.0	29.0	29.0
Total Split (%)	13.3%	40.8%	40.8%	12.5%	40.0%		22.5%	31.7%	31.7%	15.0%	24.2%	24.2%
Maximum Green (s)	10.7	43.7	43.7	9.7	42.7		21.3	32.3	32.3	12.3	23.3	23.3
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3		4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3		-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)		20.0	20.0		21.4			10.4	10.4		11.8	11.8
Pedestrian Calls (#/hr)		5	5		5			5	5		5	5
Act Effct Green (s)	10.6	27.5	27.5	10.0	27.0		16.2	25.0	25.0	11.8	16.3	16.3
Actuated g/C Ratio	0.13	0.33	0.33	0.12	0.32		0.19	0.30	0.30	0.14	0.19	0.19
v/c Ratio	0.35	0.51	0.21	0.31	0.72		0.51	0.30	0.10	0.36	0.50	0.16
Control Delay (s/veh)	46.0	27.7	1.9	46.3	34.2		41.5	29.1	0.4	44.4	36.4	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	46.0	27.7	1.9	46.3	34.2		41.5	29.1	0.4	44.4	36.4	0.9
LOS	D	C	A	D	C		D	C	A	D	D	A
Approach Delay (s/veh)		24.0			35.7			30.2			33.5	
Approach LOS		C			D			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 83.6			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay (s/veh): 30.8		Intersection LOS: C	
Intersection Capacity Utilization 57.4%		ICU Level of Service B	
Analysis Period (min) 15			

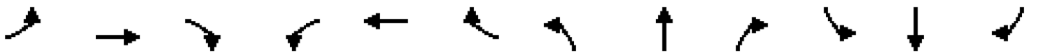
Splits and Phases: 7: 10th Ave & Fargo Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	287	113	56	352	40	149	293	45	76	315	54
Future Volume (veh/h)	65	287	113	56	352	40	149	293	45	76	315	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	71	312	123	61	383	43	162	318	49	83	342	59
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	123	595	456	110	510	57	251	888	353	150	668	268
Arrive On Green	0.08	0.32	0.32	0.07	0.31	0.29	0.15	0.25	0.25	0.09	0.19	0.19
Sat Flow, veh/h	1641	1870	1434	1641	1648	185	1641	3554	1412	1641	3554	1428
Grp Volume(v), veh/h	71	312	123	61	0	426	162	318	49	83	342	59
Grp Sat Flow(s),veh/h/ln	1641	1870	1434	1641	0	1833	1641	1777	1412	1641	1777	1428
Q Serve(g_s), s	2.4	8.0	1.9	2.1	0.0	12.2	5.4	4.3	1.6	2.8	5.1	1.4
Cycle Q Clear(g_c), s	2.4	8.0	1.9	2.1	0.0	12.2	5.4	4.3	1.6	2.8	5.1	1.4
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	123	595	456	110	0	568	251	888	353	150	668	268
V/C Ratio(X)	0.58	0.52	0.27	0.56	0.00	0.75	0.64	0.36	0.14	0.55	0.51	0.22
Avail Cap(c_a), veh/h	337	1441	1104	309	0	1380	646	2068	822	393	1521	611
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.1	16.3	3.9	26.4	0.0	18.2	23.2	18.1	17.0	25.4	21.3	8.9
Incr Delay (d2), s/veh	4.2	0.7	0.3	4.3	0.0	2.0	2.8	0.2	0.2	3.1	0.6	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	2.8	0.9	0.8	0.0	4.3	1.9	1.5	0.4	1.1	1.8	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.3	17.0	4.2	30.7	0.0	20.2	26.0	18.3	17.2	28.5	21.9	9.3
LnGrp LOS	C	B	A	C		C	C	B	B	C	C	A
Approach Vol, veh/h		506			487			529			484	
Approach Delay, s/veh		15.8			21.5			20.6			21.5	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	18.6	7.9	22.6	13.0	15.0	8.4	22.1
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	12.3	32.3	9.7	43.7	21.3	23.3	10.7	42.7
Max Q Clear Time (g_c+I1), s	4.8	6.3	4.1	10.0	7.4	7.1	4.4	14.2
Green Ext Time (p_c), s	0.1	1.4	0.0	1.6	0.4	1.4	0.1	1.6

Intersection Summary	
HCM 7th Control Delay, s/veh	19.8
HCM 7th LOS	B



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	23	116	1	36	4	171	321	1	2	253	56
Future Volume (vph)	48	23	116	1	36	4	171	321	1	2	253	56
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.916			0.988						0.973	
Flt Protected		0.987			0.999			0.983				
Satd. Flow (prot)	0	1684	0	0	1839	0	0	3479	0	0	3444	0
Flt Permitted		0.987			0.999			0.983				
Satd. Flow (perm)	0	1684	0	0	1839	0	0	3479	0	0	3444	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		4849			614			1519			1547	
Travel Time (s)		60.1			7.6			18.8			19.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	52	25	126	1	39	4	186	349	1	2	275	61
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	203	0	0	44	0	0	536	0	0	338	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 50.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	8.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	48	23	116	1	36	4	171	321	1	2	253	56
Future Vol, veh/h	48	23	116	1	36	4	171	321	1	2	253	56
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	52	25	126	1	39	4	186	349	1	2	275	61

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	876	1032	168	876	1061	175	336	0	0	350	0	0
Stage 1	310	310	-	721	721	-	-	-	-	-	-	-
Stage 2	566	722	-	154	340	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	243	232	847	243	222	838	1220	-	-	1206	-	-
Stage 1	675	658	-	385	430	-	-	-	-	-	-	-
Stage 2	476	430	-	832	638	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	164	192	847	153	184	838	1220	-	-	1206	-	-
Mov Cap-2 Maneuver	164	192	-	153	184	-	-	-	-	-	-	-
Stage 1	674	656	-	320	357	-	-	-	-	-	-	-
Stage 2	351	357	-	680	636	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	30.08	28.31	3.39	0.06
HCM LOS	D	D		

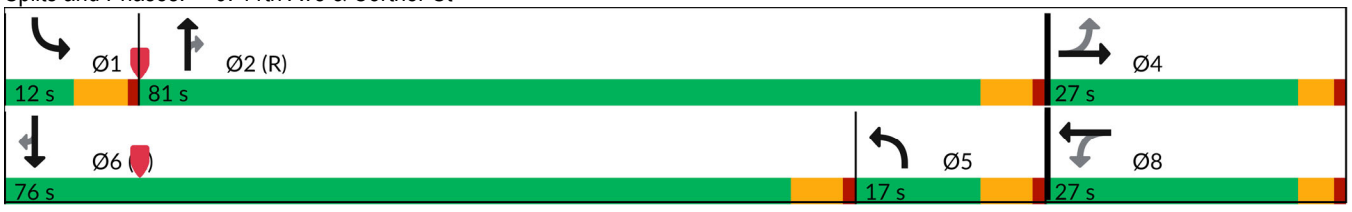
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1101	-	-	340	199	18	-	-
HCM Lane V/C Ratio	0.152	-	-	0.597	0.225	0.002	-	-
HCM Control Delay (s/veh)	8.5	0.7	-	30.1	28.3	8	0	-
HCM Lane LOS	A	A	-	D	D	A	A	-
HCM 95th %tile Q(veh)	0.5	-	-	3.7	0.8	0	-	-

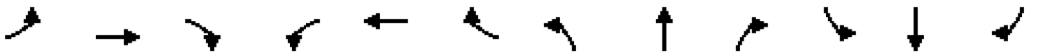
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	19	44	48	18	23	52	641	90	18	483	6
Future Volume (vph)	3	19	44	48	18	23	52	641	90	18	483	6
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	0		0	0		0	100		50	105		50
Storage Lanes	0		0	0		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98			0.99				0.96			0.96
Frt		0.910			0.965				0.850			0.850
Flt Protected		0.998			0.974		0.950			0.950		
Satd. Flow (prot)	0	1665	0	0	1740	0	1630	1863	1458	1630	1863	1458
Flt Permitted		0.991			0.727		0.950			0.950		
Satd. Flow (perm)	0	1653	0	0	1299	0	1630	1863	1400	1630	1863	1400
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		48			13				63			63
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		799			857			3291			2018	
Travel Time (s)		9.9			10.6			40.8			25.0	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	21	48	52	20	25	57	697	98	20	525	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	72	0	0	97	0	57	697	98	20	525	7
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.6	22.6		24.1	24.1		9.7	23.7	23.7	9.7	23.7	23.7
Total Split (s)	27.0	27.0		27.0	27.0		17.0	81.0	81.0	12.0	76.0	76.0
Total Split (%)	22.5%	22.5%		22.5%	22.5%		14.2%	67.5%	67.5%	10.0%	63.3%	63.3%
Maximum Green (s)	22.8	22.8		22.8	22.8		11.3	75.3	75.3	6.3	70.3	70.3
Yellow Time (s)	3.2	3.2		3.2	3.2		4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		-0.2			-0.2		-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)		4.0			4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)	7.0	7.0		7.0	7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)	11.4	11.4		12.9	12.9			8.7	8.7		8.7	8.7
Pedestrian Calls (#/hr)	5	5		5	5			5	5		5	5
Act Effct Green (s)		12.8			12.8		12.1	93.6	93.6	8.8	85.4	85.4
Actuated g/C Ratio		0.11			0.11		0.10	0.78	0.78	0.07	0.71	0.71
v/c Ratio		0.33			0.65		0.35	0.48	0.09	0.17	0.40	0.01
Control Delay (s/veh)		23.9			63.2		54.4	8.0	2.8	54.8	10.1	0.0
Queue Delay		0.0			0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		23.9			63.2		54.4	8.0	2.8	54.8	10.1	0.0
LOS		C			E		D	A	A	D	B	A
Approach Delay (s/veh)		23.9			63.2			10.5			11.6	
Approach LOS		C			E			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay (s/veh): 14.7		Intersection LOS: B	
Intersection Capacity Utilization 59.6%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 9: 11th Ave & Cortner St

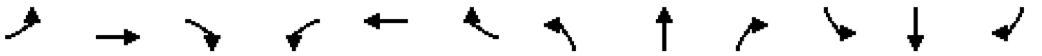




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	19	44	48	18	23	52	641	90	18	483	6
Future Volume (veh/h)	3	19	44	48	18	23	52	641	90	18	483	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	3	21	48	52	20	25	57	697	98	20	525	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	34	46	97	114	39	37	813	1459	1112	50	589	446
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.50	0.78	0.78	0.03	0.32	0.32
Sat Flow, veh/h	26	515	1081	762	431	414	1641	1870	1425	1641	1870	1416
Grp Volume(v), veh/h	72	0	0	97	0	0	57	697	98	20	525	7
Grp Sat Flow(s),veh/h/ln	1622	0	0	1606	0	0	1641	1870	1425	1641	1870	1416
Q Serve(g_s), s	0.0	0.0	0.0	1.6	0.0	0.0	2.2	15.7	1.9	1.4	32.1	0.4
Cycle Q Clear(g_c), s	5.1	0.0	0.0	6.6	0.0	0.0	2.2	15.7	1.9	1.4	32.1	0.4
Prop In Lane	0.04		0.67	0.54		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	176	0	0	190	0	0	813	1459	1112	50	589	446
V/C Ratio(X)	0.41	0.00	0.00	0.51	0.00	0.00	0.07	0.48	0.09	0.40	0.89	0.02
Avail Cap(c_a), veh/h	341	0	0	339	0	0	813	1459	1112	109	1122	850
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.58	0.58	0.58	0.88	0.88	0.88
Uniform Delay (d), s/veh	52.1	0.0	0.0	52.7	0.0	0.0	15.8	4.6	3.1	57.1	39.1	28.3
Incr Delay (d2), s/veh	1.5	0.0	0.0	2.1	0.0	0.0	0.0	0.7	0.1	4.5	16.4	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	0.0	2.8	0.0	0.0	0.8	4.0	0.4	0.6	16.4	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	53.6	0.0	0.0	54.8	0.0	0.0	15.9	5.3	3.2	61.6	55.5	28.3
LnGrp LOS	D			D			B	A	A	E	E	C
Approach Vol, veh/h		72			97			852			552	
Approach Delay, s/veh		53.6			54.8			5.7			55.4	
Approach LOS		D			D			A			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.6	97.6		14.7	63.4	41.8		14.7				
Change Period (Y+Rc), s	5.7	5.7		4.2	5.7	5.7		4.2				
Max Green Setting (Gmax), s	6.3	75.3		22.8	11.3	70.3		22.8				
Max Q Clear Time (g_c+I1), s	3.4	17.7		7.1	4.2	34.1		8.6				
Green Ext Time (p_c), s	0.0	3.5		0.2	0.1	2.1		0.2				

Intersection Summary												
HCM 7th Control Delay, s/veh			28.4									
HCM 7th LOS			C									

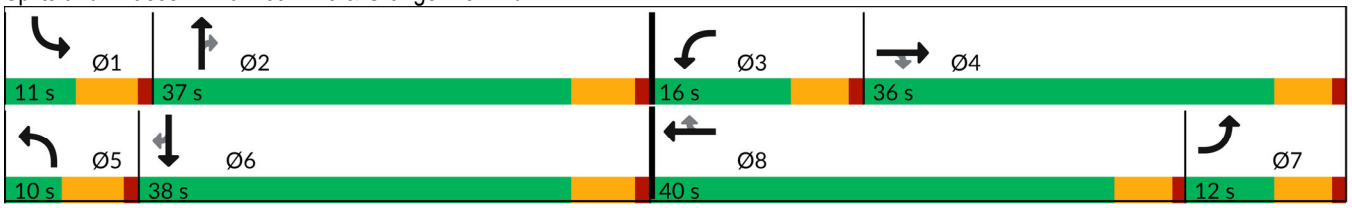


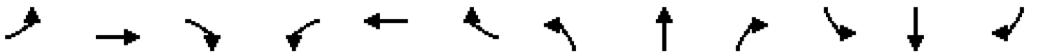
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	296	13	66	232	30	15	146	89	18	102	18
Future Volume (vph)	37	296	13	66	232	30	15	146	89	18	102	18
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	265		265	230		230	195		290	200		195
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.97			0.97			0.97			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1863	1458	1630	1863	1458	1630	1863	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1413	1630	1863	1414	1630	1863	1414	1630	1863	1413
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			149			203			203
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1096			3658			629			5270	
Travel Time (s)		13.6			45.3			7.8			65.3	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	40	322	14	72	252	33	16	159	97	20	111	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	40	322	14	72	252	33	16	159	97	20	111	20
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	32.3	32.3	9.3	35.2	35.2	9.7	34.5	34.5	9.7	33.1	33.1
Total Split (s)	12.0	36.0	36.0	16.0	40.0	40.0	10.0	37.0	37.0	11.0	38.0	38.0
Total Split (%)	12.0%	36.0%	36.0%	16.0%	40.0%	40.0%	10.0%	37.0%	37.0%	11.0%	38.0%	38.0%
Maximum Green (s)	6.7	30.7	30.7	10.7	34.7	34.7	4.3	31.3	31.3	5.3	32.3	32.3
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		20.0	20.0		22.9	22.9		21.8	21.8		20.4	20.4
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	10.4	18.1	18.1	10.7	20.7	20.7	7.4	15.1	15.1	8.7	15.2	15.2
Actuated g/C Ratio	0.20	0.35	0.35	0.21	0.40	0.40	0.14	0.29	0.29	0.17	0.29	0.29
v/c Ratio	0.12	0.49	0.02	0.21	0.34	0.05	0.07	0.29	0.17	0.07	0.20	0.04
Control Delay (s/veh)	27.9	20.1	0.1	27.7	16.4	0.1	33.1	20.0	0.7	32.0	18.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	27.9	20.1	0.1	27.7	16.4	0.1	33.1	20.0	0.7	32.0	18.9	0.1
LOS	C	C	A	C	B	A	C	B	A	C	B	A
Approach Delay (s/veh)		20.1			17.2			13.9			18.2	
Approach LOS		C			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 51.6			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.49			
Intersection Signal Delay (s/veh): 17.5		Intersection LOS: B	
Intersection Capacity Utilization 47.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: 13th Ave & Grangeville Blvd

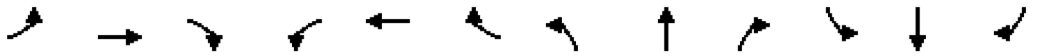




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	296	13	66	232	30	15	146	89	18	102	18
Future Volume (veh/h)	37	296	13	66	232	30	15	146	89	18	102	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	40	322	14	72	252	33	16	159	97	20	111	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	187	517	391	137	460	347	91	394	297	97	400	302
Arrive On Green	0.11	0.28	0.28	0.08	0.25	0.25	0.06	0.21	0.21	0.06	0.21	0.21
Sat Flow, veh/h	1641	1870	1414	1641	1870	1412	1641	1870	1409	1641	1870	1409
Grp Volume(v), veh/h	40	322	14	72	252	33	16	159	97	20	111	20
Grp Sat Flow(s),veh/h/ln	1641	1870	1414	1641	1870	1412	1641	1870	1409	1641	1870	1409
Q Serve(g_s), s	1.0	6.5	0.3	1.8	5.1	0.5	0.4	3.2	2.5	0.5	2.1	0.3
Cycle Q Clear(g_c), s	1.0	6.5	0.3	1.8	5.1	0.5	0.4	3.2	2.5	0.5	2.1	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	187	517	391	137	460	347	91	394	297	97	400	302
V/C Ratio(X)	0.21	0.62	0.04	0.52	0.55	0.10	0.18	0.40	0.33	0.21	0.28	0.07
Avail Cap(c_a), veh/h	304	1385	1047	456	1558	1176	228	1429	1076	266	1472	1109
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.4	13.7	11.4	19.0	14.2	4.5	19.5	14.7	14.5	19.4	14.2	3.6
Incr Delay (d2), s/veh	0.6	1.2	0.0	3.1	1.0	0.1	0.9	0.7	0.6	1.0	0.4	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.0	0.1	0.6	1.6	0.2	0.1	1.0	0.6	0.2	0.7	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	17.9	14.9	11.5	22.1	15.2	4.6	20.4	15.4	15.1	20.4	14.6	3.7
LnGrp LOS	B	B	B	C	B	A	C	B	B	C	B	A
Approach Vol, veh/h		376			357			272			151	
Approach Delay, s/veh		15.1			15.6			15.6			13.9	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.6	13.1	7.6	15.9	6.4	13.3	8.9	14.6
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	5.3	31.3	10.7	30.7	4.3	32.3	6.7	34.7
Max Q Clear Time (g_c+I1), s	2.5	5.2	3.8	8.5	2.4	4.1	3.0	7.1
Green Ext Time (p_c), s	0.0	0.9	0.1	1.1	0.0	0.4	0.0	1.0

Intersection Summary	
HCM 7th Control Delay, s/veh	15.2
HCM 7th LOS	B

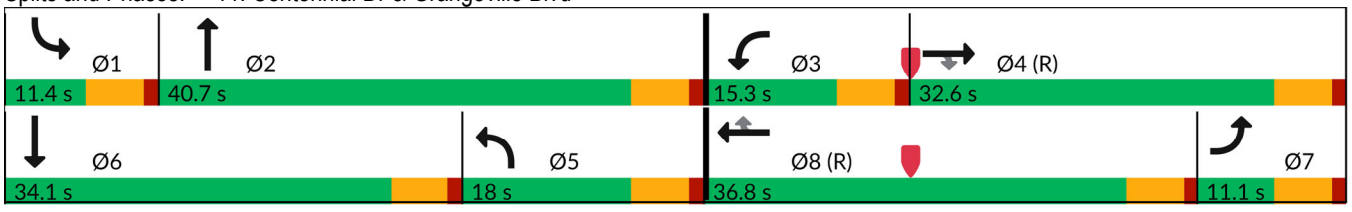


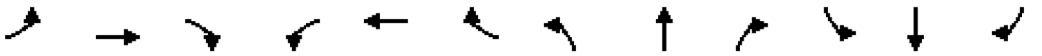
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	283	121	80	206	50	99	235	77	42	160	29
Future Volume (vph)	39	283	121	80	206	50	99	235	77	42	160	29
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	200		90	200		150	150		0	150		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.97			0.97		1.00			1.00	
Frt			0.850			0.850		0.963			0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1863	1458	1630	1786	0	1630	1811	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1410	1630	1863	1410	1630	1786	0	1630	1811	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			199			199		19			9	
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		3658			1623			639			5340	
Travel Time (s)		45.3			20.1			7.9			66.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	42	308	132	87	224	54	108	255	84	46	174	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	42	308	132	87	224	54	108	339	0	46	206	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	50	50	50	50	50	50	50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.3	28.4	28.4	9.3	28.4	28.4	9.3	34.1		9.3	34.1	
Total Split (s)	11.1	32.6	32.6	15.3	36.8	36.8	18.0	40.7		11.4	34.1	
Total Split (%)	11.1%	32.6%	32.6%	15.3%	36.8%	36.8%	18.0%	40.7%		11.4%	34.1%	
Maximum Green (s)	5.8	27.3	27.3	10.0	31.5	31.5	12.7	35.4		6.1	28.8	
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3		4.3	4.3	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3		-1.3	-1.3	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min		None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Don't Walk (s)		16.1	16.1		16.1	16.1		21.8			21.8	
Pedestrian Calls (#/hr)		5	5		5	5		5			5	
Act Effct Green (s)	7.0	43.9	43.9	10.9	49.8	49.8	12.7	28.7		7.3	18.8	
Actuated g/C Ratio	0.07	0.44	0.44	0.11	0.50	0.50	0.13	0.29		0.07	0.19	
v/c Ratio	0.37	0.38	0.18	0.49	0.24	0.07	0.52	0.65		0.39	0.59	
Control Delay (s/veh)	53.9	24.7	1.4	51.3	19.1	0.2	49.7	35.1		54.2	41.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	53.9	24.7	1.4	51.3	19.1	0.2	49.7	35.1		54.2	41.3	
LOS	D	C	A	D	B	A	D	D		D	D	
Approach Delay (s/veh)		20.8			24.0			38.6			43.6	
Approach LOS		C			C			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 9 (9%), Referenced to phase 4:EBT and 8:WBT, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay (s/veh): 30.4		Intersection LOS: C	
Intersection Capacity Utilization 59.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 11: Centennial Dr & Grangeville Blvd

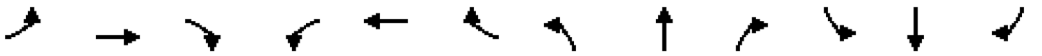




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	283	121	80	206	50	99	235	77	42	160	29
Future Volume (veh/h)	39	283	121	80	206	50	99	235	77	42	160	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	42	308	132	87	224	54	108	255	84	46	174	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	378	898	682	129	613	465	188	314	103	78	254	47
Arrive On Green	0.23	0.48	0.48	0.08	0.33	0.33	0.11	0.23	0.22	0.05	0.17	0.15
Sat Flow, veh/h	1641	1870	1421	1641	1870	1417	1641	1339	441	1641	1525	281
Grp Volume(v), veh/h	42	308	132	87	224	54	108	0	339	46	0	206
Grp Sat Flow(s),veh/h/ln	1641	1870	1421	1641	1870	1417	1641	0	1780	1641	0	1806
Q Serve(g_s), s	2.0	10.3	3.1	5.2	9.1	2.1	6.2	0.0	18.0	2.7	0.0	10.7
Cycle Q Clear(g_c), s	2.0	10.3	3.1	5.2	9.1	2.1	6.2	0.0	18.0	2.7	0.0	10.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.25	1.00		0.16
Lane Grp Cap(c), veh/h	378	898	682	129	613	465	188	0	417	78	0	301
V/C Ratio(X)	0.11	0.34	0.19	0.67	0.37	0.12	0.57	0.00	0.81	0.59	0.00	0.68
Avail Cap(c_a), veh/h	378	898	682	185	613	465	230	0	653	121	0	544
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.92	0.87	0.87	0.87	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.4	16.2	4.9	44.8	25.7	14.0	41.9	0.0	36.4	46.7	0.0	39.3
Incr Delay (d2), s/veh	0.1	1.0	0.6	5.2	1.5	0.4	2.7	0.0	4.4	7.0	0.0	2.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	4.1	1.5	2.2	4.0	0.9	2.5	0.0	7.8	1.2	0.0	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.5	17.2	5.5	50.1	27.1	14.4	44.7	0.0	40.8	53.7	0.0	42.1
LnGrp LOS	C	B	A	D	C	B	D		D	D		D
Approach Vol, veh/h		482			365			447			252	
Approach Delay, s/veh		15.1			30.7			41.7			44.2	
Approach LOS		B			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	27.4	11.9	52.0	15.5	20.7	27.1	36.8
Change Period (Y+Rc), s	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
Max Green Setting (Gmax), s	6.1	35.4	10.0	27.3	12.7	28.8	5.8	31.5
Max Q Clear Time (g_c+I1), s	4.7	20.0	7.2	12.3	8.2	12.7	4.0	11.1
Green Ext Time (p_c), s	0.0	1.1	0.0	1.4	0.1	0.6	0.0	0.9

Intersection Summary	
HCM 7th Control Delay, s/veh	31.2
HCM 7th LOS	C

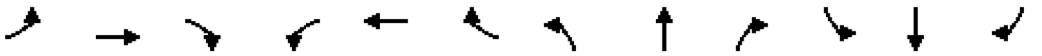


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	340	85	267	335	81	144	1115	289	87	664	72
Future Volume (vph)	108	340	85	267	335	81	144	1115	289	87	664	72
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	200		130	175		150	260		210	205		160
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor			0.98			0.97			0.98			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3162	3539	1458	3162	3539	1458	3162	3539	1458	3162	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3162	3539	1432	3162	3539	1415	3162	3539	1432	3162	3539	1415
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			212			212			255			203
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1623			5213			2228			5338	
Travel Time (s)		20.1			64.6			27.6			66.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	117	370	92	290	364	88	157	1212	314	95	722	78
Shared Lane Traffic (%)												
Lane Group Flow (vph)	117	370	92	290	364	88	157	1212	314	95	722	78
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	36.6	36.6	9.3	38.0	38.0	9.7	37.4	37.4	9.7	37.4	37.4
Total Split (s)	9.6	36.6	36.6	15.0	42.0	42.0	10.0	38.7	38.7	9.7	38.4	38.4
Total Split (%)	9.6%	36.6%	36.6%	15.0%	42.0%	42.0%	10.0%	38.7%	38.7%	9.7%	38.4%	38.4%
Maximum Green (s)	4.3	31.3	31.3	9.7	36.7	36.7	4.3	33.0	33.0	4.0	32.7	32.7
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		24.3	24.3		25.7	25.7		24.7	24.7		24.7	24.7
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	11.0	17.2	17.2	11.2	17.4	17.4	6.1	34.5	34.5	5.8	31.7	31.7
Actuated g/C Ratio	0.13	0.21	0.21	0.14	0.21	0.21	0.07	0.42	0.42	0.07	0.38	0.38
v/c Ratio	0.28	0.50	0.20	0.68	0.49	0.19	0.67	0.82	0.42	0.43	0.53	0.12
Control Delay (s/veh)	37.7	31.3	1.0	45.5	30.8	0.9	55.6	29.0	6.8	46.6	22.1	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	37.7	31.3	1.0	45.5	30.8	0.9	55.6	29.0	6.8	46.6	22.1	0.4
LOS	D	C	A	D	C	A	E	C	A	D	C	A
Approach Delay (s/veh)		27.7			33.0			27.3			22.8	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 82.5			
Natural Cycle: 95			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay (s/veh): 27.4		Intersection LOS: C	
Intersection Capacity Utilization 67.7%		ICU Level of Service C	
Analysis Period (min) 15			

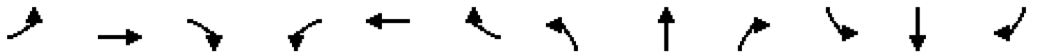
Splits and Phases: 12: 12th Ave & Grangeville Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	108	340	85	267	335	81	144	1115	289	87	664	72
Future Volume (veh/h)	108	340	85	267	335	81	144	1115	289	87	664	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.96	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	117	370	92	290	364	88	157	1212	314	95	722	78
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	414	664	267	416	666	264	245	1449	585	220	1421	568
Arrive On Green	0.13	0.19	0.19	0.13	0.19	0.19	0.08	0.41	0.41	0.07	0.40	0.40
Sat Flow, veh/h	3183	3554	1427	3183	3554	1406	3183	3554	1436	3183	3554	1419
Grp Volume(v), veh/h	117	370	92	290	364	88	157	1212	314	95	722	78
Grp Sat Flow(s),veh/h/ln	1591	1777	1427	1591	1777	1406	1591	1777	1436	1591	1777	1419
Q Serve(g_s), s	2.6	7.4	4.4	6.8	7.2	4.2	3.7	23.9	6.9	2.2	11.9	1.5
Cycle Q Clear(g_c), s	2.6	7.4	4.4	6.8	7.2	4.2	3.7	23.9	6.9	2.2	11.9	1.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	414	664	267	416	666	264	245	1449	585	220	1421	568
V/C Ratio(X)	0.28	0.56	0.34	0.70	0.55	0.33	0.64	0.84	0.54	0.43	0.51	0.14
Avail Cap(c_a), veh/h	414	1487	597	449	1733	686	245	1583	639	233	1569	627
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.6	28.7	27.5	32.4	28.7	27.4	34.9	20.7	5.0	34.8	17.6	4.3
Incr Delay (d2), s/veh	0.4	0.7	0.8	4.3	0.7	0.7	5.5	3.8	0.8	1.3	0.3	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.9	1.4	2.6	2.8	1.3	1.5	8.9	3.1	0.8	4.1	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	31.0	29.5	28.3	36.7	29.4	28.2	40.4	24.5	5.7	36.1	17.9	4.4
LnGrp LOS	C	C	C	D	C	C	D	C	A	D	B	A
Approach Vol, veh/h		579			742			1683			895	
Approach Delay, s/veh		29.6			32.1			22.5			18.6	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.4	35.8	14.2	18.6	10.0	35.2	14.1	18.6
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	4.0	33.0	9.7	31.3	4.3	32.7	4.3	36.7
Max Q Clear Time (g_c+I1), s	4.2	25.9	8.8	9.4	5.7	13.9	4.6	9.2
Green Ext Time (p_c), s	0.0	4.0	0.1	1.8	0.0	3.3	0.0	1.8

Intersection Summary	
HCM 7th Control Delay, s/veh	24.5
HCM 7th LOS	C

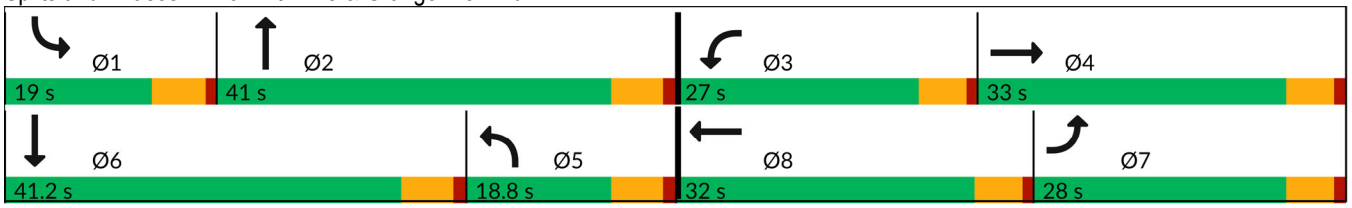


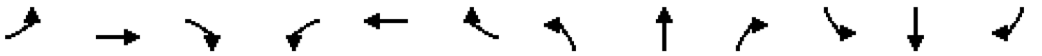
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	193	476	44	179	482	104	95	559	159	109	438	79
Future Volume (vph)	193	476	44	179	482	104	95	559	159	109	438	79
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	100		0	100		0	185		0	110		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00			0.99			1.00			1.00	
Frt		0.987			0.973			0.967			0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	3482	0	1630	3422	0	1630	3406	0	1630	3446	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	3482	0	1630	3422	0	1630	3406	0	1630	3446	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			20			32			18	
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5213			2670			5342			3291	
Travel Time (s)		64.6			33.1			66.2			40.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	210	517	48	195	524	113	103	608	173	118	476	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	210	565	0	195	637	0	103	781	0	118	562	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	9.3	25.2		9.3	29.5		9.7	26.0		9.7	26.0	
Total Split (s)	28.0	33.0		27.0	32.0		18.8	41.0		19.0	41.2	
Total Split (%)	23.3%	27.5%		22.5%	26.7%		15.7%	34.2%		15.8%	34.3%	
Maximum Green (s)	22.7	27.7		21.7	26.7		13.1	35.3		13.3	35.5	
Yellow Time (s)	4.3	4.3		4.3	4.3		4.7	4.7		4.7	4.7	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-1.3	-1.3		-1.3	-1.3		-1.7	-1.7		-1.7	-1.7	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		12.9			17.2			13.3			13.3	
Pedestrian Calls (#/hr)		5			5			5			5	
Act Effct Green (s)	19.3	25.1		18.5	24.3		18.1	30.3		13.3	29.1	
Actuated g/C Ratio	0.19	0.24		0.18	0.23		0.17	0.29		0.13	0.28	
v/c Ratio	0.69	0.67		0.67	0.78		0.36	0.77		0.57	0.57	
Control Delay (s/veh)	54.5	40.9		54.5	45.2		44.8	38.7		57.8	37.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	54.5	40.9		54.5	45.2		44.8	38.7		57.8	37.1	
LOS	D	D		D	D		D	D		E	D	
Approach Delay (s/veh)		44.6			47.4			39.4			40.7	
Approach LOS		D			D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 103.8			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay (s/veh): 43.0		Intersection LOS: D	
Intersection Capacity Utilization 69.4%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 13: 11th Ave & Grangeville Blvd

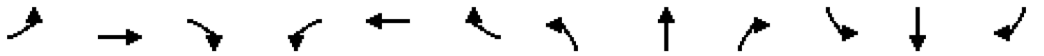




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	193	476	44	179	482	104	95	559	159	109	438	79
Future Volume (veh/h)	193	476	44	179	482	104	95	559	159	109	438	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	210	517	48	195	524	113	103	608	173	118	476	86
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	275	822	76	259	697	150	283	777	221	180	669	120
Arrive On Green	0.17	0.25	0.23	0.16	0.24	0.23	0.17	0.29	0.27	0.11	0.22	0.20
Sat Flow, veh/h	1641	3277	303	1641	2890	620	1641	2719	772	1641	2998	538
Grp Volume(v), veh/h	210	280	285	195	321	316	103	397	384	118	281	281
Grp Sat Flow(s),veh/h/ln	1641	1777	1803	1641	1777	1733	1641	1777	1714	1641	1777	1760
Q Serve(g_s), s	10.0	11.4	11.5	9.3	13.7	13.8	4.5	16.8	16.9	5.6	11.9	12.1
Cycle Q Clear(g_c), s	10.0	11.4	11.5	9.3	13.7	13.8	4.5	16.8	16.9	5.6	11.9	12.1
Prop In Lane	1.00		0.17	1.00		0.36	1.00		0.45	1.00		0.31
Lane Grp Cap(c), veh/h	275	446	452	259	429	418	283	508	490	180	396	392
V/C Ratio(X)	0.76	0.63	0.63	0.75	0.75	0.76	0.36	0.78	0.78	0.66	0.71	0.72
Avail Cap(c_a), veh/h	482	631	641	462	609	594	297	805	777	301	810	802
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.5	27.2	27.3	32.9	28.7	29.0	29.8	26.8	27.2	34.9	29.3	29.6
Incr Delay (d2), s/veh	4.4	1.5	1.5	4.4	3.1	3.4	0.8	2.7	2.8	4.0	2.3	2.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	4.5	4.6	3.7	5.5	5.5	1.7	6.6	6.5	2.3	4.8	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	36.9	28.6	28.8	37.3	31.8	32.4	30.6	29.5	30.0	38.9	31.6	32.0
LnGrp LOS	D	C	C	D	C	C	C	C	C	D	C	C
Approach Vol, veh/h		775			832			884			680	
Approach Delay, s/veh		30.9			33.3			29.8			33.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.9	27.3	16.9	24.5	18.1	22.2	17.7	23.7
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	13.3	35.3	21.7	27.7	13.1	35.5	22.7	26.7
Max Q Clear Time (g_c+I1), s	7.6	18.9	11.3	13.5	6.5	14.1	12.0	15.8
Green Ext Time (p_c), s	0.1	2.7	0.4	1.7	0.1	1.9	0.5	1.8

Intersection Summary	
HCM 7th Control Delay, s/veh	31.7
HCM 7th LOS	C

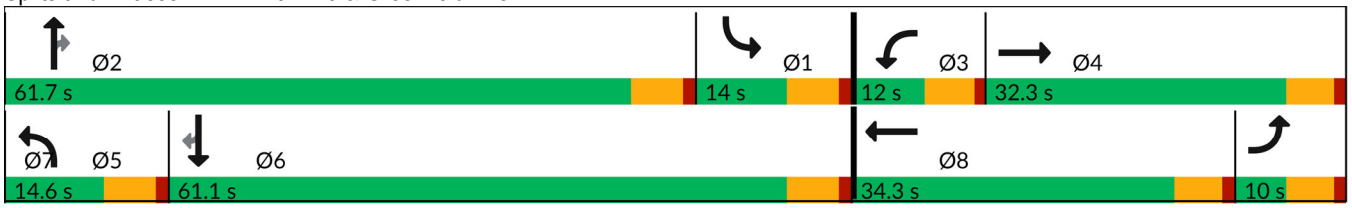


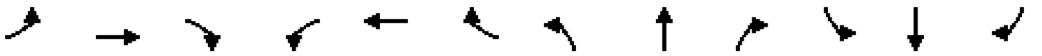
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	81	26	50	99	143	58	1333	89	71	878	50
Future Volume (vph)	39	81	26	50	99	143	58	1333	89	71	878	50
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	185		0	150		0	250		85	260		130
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor		1.00			0.99				0.98			0.98
Frt		0.964			0.912				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	3395	0	1630	3190	0	1630	3539	1458	1630	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	3395	0	1630	3190	0	1630	3539	1428	1630	3539	1428
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28			155				169			169
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		327			331			1372			2228	
Travel Time (s)		4.1			4.1			17.0			27.6	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	42	88	28	54	108	155	63	1449	97	77	954	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	42	116	0	54	263	0	63	1449	97	77	954	54
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	32.3		9.3	33.7		9.7	28.8	28.8	9.7	27.4	27.4
Total Split (s)	10.0	32.3		12.0	34.3		14.6	61.7	61.7	14.0	61.1	61.1
Total Split (%)	8.3%	26.9%		10.0%	28.6%		12.2%	51.4%	51.4%	11.7%	50.9%	50.9%
Maximum Green (s)	4.7	27.0		6.7	29.0		8.9	56.0	56.0	8.3	55.4	55.4
Yellow Time (s)	4.3	4.3		4.3	4.3		4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3		-1.3	-1.3		-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)		20.0			21.4			16.1	16.1		14.7	14.7
Pedestrian Calls (#/hr)		5			5			5	5		5	5
Act Effct Green (s)	7.4	12.5		8.9	15.6		10.8	44.0	44.0	10.7	43.8	43.8
Actuated g/C Ratio	0.09	0.15		0.11	0.18		0.13	0.52	0.52	0.13	0.52	0.52
v/c Ratio	0.29	0.22		0.32	0.37		0.30	0.79	0.12	0.37	0.52	0.07
Control Delay (s/veh)	52.3	30.4		50.7	17.3		47.4	22.8	0.3	49.5	16.9	0.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	52.3	30.4		50.7	17.3		47.4	22.8	0.3	49.5	16.9	0.2
LOS	D	C		D	B		D	C	A	D	B	A
Approach Delay (s/veh)		36.2			23.0			22.4			18.3	
Approach LOS		D			C			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 84.5			
Natural Cycle: 95			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay (s/veh): 21.7		Intersection LOS: C	
Intersection Capacity Utilization 67.9%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 14: 12th Ave & Greenfield Ave

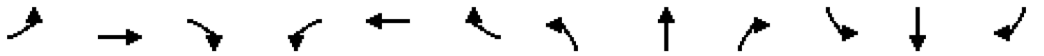




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	81	26	50	99	143	58	1333	89	71	878	50
Future Volume (veh/h)	39	81	26	50	99	143	58	1333	89	71	878	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	42	88	28	54	108	155	63	1449	97	77	954	54
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	430	130	93	303	264	113	1776	718	131	1815	734
Arrive On Green	0.05	0.16	0.14	0.06	0.17	0.15	0.07	0.50	0.50	0.08	0.51	0.51
Sat Flow, veh/h	1641	2668	809	1641	1777	1546	1641	3554	1437	1641	3554	1437
Grp Volume(v), veh/h	42	57	59	54	108	155	63	1449	97	77	954	54
Grp Sat Flow(s),veh/h/ln	1641	1777	1700	1641	1777	1546	1641	1777	1437	1641	1777	1437
Q Serve(g_s), s	2.0	2.2	2.4	2.5	4.2	7.3	2.9	27.1	1.7	3.6	14.2	0.9
Cycle Q Clear(g_c), s	2.0	2.2	2.4	2.5	4.2	7.3	2.9	27.1	1.7	3.6	14.2	0.9
Prop In Lane	1.00		0.48	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	77	286	274	93	303	264	113	1776	718	131	1815	734
V/C Ratio(X)	0.54	0.20	0.21	0.58	0.36	0.59	0.56	0.82	0.14	0.59	0.53	0.07
Avail Cap(c_a), veh/h	125	638	611	167	683	595	221	2602	1052	208	2575	1041
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.7	28.7	29.0	36.3	28.9	30.8	35.5	16.6	3.8	35.0	12.9	3.6
Incr Delay (d2), s/veh	5.9	0.3	0.4	5.7	0.7	2.1	4.3	1.3	0.1	4.2	0.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.9	0.9	1.1	1.7	2.6	1.2	8.8	0.7	1.5	4.4	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	42.6	29.0	29.4	41.9	29.6	32.8	39.8	18.0	3.9	39.2	13.1	3.7
LnGrp LOS	D	C	C	D	C	C	D	B	A	D	B	A
Approach Vol, veh/h		158			317			1609			1085	
Approach Delay, s/veh		32.8			33.3			18.0			14.5	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.3	43.4	8.5	16.7	9.4	44.2	7.7	17.4
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	8.3	56.0	6.7	27.0	8.9	55.4	4.7	29.0
Max Q Clear Time (g_c+I1), s	5.6	29.1	4.5	4.4	4.9	16.2	4.0	9.3
Green Ext Time (p_c), s	0.0	8.5	0.0	0.3	0.0	4.9	0.0	0.9

Intersection Summary	
HCM 7th Control Delay, s/veh	19.1
HCM 7th LOS	B

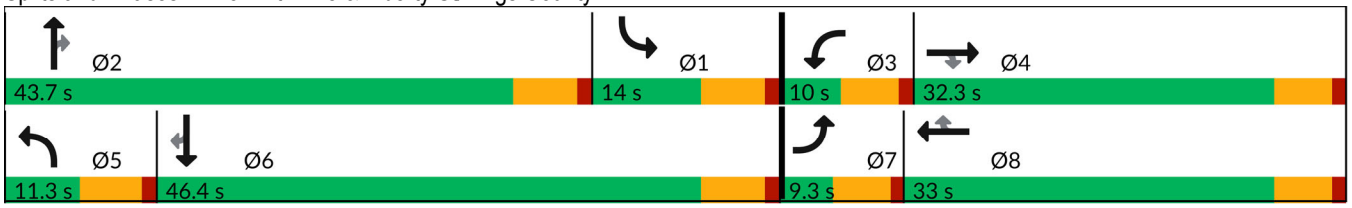


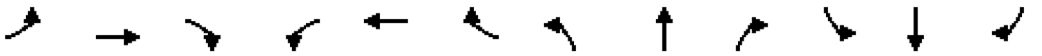
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	26	28	21	89	303	41	1143	8	97	853	14
Future Volume (vph)	5	26	28	21	89	303	41	1143	8	97	853	14
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	80		80	195		145	250		125	250		125
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98			0.98			0.97			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1863	1458	1630	3539	1458	1630	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1431	1630	1863	1430	1630	3539	1409	1630	3539	1409
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			212			300			145			145
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1718			718			1686			1372	
Travel Time (s)		21.3			8.9			20.9			17.0	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	28	30	23	97	329	45	1242	9	105	927	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	28	30	23	97	329	45	1242	9	105	927	15
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	32.3	32.3	9.3	30.9	30.9	9.7	26.0	26.0	9.7	26.0	26.0
Total Split (s)	9.3	32.3	32.3	10.0	33.0	33.0	11.3	43.7	43.7	14.0	46.4	46.4
Total Split (%)	9.3%	32.3%	32.3%	10.0%	33.0%	33.0%	11.3%	43.7%	43.7%	14.0%	46.4%	46.4%
Maximum Green (s)	4.0	27.0	27.0	4.7	27.7	27.7	5.6	38.0	38.0	8.3	40.7	40.7
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		20.0	20.0		18.6	18.6		13.3	13.3		13.3	13.3
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	5.9	12.3	12.3	6.7	14.1	14.1	8.1	33.2	33.2	10.5	37.9	37.9
Actuated g/C Ratio	0.09	0.18	0.18	0.10	0.21	0.21	0.12	0.49	0.49	0.15	0.56	0.56
v/c Ratio	0.04	0.08	0.07	0.14	0.25	0.62	0.23	0.72	0.01	0.42	0.47	0.02
Control Delay (s/veh)	40.2	28.1	0.3	40.3	27.0	10.5	39.5	19.8	0.0	39.9	13.1	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	40.2	28.1	0.3	40.3	27.0	10.5	39.5	19.8	0.0	39.9	13.1	0.1
LOS	D	C	A	D	C	B	D	B	A	D	B	A
Approach Delay (s/veh)		15.8			15.6			20.4			15.6	
Approach LOS		B			B			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 68			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay (s/veh): 17.8		Intersection LOS: B	
Intersection Capacity Utilization 65.9%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 15: 12th Ave & Liberty St/Kings County Dr

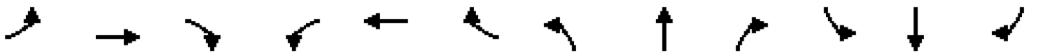




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	26	28	21	89	303	41	1143	8	97	853	14
Future Volume (veh/h)	5	26	28	21	89	303	41	1143	8	97	853	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	5	28	30	23	97	329	45	1242	9	105	927	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	37	410	313	62	438	335	91	1512	604	167	1676	670
Arrive On Green	0.02	0.22	0.22	0.04	0.23	0.23	0.06	0.43	0.43	0.10	0.47	0.47
Sat Flow, veh/h	1641	1870	1430	1641	1870	1430	1641	3554	1420	1641	3554	1421
Grp Volume(v), veh/h	5	28	30	23	97	329	45	1242	9	105	927	15
Grp Sat Flow(s),veh/h/ln	1641	1870	1430	1641	1870	1430	1641	1777	1420	1641	1777	1421
Q Serve(g_s), s	0.2	0.9	1.2	1.0	3.1	11.5	2.0	22.9	0.2	4.6	13.8	0.4
Cycle Q Clear(g_c), s	0.2	0.9	1.2	1.0	3.1	11.5	2.0	22.9	0.2	4.6	13.8	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	37	410	313	62	438	335	91	1512	604	167	1676	670
V/C Ratio(X)	0.13	0.07	0.10	0.37	0.22	0.98	0.49	0.82	0.01	0.63	0.55	0.02
Avail Cap(c_a), veh/h	117	714	546	133	732	560	162	1903	760	221	2033	813
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.5	22.9	23.1	34.8	22.9	13.1	34.0	18.8	5.5	32.0	14.0	10.5
Incr Delay (d2), s/veh	1.6	0.1	0.1	3.6	0.3	25.3	4.1	2.4	0.0	3.9	0.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.4	0.4	0.4	1.2	2.4	0.8	8.0	0.1	1.8	4.4	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	37.1	23.0	23.2	38.4	23.2	38.4	38.1	21.2	5.5	35.8	14.3	10.5
LnGrp LOS	D	C	C	D	C	D	D	C	A	D	B	B
Approach Vol, veh/h		63			449			1296			1047	
Approach Delay, s/veh		24.2			35.1			21.7			16.4	
Approach LOS		C			D			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	35.5	6.8	20.2	8.1	39.0	5.7	21.4
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	8.3	38.0	4.7	27.0	5.6	40.7	4.0	27.7
Max Q Clear Time (g_c+I1), s	6.6	24.9	3.0	3.2	4.0	15.8	2.2	13.5
Green Ext Time (p_c), s	0.0	5.0	0.0	0.1	0.0	4.3	0.0	1.5

Intersection Summary	
HCM 7th Control Delay, s/veh	21.9
HCM 7th LOS	C

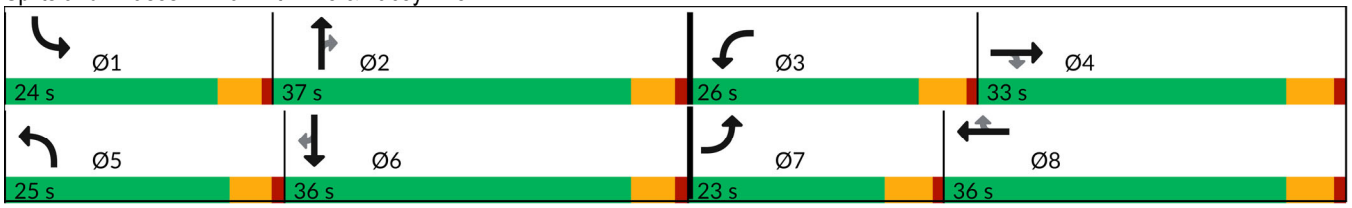


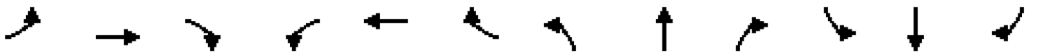
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	267	272	137	301	403	153	197	697	115	187	765	117
Future Volume (vph)	267	272	137	301	403	153	197	697	115	187	765	117
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	270		120	270		170	240		175	240		120
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98			0.98			0.98			0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3162	3539	1458	3162	3539	1458	1630	3539	1458	1630	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3162	3539	1428	3162	3539	1430	1630	3539	1430	1630	3539	1430
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			166			114			114
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		3432			5219			1893			1686	
Travel Time (s)		42.5			64.7			23.5			20.9	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	290	296	149	327	438	166	214	758	125	203	832	127
Shared Lane Traffic (%)												
Lane Group Flow (vph)	290	296	149	327	438	166	214	758	125	203	832	127
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	31.7	31.7	9.3	34.5	34.5	8.9	36.6	36.6	8.9	35.2	35.2
Total Split (s)	23.0	33.0	33.0	26.0	36.0	36.0	25.0	37.0	37.0	24.0	36.0	36.0
Total Split (%)	19.2%	27.5%	27.5%	21.7%	30.0%	30.0%	20.8%	30.8%	30.8%	20.0%	30.0%	30.0%
Maximum Green (s)	17.7	27.7	27.7	20.7	30.7	30.7	20.1	32.1	32.1	19.1	31.1	31.1
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	3.9	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-0.9	-0.9	-0.9	-0.9	1.0	1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.9	5.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		19.4	19.4		22.2	22.2		24.7	24.7		23.3	23.3
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	15.6	19.0	19.0	17.0	20.4	20.4	18.3	30.3	30.3	17.6	27.6	27.6
Actuated g/C Ratio	0.16	0.19	0.19	0.17	0.20	0.20	0.18	0.30	0.30	0.18	0.28	0.28
v/c Ratio	0.59	0.44	0.38	0.61	0.61	0.39	0.72	0.71	0.24	0.71	0.85	0.27
Control Delay (s/veh)	46.6	39.3	9.2	45.4	41.1	8.4	55.7	36.8	8.6	56.2	45.6	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	46.6	39.3	9.2	45.4	41.1	8.4	55.7	36.8	8.6	56.2	45.6	9.6
LOS	D	D	A	D	D	A	E	D	A	E	D	A
Approach Delay (s/veh)		36.1			36.8			37.3			43.5	
Approach LOS		D			D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 100.3			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay (s/veh): 38.8		Intersection LOS: D	
Intersection Capacity Utilization 70.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 16: 12th Ave & Lacey Ave





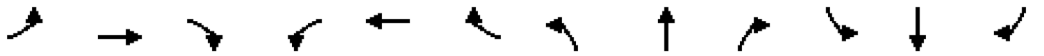
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	267	272	137	301	403	153	197	697	115	187	765	117
Future Volume (veh/h)	267	272	137	301	403	153	197	697	115	187	765	117
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	290	296	149	327	438	166	214	758	125	203	832	127
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	431	668	269	475	717	288	270	1106	446	258	998	402
Arrive On Green	0.14	0.19	0.19	0.15	0.20	0.20	0.16	0.31	0.31	0.16	0.28	0.28
Sat Flow, veh/h	3183	3554	1428	3183	3554	1429	1641	3554	1433	1641	3554	1432
Grp Volume(v), veh/h	290	296	149	327	438	166	214	758	125	203	832	127
Grp Sat Flow(s),veh/h/ln	1591	1777	1428	1591	1777	1429	1641	1777	1433	1641	1777	1432
Q Serve(g_s), s	7.1	6.1	7.8	8.0	9.2	8.6	10.3	15.4	5.4	9.8	18.1	5.8
Cycle Q Clear(g_c), s	7.1	6.1	7.8	8.0	9.2	8.6	10.3	15.4	5.4	9.8	18.1	5.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	431	668	269	475	717	288	270	1106	446	258	998	402
V/C Ratio(X)	0.67	0.44	0.55	0.69	0.61	0.58	0.79	0.69	0.28	0.79	0.83	0.32
Avail Cap(c_a), veh/h	734	1251	503	850	1381	555	418	1424	574	398	1299	524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.9	29.6	30.3	33.2	29.9	29.7	33.1	24.8	21.4	33.4	27.8	23.4
Incr Delay (d2), s/veh	1.8	0.5	1.8	1.8	0.8	1.8	5.7	0.9	0.3	5.6	3.7	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	2.4	2.6	2.9	3.6	2.8	4.1	5.8	1.6	3.9	7.3	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	35.7	30.1	32.1	35.0	30.8	31.5	38.7	25.8	21.7	39.0	31.5	23.8
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		735			931			1097			1162	
Approach Delay, s/veh		32.7			32.4			27.8			32.0	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.9	29.6	16.3	19.5	17.5	29.0	15.2	20.6
Change Period (Y+Rc), s	4.9	4.9	5.3	5.3	4.9	4.9	5.3	5.3
Max Green Setting (Gmax), s	19.1	32.1	20.7	27.7	20.1	31.1	17.7	30.7
Max Q Clear Time (g_c+I1), s	11.8	17.4	10.0	9.8	12.3	20.1	9.1	11.2
Green Ext Time (p_c), s	0.4	3.4	1.0	1.6	0.4	3.3	0.7	2.4

Intersection Summary	
HCM 7th Control Delay, s/veh	31.1
HCM 7th LOS	C

Notes

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

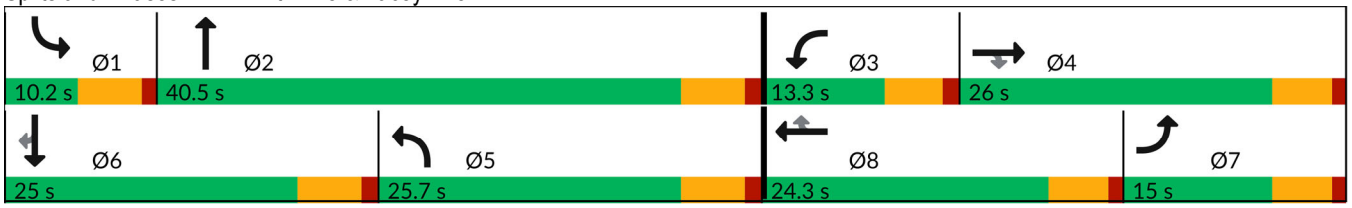


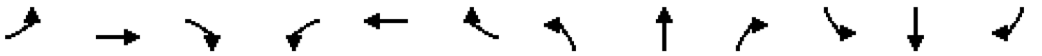
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	221	283	162	101	279	70	279	599	81	86	463	120
Future Volume (vph)	221	283	162	101	279	70	279	599	81	86	463	120
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	200		100	130		100	70		0	160		105
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.96			0.98		1.00				0.98
Frt			0.850			0.850		0.982				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	3539	1458	1630	3539	1458	1630	1825	0	1630	1863	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	3539	1405	1630	3539	1426	1630	1825	0	1630	1863	1431
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			216			216		9				206
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5219			6528			4809			5342	
Travel Time (s)		64.7			80.9			59.6			66.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	240	308	176	110	303	76	303	651	88	93	503	130
Shared Lane Traffic (%)												
Lane Group Flow (vph)	240	308	176	110	303	76	303	739	0	93	503	130
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50		50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.9	22.9	22.9	8.9	22.9	22.9	9.3	31.3		9.3	32.7	32.7
Total Split (s)	15.0	26.0	26.0	13.3	24.3	24.3	25.7	40.5		10.2	25.0	25.0
Total Split (%)	16.7%	28.9%	28.9%	14.8%	27.0%	27.0%	28.6%	45.0%		11.3%	27.8%	27.8%
Maximum Green (s)	10.1	21.1	21.1	8.4	19.4	19.4	20.4	35.2		4.9	19.7	19.7
Yellow Time (s)	3.9	3.9	3.9	3.9	3.9	3.9	4.3	4.3		4.3	4.3	4.3
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-1.3	-1.3		-1.3	-1.3	-1.3
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Don't Walk (s)		9.4	9.4		9.4	9.4		19.0			20.4	20.4
Pedestrian Calls (#/hr)		5	5		5	5		5			5	5
Act Effct Green (s)	11.0	17.9	17.9	9.0	13.4	13.4	21.8	38.0		6.2	22.4	22.4
Actuated g/C Ratio	0.13	0.21	0.21	0.11	0.16	0.16	0.26	0.45		0.07	0.26	0.26
v/c Ratio	1.13	0.41	0.38	0.64	0.54	0.19	0.72	0.90		0.78	1.02	0.25
Control Delay (s/veh)	138.7	32.2	4.8	55.4	36.9	1.0	41.6	37.6		81.3	78.7	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	138.7	32.2	4.8	55.4	36.9	1.0	41.6	37.6		81.3	78.7	1.6
LOS	F	C	A	E	D	A	D	D		F	E	A
Approach Delay (s/veh)		60.8			35.5			38.8			65.3	
Approach LOS		E			D			D			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 84.7			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.13			
Intersection Signal Delay (s/veh): 50.0		Intersection LOS: D	
Intersection Capacity Utilization 76.9%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 17: 11th Ave & Lacey Ave





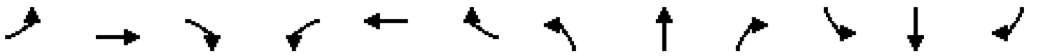
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	221	283	162	101	279	70	279	599	81	86	463	120
Future Volume (veh/h)	221	283	162	101	279	70	279	599	81	86	463	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	240	308	176	110	303	76	303	651	88	93	503	130
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	229	662	262	154	500	200	409	704	95	129	499	382
Arrive On Green	0.14	0.19	0.19	0.09	0.14	0.14	0.25	0.44	0.42	0.08	0.27	0.27
Sat Flow, veh/h	1641	3554	1406	1641	3554	1423	1641	1609	218	1641	1870	1432
Grp Volume(v), veh/h	240	308	176	110	303	76	303	0	739	93	503	130
Grp Sat Flow(s),veh/h/ln	1641	1777	1406	1641	1777	1423	1641	0	1827	1641	1870	1432
Q Serve(g_s), s	11.0	6.1	5.0	5.1	6.3	2.9	13.4	0.0	30.1	4.4	21.0	5.8
Cycle Q Clear(g_c), s	11.0	6.1	5.0	5.1	6.3	2.9	13.4	0.0	30.1	4.4	21.0	5.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	229	662	262	154	500	200	409	0	799	129	499	382
V/C Ratio(X)	1.05	0.47	0.67	0.71	0.61	0.38	0.74	0.00	0.92	0.72	1.01	0.34
Avail Cap(c_a), veh/h	229	993	393	194	916	367	452	0	847	129	499	382
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.9	28.5	8.7	34.6	31.8	17.9	27.2	0.0	21.0	35.4	28.9	23.3
Incr Delay (d2), s/veh	72.2	0.5	3.0	8.7	1.2	1.2	5.8	0.0	15.2	17.6	42.3	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	2.4	2.8	2.2	2.5	1.2	5.3	0.0	13.7	2.2	14.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	106.1	29.0	11.7	43.3	33.0	19.1	32.9	0.0	36.2	53.0	71.2	23.8
LnGrp LOS	F	C	B	D	C	B	C		D	D	F	C
Approach Vol, veh/h		724			489			1042			726	
Approach Delay, s/veh		50.4			33.1			35.3			60.4	
Approach LOS		D			C			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.2	38.4	11.4	18.7	23.6	25.0	15.0	15.1
Change Period (Y+Rc), s	5.3	5.3	4.9	4.9	5.3	5.3	4.9	4.9
Max Green Setting (Gmax), s	4.9	35.2	8.4	21.1	20.4	19.7	10.1	19.4
Max Q Clear Time (g_c+I1), s	6.4	32.1	7.1	8.1	15.4	23.0	13.0	8.3
Green Ext Time (p_c), s	0.0	1.1	0.0	1.6	0.5	0.0	0.0	1.1

Intersection Summary	
HCM 7th Control Delay, s/veh	44.7
HCM 7th LOS	D

Notes

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

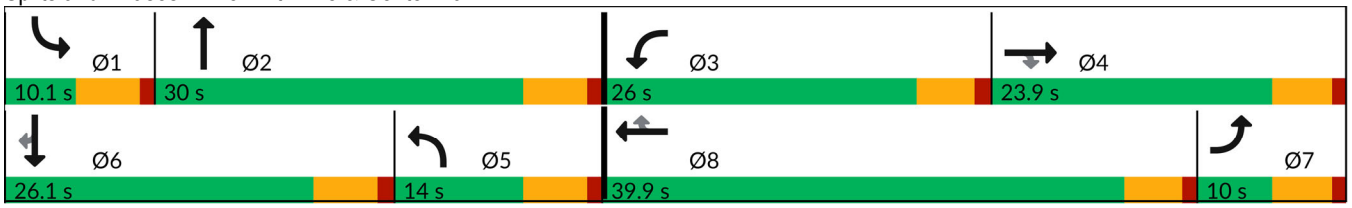


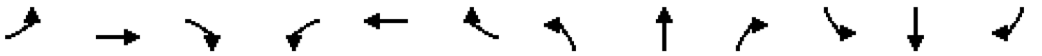
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	119	112	214	556	155	48	302	720	223	70	963	59
Future Volume (vph)	119	112	214	556	155	48	302	720	223	70	963	59
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	265		260	230		140	250		0	180		180
Storage Lanes	1		1	1		1	2		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	0.97	0.91	0.91	1.00	0.91	1.00
Ped Bike Factor						0.98		0.99				0.98
Frt			0.850			0.850		0.965				0.850
Flt Protected	0.950	0.995		0.950	0.972		0.950			0.950		
Satd. Flow (prot)	1548	1761	1458	1548	1720	1458	3162	4868	0	1630	5085	1458
Flt Permitted	0.950	0.962		0.950	0.419		0.950			0.950		
Satd. Flow (perm)	1548	1702	1458	1548	741	1434	3162	4868	0	1630	5085	1428
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			229			216		87				206
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1154			586			1240			1893	
Travel Time (s)		14.3			7.3			15.4			23.5	
Confl. Peds. (#/hr)						5			5			5
Confl. Bikes (#/hr)						2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	129	122	233	604	168	52	328	783	242	76	1047	64
Shared Lane Traffic (%)	10%			37%								
Lane Group Flow (vph)	116	135	233	381	391	52	328	1025	0	76	1047	64
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50		50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.9	22.9	22.9	8.9	39.9	39.9	9.3	24.1		9.3	24.1	24.1
Total Split (s)	10.0	23.9	23.9	26.0	39.9	39.9	14.0	30.0		10.1	26.1	26.1
Total Split (%)	11.1%	26.6%	26.6%	28.9%	44.3%	44.3%	15.6%	33.3%		11.2%	29.0%	29.0%
Maximum Green (s)	5.1	19.0	19.0	21.1	35.0	35.0	8.7	24.7		4.8	20.8	20.8
Yellow Time (s)	3.9	3.9	3.9	3.9	3.9	3.9	4.3	4.3		4.3	4.3	4.3
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-1.3	-1.3		-1.3	-1.3	-1.3
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	Min
Walk Time (s)					7.0	7.0		7.0			7.0	7.0
Flash Don't Walk (s)					28.0	28.0		11.8			11.8	11.8
Pedestrian Calls (#/hr)					5	5		5			5	5
Act Effct Green (s)	6.0	6.0	19.9	22.0	22.0	35.9	10.0	27.8		6.1	21.9	21.9
Actuated g/C Ratio	0.07	0.07	0.22	0.24	0.24	0.40	0.11	0.31		0.07	0.24	0.24
v/c Ratio	1.13	1.15	0.47	1.01	0.93	0.07	0.93	0.65		0.69	0.84	0.13
Control Delay (s/veh)	167.5	170.3	7.9	83.8	64.4	0.2	75.0	27.3		73.1	39.9	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	167.5	170.3	7.9	83.8	64.4	0.2	75.0	27.3		73.1	39.9	0.5
LOS	F	F	A	F	E	A	E	C		E	D	A
Approach Delay (s/veh)		91.4			69.3			38.9			39.9	
Approach LOS		F			E			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 89.8			
Natural Cycle: 85			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.15			
Intersection Signal Delay (s/veh): 52.3		Intersection LOS: D	
Intersection Capacity Utilization 68.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 18: 12th Ave & Centennial Dr





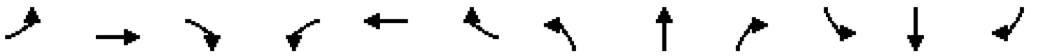
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	112	214	556	155	48	302	720	223	70	963	59
Future Volume (veh/h)	119	112	214	556	155	48	302	720	223	70	963	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	126	127	233	386	473	52	328	783	242	76	1047	64
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	199	297	232	433	564	432	395	1172	358	120	1297	364
Arrive On Green	0.12	0.16	0.16	0.26	0.30	0.30	0.12	0.30	0.29	0.07	0.25	0.25
Sat Flow, veh/h	1641	1870	1460	1641	1870	1433	3183	3843	1175	1641	5106	1431
Grp Volume(v), veh/h	126	127	233	386	473	52	328	693	332	76	1047	64
Grp Sat Flow(s),veh/h/ln	1641	1870	1460	1641	1870	1433	1591	1702	1614	1641	1702	1431
Q Serve(g_s), s	5.9	4.9	9.1	18.2	19.0	1.5	8.1	14.3	14.6	3.6	15.5	2.8
Cycle Q Clear(g_c), s	5.9	4.9	9.1	18.2	19.0	1.5	8.1	14.3	14.6	3.6	15.5	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.73	1.00		1.00
Lane Grp Cap(c), veh/h	199	297	232	433	564	432	395	1038	492	120	1297	364
V/C Ratio(X)	0.63	0.43	1.00	0.89	0.84	0.12	0.83	0.67	0.68	0.63	0.81	0.18
Avail Cap(c_a), veh/h	199	462	361	448	834	639	395	1099	521	124	1401	393
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.7	30.6	17.0	28.5	26.3	10.6	34.4	24.4	25.0	36.3	28.2	23.5
Incr Delay (d2), s/veh	6.3	1.0	40.2	19.1	5.0	0.1	13.8	1.4	3.2	9.5	3.4	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	2.1	6.4	8.6	8.1	0.6	3.6	5.2	5.4	1.7	6.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	40.0	31.5	57.2	47.6	31.3	10.7	48.3	25.9	28.2	45.8	31.6	23.7
LnGrp LOS	D	C	F	D	C	B	D	C	C	D	C	C
Approach Vol, veh/h		486			911			1353			1187	
Approach Delay, s/veh		46.0			37.0			31.9			32.1	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.9	28.6	25.3	16.8	14.0	24.5	13.8	28.3
Change Period (Y+Rc), s	5.3	5.3	4.9	4.9	5.3	5.3	4.9	4.9
Max Green Setting (Gmax), s	4.8	24.7	21.1	19.0	8.7	20.8	5.1	35.0
Max Q Clear Time (g_c+I1), s	5.6	16.6	20.2	11.1	10.1	17.5	7.9	21.0
Green Ext Time (p_c), s	0.0	2.9	0.1	0.8	0.0	1.7	0.0	1.7

Intersection Summary	
HCM 7th Control Delay, s/veh	34.9
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

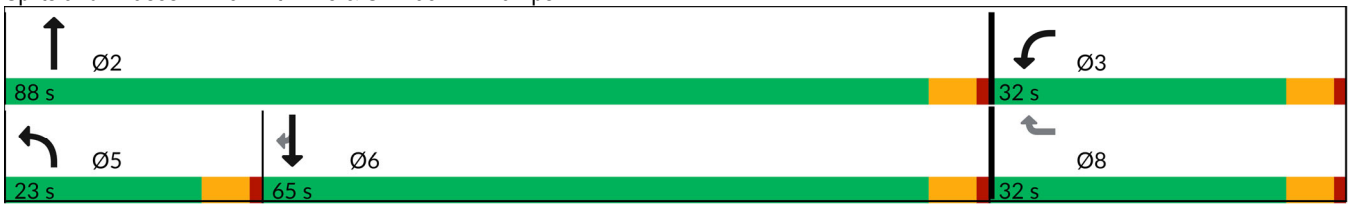


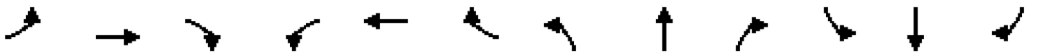
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	138	0	527	147	1003	0	0	1087	632
Future Volume (vph)	0	0	0	138	0	527	147	1003	0	0	1087	632
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	0		0	200		200	405		0	130		0
Storage Lanes	0		0	2		1	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	0.88	1.00	0.95	1.00	1.00	0.95	1.00
Frt						0.850						0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	3162	0	2567	1630	3539	0	0	3539	1458
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	3162	0	2567	1630	3539	0	0	3539	1458
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						247						687
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		239			374			625			1240	
Travel Time (s)		3.0			4.6			7.7			15.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	150	0	573	160	1090	0	0	1182	687
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	150	0	573	160	1090	0	0	1182	687
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1		1	1	1			1	1
Detector Template												
Leading Detector (ft)				50		50	50	50			50	50
Trailing Detector (ft)				0		0	0	0			0	0
Detector 1 Position(ft)				0		0	0	0			0	0
Detector 1 Size(ft)				50		50	50	50			50	50
Detector 1 Type				Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0		0.0	0.0	0.0			0.0	0.0
Detector 1 Queue (s)				0.0		0.0	0.0	0.0			0.0	0.0
Detector 1 Delay (s)				0.0		0.0	0.0	0.0			0.0	0.0
Turn Type				Prot		Perm	Prot	NA			NA	Perm
Protected Phases				3			5	2			6	
Permitted Phases						8						6
Detector Phase				3		8	5	2			6	6
Switch Phase												
Minimum Initial (s)				4.0		4.0	4.0	4.0			4.0	4.0
Minimum Split (s)				9.3		23.3	9.3	23.3			23.3	23.3
Total Split (s)				32.0		32.0	23.0	88.0			65.0	65.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)				26.7%		26.7%	19.2%	73.3%			54.2%	54.2%
Maximum Green (s)				26.7		26.7	17.7	82.7			59.7	59.7
Yellow Time (s)				4.3		4.3	4.3	4.3			4.3	4.3
All-Red Time (s)				1.0		1.0	1.0	1.0			1.0	1.0
Lost Time Adjust (s)				-1.3		-1.3	-1.3	-1.3			-1.3	-1.3
Total Lost Time (s)				4.0		4.0	4.0	4.0			4.0	4.0
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	3.0
Recall Mode				None		None	None	Min			Min	Min
Act Effct Green (s)				19.5		19.5	15.3	61.8			42.3	42.3
Actuated g/C Ratio				0.22		0.22	0.17	0.69			0.47	0.47
v/c Ratio				0.22		0.77	0.58	0.45			0.71	0.65
Control Delay (s/veh)				32.8		27.3	48.0	7.2			22.1	4.6
Queue Delay				0.0		0.0	0.0	0.1			0.0	0.0
Total Delay (s/veh)				32.8		27.3	48.0	7.2			22.1	4.6
LOS				C		C	D	A			C	A
Approach Delay (s/veh)					28.4			12.5			15.7	
Approach LOS					C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 89.8			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay (s/veh): 17.0		Intersection LOS: B	
Intersection Capacity Utilization 58.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 19: 12th Ave & SR 198 WB Ramps

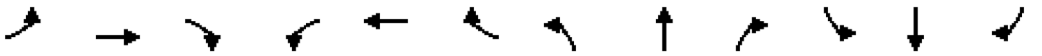




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	138	0	527	147	1003	0	0	1087	632
Future Volume (veh/h)	0	0	0	138	0	527	147	1003	0	0	1087	632
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1723	0	1723	1723	1870	0	0	1870	1723
Adj Flow Rate, veh/h				150	0	573	160	1090	0	0	1182	687
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	0	2	2	2	0	0	2	2
Cap, veh/h				792	0	640	206	2411	0	0	1836	754
Arrive On Green				0.25	0.00	0.25	0.13	0.68	0.00	0.00	0.52	0.52
Sat Flow, veh/h				3183	0	2569	1641	3647	0	0	3647	1460
Grp Volume(v), veh/h				150	0	573	160	1090	0	0	1182	687
Grp Sat Flow(s),veh/h/ln				1591	0	1285	1641	1777	0	0	1777	1460
Q Serve(g_s), s				4.1	0.0	23.8	10.4	15.7	0.0	0.0	26.5	47.3
Cycle Q Clear(g_c), s				4.1	0.0	23.8	10.4	15.7	0.0	0.0	26.5	47.3
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				792	0	640	206	2411	0	0	1836	754
V/C Ratio(X)				0.19	0.00	0.90	0.78	0.45	0.00	0.00	0.64	0.91
Avail Cap(c_a), veh/h				809	0	653	283	2709	0	0	1967	808
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				32.6	0.0	40.0	46.7	8.2	0.0	0.0	19.3	24.3
Incr Delay (d2), s/veh				0.1	0.0	14.8	8.9	0.1	0.0	0.0	0.7	13.8
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.5	0.0	8.3	4.5	4.6	0.0	0.0	9.7	16.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				32.7	0.0	54.8	55.6	8.3	0.0	0.0	19.9	38.2
LnGrp LOS				C		D	E	A			B	D
Approach Vol, veh/h					723			1250			1869	
Approach Delay, s/veh					50.3			14.4			26.6	
Approach LOS					D			B			C	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	78.8		17.8	60.9		31.4						
Change Period (Y+Rc), s	5.3		5.3	5.3		5.3						
Max Green Setting (Gmax), s	82.7		17.7	59.7		26.7						
Max Q Clear Time (g_c+I1), s	17.7		12.4	49.3		25.8						
Green Ext Time (p_c), s	5.7		0.2	6.3		0.4						

Intersection Summary		
HCM 7th Control Delay, s/veh	27.1	
HCM 7th LOS	C	

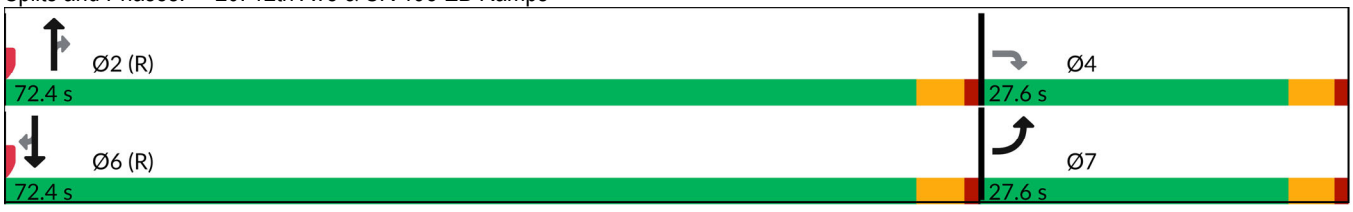


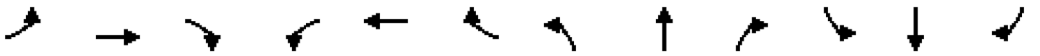
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	618	0	229	0	0	0	0	809	120	0	772	526
Future Volume (vph)	618	0	229	0	0	0	0	809	120	0	772	526
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	210		210	0		0	0		0	0		160
Storage Lanes	2		0	0		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850						0.850			0.850
Flt Protected	0.950											
Satd. Flow (prot)	3162	0	1458	0	0	0	0	3539	1458	0	3539	1458
Flt Permitted	0.950											
Satd. Flow (perm)	3162	0	1458	0	0	0	0	3539	1458	0	3539	1458
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			220						130			572
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		206			226			520			625	
Travel Time (s)		2.6			2.8			6.4			7.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	672	0	249	0	0	0	0	879	130	0	839	572
Shared Lane Traffic (%)												
Lane Group Flow (vph)	672	0	249	0	0	0	0	879	130	0	839	572
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1		1					1	1		1	1
Detector Template												
Leading Detector (ft)	50		50					50	50		50	50
Trailing Detector (ft)	0		0					0	0		0	0
Detector 1 Position(ft)	0		0					0	0		0	0
Detector 1 Size(ft)	50		50					50	50		50	50
Detector 1 Type	Cl+Ex		Cl+Ex					Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0					0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0					0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0					0.0	0.0		0.0	0.0
Turn Type	Prot		Perm					NA	Perm		NA	Perm
Protected Phases	7							2			6	
Permitted Phases			4						2			6
Detector Phase	7		4					2	2		6	6
Switch Phase												
Minimum Initial (s)	4.0		4.0					4.0	4.0		4.0	4.0
Minimum Split (s)	8.5		22.5					22.5	22.5		22.5	22.5
Total Split (s)	27.6		27.6					72.4	72.4		72.4	72.4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	27.6%		27.6%					72.4%	72.4%		72.4%	72.4%
Maximum Green (s)	23.1		23.1					67.9	67.9		67.9	67.9
Yellow Time (s)	3.5		3.5					3.5	3.5		3.5	3.5
All-Red Time (s)	1.0		1.0					1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-0.5		-0.5					-0.5	0.0		-0.5	0.0
Total Lost Time (s)	4.0		4.0					4.0	4.5		4.0	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0		3.0					3.0	3.0		3.0	3.0
Recall Mode	None		None					C-Min	C-Min		C-Min	C-Min
Act Effct Green (s)	27.4		27.4					64.6	64.1		64.6	64.1
Actuated g/C Ratio	0.27		0.27					0.65	0.64		0.65	0.64
v/c Ratio	0.78		0.45					0.38	0.13		0.37	0.50
Control Delay (s/veh)	39.9		8.0					9.4	1.9		9.2	2.5
Queue Delay	0.0		0.0					0.0	0.0		0.0	0.1
Total Delay (s/veh)	39.9		8.0					9.4	1.9		9.2	2.6
LOS	D		A					A	A		A	A
Approach Delay (s/veh)		31.3						8.4			6.5	
Approach LOS		C						A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 1 (1%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay (s/veh): 13.9		Intersection LOS: B	
Intersection Capacity Utilization 48.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 20: 12th Ave & SR 198 EB Ramps

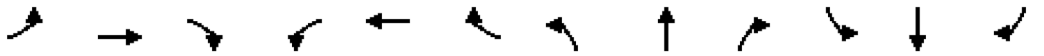




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	618	0	229	0	0	0	0	809	120	0	772	526
Future Volume (veh/h)	618	0	229	0	0	0	0	809	120	0	772	526
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1723	0	1723				0	1870	1723	0	1870	1723
Adj Flow Rate, veh/h	672	0	249				0	879	130	0	839	572
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	2
Cap, veh/h	742	0	340				0	2441	996	0	2441	996
Arrive On Green	0.23	0.00	0.23				0.00	0.69	0.68	0.00	0.69	0.68
Sat Flow, veh/h	3183	0	1460				0	3647	1460	0	3647	1460
Grp Volume(v), veh/h	672	0	249				0	879	130	0	839	572
Grp Sat Flow(s),veh/h/ln	1591	0	1460				0	1777	1460	0	1777	1460
Q Serve(g_s), s	20.5	0.0	15.8				0.0	10.3	3.1	0.0	9.7	20.5
Cycle Q Clear(g_c), s	20.5	0.0	15.8				0.0	10.3	3.1	0.0	9.7	20.5
Prop In Lane	1.00		1.00				0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	742	0	340				0	2441	996	0	2441	996
V/C Ratio(X)	0.91	0.00	0.73				0.00	0.36	0.13	0.00	0.34	0.57
Avail Cap(c_a), veh/h	751	0	345				0	2441	996	0	2441	996
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.00	0.61	0.61
Uniform Delay (d), s/veh	37.3	0.0	35.5				0.0	6.5	5.6	0.0	6.4	8.3
Incr Delay (d2), s/veh	14.5	0.0	7.7				0.0	0.4	0.3	0.0	0.2	1.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	0.0	5.9				0.0	2.9	0.8	0.0	2.7	21.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	51.8	0.0	43.1				0.0	6.9	5.8	0.0	6.7	9.8
LnGrp LOS	D		D					A	A		A	A
Approach Vol, veh/h		921						1009			1411	
Approach Delay, s/veh		49.5						6.8			7.9	
Approach LOS		D						A			A	

Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		72.7		27.3		72.7						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		67.9		23.1		67.9						
Max Q Clear Time (g_c+I1), s		12.3		22.5		22.5						
Green Ext Time (p_c), s		4.9		0.3		7.7						

Intersection Summary												
HCM 7th Control Delay, s/veh			19.0									
HCM 7th LOS			B									

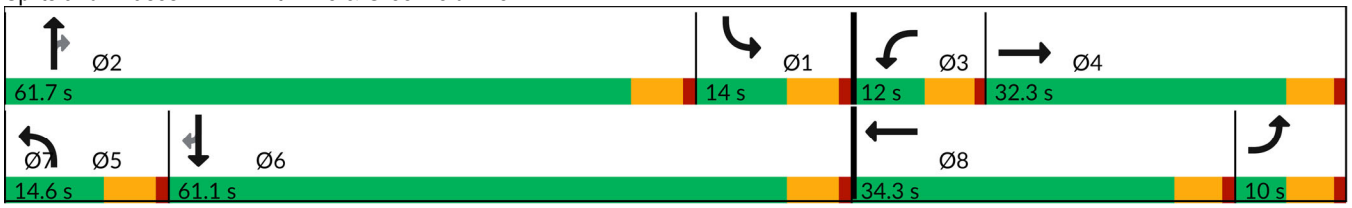


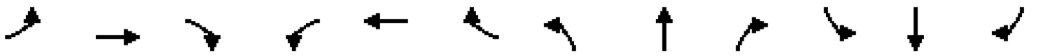
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	81	26	50	99	143	58	1333	89	71	878	50
Future Volume (vph)	39	81	26	50	99	143	58	1333	89	71	878	50
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	185		0	150		0	250		85	260		130
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor		1.00			0.99				0.98			0.98
Frt		0.964			0.912				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	3395	0	1630	3190	0	1630	3539	1458	1630	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	3395	0	1630	3190	0	1630	3539	1428	1630	3539	1428
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28			155				169			169
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		327			331			1372			2228	
Travel Time (s)		4.1			4.1			17.0			27.6	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	42	88	28	54	108	155	63	1449	97	77	954	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	42	116	0	54	263	0	63	1449	97	77	954	54
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	32.3		9.3	33.7		9.7	28.8	28.8	9.7	27.4	27.4
Total Split (s)	10.0	32.3		12.0	34.3		14.6	61.7	61.7	14.0	61.1	61.1
Total Split (%)	8.3%	26.9%		10.0%	28.6%		12.2%	51.4%	51.4%	11.7%	50.9%	50.9%
Maximum Green (s)	4.7	27.0		6.7	29.0		8.9	56.0	56.0	8.3	55.4	55.4
Yellow Time (s)	4.3	4.3		4.3	4.3		4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3		-1.3	-1.3		-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)		20.0			21.4			16.1	16.1		14.7	14.7
Pedestrian Calls (#/hr)		5			5			5	5		5	5
Act Effct Green (s)	7.4	12.5		8.9	15.6		10.8	44.0	44.0	10.7	43.8	43.8
Actuated g/C Ratio	0.09	0.15		0.11	0.18		0.13	0.52	0.52	0.13	0.52	0.52
v/c Ratio	0.29	0.22		0.32	0.37		0.30	0.79	0.12	0.37	0.52	0.07
Control Delay (s/veh)	52.3	30.4		50.7	17.3		47.4	22.8	0.3	49.5	16.9	0.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	52.3	30.4		50.7	17.3		47.4	22.8	0.3	49.5	16.9	0.2
LOS	D	C		D	B		D	C	A	D	B	A
Approach Delay (s/veh)		36.2			23.0			22.4			18.3	
Approach LOS		D			C			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 84.5			
Natural Cycle: 95			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay (s/veh): 21.7		Intersection LOS: C	
Intersection Capacity Utilization 67.9%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 14: 12th Ave & Greenfield Ave

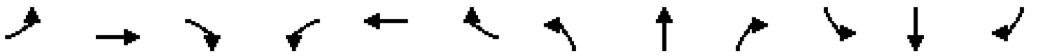




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	81	26	50	99	143	58	1333	89	71	878	50
Future Volume (veh/h)	39	81	26	50	99	143	58	1333	89	71	878	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	42	88	28	54	108	155	63	1449	97	77	954	54
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	430	130	93	303	264	113	1776	718	131	1815	734
Arrive On Green	0.05	0.16	0.14	0.06	0.17	0.15	0.07	0.50	0.50	0.08	0.51	0.51
Sat Flow, veh/h	1641	2668	809	1641	1777	1546	1641	3554	1437	1641	3554	1437
Grp Volume(v), veh/h	42	57	59	54	108	155	63	1449	97	77	954	54
Grp Sat Flow(s),veh/h/ln	1641	1777	1700	1641	1777	1546	1641	1777	1437	1641	1777	1437
Q Serve(g_s), s	2.0	2.2	2.4	2.5	4.2	7.3	2.9	27.1	1.7	3.6	14.2	0.9
Cycle Q Clear(g_c), s	2.0	2.2	2.4	2.5	4.2	7.3	2.9	27.1	1.7	3.6	14.2	0.9
Prop In Lane	1.00		0.48	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	77	286	274	93	303	264	113	1776	718	131	1815	734
V/C Ratio(X)	0.54	0.20	0.21	0.58	0.36	0.59	0.56	0.82	0.14	0.59	0.53	0.07
Avail Cap(c_a), veh/h	125	638	611	167	683	595	221	2602	1052	208	2575	1041
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.7	28.7	29.0	36.3	28.9	30.8	35.5	16.6	3.8	35.0	12.9	3.6
Incr Delay (d2), s/veh	5.9	0.3	0.4	5.7	0.7	2.1	4.3	1.3	0.1	4.2	0.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.9	0.9	1.1	1.7	2.6	1.2	8.8	0.7	1.5	4.4	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	42.6	29.0	29.4	41.9	29.6	32.8	39.8	18.0	3.9	39.2	13.1	3.7
LnGrp LOS	D	C	C	D	C	C	D	B	A	D	B	A
Approach Vol, veh/h		158			317			1609			1085	
Approach Delay, s/veh		32.8			33.3			18.0			14.5	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.3	43.4	8.5	16.7	9.4	44.2	7.7	17.4
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	8.3	56.0	6.7	27.0	8.9	55.4	4.7	29.0
Max Q Clear Time (g_c+I1), s	5.6	29.1	4.5	4.4	4.9	16.2	4.0	9.3
Green Ext Time (p_c), s	0.0	8.5	0.0	0.3	0.0	4.9	0.0	0.9

Intersection Summary	
HCM 7th Control Delay, s/veh	19.1
HCM 7th LOS	B



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	82	5	14	54	9	8	73	9	6	83	0
Future Volume (vph)	5	82	5	14	54	9	8	73	9	6	83	0
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993			0.984			0.986				
Flt Protected		0.997			0.991			0.995			0.996	
Satd. Flow (prot)	0	1844	0	0	1816	0	0	1827	0	0	1855	0
Flt Permitted		0.997			0.991			0.995			0.996	
Satd. Flow (perm)	0	1844	0	0	1816	0	0	1827	0	0	1855	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		2803			5317			5280			1167	
Travel Time (s)		34.7			65.9			65.5			14.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	89	5	15	59	10	9	79	10	7	90	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	99	0	0	84	0	0	98	0	0	97	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

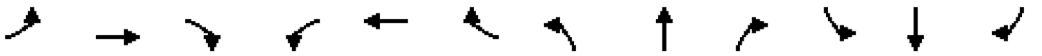
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 22.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	82	5	14	54	9	8	73	9	6	83	0
Future Vol, veh/h	5	82	5	14	54	9	8	73	9	6	83	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	89	5	15	59	10	9	79	10	7	90	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.1	8	8	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	9%	5%	18%	7%
Vol Thru, %	81%	89%	70%	93%
Vol Right, %	10%	5%	12%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	90	92	77	89
LT Vol	8	5	14	6
Through Vol	73	82	54	83
RT Vol	9	5	9	0
Lane Flow Rate	98	100	84	97
Geometry Grp	1	1	1	1
Degree of Util (X)	0.12	0.124	0.104	0.12
Departure Headway (Hd)	4.425	4.454	4.461	4.48
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	812	807	805	802
Service Time	2.443	2.472	2.479	2.499
HCM Lane V/C Ratio	0.121	0.124	0.104	0.121
HCM Control Delay, s/veh	8	8.1	8	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.4	0.3	0.4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	76	30	46	54	34	37	316	51	73	246	3
Future Volume (vph)	1	76	30	46	54	34	37	316	51	73	246	3
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	0		0	0		0	0		25	0		25
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.962			0.966				0.850			0.850
Flt Protected					0.983			0.995			0.989	
Satd. Flow (prot)	0	1792	0	0	1769	0	0	1853	1458	0	1842	1458
Flt Permitted					0.983			0.995			0.989	
Satd. Flow (perm)	0	1792	0	0	1769	0	0	1853	1458	0	1842	1458
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5317			205			4514			225	
Travel Time (s)		65.9			2.5			56.0			2.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	83	33	50	59	37	40	343	55	79	267	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	117	0	0	146	0	0	383	55	0	346	3
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 59.8%		ICU Level of Service B	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	15.6
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	76	30	46	54	34	37	316	51	73	246	3
Future Vol, veh/h	1	76	30	46	54	34	37	316	51	73	246	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	83	33	50	59	37	40	343	55	79	267	3
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay, s/veh	11	11.5	17.1	17.1
HCM LOS	B	B	C	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	10%	0%	1%	34%	23%	0%
Vol Thru, %	90%	0%	71%	40%	77%	0%
Vol Right, %	0%	100%	28%	25%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	353	51	107	134	319	3
LT Vol	37	0	1	46	73	0
Through Vol	316	0	76	54	246	0
RT Vol	0	51	30	34	0	3
Lane Flow Rate	384	55	116	146	347	3
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.631	0.079	0.203	0.254	0.586	0.005
Departure Headway (Hd)	5.922	5.158	6.282	6.28	6.083	5.256
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	606	691	568	568	593	678
Service Time	3.677	2.913	4.365	4.359	3.84	3.013
HCM Lane V/C Ratio	0.634	0.08	0.204	0.257	0.585	0.004
HCM Control Delay, s/veh	18.3	8.4	11	11.5	17.2	8
HCM Lane LOS	C	A	B	B	C	A
HCM 95th-tile Q	4.4	0.3	0.8	1	3.8	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	117	5	67	85	20	5	66	108	21	79	2
Future Volume (vph)	0	117	5	67	85	20	5	66	108	21	79	2
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.984			0.919			0.998	
Flt Protected					0.981			0.999			0.990	
Satd. Flow (prot)	0	1853	0	0	1798	0	0	1710	0	0	1840	0
Flt Permitted					0.981			0.999			0.990	
Satd. Flow (perm)	0	1853	0	0	1798	0	0	1710	0	0	1840	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		3132			4044			5270			5280	
Travel Time (s)		38.8			50.1			65.3			65.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	127	5	73	92	22	5	72	117	23	86	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	132	0	0	187	0	0	194	0	0	111	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

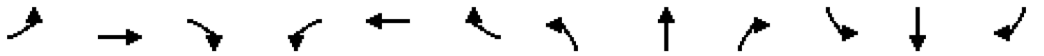
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 40.9%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	117	5	67	85	20	5	66	108	21	79	2
Future Vol, veh/h	0	117	5	67	85	20	5	66	108	21	79	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	127	5	73	92	22	5	72	117	23	86	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9	9.5	9	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	0%	39%	21%
Vol Thru, %	37%	96%	49%	77%
Vol Right, %	60%	4%	12%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	179	122	172	102
LT Vol	5	0	67	21
Through Vol	66	117	85	79
RT Vol	108	5	20	2
Lane Flow Rate	195	133	187	111
Geometry Grp	1	1	1	1
Degree of Util (X)	0.243	0.179	0.25	0.153
Departure Headway (Hd)	4.496	4.86	4.822	4.973
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	794	733	740	717
Service Time	2.547	2.92	2.879	3.032
HCM Lane V/C Ratio	0.246	0.181	0.253	0.155
HCM Control Delay, s/veh	9	9	9.5	8.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	0.6	1	0.5



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	185	40	115	128	0	22	0	123	0	0	1
Future Volume (vph)	1	185	40	115	128	0	22	0	123	0	0	1
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	0		100	100		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.886			0.865	
Flt Protected				0.950				0.992				
Satd. Flow (prot)	0	1863	1458	1630	1863	0	0	1637	0	0	1611	0
Flt Permitted				0.950				0.992				
Satd. Flow (perm)	0	1863	1458	1630	1863	0	0	1637	0	0	1611	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		4044			816			5340			496	
Travel Time (s)		50.1			10.1			66.2			6.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	201	43	125	139	0	24	0	134	0	0	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	202	43	125	139	0	0	158	0	0	1	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	42.2%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	185	40	115	128	0	22	0	123	0	0	1
Future Vol, veh/h	1	185	40	115	128	0	22	0	123	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	100	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	201	43	125	139	0	24	0	134	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	139	0	0	245	0	0	592	592	201	592	636	139
Stage 1	-	-	-	-	-	-	203	203	-	389	389	-
Stage 2	-	-	-	-	-	-	389	389	-	203	247	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1444	-	-	1322	-	-	418	419	840	418	396	909
Stage 1	-	-	-	-	-	-	799	733	-	635	608	-
Stage 2	-	-	-	-	-	-	635	608	-	799	702	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1444	-	-	1322	-	-	377	379	840	318	358	909
Mov Cap-2 Maneuver	-	-	-	-	-	-	377	379	-	318	358	-
Stage 1	-	-	-	-	-	-	798	733	-	575	551	-
Stage 2	-	-	-	-	-	-	574	551	-	671	702	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.03	3.79	11.53	8.97
HCM LOS			B	A

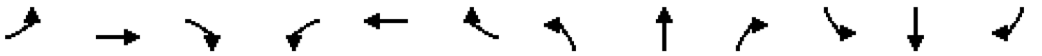
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	708	10	-	-	1322	-	-	909
HCM Lane V/C Ratio	0.223	0.001	-	-	0.095	-	-	0.001
HCM Control Delay (s/veh)	11.5	7.5	0	-	8	-	-	9
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.8	0	-	-	0.3	-	-	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	328	25	215	274	96	46	368	325	71	256	28
Future Volume (vph)	24	328	25	215	274	96	46	368	325	71	256	28
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	200		110	345		110	255		105	255		130
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.98			0.97			0.97			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1863	1458	1630	1863	1458	1630	1863	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1429	1630	1863	1412	1630	1863	1411	1630	1863	1412
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			173			125			197			169
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		488			5225			5338			853	
Travel Time (s)		6.0			64.8			66.2			10.6	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	357	27	234	298	104	50	400	353	77	278	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	357	27	234	298	104	50	400	353	77	278	30
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	33.7	33.7	9.3	33.7	33.7	9.7	34.5	34.5	9.7	36.0	36.0
Total Split (s)	10.4	36.0	36.0	29.0	54.6	54.6	13.6	40.0	40.0	15.0	41.4	41.4
Total Split (%)	8.7%	30.0%	30.0%	24.2%	45.5%	45.5%	11.3%	33.3%	33.3%	12.5%	34.5%	34.5%
Maximum Green (s)	5.1	30.7	30.7	23.7	49.3	49.3	7.9	34.3	34.3	9.3	35.7	35.7
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		21.4	21.4		21.4	21.4		21.8	21.8		23.3	23.3
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	7.0	25.3	25.3	20.4	44.8	44.8	9.5	28.4	28.4	10.7	29.4	29.4
Actuated g/C Ratio	0.07	0.26	0.26	0.21	0.46	0.46	0.10	0.29	0.29	0.11	0.30	0.30
v/c Ratio	0.22	0.74	0.05	0.69	0.35	0.15	0.32	0.74	0.64	0.44	0.50	0.06
Control Delay (s/veh)	57.5	46.8	0.2	51.9	22.4	3.0	55.5	43.6	21.0	57.1	34.4	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	57.5	46.8	0.2	51.9	22.4	3.0	55.5	43.6	21.0	57.1	34.4	0.2
LOS	E	D	A	D	C	A	E	D	C	E	C	A
Approach Delay (s/veh)		44.4			30.1			34.4			36.3	
Approach LOS		D			C			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 98			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay (s/veh): 35.3		Intersection LOS: D	
Intersection Capacity Utilization 68.9%		ICU Level of Service C	
Analysis Period (min) 15			

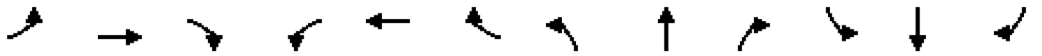
Splits and Phases: 5: 12th Ave & Fargo Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	328	25	215	274	96	46	368	325	71	256	28
Future Volume (veh/h)	24	328	25	215	274	96	46	368	325	71	256	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	26	357	27	234	298	104	50	400	353	77	278	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	60	456	349	297	725	550	94	578	438	128	618	468
Arrive On Green	0.04	0.24	0.24	0.18	0.39	0.39	0.06	0.31	0.31	0.08	0.33	0.33
Sat Flow, veh/h	1641	1870	1431	1641	1870	1419	1641	1870	1416	1641	1870	1417
Grp Volume(v), veh/h	26	357	27	234	298	104	50	400	353	77	278	30
Grp Sat Flow(s),veh/h/ln	1641	1870	1431	1641	1870	1419	1641	1870	1416	1641	1870	1417
Q Serve(g_s), s	1.3	15.2	1.2	11.6	9.9	4.1	2.5	16.0	19.5	3.9	9.9	1.2
Cycle Q Clear(g_c), s	1.3	15.2	1.2	11.6	9.9	4.1	2.5	16.0	19.5	3.9	9.9	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	60	456	349	297	725	550	94	578	438	128	618	468
V/C Ratio(X)	0.43	0.78	0.08	0.79	0.41	0.19	0.53	0.69	0.81	0.60	0.45	0.06
Avail Cap(c_a), veh/h	123	703	538	482	1112	844	185	791	599	212	822	623
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.1	30.1	24.8	33.3	19.0	17.2	39.0	25.8	27.1	37.9	22.4	19.5
Incr Delay (d2), s/veh	4.8	3.1	0.1	4.7	0.4	0.2	4.7	1.6	5.7	4.4	0.5	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	6.5	0.4	4.6	3.8	1.2	1.1	6.5	6.5	1.6	3.9	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	44.9	33.2	24.9	38.0	19.3	17.4	43.7	27.4	32.8	42.4	22.9	19.6
LnGrp LOS	D	C	C	D	B	B	D	C	C	D	C	B
Approach Vol, veh/h		410			636			803			385	
Approach Delay, s/veh		33.4			25.9			30.8			26.6	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.7	30.3	19.4	24.8	8.9	32.1	7.1	37.0
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	9.3	34.3	23.7	30.7	7.9	35.7	5.1	49.3
Max Q Clear Time (g_c+I1), s	5.9	21.5	13.6	17.2	4.5	11.9	3.3	11.9
Green Ext Time (p_c), s	0.0	2.5	0.5	1.1	0.0	1.0	0.0	1.5

Intersection Summary	
HCM 7th Control Delay, s/veh	29.1
HCM 7th LOS	C

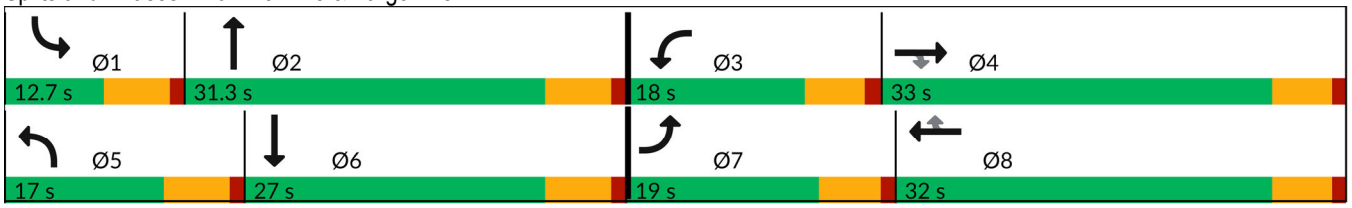


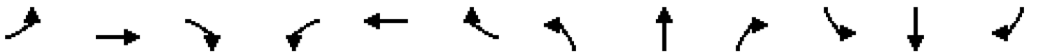
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	174	457	156	148	490	66	165	417	137	54	259	117
Future Volume (vph)	174	457	156	148	490	66	165	417	137	54	259	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	185		110	280		150	200		0	255		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor			0.97			0.98		0.99			0.99	
Frt			0.850			0.850		0.963			0.953	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	3539	1583	1770	3381	0	1770	3337	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1863	1529	1770	3539	1553	1770	3381	0	1770	3337	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			157			157		47			72	
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5225			5292			2018			1090	
Travel Time (s)		64.8			65.6			25.0			13.5	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	189	497	170	161	533	72	179	453	149	59	282	127
Shared Lane Traffic (%)												
Lane Group Flow (vph)	189	497	170	161	533	72	179	602	0	59	409	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	50	50	50	50	50	50	50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.3	25.2	25.2	9.3	29.5	29.5	9.7	28.8		9.7	26.0	
Total Split (s)	19.0	33.0	33.0	18.0	32.0	32.0	17.0	31.3		12.7	27.0	
Total Split (%)	20.0%	34.7%	34.7%	18.9%	33.7%	33.7%	17.9%	32.9%		13.4%	28.4%	
Maximum Green (s)	13.7	27.7	27.7	12.7	26.7	26.7	11.3	25.6		7.0	21.3	
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7		4.7	4.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7		-1.7	-1.7	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Don't Walk (s)		12.9	12.9		17.2	17.2		16.1			13.3	
Pedestrian Calls (#/hr)		5	5		5	5		5			5	
Act Effct Green (s)	13.7	26.7	26.7	12.6	25.6	25.6	12.6	23.8		8.5	16.8	
Actuated g/C Ratio	0.16	0.31	0.31	0.15	0.30	0.30	0.15	0.28		0.10	0.20	
v/c Ratio	0.66	0.85	0.29	0.61	0.50	0.12	0.69	0.61		0.34	0.57	
Control Delay (s/veh)	47.7	43.8	6.6	46.8	27.1	0.4	51.6	29.2		44.6	28.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	47.7	43.8	6.6	46.8	27.1	0.4	51.6	29.2		44.6	28.9	
LOS	D	D	A	D	C	A	D	C		D	C	
Approach Delay (s/veh)		37.3			28.7			34.3			30.9	
Approach LOS		D			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 85			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay (s/veh): 33.1		Intersection LOS: C	
Intersection Capacity Utilization 66.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 6: 11th Ave & Fargo Ave

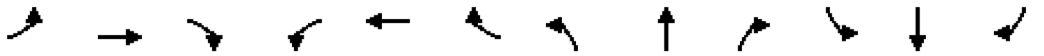




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	174	457	156	148	490	66	165	417	137	54	259	117
Future Volume (veh/h)	174	457	156	148	490	66	165	417	137	54	259	117
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	189	497	170	161	533	72	179	453	149	59	282	127
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	261	590	485	231	1061	465	257	708	231	116	455	199
Arrive On Green	0.15	0.32	0.32	0.13	0.30	0.30	0.14	0.27	0.25	0.06	0.19	0.17
Sat Flow, veh/h	1781	1870	1537	1781	3554	1556	1781	2610	850	1781	2375	1036
Grp Volume(v), veh/h	189	497	170	161	533	72	179	307	295	59	209	200
Grp Sat Flow(s),veh/h/ln	1781	1870	1537	1781	1777	1556	1781	1777	1683	1781	1777	1634
Q Serve(g_s), s	7.4	18.1	6.2	6.3	9.1	2.5	7.0	11.1	11.4	2.3	7.9	8.3
Cycle Q Clear(g_c), s	7.4	18.1	6.2	6.3	9.1	2.5	7.0	11.1	11.4	2.3	7.9	8.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.50	1.00		0.63
Lane Grp Cap(c), veh/h	261	590	485	231	1061	465	257	482	457	116	340	313
V/C Ratio(X)	0.72	0.84	0.35	0.70	0.50	0.15	0.70	0.64	0.65	0.51	0.61	0.64
Avail Cap(c_a), veh/h	365	741	609	341	1360	595	316	663	628	212	558	514
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.8	23.3	19.3	30.5	21.2	18.9	29.8	23.5	24.0	33.1	27.1	27.8
Incr Delay (d2), s/veh	4.3	7.1	0.4	3.8	0.4	0.2	4.9	1.4	1.5	3.4	1.8	2.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	7.9	1.9	2.7	3.3	0.8	3.0	4.2	4.1	1.0	3.1	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	34.1	30.5	19.7	34.3	21.5	19.0	34.7	24.9	25.5	36.5	28.9	29.9
LnGrp LOS	C	C	B	C	C	B	C	C	C	D	C	C
Approach Vol, veh/h		856			766			781			468	
Approach Delay, s/veh		29.1			24.0			27.4			30.3	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.8	23.8	13.5	27.1	14.6	18.0	14.7	25.9
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	7.0	25.6	12.7	27.7	11.3	21.3	13.7	26.7
Max Q Clear Time (g_c+I1), s	4.3	13.4	8.3	20.1	9.0	10.3	9.4	11.1
Green Ext Time (p_c), s	0.0	1.8	0.2	1.7	0.1	1.1	0.2	2.2

Intersection Summary	
HCM 7th Control Delay, s/veh	27.5
HCM 7th LOS	C

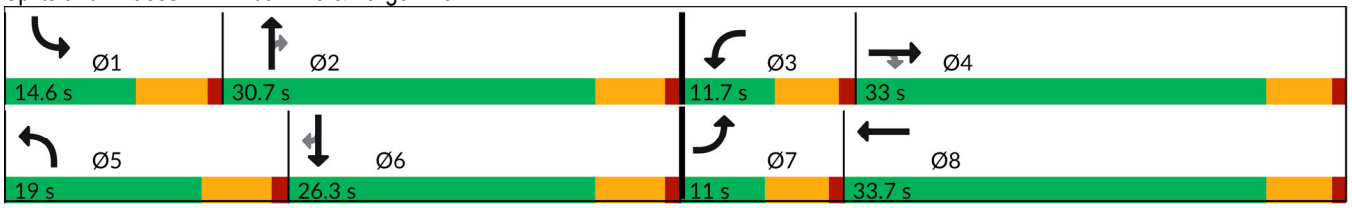


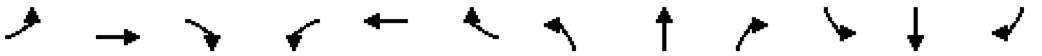
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	300	126	56	374	40	171	293	45	76	315	59
Future Volume (vph)	68	300	126	56	374	40	171	293	45	76	315	59
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	100		50	105		0	160		105	200		100
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98		1.00				0.96			0.98
Frt			0.850		0.986				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1834	0	1630	3539	1458	1630	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1432	1630	1834	0	1630	3539	1407	1630	3539	1428
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			166		6				161			161
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5292			4849			2658			1358	
Travel Time (s)		65.6			60.1			33.0			16.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	74	326	137	61	407	43	186	318	49	83	342	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	74	326	137	61	450	0	186	318	49	83	342	64
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Detector Phase	7	4	4	3	8		5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	32.3	32.3	9.3	33.7		9.7	23.7	23.7	9.7	24.5	24.5
Total Split (s)	11.0	33.0	33.0	11.7	33.7		19.0	30.7	30.7	14.6	26.3	26.3
Total Split (%)	12.2%	36.7%	36.7%	13.0%	37.4%		21.1%	34.1%	34.1%	16.2%	29.2%	29.2%
Maximum Green (s)	5.7	27.7	27.7	6.4	28.4		13.3	25.0	25.0	8.9	20.6	20.6
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3		4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3		-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)		20.0	20.0		21.4			10.4	10.4		11.8	11.8
Pedestrian Calls (#/hr)		5	5		5			5	5		5	5
Act Effct Green (s)	7.4	25.5	25.5	7.9	23.6		13.9	22.4	22.4	10.0	14.8	14.8
Actuated g/C Ratio	0.10	0.35	0.35	0.11	0.32		0.19	0.31	0.31	0.14	0.20	0.20
v/c Ratio	0.45	0.50	0.23	0.35	0.76		0.60	0.29	0.09	0.38	0.48	0.15
Control Delay (s/veh)	46.5	24.0	3.4	41.7	32.3		40.4	24.3	0.3	38.9	30.2	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	46.5	24.0	3.4	41.7	32.3		40.4	24.3	0.3	38.9	30.2	0.8
LOS	D	C	A	D	C		D	C	A	D	C	A
Approach Delay (s/veh)		21.8			33.5			27.6			27.8	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 73.1			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay (s/veh): 27.6		Intersection LOS: C	
Intersection Capacity Utilization 59.9%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 7: 10th Ave & Fargo Ave

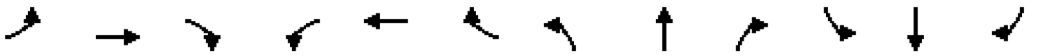




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	300	126	56	374	40	171	293	45	76	315	59
Future Volume (veh/h)	68	300	126	56	374	40	171	293	45	76	315	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	74	326	137	61	407	43	186	318	49	83	342	64
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	125	608	466	108	522	55	271	917	365	147	650	261
Arrive On Green	0.08	0.32	0.32	0.07	0.31	0.29	0.16	0.26	0.26	0.09	0.18	0.18
Sat Flow, veh/h	1641	1870	1434	1641	1660	175	1641	3554	1413	1641	3554	1427
Grp Volume(v), veh/h	74	326	137	61	0	450	186	318	49	83	342	64
Grp Sat Flow(s),veh/h/ln	1641	1870	1434	1641	0	1835	1641	1777	1413	1641	1777	1427
Q Serve(g_s), s	2.7	8.7	4.4	2.2	0.0	13.6	6.5	4.5	1.6	3.0	5.3	2.3
Cycle Q Clear(g_c), s	2.7	8.7	4.4	2.2	0.0	13.6	6.5	4.5	1.6	3.0	5.3	2.3
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	125	608	466	108	0	577	271	917	365	147	650	261
V/C Ratio(X)	0.59	0.54	0.29	0.56	0.00	0.78	0.69	0.35	0.13	0.56	0.53	0.25
Avail Cap(c_a), veh/h	188	886	679	206	0	890	402	1550	616	284	1295	520
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.4	16.9	15.4	27.7	0.0	19.1	24.1	18.5	17.5	26.7	22.6	21.4
Incr Delay (d2), s/veh	4.4	0.7	0.3	4.6	0.0	2.4	3.1	0.2	0.2	3.3	0.7	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	3.1	1.2	0.9	0.0	5.0	2.4	1.5	0.5	1.1	1.9	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	31.8	17.6	15.8	32.3	0.0	21.5	27.2	18.7	17.6	30.0	23.3	21.9
LnGrp LOS	C	B	B	C		C	C	B	B	C	C	C
Approach Vol, veh/h		537			511			553			489	
Approach Delay, s/veh		19.1			22.8			21.5			24.2	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	19.8	8.0	23.9	14.1	15.2	8.7	23.3
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	8.9	25.0	6.4	27.7	13.3	20.6	5.7	28.4
Max Q Clear Time (g_c+I1), s	5.0	6.5	4.2	10.7	8.5	7.3	4.7	15.6
Green Ext Time (p_c), s	0.1	1.3	0.0	1.5	0.2	1.3	0.0	1.4

Intersection Summary	
HCM 7th Control Delay, s/veh	21.8
HCM 7th LOS	C



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	31	118	1	49	4	175	321	1	2	253	61
Future Volume (vph)	51	31	118	1	49	4	175	321	1	2	253	61
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.920			0.991						0.971	
Flt Protected		0.987			0.999			0.983				
Satd. Flow (prot)	0	1691	0	0	1844	0	0	3479	0	0	3437	0
Flt Permitted		0.987			0.999			0.983				
Satd. Flow (perm)	0	1691	0	0	1844	0	0	3479	0	0	3437	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		4849			614			1519			1547	
Travel Time (s)		60.1			7.6			18.8			19.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	55	34	128	1	53	4	190	349	1	2	275	66
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	217	0	0	58	0	0	540	0	0	343	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 51.4%		ICU Level of Service A	
Analysis Period (min) 15			

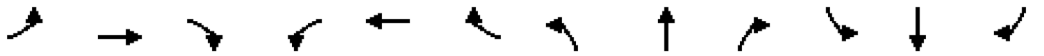
Intersection	
Int Delay, s/veh	11.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	51	31	118	1	49	4	175	321	1	2	253	61
Future Vol, veh/h	51	31	118	1	49	4	175	321	1	2	253	61
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	55	34	128	1	53	4	190	349	1	2	275	66

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	894	1043	171	889	1076	175	341	0	0	350	0	0
Stage 1	313	313	-	730	730	-	-	-	-	-	-	-
Stage 2	582	730	-	159	346	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	236	228	843	238	218	838	1214	-	-	1206	-	-
Stage 1	673	656	-	380	426	-	-	-	-	-	-	-
Stage 2	466	426	-	828	634	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	144	188	843	141	180	838	1214	-	-	1206	-	-
Mov Cap-2 Maneuver	144	188	-	141	180	-	-	-	-	-	-	-
Stage 1	671	655	-	314	352	-	-	-	-	-	-	-
Stage 2	325	352	-	664	633	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	42.02	32.21	3.45	0.06
HCM LOS	E	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1096	-	-	303	190	18	-	-
HCM Lane V/C Ratio	0.157	-	-	0.717	0.309	0.002	-	-
HCM Control Delay (s/veh)	8.5	0.7	-	42	32.2	8	0	-
HCM Lane LOS	A	A	-	E	D	A	A	-
HCM 95th %tile Q(veh)	0.6	-	-	5.1	1.2	0	-	-

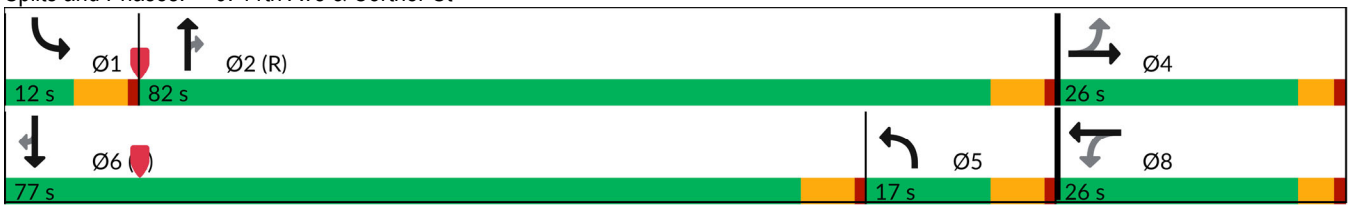


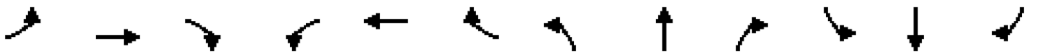
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	19	44	48	18	34	52	684	90	24	508	6
Future Volume (vph)	3	19	44	48	18	34	52	684	90	24	508	6
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	0		0	0		0	100		50	105		50
Storage Lanes	0		0	0		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98			0.99				0.96			0.96
Frt		0.910			0.954				0.850			0.850
Flt Protected		0.998			0.977		0.950			0.950		
Satd. Flow (prot)	0	1665	0	0	1722	0	1630	1863	1458	1630	1863	1458
Flt Permitted		0.992			0.751		0.950			0.950		
Satd. Flow (perm)	0	1655	0	0	1324	0	1630	1863	1400	1630	1863	1400
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		48			19				63			63
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		799			857			3291			2018	
Travel Time (s)		9.9			10.6			40.8			25.0	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	21	48	52	20	37	57	743	98	26	552	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	72	0	0	109	0	57	743	98	26	552	7
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.6	22.6		24.1	24.1		9.7	23.7	23.7	9.7	23.7	23.7
Total Split (s)	26.0	26.0		26.0	26.0		17.0	82.0	82.0	12.0	77.0	77.0
Total Split (%)	21.7%	21.7%		21.7%	21.7%		14.2%	68.3%	68.3%	10.0%	64.2%	64.2%
Maximum Green (s)	21.8	21.8		21.8	21.8		11.3	76.3	76.3	6.3	71.3	71.3
Yellow Time (s)	3.2	3.2		3.2	3.2		4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		-0.2			-0.2		-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)		4.0			4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)	7.0	7.0		7.0	7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)	11.4	11.4		12.9	12.9			8.7	8.7		8.7	8.7
Pedestrian Calls (#/hr)	5	5		5	5			5	5		5	5
Act Effct Green (s)		13.1			13.1		13.4	90.4	90.4	9.2	83.8	83.8
Actuated g/C Ratio		0.11			0.11		0.11	0.75	0.75	0.08	0.70	0.70
v/c Ratio		0.32			0.68		0.31	0.53	0.09	0.21	0.42	0.01
Control Delay (s/veh)		23.6			61.8		51.7	9.9	3.2	55.3	11.3	0.0
Queue Delay		0.0			0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		23.6			61.8		51.7	9.9	3.2	55.3	11.3	0.0
LOS		C			E		D	A	A	E	B	A
Approach Delay (s/veh)		23.6			61.8			11.8			13.1	
Approach LOS		C			E			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 12 (10%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay (s/veh): 16.1		Intersection LOS: B	
Intersection Capacity Utilization 62.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 9: 11th Ave & Cortner St

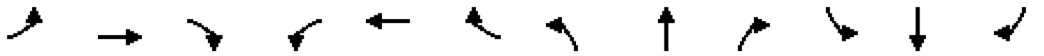




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	19	44	48	18	34	52	684	90	24	508	6
Future Volume (veh/h)	3	19	44	48	18	34	52	684	90	24	508	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	3	21	48	52	20	37	57	743	98	26	552	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	34	50	104	109	38	52	778	1441	1098	55	617	467
Arrive On Green	0.10	0.10	0.09	0.10	0.10	0.09	0.47	0.77	0.77	0.03	0.33	0.33
Sat Flow, veh/h	25	518	1086	671	393	547	1641	1870	1425	1641	1870	1417
Grp Volume(v), veh/h	72	0	0	109	0	0	57	743	98	26	552	7
Grp Sat Flow(s),veh/h/ln	1629	0	0	1611	0	0	1641	1870	1425	1641	1870	1417
Q Serve(g_s), s	0.0	0.0	0.0	2.5	0.0	0.0	2.3	18.1	2.0	1.9	33.7	0.4
Cycle Q Clear(g_c), s	5.0	0.0	0.0	7.5	0.0	0.0	2.3	18.1	2.0	1.9	33.7	0.4
Prop In Lane	0.04		0.67	0.48		0.34	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	187	0	0	199	0	0	778	1441	1098	55	617	467
V/C Ratio(X)	0.38	0.00	0.00	0.55	0.00	0.00	0.07	0.52	0.09	0.47	0.90	0.01
Avail Cap(c_a), veh/h	328	0	0	327	0	0	778	1441	1098	109	1138	862
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.52	0.52	0.52	0.85	0.85	0.85
Uniform Delay (d), s/veh	51.4	0.0	0.0	52.3	0.0	0.0	17.2	5.2	3.4	57.0	38.2	27.1
Incr Delay (d2), s/veh	1.3	0.0	0.0	2.4	0.0	0.0	0.0	0.7	0.1	5.3	15.9	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	0.0	3.2	0.0	0.0	0.8	4.8	0.4	0.8	17.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	52.7	0.0	0.0	54.7	0.0	0.0	17.2	5.9	3.5	62.2	54.1	27.1
LnGrp LOS	D			D			B	A	A	E	D	C
Approach Vol, veh/h		72			109			898			585	
Approach Delay, s/veh		52.7			54.7			6.4			54.1	
Approach LOS		D			D			A			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.0	96.5		15.5	60.9	43.6		15.5				
Change Period (Y+Rc), s	5.7	5.7		4.2	5.7	5.7		4.2				
Max Green Setting (Gmax), s	6.3	76.3		21.8	11.3	71.3		21.8				
Max Q Clear Time (g_c+I1), s	3.9	20.1		7.0	4.3	35.7		9.5				
Green Ext Time (p_c), s	0.0	3.8		0.1	0.1	2.2		0.2				

Intersection Summary			
HCM 7th Control Delay, s/veh		28.3	
HCM 7th LOS		C	

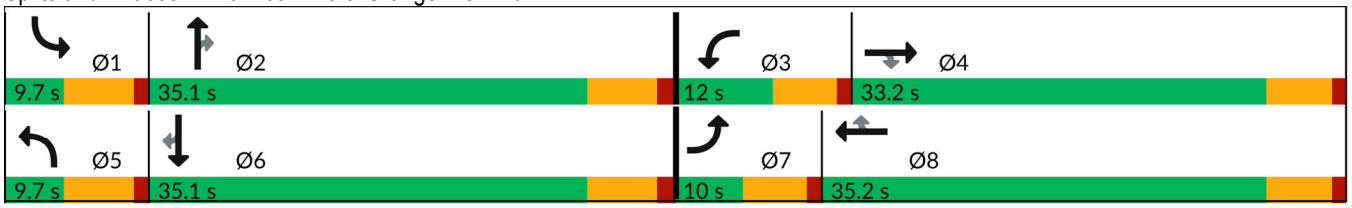


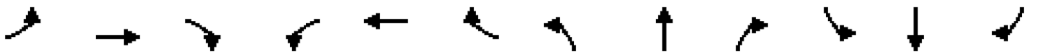
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	296	13	71	232	41	15	157	97	24	109	22
Future Volume (vph)	43	296	13	71	232	41	15	157	97	24	109	22
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	265		265	230		230	195		290	200		195
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.97			0.97			0.97			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1863	1458	1630	1863	1458	1630	1863	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1414	1630	1863	1415	1630	1863	1415	1630	1863	1414
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			166			166			161			161
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1096			3658			629			5270	
Travel Time (s)		13.6			45.3			7.8			65.3	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	322	14	77	252	45	16	171	105	26	118	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	47	322	14	77	252	45	16	171	105	26	118	24
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	32.3	32.3	9.3	35.2	35.2	9.7	34.5	34.5	9.7	33.1	33.1
Total Split (s)	10.0	33.2	33.2	12.0	35.2	35.2	9.7	35.1	35.1	9.7	35.1	35.1
Total Split (%)	11.1%	36.9%	36.9%	13.3%	39.1%	39.1%	10.8%	39.0%	39.0%	10.8%	39.0%	39.0%
Maximum Green (s)	4.7	27.9	27.9	6.7	29.9	29.9	4.0	29.4	29.4	4.0	29.4	29.4
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		20.0	20.0		22.9	22.9		21.8	21.8		20.4	20.4
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	7.4	17.5	17.5	9.4	20.7	20.7	7.0	15.1	15.1	7.0	16.6	16.6
Actuated g/C Ratio	0.15	0.34	0.34	0.18	0.41	0.41	0.14	0.30	0.30	0.14	0.33	0.33
v/c Ratio	0.20	0.50	0.02	0.26	0.33	0.07	0.07	0.31	0.20	0.12	0.19	0.04
Control Delay (s/veh)	32.6	20.3	0.1	30.6	15.6	0.2	32.8	19.7	1.9	32.9	16.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	32.6	20.3	0.1	30.6	15.6	0.2	32.8	19.7	1.9	32.9	16.6	0.1
LOS	C	C	A	C	B	A	C	B	A	C	B	A
Approach Delay (s/veh)		21.1			16.8			14.0			16.8	
Approach LOS		C			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 51			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.50			
Intersection Signal Delay (s/veh): 17.5		Intersection LOS: B	
Intersection Capacity Utilization 48.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: 13th Ave & Grangeville Blvd

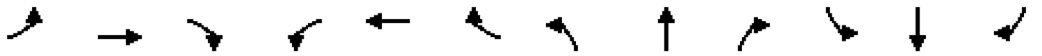




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	296	13	71	232	41	15	157	97	24	109	22
Future Volume (veh/h)	43	296	13	71	232	41	15	157	97	24	109	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	47	322	14	77	252	45	16	171	105	26	118	24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	113	512	387	140	542	410	90	402	303	104	418	315
Arrive On Green	0.07	0.27	0.27	0.09	0.29	0.29	0.05	0.21	0.21	0.06	0.22	0.22
Sat Flow, veh/h	1641	1870	1414	1641	1870	1415	1641	1870	1409	1641	1870	1410
Grp Volume(v), veh/h	47	322	14	77	252	45	16	171	105	26	118	24
Grp Sat Flow(s),veh/h/ln	1641	1870	1414	1641	1870	1415	1641	1870	1409	1641	1870	1410
Q Serve(g_s), s	1.2	6.7	0.3	2.0	4.9	1.0	0.4	3.5	2.8	0.7	2.3	0.6
Cycle Q Clear(g_c), s	1.2	6.7	0.3	2.0	4.9	1.0	0.4	3.5	2.8	0.7	2.3	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	113	512	387	140	542	410	90	402	303	104	418	315
V/C Ratio(X)	0.41	0.63	0.04	0.55	0.46	0.11	0.18	0.43	0.35	0.25	0.28	0.08
Avail Cap(c_a), veh/h	223	1238	936	298	1323	1001	212	1319	994	212	1319	994
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.7	14.0	11.7	19.4	12.9	11.5	19.9	15.0	14.7	19.7	14.2	13.5
Incr Delay (d2), s/veh	2.4	1.3	0.0	3.4	0.6	0.1	0.9	0.7	0.7	1.2	0.4	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	2.1	0.1	0.7	1.5	0.2	0.1	1.1	0.7	0.2	0.7	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	22.1	15.3	11.8	22.7	13.5	11.6	20.8	15.7	15.4	20.9	14.6	13.6
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		383			374			292			168	
Approach Delay, s/veh		16.0			15.2			15.8			15.4	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.8	13.5	7.8	16.1	6.4	13.9	7.1	16.8
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	4.0	29.4	6.7	27.9	4.0	29.4	4.7	29.9
Max Q Clear Time (g_c+I1), s	2.7	5.5	4.0	8.7	2.4	4.3	3.2	6.9
Green Ext Time (p_c), s	0.0	0.9	0.0	1.1	0.0	0.4	0.0	1.0

Intersection Summary	
HCM 7th Control Delay, s/veh	15.6
HCM 7th LOS	B

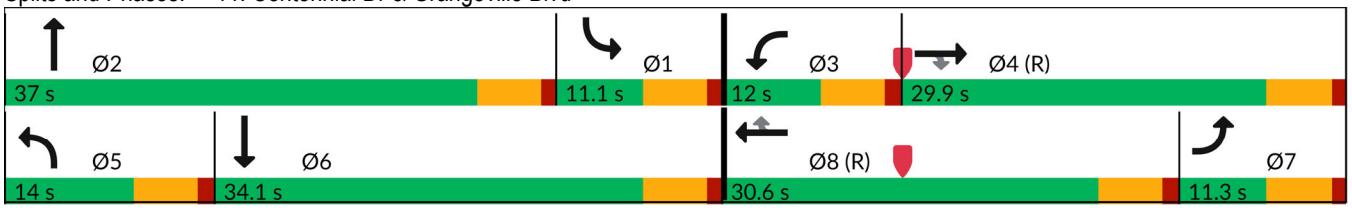


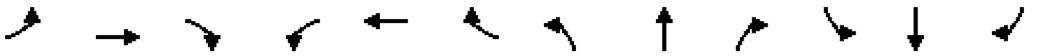
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	283	121	80	206	50	99	235	77	42	160	34
Future Volume (vph)	47	283	121	80	206	50	99	235	77	42	160	34
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	200		90	200		150	150		0	150		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.97			0.97		1.00			0.99	
Frt			0.850			0.850		0.963			0.974	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1863	1458	1630	1786	0	1630	1805	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1412	1630	1863	1412	1630	1786	0	1630	1805	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			221			221		21			13	
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		3658			1623			639			5340	
Travel Time (s)		45.3			20.1			7.9			66.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	51	308	132	87	224	54	108	255	84	46	174	37
Shared Lane Traffic (%)												
Lane Group Flow (vph)	51	308	132	87	224	54	108	339	0	46	211	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	50	50	50	50	50	50	50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.3	28.4	28.4	9.3	28.4	28.4	9.3	34.1		9.3	34.1	
Total Split (s)	11.3	29.9	29.9	12.0	30.6	30.6	14.0	37.0		11.1	34.1	
Total Split (%)	12.6%	33.2%	33.2%	13.3%	34.0%	34.0%	15.6%	41.1%		12.3%	37.9%	
Maximum Green (s)	6.0	24.6	24.6	6.7	25.3	25.3	8.7	31.7		5.8	28.8	
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3		4.3	4.3	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3		-1.3	-1.3	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Min		None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Don't Walk (s)		16.1	16.1		16.1	16.1		21.8			21.8	
Pedestrian Calls (#/hr)		5	5		5	5		5			5	
Act Effct Green (s)	7.2	37.7	37.7	9.8	42.4	42.4	9.6	24.5		8.9	21.6	
Actuated g/C Ratio	0.08	0.42	0.42	0.11	0.47	0.47	0.11	0.27		0.10	0.24	
v/c Ratio	0.39	0.39	0.18	0.49	0.26	0.07	0.62	0.68		0.29	0.48	
Control Delay (s/veh)	48.6	24.8	0.7	48.6	20.2	0.2	54.6	34.0		41.9	29.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	48.6	24.8	0.7	48.6	20.2	0.2	54.6	34.0		41.9	29.8	
LOS	D	C	A	D	C	A	D	C		D	C	
Approach Delay (s/veh)		20.8			24.0			39.0			31.9	
Approach LOS		C			C			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay (s/veh): 28.6		Intersection LOS: C	
Intersection Capacity Utilization 59.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 11: Centennial Dr & Grangeville Blvd

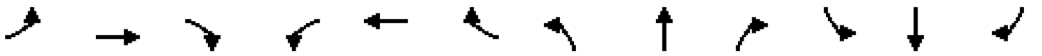




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	283	121	80	206	50	99	235	77	42	160	34
Future Volume (veh/h)	47	283	121	80	206	50	99	235	77	42	160	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	51	308	132	87	224	54	108	255	84	46	174	37
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	391	849	645	131	553	418	156	321	106	79	287	61
Arrive On Green	0.24	0.45	0.45	0.08	0.30	0.30	0.09	0.24	0.23	0.05	0.19	0.18
Sat Flow, veh/h	1641	1870	1420	1641	1870	1415	1641	1339	441	1641	1484	315
Grp Volume(v), veh/h	51	308	132	87	224	54	108	0	339	46	0	211
Grp Sat Flow(s),veh/h/ln	1641	1870	1420	1641	1870	1415	1641	0	1780	1641	0	1799
Q Serve(g_s), s	2.2	9.7	5.0	4.6	8.6	2.5	5.7	0.0	16.1	2.5	0.0	9.7
Cycle Q Clear(g_c), s	2.2	9.7	5.0	4.6	8.6	2.5	5.7	0.0	16.1	2.5	0.0	9.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.25	1.00		0.18
Lane Grp Cap(c), veh/h	391	849	645	131	553	418	156	0	427	79	0	348
V/C Ratio(X)	0.13	0.36	0.20	0.66	0.41	0.13	0.69	0.00	0.79	0.58	0.00	0.61
Avail Cap(c_a), veh/h	391	849	645	146	553	418	182	0	653	129	0	602
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.92	0.88	0.88	0.88	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.9	16.1	14.8	40.2	25.4	23.2	39.5	0.0	32.3	41.9	0.0	33.3
Incr Delay (d2), s/veh	0.1	1.1	0.7	8.3	1.9	0.6	8.9	0.0	3.8	6.5	0.0	1.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	3.8	1.5	2.0	3.8	0.8	2.5	0.0	6.8	1.1	0.0	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.1	17.2	15.4	48.6	27.3	23.8	48.3	0.0	36.1	48.4	0.0	35.0
LnGrp LOS	C	B	B	D	C	C	D		D	D		C
Approach Vol, veh/h		491			365			447			257	
Approach Delay, s/veh		17.7			31.9			39.1			37.4	
Approach LOS		B			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.4	25.6	11.2	44.9	12.5	21.4	25.5	30.6
Change Period (Y+Rc), s	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
Max Green Setting (Gmax), s	5.8	31.7	6.7	24.6	8.7	28.8	6.0	25.3
Max Q Clear Time (g_c+I1), s	4.5	18.1	6.6	11.7	7.7	11.7	4.2	10.6
Green Ext Time (p_c), s	0.0	1.0	0.0	1.3	0.0	0.6	0.0	0.8

Intersection Summary	
HCM 7th Control Delay, s/veh	30.4
HCM 7th LOS	C

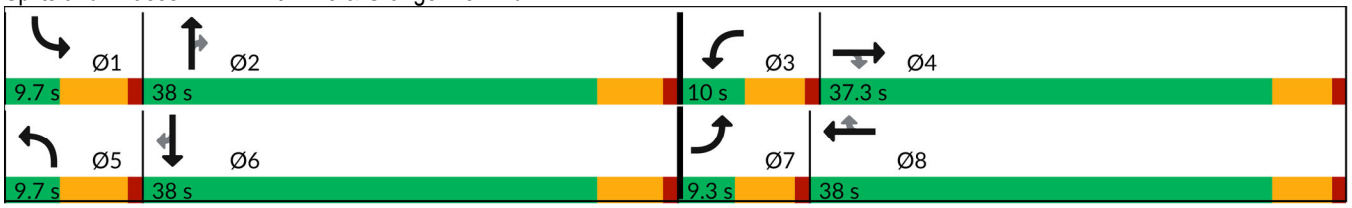


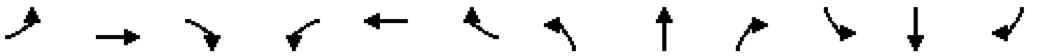
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	116	340	85	267	335	92	144	1195	289	93	711	77
Future Volume (vph)	116	340	85	267	335	92	144	1195	289	93	711	77
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	200		130	175		150	260		210	205		160
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor			0.98			0.97			0.98			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3162	3539	1458	3162	3539	1458	3162	3539	1458	3162	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3162	3539	1432	3162	3539	1416	3162	3539	1433	3162	3539	1415
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			157			157			255			153
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1623			5213			2228			5338	
Travel Time (s)		20.1			64.6			27.6			66.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	126	370	92	290	364	100	157	1299	314	101	773	84
Shared Lane Traffic (%)												
Lane Group Flow (vph)	126	370	92	290	364	100	157	1299	314	101	773	84
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	36.6	36.6	9.3	38.0	38.0	9.7	37.4	37.4	9.7	37.4	37.4
Total Split (s)	9.3	37.3	37.3	10.0	38.0	38.0	9.7	38.0	38.0	9.7	38.0	38.0
Total Split (%)	9.8%	39.3%	39.3%	10.5%	40.0%	40.0%	10.2%	40.0%	40.0%	10.2%	40.0%	40.0%
Maximum Green (s)	4.0	32.0	32.0	4.7	32.7	32.7	4.0	32.3	32.3	4.0	32.3	32.3
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		24.3	24.3		25.7	25.7		24.7	24.7		24.7	24.7
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	5.4	16.8	16.8	6.1	17.5	17.5	5.8	34.6	34.6	5.8	32.2	32.2
Actuated g/C Ratio	0.07	0.22	0.22	0.08	0.23	0.23	0.08	0.45	0.45	0.08	0.42	0.42
v/c Ratio	0.57	0.48	0.21	1.16	0.45	0.23	0.66	0.82	0.40	0.43	0.52	0.12
Control Delay (s/veh)	49.2	28.3	1.6	143.7	27.3	2.1	52.5	26.4	6.1	43.3	19.3	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	49.2	28.3	1.6	143.7	27.3	2.1	52.5	26.4	6.1	43.3	19.3	0.5
LOS	D	C	A	F	C	A	D	C	A	D	B	A
Approach Delay (s/veh)		28.6			68.8			25.1			20.2	
Approach LOS		C			E			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 77.2			
Natural Cycle: 95			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.16			
Intersection Signal Delay (s/veh): 32.5		Intersection LOS: C	
Intersection Capacity Utilization 69.9%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 12: 12th Ave & Grangeville Blvd

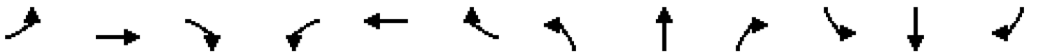




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	116	340	85	267	335	92	144	1195	289	93	711	77
Future Volume (veh/h)	116	340	85	267	335	92	144	1195	289	93	711	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.96	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	126	370	92	290	364	100	157	1299	314	101	773	84
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	231	681	274	262	715	283	248	1540	622	234	1524	609
Arrive On Green	0.07	0.19	0.19	0.08	0.20	0.20	0.08	0.43	0.43	0.07	0.43	0.43
Sat Flow, veh/h	3183	3554	1428	3183	3554	1408	3183	3554	1436	3183	3554	1420
Grp Volume(v), veh/h	126	370	92	290	364	100	157	1299	314	101	773	84
Grp Sat Flow(s),veh/h/ln	1591	1777	1428	1591	1777	1408	1591	1777	1436	1591	1777	1420
Q Serve(g_s), s	2.8	6.9	4.1	6.0	6.7	4.5	3.5	23.8	11.6	2.2	11.6	2.6
Cycle Q Clear(g_c), s	2.8	6.9	4.1	6.0	6.7	4.5	3.5	23.8	11.6	2.2	11.6	2.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	231	681	274	262	715	283	248	1540	622	234	1524	609
V/C Ratio(X)	0.55	0.54	0.34	1.11	0.51	0.35	0.63	0.84	0.50	0.43	0.51	0.14
Avail Cap(c_a), veh/h	231	1621	651	262	1655	655	248	1655	669	248	1655	661
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.7	26.6	25.5	33.5	25.9	25.1	32.6	18.5	15.0	32.4	15.2	12.7
Incr Delay (d2), s/veh	2.6	0.7	0.7	88.0	0.6	0.7	5.1	4.0	0.6	1.3	0.3	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.6	1.3	5.3	2.5	1.4	1.4	8.5	3.1	0.8	3.8	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	35.3	27.3	26.2	121.5	26.5	25.8	37.7	22.4	15.6	33.6	15.5	12.8
LnGrp LOS	D	C	C	F	C	C	D	C	B	C	B	B
Approach Vol, veh/h		588			754			1770			958	
Approach Delay, s/veh		28.9			62.9			22.6			17.2	
Approach LOS		C			E			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.4	35.6	10.0	18.0	9.7	35.3	9.3	18.7
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	4.0	32.3	4.7	32.0	4.0	32.3	4.0	32.7
Max Q Clear Time (g_c+I1), s	4.2	25.8	8.0	8.9	5.5	13.6	4.8	8.7
Green Ext Time (p_c), s	0.0	3.9	0.0	1.8	0.0	3.5	0.0	1.8

Intersection Summary	
HCM 7th Control Delay, s/veh	29.7
HCM 7th LOS	C

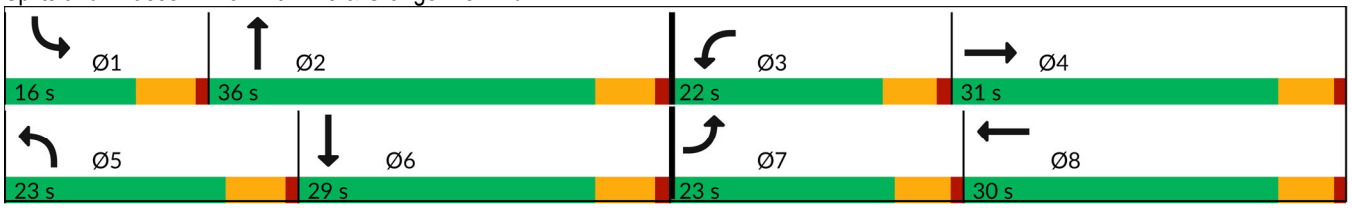


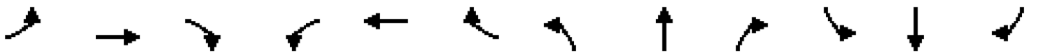
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	193	476	44	179	482	109	95	597	159	112	460	79
Future Volume (vph)	193	476	44	179	482	109	95	597	159	112	460	79
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	100		0	100		0	185		0	110		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00			0.99			1.00			1.00	
Frt		0.987			0.972			0.968			0.978	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	3483	0	1630	3419	0	1630	3411	0	1630	3450	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	3483	0	1630	3419	0	1630	3411	0	1630	3450	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			24			33			17	
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5213			2670			5342			3291	
Travel Time (s)		64.6			33.1			66.2			40.8	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	210	517	48	195	524	118	103	649	173	122	500	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	210	565	0	195	642	0	103	822	0	122	586	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	9.3	25.2		9.3	29.5		9.7	26.0		9.7	26.0	
Total Split (s)	23.0	31.0		22.0	30.0		23.0	36.0		16.0	29.0	
Total Split (%)	21.9%	29.5%		21.0%	28.6%		21.9%	34.3%		15.2%	27.6%	
Maximum Green (s)	17.7	25.7		16.7	24.7		17.3	30.3		10.3	23.3	
Yellow Time (s)	4.3	4.3		4.3	4.3		4.7	4.7		4.7	4.7	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-1.3	-1.3		-1.3	-1.3		-1.7	-1.7		-1.7	-1.7	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		12.9			17.2			13.3			13.3	
Pedestrian Calls (#/hr)		5			5			5			5	
Act Effct Green (s)	17.0	23.7		16.1	22.8		13.3	28.3		11.5	29.8	
Actuated g/C Ratio	0.18	0.25		0.17	0.24		0.14	0.30		0.12	0.31	
v/c Ratio	0.73	0.65		0.71	0.77		0.46	0.80		0.63	0.54	
Control Delay (s/veh)	54.8	36.6		55.1	40.7		46.7	37.2		58.2	31.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	54.8	36.6		55.1	40.7		46.7	37.2		58.2	31.8	
LOS	D	D		E	D		D	D		E	C	
Approach Delay (s/veh)		41.6			44.1			38.3			36.3	
Approach LOS		D			D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 95.9			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay (s/veh): 40.1		Intersection LOS: D	
Intersection Capacity Utilization 70.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 13: 11th Ave & Grangeville Blvd

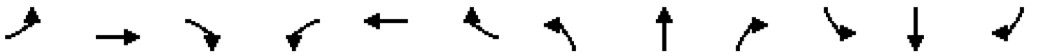




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	193	476	44	179	482	109	95	597	159	112	460	79
Future Volume (veh/h)	193	476	44	179	482	109	95	597	159	112	460	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	210	517	48	195	524	118	103	649	173	122	500	86
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	271	817	76	255	686	154	162	807	215	182	920	157
Arrive On Green	0.16	0.25	0.23	0.16	0.24	0.22	0.10	0.29	0.27	0.11	0.30	0.28
Sat Flow, veh/h	1641	3277	303	1641	2864	641	1641	2763	735	1641	3025	518
Grp Volume(v), veh/h	210	280	285	195	324	318	103	417	405	122	293	293
Grp Sat Flow(s),veh/h/ln	1641	1777	1803	1641	1777	1728	1641	1777	1721	1641	1777	1766
Q Serve(g_s), s	10.2	11.7	11.8	9.5	14.1	14.3	5.0	18.1	18.2	5.9	11.4	11.6
Cycle Q Clear(g_c), s	10.2	11.7	11.8	9.5	14.1	14.3	5.0	18.1	18.2	5.9	11.4	11.6
Prop In Lane	1.00		0.17	1.00		0.37	1.00		0.43	1.00		0.29
Lane Grp Cap(c), veh/h	271	443	449	255	426	414	162	519	503	182	540	537
V/C Ratio(X)	0.78	0.63	0.64	0.77	0.76	0.77	0.63	0.80	0.81	0.67	0.54	0.55
Avail Cap(c_a), veh/h	375	577	586	355	556	541	375	684	663	237	540	537
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.2	27.8	27.9	33.7	29.4	29.7	36.0	27.2	27.6	35.5	24.1	24.4
Incr Delay (d2), s/veh	6.7	1.5	1.5	6.4	4.5	4.9	4.1	5.2	5.4	4.7	1.1	1.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	4.6	4.7	3.9	5.9	5.9	2.0	7.5	7.4	2.4	4.4	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	40.0	29.3	29.4	40.0	33.9	34.5	40.1	32.4	33.0	40.1	25.2	25.5
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		775			837			925			708	
Approach Delay, s/veh		32.2			35.6			33.6			27.9	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.2	28.3	16.9	24.7	12.2	29.3	17.7	23.9
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	10.3	30.3	16.7	25.7	17.3	23.3	17.7	24.7
Max Q Clear Time (g_c+I1), s	7.9	20.2	11.5	13.8	7.0	13.6	12.2	16.3
Green Ext Time (p_c), s	0.1	2.4	0.3	1.6	0.2	1.6	0.3	1.6

Intersection Summary	
HCM 7th Control Delay, s/veh	32.5
HCM 7th LOS	C

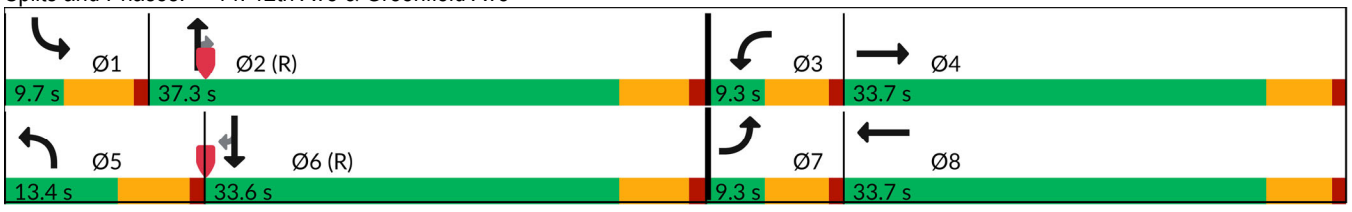


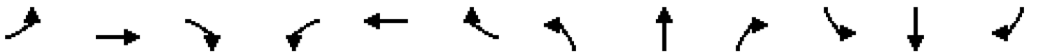
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	81	26	50	99	148	58	1405	89	74	920	52
Future Volume (vph)	42	81	26	50	99	148	58	1405	89	74	920	52
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	185		0	150		0	250		85	260		130
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor		1.00			0.99				0.98			0.98
Frt		0.964			0.910				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	3397	0	1630	3186	0	1630	3539	1458	1630	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	3397	0	1630	3186	0	1630	3539	1431	1630	3539	1430
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28			161				161			161
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		327			331			1372			2228	
Travel Time (s)		4.1			4.1			17.0			27.6	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	88	28	54	108	161	63	1527	97	80	1000	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	46	116	0	54	269	0	63	1527	97	80	1000	57
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	32.3		9.3	33.7		9.7	28.8	28.8	9.7	27.4	27.4
Total Split (s)	9.3	33.7		9.3	33.7		13.4	37.3	37.3	9.7	33.6	33.6
Total Split (%)	10.3%	37.4%		10.3%	37.4%		14.9%	41.4%	41.4%	10.8%	37.3%	37.3%
Maximum Green (s)	4.0	28.4		4.0	28.4		7.7	31.6	31.6	4.0	27.9	27.9
Yellow Time (s)	4.3	4.3		4.3	4.3		4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3		-1.3	-1.3		-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)		20.0			21.4			16.1	16.1		14.7	14.7
Pedestrian Calls (#/hr)		5			5			5	5		5	5
Act Effct Green (s)	5.3	13.2		5.3	15.1		9.6	49.6	49.6	10.3	50.0	50.0
Actuated g/C Ratio	0.06	0.15		0.06	0.17		0.11	0.55	0.55	0.11	0.56	0.56
v/c Ratio	0.48	0.22		0.57	0.40		0.36	0.78	0.11	0.43	0.51	0.07
Control Delay (s/veh)	58.7	24.0		65.4	14.3		42.7	20.5	4.0	47.1	17.5	0.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	58.7	24.0		65.4	14.3		42.7	20.5	4.0	47.1	17.5	0.2
LOS	E	C		E	B		D	C	A	D	B	A
Approach Delay (s/veh)		33.9			22.8			20.4			18.7	
Approach LOS		C			C			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay (s/veh): 20.7		Intersection LOS: C	
Intersection Capacity Utilization 70.2%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 14: 12th Ave & Greenfield Ave

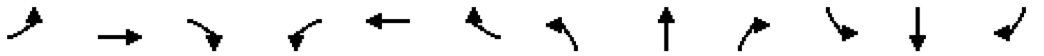




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	81	26	50	99	148	58	1405	89	74	920	52
Future Volume (veh/h)	42	81	26	50	99	148	58	1405	89	74	920	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	46	88	28	54	108	161	63	1527	97	80	1000	57
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	79	427	129	90	295	257	108	1934	782	104	1925	778
Arrive On Green	0.05	0.16	0.15	0.05	0.17	0.15	0.09	0.72	0.72	0.06	0.54	0.54
Sat Flow, veh/h	1641	2668	809	1641	1777	1546	1641	3554	1437	1641	3554	1437
Grp Volume(v), veh/h	46	57	59	54	108	161	63	1527	97	80	1000	57
Grp Sat Flow(s),veh/h/ln	1641	1777	1700	1641	1777	1546	1641	1777	1437	1641	1777	1437
Q Serve(g_s), s	2.5	2.5	2.7	2.9	4.9	8.8	3.3	24.9	1.8	4.3	16.2	1.7
Cycle Q Clear(g_c), s	2.5	2.5	2.7	2.9	4.9	8.8	3.3	24.9	1.8	4.3	16.2	1.7
Prop In Lane	1.00		0.48	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	79	284	272	90	295	257	108	1934	782	104	1925	778
V/C Ratio(X)	0.58	0.20	0.22	0.60	0.37	0.63	0.58	0.79	0.12	0.77	0.52	0.07
Avail Cap(c_a), veh/h	97	586	561	97	586	510	171	1934	782	104	1925	778
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.65	0.65	0.65	0.70	0.70	0.70
Uniform Delay (d), s/veh	41.9	32.8	33.2	41.6	33.3	35.6	39.9	9.1	5.9	41.5	13.2	9.8
Incr Delay (d2), s/veh	6.5	0.3	0.4	8.9	0.8	2.5	3.2	2.2	0.2	21.5	0.7	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	1.0	1.1	1.3	2.0	3.3	1.3	5.2	0.5	2.2	5.4	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	48.4	33.2	33.6	50.5	34.1	38.1	43.1	11.3	6.1	63.0	13.9	10.0
LnGrp LOS	D	C	C	D	C	D	D	B	A	E	B	A
Approach Vol, veh/h		162			323			1687			1137	
Approach Delay, s/veh		37.7			38.8			12.2			17.1	
Approach LOS		D			D			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	53.0	8.9	18.4	9.9	52.7	8.4	19.0
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	4.0	31.6	4.0	28.4	7.7	27.9	4.0	28.4
Max Q Clear Time (g_c+I1), s	6.3	26.9	4.9	4.7	5.3	18.2	4.5	10.8
Green Ext Time (p_c), s	0.0	3.1	0.0	0.3	0.0	3.5	0.0	0.9

Intersection Summary	
HCM 7th Control Delay, s/veh	17.7
HCM 7th LOS	B

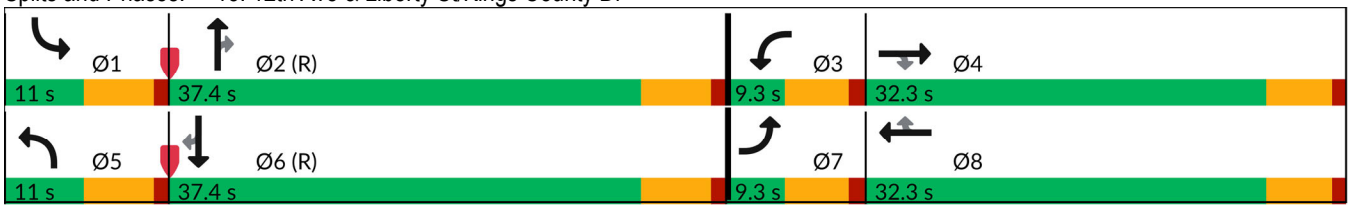


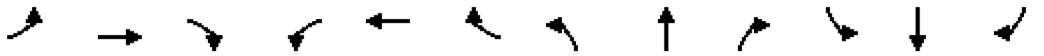
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	26	28	21	89	310	41	1208	8	101	891	14
Future Volume (vph)	5	26	28	21	89	310	41	1208	8	101	891	14
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	80		80	195		145	250		125	250		125
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98			0.98			0.97			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1863	1458	1630	1863	1458	1630	3539	1458	1630	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	1863	1432	1630	1863	1431	1630	3539	1410	1630	3539	1410
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			166			243			161			161
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1718			718			1686			1372	
Travel Time (s)		21.3			8.9			20.9			17.0	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	28	30	23	97	337	45	1313	9	110	968	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	28	30	23	97	337	45	1313	9	110	968	15
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	32.3	32.3	9.3	30.9	30.9	9.7	26.0	26.0	9.7	26.0	26.0
Total Split (s)	9.3	32.3	32.3	9.3	32.3	32.3	11.0	37.4	37.4	11.0	37.4	37.4
Total Split (%)	10.3%	35.9%	35.9%	10.3%	35.9%	35.9%	12.2%	41.6%	41.6%	12.2%	41.6%	41.6%
Maximum Green (s)	4.0	27.0	27.0	4.0	27.0	27.0	5.3	31.7	31.7	5.3	31.7	31.7
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		20.0	20.0		18.6	18.6		13.3	13.3		13.3	13.3
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	5.3	13.6	13.6	5.3	15.5	15.5	8.6	48.4	48.4	12.2	56.8	56.8
Actuated g/C Ratio	0.06	0.15	0.15	0.06	0.17	0.17	0.10	0.54	0.54	0.14	0.63	0.63
v/c Ratio	0.05	0.10	0.08	0.24	0.30	0.75	0.29	0.69	0.01	0.50	0.43	0.02
Control Delay (s/veh)	41.4	30.1	0.5	46.9	32.2	20.7	43.1	20.5	0.0	52.5	10.4	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	41.4	30.1	0.5	46.9	32.2	20.7	43.1	20.5	0.0	52.5	10.4	0.0
LOS	D	C	A	D	C	C	D	C	A	D	B	A
Approach Delay (s/veh)		16.9			24.5			21.1			14.5	
Approach LOS		B			C			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay (s/veh): 19.1		Intersection LOS: B	
Intersection Capacity Utilization 68.1%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 15: 12th Ave & Liberty St/Kings County Dr

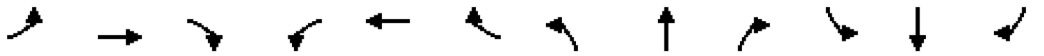




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	26	28	21	89	310	41	1208	8	101	891	14
Future Volume (veh/h)	5	26	28	21	89	310	41	1208	8	101	891	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	5	28	30	23	97	337	45	1313	9	110	968	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	32	484	370	56	510	391	85	1606	642	128	1698	679
Arrive On Green	0.02	0.26	0.26	0.03	0.27	0.27	0.05	0.45	0.45	0.16	0.96	0.96
Sat Flow, veh/h	1641	1870	1432	1641	1870	1432	1641	3554	1420	1641	3554	1421
Grp Volume(v), veh/h	5	28	30	23	97	337	45	1313	9	110	968	15
Grp Sat Flow(s),veh/h/ln	1641	1870	1432	1641	1870	1432	1641	1777	1420	1641	1777	1421
Q Serve(g_s), s	0.3	1.0	1.4	1.2	3.6	20.1	2.4	28.9	0.3	5.9	2.4	0.0
Cycle Q Clear(g_c), s	0.3	1.0	1.4	1.2	3.6	20.1	2.4	28.9	0.3	5.9	2.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	32	484	370	56	510	391	85	1606	642	128	1698	679
V/C Ratio(X)	0.15	0.06	0.08	0.41	0.19	0.86	0.53	0.82	0.01	0.86	0.57	0.02
Avail Cap(c_a), veh/h	97	588	450	97	588	450	128	1606	642	128	1698	679
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.69	0.69	0.69	0.85	0.85	0.85
Uniform Delay (d), s/veh	43.4	25.1	25.3	42.6	25.1	31.1	41.6	21.4	13.6	37.5	1.1	1.0
Incr Delay (d2), s/veh	2.2	0.0	0.1	4.8	0.2	14.2	3.5	3.3	0.0	36.8	1.2	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.4	0.5	0.5	1.5	7.8	1.0	10.9	0.1	3.3	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	45.6	25.2	25.4	47.4	25.3	45.3	45.0	24.8	13.6	74.4	2.3	1.1
LnGrp LOS	D	C	C	D	C	D	D	C	B	E	A	A
Approach Vol, veh/h		63			457			1367			1093	
Approach Delay, s/veh		26.9			41.2			25.4			9.5	
Approach LOS		C			D			C			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	44.7	7.0	27.3	8.7	47.0	5.8	28.6
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	5.3	31.7	4.0	27.0	5.3	31.7	4.0	27.0
Max Q Clear Time (g_c+I1), s	7.9	30.9	3.2	3.4	4.4	4.4	2.3	22.1
Green Ext Time (p_c), s	0.0	0.5	0.0	0.1	0.0	4.6	0.0	0.8

Intersection Summary	
HCM 7th Control Delay, s/veh	22.0
HCM 7th LOS	C

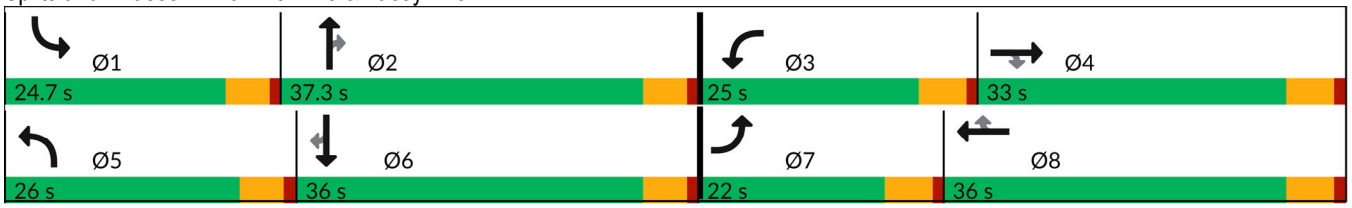


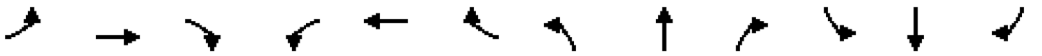
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	275	272	137	301	403	172	197	735	115	198	788	121
Future Volume (vph)	275	272	137	301	403	172	197	735	115	198	788	121
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	270		120	270		170	240		175	240		120
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98			0.98			0.98			0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3162	3539	1458	3162	3539	1458	1630	3539	1458	1630	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3162	3539	1428	3162	3539	1430	1630	3539	1430	1630	3539	1430
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			149			187			114			114
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		3432			5219			1893			1686	
Travel Time (s)		42.5			64.7			23.5			20.9	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	299	296	149	327	438	187	214	799	125	215	857	132
Shared Lane Traffic (%)												
Lane Group Flow (vph)	299	296	149	327	438	187	214	799	125	215	857	132
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	31.7	31.7	9.3	34.5	34.5	8.9	36.6	36.6	8.9	35.2	35.2
Total Split (s)	22.0	33.0	33.0	25.0	36.0	36.0	26.0	37.3	37.3	24.7	36.0	36.0
Total Split (%)	18.3%	27.5%	27.5%	20.8%	30.0%	30.0%	21.7%	31.1%	31.1%	20.6%	30.0%	30.0%
Maximum Green (s)	16.7	27.7	27.7	19.7	30.7	30.7	21.1	32.4	32.4	19.8	31.1	31.1
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	3.9	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-0.9	-0.9	-0.9	-0.9	1.0	1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.9	5.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		19.4	19.4		22.2	22.2		24.7	24.7		23.3	23.3
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	15.6	19.2	19.2	16.9	20.5	20.5	18.5	31.1	31.1	18.3	28.9	28.9
Actuated g/C Ratio	0.15	0.19	0.19	0.17	0.20	0.20	0.18	0.31	0.31	0.18	0.28	0.28
v/c Ratio	0.62	0.44	0.38	0.62	0.62	0.43	0.72	0.74	0.24	0.73	0.85	0.27
Control Delay (s/veh)	48.1	39.8	9.2	46.7	41.8	8.4	55.8	38.1	8.5	57.2	45.5	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	48.1	39.8	9.2	46.7	41.8	8.4	55.8	38.1	8.5	57.2	45.5	10.1
LOS	D	D	A	D	D	A	E	D	A	E	D	B
Approach Delay (s/veh)		37.0			36.9			38.2			43.7	
Approach LOS		D			D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 101.8			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay (s/veh): 39.3		Intersection LOS: D	
Intersection Capacity Utilization 70.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 16: 12th Ave & Lacey Ave

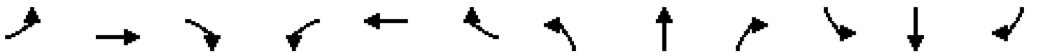




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	275	272	137	301	403	172	197	735	115	198	788	121
Future Volume (veh/h)	275	272	137	301	403	172	197	735	115	198	788	121
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	299	296	149	327	438	187	214	799	125	215	857	132
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	433	694	279	468	733	295	268	1088	439	269	1010	407
Arrive On Green	0.14	0.20	0.20	0.15	0.21	0.21	0.16	0.31	0.31	0.16	0.28	0.28
Sat Flow, veh/h	3183	3554	1428	3183	3554	1429	1641	3554	1433	1641	3554	1433
Grp Volume(v), veh/h	299	296	149	327	438	187	214	799	125	215	857	132
Grp Sat Flow(s),veh/h/ln	1591	1777	1428	1591	1777	1429	1641	1777	1433	1641	1777	1433
Q Serve(g_s), s	7.6	6.2	8.0	8.3	9.5	10.2	10.7	17.2	5.6	10.7	19.4	6.2
Cycle Q Clear(g_c), s	7.6	6.2	8.0	8.3	9.5	10.2	10.7	17.2	5.6	10.7	19.4	6.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	433	694	279	468	733	295	268	1088	439	269	1010	407
V/C Ratio(X)	0.69	0.43	0.53	0.70	0.60	0.63	0.80	0.73	0.28	0.80	0.85	0.32
Avail Cap(c_a), veh/h	672	1209	486	784	1334	536	423	1388	560	398	1255	506
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.1	30.1	30.8	34.6	30.6	30.9	34.3	26.5	22.5	34.3	28.8	24.1
Incr Delay (d2), s/veh	2.0	0.4	1.6	1.9	0.8	2.3	5.6	1.5	0.4	6.9	4.7	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	2.5	2.6	3.1	3.8	3.4	4.3	6.6	1.7	4.4	8.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	37.1	30.5	32.4	36.5	31.4	33.2	39.9	28.0	22.8	41.2	33.5	24.5
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		744			952			1138			1204	
Approach Delay, s/veh		33.5			33.5			29.6			33.9	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.0	30.1	16.5	20.6	17.9	30.1	15.6	21.6
Change Period (Y+Rc), s	4.9	4.9	5.3	5.3	4.9	4.9	5.3	5.3
Max Green Setting (Gmax), s	19.8	32.4	19.7	27.7	21.1	31.1	16.7	30.7
Max Q Clear Time (g_c+I1), s	12.7	19.2	10.3	10.0	12.7	21.4	9.6	12.2
Green Ext Time (p_c), s	0.4	3.4	0.9	1.6	0.4	3.2	0.7	2.4

Intersection Summary	
HCM 7th Control Delay, s/veh	32.5
HCM 7th LOS	C

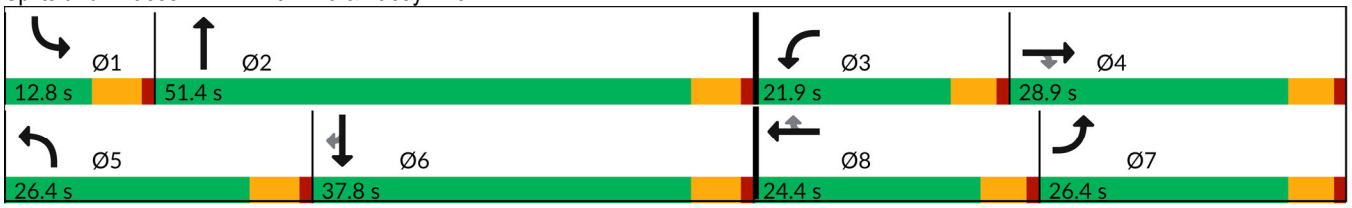


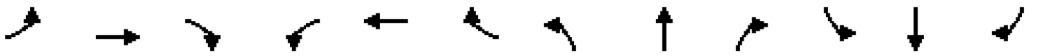
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	221	294	162	101	298	90	279	617	81	98	473	120
Future Volume (vph)	221	294	162	101	298	90	279	617	81	98	473	120
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	200		100	130		100	70		0	160		105
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.96			0.98		1.00				0.98
Frt			0.850			0.850		0.983				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	3539	1458	1630	3539	1458	1630	1827	0	1630	1863	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	3539	1399	1630	3539	1422	1630	1827	0	1630	1863	1430
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			176			169		7				165
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5219			6528			4809			5342	
Travel Time (s)		64.7			80.9			59.6			66.2	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	240	320	176	110	324	98	303	671	88	107	514	130
Shared Lane Traffic (%)												
Lane Group Flow (vph)	240	320	176	110	324	98	303	759	0	107	514	130
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50		50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.9	22.9	22.9	8.9	22.9	22.9	9.3	31.3		9.3	32.7	32.7
Total Split (s)	26.4	28.9	28.9	21.9	24.4	24.4	26.4	51.4		12.8	37.8	37.8
Total Split (%)	23.0%	25.1%	25.1%	19.0%	21.2%	21.2%	23.0%	44.7%		11.1%	32.9%	32.9%
Maximum Green (s)	21.5	24.0	24.0	17.0	19.5	19.5	21.1	46.1		7.5	32.5	32.5
Yellow Time (s)	3.9	3.9	3.9	3.9	3.9	3.9	4.3	4.3		4.3	4.3	4.3
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-1.3	-1.3		-1.3	-1.3	-1.3
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Don't Walk (s)		9.4	9.4		9.4	9.4		19.0			20.4	20.4
Pedestrian Calls (#/hr)		5	5		5	5		5			5	5
Act Effct Green (s)	20.1	22.8	22.8	13.3	16.0	16.0	22.4	47.5		8.8	34.0	34.0
Actuated g/C Ratio	0.19	0.21	0.21	0.12	0.15	0.15	0.21	0.44		0.08	0.31	0.31
v/c Ratio	0.80	0.43	0.41	0.55	0.62	0.28	0.90	0.94		0.81	0.88	0.23
Control Delay (s/veh)	62.6	39.5	8.6	56.0	49.2	1.9	73.4	51.6		91.4	54.7	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	62.6	39.5	8.6	56.0	49.2	1.9	73.4	51.6		91.4	54.7	3.1
LOS	E	D	A	E	D	A	E	D		F	D	A
Approach Delay (s/veh)		39.7			41.9			57.8			51.0	
Approach LOS		D			D			E			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 115			
Actuated Cycle Length: 108.5			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay (s/veh): 49.1		Intersection LOS: D	
Intersection Capacity Utilization 79.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 17: 11th Ave & Lacey Ave

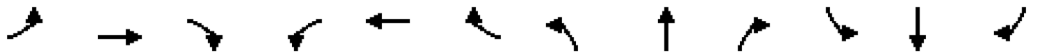




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	221	294	162	101	298	90	279	617	81	98	473	120
Future Volume (veh/h)	221	294	162	101	298	90	279	617	81	98	473	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	240	320	176	110	324	98	303	671	88	107	514	130
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	286	767	304	151	474	190	349	717	94	145	596	457
Arrive On Green	0.17	0.22	0.22	0.09	0.13	0.13	0.21	0.44	0.43	0.09	0.32	0.32
Sat Flow, veh/h	1641	3554	1409	1641	3554	1422	1641	1616	212	1641	1870	1434
Grp Volume(v), veh/h	240	320	176	110	324	98	303	0	759	107	514	130
Grp Sat Flow(s),veh/h/ln	1641	1777	1409	1641	1777	1422	1641	0	1828	1641	1870	1434
Q Serve(g_s), s	14.1	7.7	11.2	6.5	8.7	5.0	17.8	0.0	39.4	6.3	25.7	4.0
Cycle Q Clear(g_c), s	14.1	7.7	11.2	6.5	8.7	5.0	17.8	0.0	39.4	6.3	25.7	4.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	286	767	304	151	474	190	349	0	811	145	596	457
V/C Ratio(X)	0.84	0.42	0.58	0.73	0.68	0.52	0.87	0.00	0.94	0.74	0.86	0.28
Avail Cap(c_a), veh/h	369	888	352	295	727	291	369	0	869	145	634	486
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.8	33.7	35.0	44.0	41.2	24.7	37.9	0.0	26.5	44.3	31.9	8.8
Incr Delay (d2), s/veh	12.7	0.4	1.7	6.6	1.7	2.2	18.5	0.0	16.5	18.0	11.2	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	3.1	3.7	2.8	3.7	2.2	8.4	0.0	18.5	3.2	12.4	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	52.5	34.0	36.8	50.6	42.9	26.9	56.4	0.0	43.0	62.3	43.1	9.1
LnGrp LOS	D	C	D	D	D	C	E		D	E	D	A
Approach Vol, veh/h		736			532			1062			751	
Approach Delay, s/veh		40.7			41.6			46.8			39.9	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.8	48.2	13.2	25.5	25.2	35.8	21.4	17.3
Change Period (Y+Rc), s	5.3	5.3	4.9	4.9	5.3	5.3	4.9	4.9
Max Green Setting (Gmax), s	7.5	46.1	17.0	24.0	21.1	32.5	21.5	19.5
Max Q Clear Time (g_c+I1), s	8.3	41.4	8.5	13.2	19.8	27.7	16.1	10.7
Green Ext Time (p_c), s	0.0	1.5	0.2	1.5	0.2	1.2	0.4	1.1

Intersection Summary	
HCM 7th Control Delay, s/veh	42.8
HCM 7th LOS	D

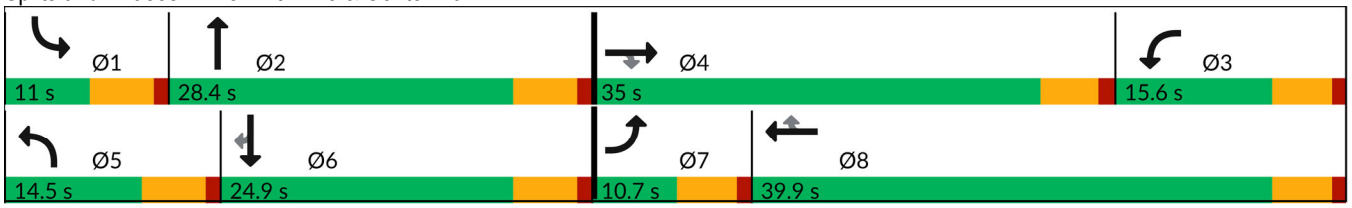


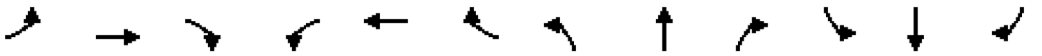
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	112	214	556	155	48	302	746	223	70	979	66
Future Volume (vph)	131	112	214	556	155	48	302	746	223	70	979	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	265		260	230		140	250		0	180		180
Storage Lanes	1		1	1		1	2		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	0.97	0.91	0.91	1.00	0.91	1.00
Ped Bike Factor						0.98		0.99				0.98
Frt			0.850			0.850		0.966				0.850
Flt Protected	0.950	0.995		0.950	0.972		0.950			0.950		
Satd. Flow (prot)	1681	1761	1583	1681	1720	1583	3433	4874	0	1770	5085	1583
Flt Permitted	0.950	0.920		0.950	0.745		0.950			0.950		
Satd. Flow (perm)	1681	1628	1583	1681	1318	1557	3433	4874	0	1770	5085	1550
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			174			152		82				206
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1154			586			1240			1893	
Travel Time (s)		14.3			7.3			15.4			23.5	
Confl. Peds. (#/hr)						5			5			5
Confl. Bikes (#/hr)						2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	142	122	233	604	168	52	328	811	242	76	1064	72
Shared Lane Traffic (%)	10%			37%								
Lane Group Flow (vph)	128	136	233	381	391	52	328	1053	0	76	1064	72
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50		50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.9	22.9	22.9	8.9	39.9	39.9	9.3	24.1		9.3	24.1	24.1
Total Split (s)	10.7	35.0	35.0	15.6	39.9	39.9	14.5	28.4		11.0	24.9	24.9
Total Split (%)	11.9%	38.9%	38.9%	17.3%	44.3%	44.3%	16.1%	31.6%		12.2%	27.7%	27.7%
Maximum Green (s)	5.8	30.1	30.1	10.7	35.0	35.0	9.2	23.1		5.7	19.6	19.6
Yellow Time (s)	3.9	3.9	3.9	3.9	3.9	3.9	4.3	4.3		4.3	4.3	4.3
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-1.3	-1.3		-1.3	-1.3	-1.3
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	Min
Walk Time (s)					7.0	7.0		7.0			7.0	7.0
Flash Don't Walk (s)					28.0	28.0		11.8			11.8	11.8
Pedestrian Calls (#/hr)					5	5		5			5	5
Act Effct Green (s)	6.7	6.7	31.0	11.6	11.6	35.9	10.5	26.6		7.0	20.9	20.9
Actuated g/C Ratio	0.07	0.07	0.34	0.13	0.13	0.40	0.12	0.30		0.08	0.23	0.23
v/c Ratio	1.02	1.04	0.35	1.76	1.77	0.07	0.82	0.70		0.55	0.90	0.14
Control Delay (s/veh)	131.3	132.9	8.1	389.3	391.2	0.2	56.8	29.6		56.3	45.4	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	131.3	132.9	8.1	389.3	391.2	0.2	56.8	29.6		56.3	45.4	0.6
LOS	F	F	A	F	F	A	E	C		E	D	A
Approach Delay (s/veh)		74.0			365.7			36.0			43.4	
Approach LOS		E			F			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Natural Cycle: 85			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.77			
Intersection Signal Delay (s/veh): 112.5		Intersection LOS: F	
Intersection Capacity Utilization 68.4%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 18: 12th Ave & Centennial Dr





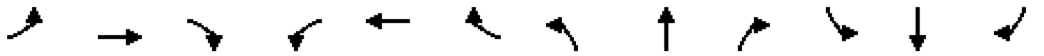
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	112	214	556	155	48	302	746	223	70	979	66
Future Volume (veh/h)	131	112	214	556	155	48	302	746	223	70	979	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	132	136	233	386	473	52	328	811	242	76	1064	72
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	158	291	246	425	572	476	466	1252	370	127	1324	403
Arrive On Green	0.09	0.16	0.16	0.24	0.31	0.31	0.13	0.32	0.31	0.07	0.26	0.26
Sat Flow, veh/h	1781	1870	1585	1781	1870	1556	3456	3879	1147	1781	5106	1554
Grp Volume(v), veh/h	132	136	233	386	473	52	328	711	342	76	1064	72
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1556	1728	1702	1621	1781	1702	1554
Q Serve(g_s), s	5.5	5.0	7.6	15.9	17.8	1.8	6.9	13.5	13.8	3.1	14.7	2.7
Cycle Q Clear(g_c), s	5.5	5.0	7.6	15.9	17.8	1.8	6.9	13.5	13.8	3.1	14.7	2.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.71	1.00		1.00
Lane Grp Cap(c), veh/h	158	291	246	425	572	476	466	1099	523	127	1324	403
V/C Ratio(X)	0.84	0.47	0.95	0.91	0.83	0.11	0.70	0.65	0.65	0.60	0.80	0.18
Avail Cap(c_a), veh/h	158	767	650	425	888	739	480	1099	523	165	1411	430
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.9	29.1	14.9	28.0	24.4	18.9	31.3	21.9	22.4	34.1	26.2	21.8
Incr Delay (d2), s/veh	30.6	1.2	16.4	23.0	3.8	0.1	4.5	1.3	2.9	4.4	3.3	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	2.1	4.6	8.6	7.3	0.6	2.9	4.8	5.0	1.4	5.6	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	64.5	30.2	31.3	50.9	28.2	19.0	35.7	23.2	25.3	38.5	29.5	22.0
LnGrp LOS	E	C	C	D	C	B	D	C	C	D	C	C
Approach Vol, veh/h		501			911			1381			1212	
Approach Delay, s/veh		39.7			37.3			26.7			29.6	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.4	28.4	22.0	15.8	14.2	23.6	10.7	27.1
Change Period (Y+Rc), s	5.3	5.3	4.9	4.9	5.3	5.3	4.9	4.9
Max Green Setting (Gmax), s	5.7	23.1	10.7	30.1	9.2	19.6	5.8	35.0
Max Q Clear Time (g_c+I1), s	5.1	15.8	17.9	9.6	8.9	16.7	7.5	19.8
Green Ext Time (p_c), s	0.0	2.8	0.0	1.3	0.1	1.5	0.0	1.7

Intersection Summary	
HCM 7th Control Delay, s/veh	31.6
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

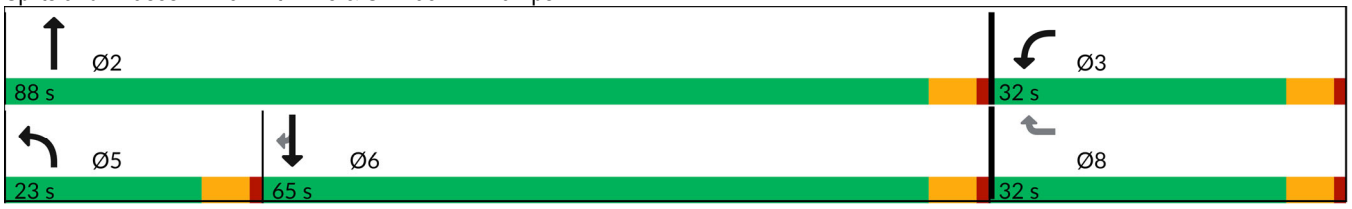


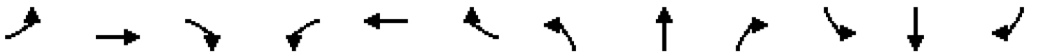
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	138	0	541	147	1015	0	0	1095	640
Future Volume (vph)	0	0	0	138	0	541	147	1015	0	0	1095	640
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	0		0	200		200	405		0	130		0
Storage Lanes	0		0	2		1	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	0.88	1.00	0.95	1.00	1.00	0.95	1.00
Frt						0.850						0.850
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	3162	0	2567	1630	3539	0	0	3539	1458
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	3162	0	2567	1630	3539	0	0	3539	1458
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						240						696
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		239			374			625			1240	
Travel Time (s)		3.0			4.6			7.7			15.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	150	0	588	160	1103	0	0	1190	696
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	150	0	588	160	1103	0	0	1190	696
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors				1		1	1	1			1	1
Detector Template												
Leading Detector (ft)				50		50	50	50			50	50
Trailing Detector (ft)				0		0	0	0			0	0
Detector 1 Position(ft)				0		0	0	0			0	0
Detector 1 Size(ft)				50		50	50	50			50	50
Detector 1 Type				Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0		0.0	0.0	0.0			0.0	0.0
Detector 1 Queue (s)				0.0		0.0	0.0	0.0			0.0	0.0
Detector 1 Delay (s)				0.0		0.0	0.0	0.0			0.0	0.0
Turn Type				Prot		Perm	Prot	NA			NA	Perm
Protected Phases				3			5	2			6	
Permitted Phases						8						6
Detector Phase				3		8	5	2			6	6
Switch Phase												
Minimum Initial (s)				4.0		4.0	4.0	4.0			4.0	4.0
Minimum Split (s)				9.3		23.3	9.3	23.3			23.3	23.3
Total Split (s)				32.0		32.0	23.0	88.0			65.0	65.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)				26.7%		26.7%	19.2%	73.3%			54.2%	54.2%
Maximum Green (s)				26.7		26.7	17.7	82.7			59.7	59.7
Yellow Time (s)				4.3		4.3	4.3	4.3			4.3	4.3
All-Red Time (s)				1.0		1.0	1.0	1.0			1.0	1.0
Lost Time Adjust (s)				-1.3		-1.3	-1.3	-1.3			-1.3	-1.3
Total Lost Time (s)				4.0		4.0	4.0	4.0			4.0	4.0
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	3.0
Recall Mode				None		None	None	Min			Min	Min
Act Effct Green (s)				20.3		20.3	15.3	62.5			42.9	42.9
Actuated g/C Ratio				0.22		0.22	0.17	0.68			0.47	0.47
v/c Ratio				0.21		0.78	0.59	0.46			0.72	0.66
Control Delay (s/veh)				32.8		28.8	49.0	7.5			22.5	4.7
Queue Delay				0.0		0.0	0.0	0.1			0.0	0.0
Total Delay (s/veh)				32.8		28.8	49.0	7.5			22.5	4.7
LOS				C		C	D	A			C	A
Approach Delay (s/veh)					29.6			12.8			15.9	
Approach LOS					C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 91.3			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay (s/veh): 17.5		Intersection LOS: B	
Intersection Capacity Utilization 58.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 19: 12th Ave & SR 198 WB Ramps

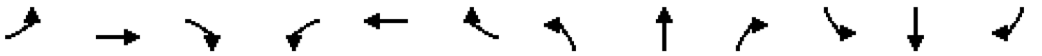




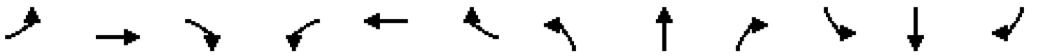
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	138	0	541	147	1015	0	0	1095	640
Future Volume (veh/h)	0	0	0	138	0	541	147	1015	0	0	1095	640
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1723	0	1723	1723	1870	0	0	1870	1723
Adj Flow Rate, veh/h				150	0	588	160	1103	0	0	1190	696
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	0	2	2	2	0	0	2	2
Cap, veh/h				796	0	642	205	2411	0	0	1840	756
Arrive On Green				0.25	0.00	0.25	0.13	0.68	0.00	0.00	0.52	0.52
Sat Flow, veh/h				3183	0	2569	1641	3647	0	0	3647	1460
Grp Volume(v), veh/h				150	0	588	160	1103	0	0	1190	696
Grp Sat Flow(s),veh/h/ln				1591	0	1285	1641	1777	0	0	1777	1460
Q Serve(g_s), s				4.2	0.0	24.9	10.6	16.2	0.0	0.0	27.2	49.2
Cycle Q Clear(g_c), s				4.2	0.0	24.9	10.6	16.2	0.0	0.0	27.2	49.2
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				796	0	642	205	2411	0	0	1840	756
V/C Ratio(X)				0.19	0.00	0.92	0.78	0.46	0.00	0.00	0.65	0.92
Avail Cap(c_a), veh/h				796	0	642	278	2665	0	0	1936	795
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				33.1	0.0	40.8	47.5	8.4	0.0	0.0	19.6	24.9
Incr Delay (d2), s/veh				0.1	0.0	17.9	9.5	0.1	0.0	0.0	0.7	15.5
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.5	0.0	9.0	4.7	4.8	0.0	0.0	10.0	17.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				33.2	0.0	58.7	57.0	8.5	0.0	0.0	20.3	40.4
LnGrp LOS				C		E	E	A			C	D
Approach Vol, veh/h					738			1263			1886	
Approach Delay, s/veh					53.5			14.7			27.7	
Approach LOS					D			B			C	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	80.0		18.0	62.0		32.0						
Change Period (Y+Rc), s	5.3		5.3	5.3		5.3						
Max Green Setting (Gmax), s	82.7		17.7	59.7		26.7						
Max Q Clear Time (g_c+I1), s	18.2		12.6	51.2		26.9						
Green Ext Time (p_c), s	5.8		0.2	5.5		0.0						

Intersection Summary		
HCM 7th Control Delay, s/veh	28.4	
HCM 7th LOS	C	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	571	0	207	0	0	0	0	669	98	0	739	506
Future Volume (vph)	571	0	207	0	0	0	0	669	98	0	739	506
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	210		210	0		0	0		0	0		160
Storage Lanes	2		0	0		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850						0.850			0.850
Flt Protected	0.950											
Satd. Flow (prot)	3162	0	1458	0	0	0	0	3539	1458	0	3539	1458
Flt Permitted	0.950											
Satd. Flow (perm)	3162	0	1458	0	0	0	0	3539	1458	0	3539	1458
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			170						107			550
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		206			226			520			625	
Travel Time (s)		2.6			2.8			6.4			7.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	621	0	225	0	0	0	0	727	107	0	803	550
Shared Lane Traffic (%)												
Lane Group Flow (vph)	621	0	225	0	0	0	0	727	107	0	803	550
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1		1					1	1		1	1
Detector Template												
Leading Detector (ft)	50		50					50	50		50	50
Trailing Detector (ft)	0		0					0	0		0	0
Detector 1 Position(ft)	0		0					0	0		0	0
Detector 1 Size(ft)	50		50					50	50		50	50
Detector 1 Type	Cl+Ex		Cl+Ex					Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0					0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0					0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0					0.0	0.0		0.0	0.0
Turn Type	Prot		Perm					NA	Perm		NA	Perm
Protected Phases	7							2			6	
Permitted Phases			4						2			6
Detector Phase	7		4					2	2		6	6
Switch Phase												
Minimum Initial (s)	4.0		4.0					4.0	4.0		4.0	4.0
Minimum Split (s)	8.5		22.5					22.5	22.5		22.5	22.5
Total Split (s)	48.0		48.0					72.0	72.0		72.0	72.0

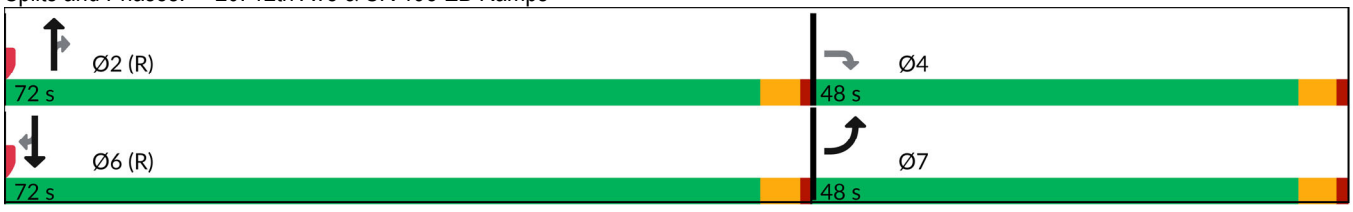


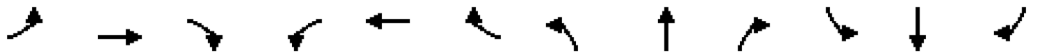
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	571	0	207	0	0	0	0	669	98	0	739	506
Future Volume (vph)	571	0	207	0	0	0	0	669	98	0	739	506
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	210		210	0		0	0		0	0		160
Storage Lanes	2		0	0		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850						0.850			0.850
Flt Protected	0.950											
Satd. Flow (prot)	3162	0	1458	0	0	0	0	3539	1458	0	3539	1458
Flt Permitted	0.950											
Satd. Flow (perm)	3162	0	1458	0	0	0	0	3539	1458	0	3539	1458
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			170						107			550
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		206			226			520			625	
Travel Time (s)		2.6			2.8			6.4			7.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	621	0	225	0	0	0	0	727	107	0	803	550
Shared Lane Traffic (%)												
Lane Group Flow (vph)	621	0	225	0	0	0	0	727	107	0	803	550
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1		1					1	1		1	1
Detector Template												
Leading Detector (ft)	50		50					50	50		50	50
Trailing Detector (ft)	0		0					0	0		0	0
Detector 1 Position(ft)	0		0					0	0		0	0
Detector 1 Size(ft)	50		50					50	50		50	50
Detector 1 Type	Cl+Ex		Cl+Ex					Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0					0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0					0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0					0.0	0.0		0.0	0.0
Turn Type	Prot		Perm					NA	Perm		NA	Perm
Protected Phases	7							2			6	
Permitted Phases			4						2			6
Detector Phase	7		4					2	2		6	6
Switch Phase												
Minimum Initial (s)	4.0		4.0					4.0	4.0		4.0	4.0
Minimum Split (s)	8.5		22.5					22.5	22.5		22.5	22.5
Total Split (s)	48.0		48.0					72.0	72.0		72.0	72.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	40.0%		40.0%					60.0%	60.0%		60.0%	60.0%
Maximum Green (s)	43.5		43.5					67.5	67.5		67.5	67.5
Yellow Time (s)	3.5		3.5					3.5	3.5		3.5	3.5
All-Red Time (s)	1.0		1.0					1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-0.5		-0.5					-0.5	0.0		-0.5	0.0
Total Lost Time (s)	4.0		4.0					4.0	4.5		4.0	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0		3.0					3.0	3.0		3.0	3.0
Recall Mode	None		None					C-Min	C-Min		C-Min	C-Min
Act Effct Green (s)	30.1		30.1					81.9	81.4		81.9	81.4
Actuated g/C Ratio	0.25		0.25					0.68	0.68		0.68	0.68
v/c Ratio	0.78		0.46					0.30	0.10		0.33	0.47
Control Delay (s/veh)	49.1		12.8					8.5	1.9		8.8	2.2
Queue Delay	0.0		0.0					0.0	0.0		0.0	0.3
Total Delay (s/veh)	49.1		12.8					8.5	1.9		8.8	2.5
LOS	D		B					A	A		A	A
Approach Delay (s/veh)		39.4						7.7			6.3	
Approach LOS		D						A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay (s/veh): 15.9		Intersection LOS: B	
Intersection Capacity Utilization 44.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 20: 12th Ave & SR 198 EB Ramps

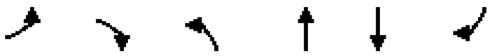




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	571	0	207	0	0	0	0	669	98	0	739	506
Future Volume (veh/h)	571	0	207	0	0	0	0	669	98	0	739	506
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1723	0	1723				0	1870	1723	0	1870	1723
Adj Flow Rate, veh/h	621	0	225				0	727	107	0	803	550
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	2
Cap, veh/h	750	0	344				0	2479	1012	0	2479	1012
Arrive On Green	0.24	0.00	0.24				0.00	0.70	0.69	0.00	0.70	0.69
Sat Flow, veh/h	3183	0	1460				0	3647	1460	0	3647	1460
Grp Volume(v), veh/h	621	0	225				0	727	107	0	803	550
Grp Sat Flow(s),veh/h/ln	1591	0	1460				0	1777	1460	0	1777	1460
Q Serve(g_s), s	22.2	0.0	16.7				0.0	9.3	2.9	0.0	10.6	22.2
Cycle Q Clear(g_c), s	22.2	0.0	16.7				0.0	9.3	2.9	0.0	10.6	22.2
Prop In Lane	1.00		1.00				0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	750	0	344				0	2479	1012	0	2479	1012
V/C Ratio(X)	0.83	0.00	0.65				0.00	0.29	0.11	0.00	0.32	0.54
Avail Cap(c_a), veh/h	1167	0	535				0	2479	1012	0	2479	1012
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.00	0.70	0.70
Uniform Delay (d), s/veh	43.5	0.0	41.4				0.0	6.9	6.1	0.0	7.1	9.1
Incr Delay (d2), s/veh	3.0	0.0	2.1				0.0	0.3	0.2	0.0	0.2	1.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.6	0.0	5.9				0.0	2.9	0.8	0.0	3.2	24.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	46.5	0.0	43.5				0.0	7.2	6.3	0.0	7.3	10.5
LnGrp LOS	D		D					A	A		A	B
Approach Vol, veh/h		846						834			1353	
Approach Delay, s/veh		45.7						7.1			8.6	
Approach LOS		D						A			A	

Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		87.7		32.3		87.7						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		67.5		43.5		67.5						
Max Q Clear Time (g_c+I1), s		11.3		24.2		24.2						
Green Ext Time (p_c), s		3.8		3.6		7.2						

Intersection Summary												
HCM 7th Control Delay, s/veh			18.5									
HCM 7th LOS			B									



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	22	86	145	303	244	37
Future Volume (vph)	22	86	145	303	244	37
Ideal Flow (vphpl)	1750	1750	1750	1900	1900	1750
Storage Length (ft)	200	0	0			0
Storage Lanes	0	0	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.893				0.982	
Flt Protected	0.990			0.984		
Satd. Flow (prot)	1517	0	0	1833	1829	0
Flt Permitted	0.990			0.984		
Satd. Flow (perm)	1517	0	0	1833	1829	0
Link Speed (mph)	55			55	55	
Link Distance (ft)	246			853	4514	
Travel Time (s)	3.0			10.6	56.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	93	158	329	265	40
Shared Lane Traffic (%)						
Lane Group Flow (vph)	117	0	0	487	305	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.11	1.11	1.11	1.00	1.00	1.11
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 56.1%		ICU Level of Service B	
Analysis Period (min) 15			

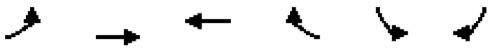
Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	22	86	145	303	244	37
Future Vol, veh/h	22	86	145	303	244	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	93	158	329	265	40

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	930	285	305	0	-	0
Stage 1	285	-	-	-	-	-
Stage 2	645	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	297	754	1255	-	-	-
Stage 1	763	-	-	-	-	-
Stage 2	523	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	251	754	1255	-	-	-
Mov Cap-2 Maneuver	251	-	-	-	-	-
Stage 1	646	-	-	-	-	-
Stage 2	523	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	13.6	2.68	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	583	-	535	-	-
HCM Lane V/C Ratio	0.126	-	0.219	-	-
HCM Control Delay (s/veh)	8.3	0	13.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.4	-	0.8	-	-



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	68	279	259	95	55	40
Future Volume (vph)	68	279	259	95	55	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0			0	200	0
Storage Lanes	0			0	0	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.964		0.944	
Flt Protected		0.990			0.972	
Satd. Flow (prot)	0	1844	1796	0	1709	0
Flt Permitted		0.990			0.972	
Satd. Flow (perm)	0	1844	1796	0	1709	0
Link Speed (mph)		55	55		55	
Link Distance (ft)		816	488		422	
Travel Time (s)		10.1	6.0		5.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	74	303	282	103	60	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	377	385	0	103	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 53.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	68	279	259	95	55	40
Future Vol, veh/h	68	279	259	95	55	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	74	303	282	103	60	43

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	385	0	-	0	784	333
Stage 1	-	-	-	-	333	-
Stage 2	-	-	-	-	451	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1174	-	-	-	362	709
Stage 1	-	-	-	-	726	-
Stage 2	-	-	-	-	642	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1174	-	-	-	334	709
Mov Cap-2 Maneuver	-	-	-	-	334	-
Stage 1	-	-	-	-	671	-
Stage 2	-	-	-	-	642	-

Approach	EB	WB	SB
HCM Control Delay, s/v	1.62	0	16
HCM LOS			C

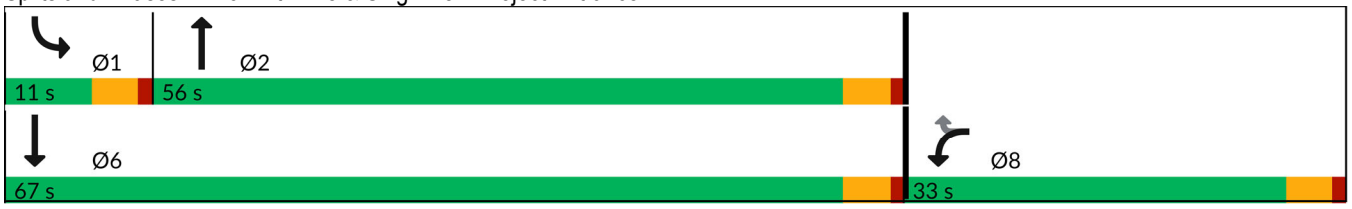
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	353	-	-	-	430
HCM Lane V/C Ratio	0.063	-	-	-	0.24
HCM Control Delay (s/veh)	8.3	0	-	-	16
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	0.9

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	163	5	488	251	8	322
Future Volume (vph)	163	5	488	251	8	322
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt		0.850	0.949			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3359	0	1770	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3359	0	1770	1863
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		5	135			
Link Speed (mph)	55		55			55
Link Distance (ft)	1631		1771			2743
Travel Time (s)	20.2		22.0			34.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	177	5	530	273	9	350
Shared Lane Traffic (%)						
Lane Group Flow (vph)	177	5	803	0	9	350
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Split (s)	22.5	22.5	22.5		8.5	22.5
Total Split (s)	33.0	33.0	56.0		11.0	67.0
Total Split (%)	33.0%	33.0%	56.0%		11.0%	67.0%
Maximum Green (s)	28.5	28.5	51.5		6.5	62.5
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5		4.5	4.5
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	Min		None	Min
Walk Time (s)	7.0	7.0	7.0			7.0
Flash Don't Walk (s)	11.0	11.0	11.0			11.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effct Green (s)	10.2	10.2	21.2		6.0	22.7
Actuated g/C Ratio	0.24	0.24	0.50		0.14	0.54
v/c Ratio	0.42	0.01	0.46		0.04	0.35
Control Delay (s/veh)	17.5	10.0	7.7		19.3	7.0
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay (s/veh)	17.5	10.0	7.7		19.3	7.0
LOS	B	A	A		B	A
Approach Delay (s/veh)	17.3		7.7			7.3
Approach LOS	B		A			A

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 42.2			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.46			
Intersection Signal Delay (s/veh): 8.9		Intersection LOS: A	
Intersection Capacity Utilization 38.1%		ICU Level of Service A	
Analysis Period (min) 15			

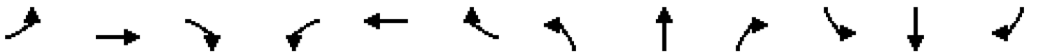
Splits and Phases: 23: 12th Ave & Singh Dev. Project Entrance



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	163	5	488	251	8	322
Future Volume (veh/h)	163	5	488	251	8	322
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	177	5	530	273	9	350
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	245	218	928	477	17	1059
Arrive On Green	0.14	0.14	0.41	0.41	0.01	0.57
Sat Flow, veh/h	1781	1585	2364	1167	1781	1870
Grp Volume(v), veh/h	177	5	414	389	9	350
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1660	1781	1870
Q Serve(g_s), s	2.9	0.1	5.5	5.5	0.2	3.0
Cycle Q Clear(g_c), s	2.9	0.1	5.5	5.5	0.2	3.0
Prop In Lane	1.00	1.00		0.70	1.00	
Lane Grp Cap(c), veh/h	245	218	726	678	17	1059
V/C Ratio(X)	0.72	0.02	0.57	0.57	0.52	0.33
Avail Cap(c_a), veh/h	1670	1486	3010	2812	381	3845
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.5	11.3	6.9	6.9	15.0	3.5
Incr Delay (d2), s/veh	4.0	0.0	0.7	0.8	22.6	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.7	0.6	0.1	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	16.5	11.4	7.6	7.7	37.6	3.7
LnGrp LOS	B	B	A	A	D	A
Approach Vol, veh/h	182		803			359
Approach Delay, s/veh	16.4		7.7			4.6
Approach LOS	B		A			A

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	4.8	16.9				21.7	8.7
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	6.5	51.5				62.5	28.5
Max Q Clear Time (g_c+I1), s	2.2	7.5				5.0	4.9
Green Ext Time (p_c), s	0.0	4.9				1.9	0.4

Intersection Summary	
HCM 7th Control Delay, s/veh	8.0
HCM 7th LOS	A

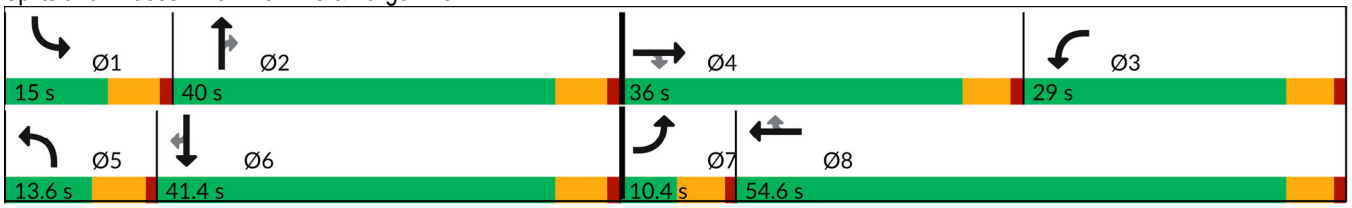


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	328	25	215	274	96	46	368	325	71	256	28
Future Volume (vph)	24	328	25	215	274	96	46	368	325	71	256	28
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Storage Length (ft)	200		110	345		110	255		105	255		130
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98			0.97			0.97			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	3539	1458	1630	3539	1458	1630	3539	1458	1630	3539	1458
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1630	3539	1429	1630	3539	1412	1630	3539	1411	1630	3539	1412
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			125			125			353			169
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		488			5225			5338			853	
Travel Time (s)		6.0			64.8			66.2			10.6	
Confl. Peds. (#/hr)			5			5			5			5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	357	27	234	298	104	50	400	353	77	278	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	357	27	234	298	104	50	400	353	77	278	30
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.3	33.7	33.7	9.3	33.7	33.7	9.7	34.5	34.5	9.7	36.0	36.0
Total Split (s)	10.4	36.0	36.0	29.0	54.6	54.6	13.6	40.0	40.0	15.0	41.4	41.4
Total Split (%)	8.7%	30.0%	30.0%	24.2%	45.5%	45.5%	11.3%	33.3%	33.3%	12.5%	34.5%	34.5%
Maximum Green (s)	5.1	30.7	30.7	23.7	49.3	49.3	7.9	34.3	34.3	9.3	35.7	35.7
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		21.4	21.4		21.4	21.4		21.8	21.8		23.3	23.3
Pedestrian Calls (#/hr)		5	5		5	5		5	5		5	5
Act Effct Green (s)	7.1	16.6	16.6	18.1	35.8	35.8	9.5	18.2	18.2	10.6	22.0	22.0
Actuated g/C Ratio	0.09	0.22	0.22	0.24	0.46	0.46	0.12	0.24	0.24	0.14	0.29	0.29
v/c Ratio	0.17	0.47	0.07	0.61	0.18	0.14	0.25	0.48	0.59	0.35	0.27	0.06
Control Delay (s/veh)	45.3	31.0	0.3	38.1	15.5	3.0	42.3	29.7	7.9	42.5	25.3	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	45.3	31.0	0.3	38.1	15.5	3.0	42.3	29.7	7.9	42.5	25.3	0.2
LOS	D	C	A	D	B	A	D	C	A	D	C	A
Approach Delay (s/veh)		29.9			21.8			20.9			26.8	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 77			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay (s/veh): 23.8		Intersection LOS: C	
Intersection Capacity Utilization 54.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: 12th Ave & Fargo Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	328	25	215	274	96	46	368	325	71	256	28
Future Volume (veh/h)	24	328	25	215	274	96	46	368	325	71	256	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	26	357	27	234	298	104	50	400	353	77	278	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	74	696	280	321	1231	491	108	913	363	140	983	391
Arrive On Green	0.05	0.20	0.20	0.20	0.35	0.35	0.07	0.26	0.26	0.09	0.28	0.28
Sat Flow, veh/h	1641	3554	1428	1641	3554	1417	1641	3554	1413	1641	3554	1414
Grp Volume(v), veh/h	26	357	27	234	298	104	50	400	353	77	278	30
Grp Sat Flow(s),veh/h/ln	1641	1777	1428	1641	1777	1417	1641	1777	1413	1641	1777	1414
Q Serve(g_s), s	0.9	5.4	0.7	8.1	3.6	3.1	1.8	5.7	7.2	2.7	3.7	0.9
Cycle Q Clear(g_c), s	0.9	5.4	0.7	8.1	3.6	3.1	1.8	5.7	7.2	2.7	3.7	0.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	74	696	280	321	1231	491	108	913	363	140	983	391
V/C Ratio(X)	0.35	0.51	0.10	0.73	0.24	0.21	0.46	0.44	0.97	0.55	0.28	0.08
Avail Cap(c_a), veh/h	175	1890	760	682	2988	1192	262	2126	845	300	2209	879
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.9	21.6	9.7	22.7	14.0	13.9	27.1	18.7	5.1	26.4	17.1	16.1
Incr Delay (d2), s/veh	2.8	0.6	0.1	3.2	0.1	0.2	3.1	0.3	16.3	3.3	0.2	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.9	0.3	2.9	1.1	0.8	0.7	1.9	4.8	1.0	1.2	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.7	22.2	9.8	25.9	14.1	14.1	30.1	19.0	21.4	29.7	17.2	16.2
LnGrp LOS	C	C	A	C	B	B	C	B	C	C	B	B
Approach Vol, veh/h		410			636			803			385	
Approach Delay, s/veh		21.9			18.4			20.8			19.6	
Approach LOS		C			B			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	19.5	15.8	15.8	8.0	20.7	6.7	24.8
Change Period (Y+Rc), s	5.7	5.7	5.3	5.3	5.7	5.7	5.3	5.3
Max Green Setting (Gmax), s	3.5	34.3	23.7	30.7	7.9	35.7	5.1	49.3
Max Q Clear Time (g_c+I1), s	4.7	9.2	10.1	7.4	3.8	5.7	2.9	5.6
Green Ext Time (p_c), s	0.1	3.3	0.6	1.5	0.0	1.2	0.0	1.7

Intersection Summary	
HCM 7th Control Delay, s/veh	20.1
HCM 7th LOS	C

Scenario Information

Scenario 1
Description:
Data Date: Undefined Data Time: Undefined
Timing Plan ID: Default
Alternative: Baseline
Number of Signalized Intersections: 15
Most Popular Cycle Length: 90

Network Totals

	Scenario 1
Number of Intersections	22
Most Popular Cycle (s)	90
Alternative	Baseline
Timing Plan ID	Default
Data Time	Undefined
Control Delay / Veh (s/v)	24
Queue Delay / Veh (s/v)	0
Total Delay / Veh (s/v)	24
Total Delay (hr)	14
Stops / Veh	0.59
Stops (#)	1222
Average Speed (mph)	36
Total Travel Time (hr)	39
Distance Traveled (mi)	1418
Fuel Consumed (gal)	80
Fuel Economy (mpg)	17.7
CO Emissions (kg)	5.60
NOx Emissions (kg)	1.09
VOC Emissions (kg)	1.30
Unserved Vehicles (#)	0
Vehicles in dilemma zone (#)	77
Performance Index	17.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	26	118	1	44	4	175	321	1	2	253	16
Future Volume (vph)	9	26	118	1	44	4	175	321	1	2	253	16
Ideal Flow (vphpl)	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	1900	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.896			0.990						0.991	
Flt Protected		0.997			0.999			0.983				
Satd. Flow (prot)	0	1664	0	0	1842	0	0	3479	0	0	3507	0
Flt Permitted		0.997			0.999			0.983				
Satd. Flow (perm)	0	1664	0	0	1842	0	0	3479	0	0	3507	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		4849			614			1519			1547	
Travel Time (s)		60.1			7.6			18.8			19.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	28	128	1	48	4	190	349	1	2	275	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	166	0	0	53	0	0	540	0	0	294	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	45.4%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Intersection Delay, s/veh	12.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	26	118	1	44	4	175	321	1	2	253	16
Future Vol, veh/h	9	26	118	1	44	4	175	321	1	2	253	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	28	128	1	48	4	190	349	1	2	275	17
Number of Lanes	0	1	0	0	1	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay, s/veh	10.5	9.9	14.7	10.4
HCM LOS	B	A	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	52%	0%	6%	2%	2%	0%
Vol Thru, %	48%	99%	17%	90%	98%	89%
Vol Right, %	0%	1%	77%	8%	0%	11%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	336	162	153	49	129	143
LT Vol	175	0	9	1	2	0
Through Vol	161	161	26	44	127	127
RT Vol	0	1	118	4	0	16
Lane Flow Rate	365	176	166	53	140	155
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.591	0.271	0.257	0.092	0.228	0.249
Departure Headway (Hd)	5.83	5.562	5.553	6.225	5.879	5.792
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	620	646	647	575	610	620
Service Time	3.556	3.288	3.591	4.272	3.613	3.526
HCM Lane V/C Ratio	0.589	0.272	0.257	0.092	0.23	0.25
HCM Control Delay, s/veh	16.7	10.4	10.5	9.9	10.4	10.4
HCM Lane LOS	C	B	B	A	B	B
HCM 95th-tile Q	3.9	1.1	1	0.3	0.9	1

Intersection	
Intersection Delay, s/veh	12.6
Intersection LOS	B

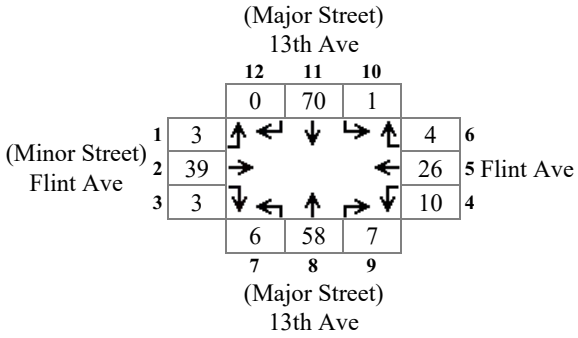
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	26	118	1	44	4	175	321	1	2	253	16
Future Vol, veh/h	9	26	118	1	44	4	175	321	1	2	253	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	28	128	1	48	4	190	349	1	2	275	17
Number of Lanes	0	1	0	0	1	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay, s/veh	10.5	9.9	14.7	10.4
HCM LOS	B	A	B	B

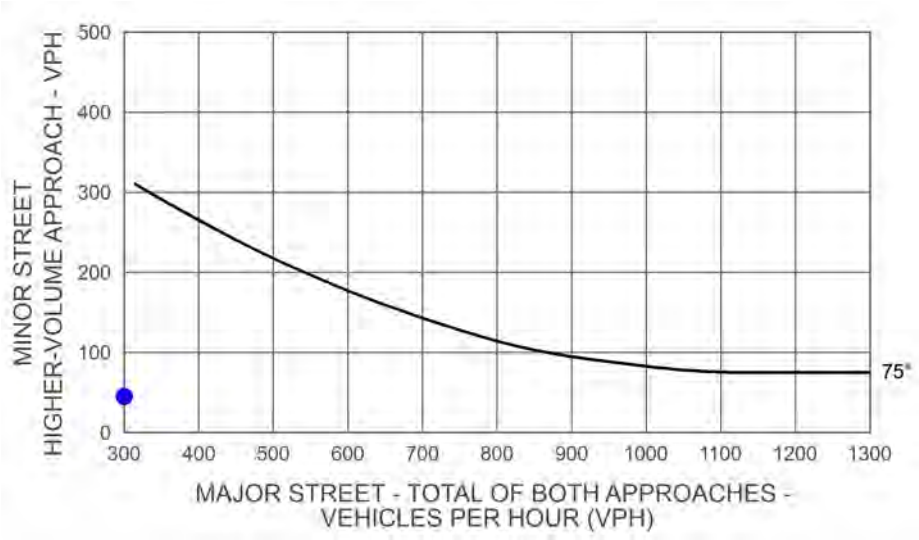
Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	52%	0%	6%	2%	2%	0%
Vol Thru, %	48%	99%	17%	90%	98%	89%
Vol Right, %	0%	1%	77%	8%	0%	11%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	336	162	153	49	129	143
LT Vol	175	0	9	1	2	0
Through Vol	161	161	26	44	127	127
RT Vol	0	1	118	4	0	16
Lane Flow Rate	365	176	166	53	140	155
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.591	0.271	0.257	0.092	0.228	0.249
Departure Headway (Hd)	5.83	5.562	5.553	6.225	5.879	5.792
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	620	646	647	575	610	620
Service Time	3.556	3.288	3.591	4.272	3.613	3.526
HCM Lane V/C Ratio	0.589	0.272	0.257	0.092	0.23	0.25
HCM Control Delay, s/veh	16.7	10.4	10.5	9.9	10.4	10.4
HCM Lane LOS	C	B	B	A	B	B
HCM 95th-tile Q	3.9	1.1	1	0.3	0.9	1

Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Existing
Intersection #: 1

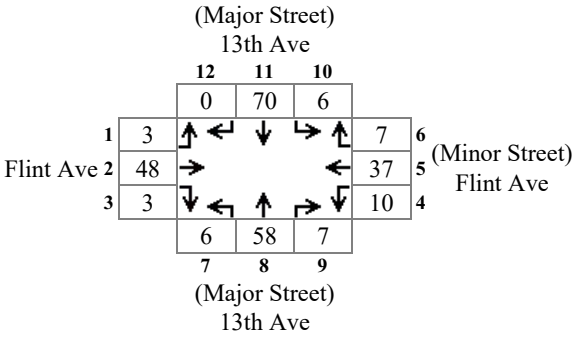


Major Total: 142
Minor High Volume: 45

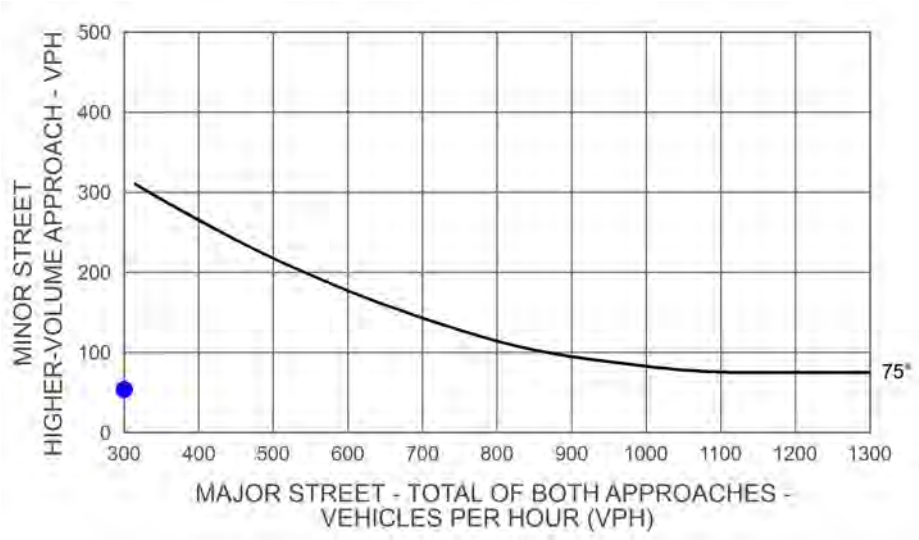


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Existing+Project
Intersection #: 1

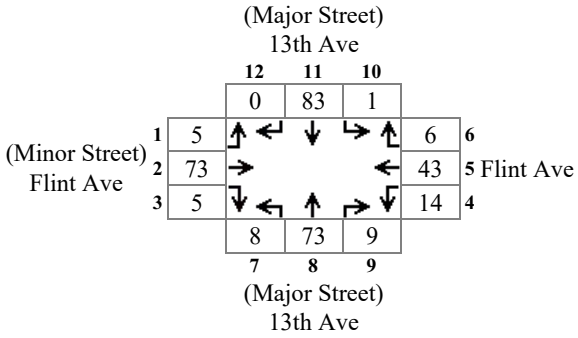


Major Total: 147
Minor High Volume: 54

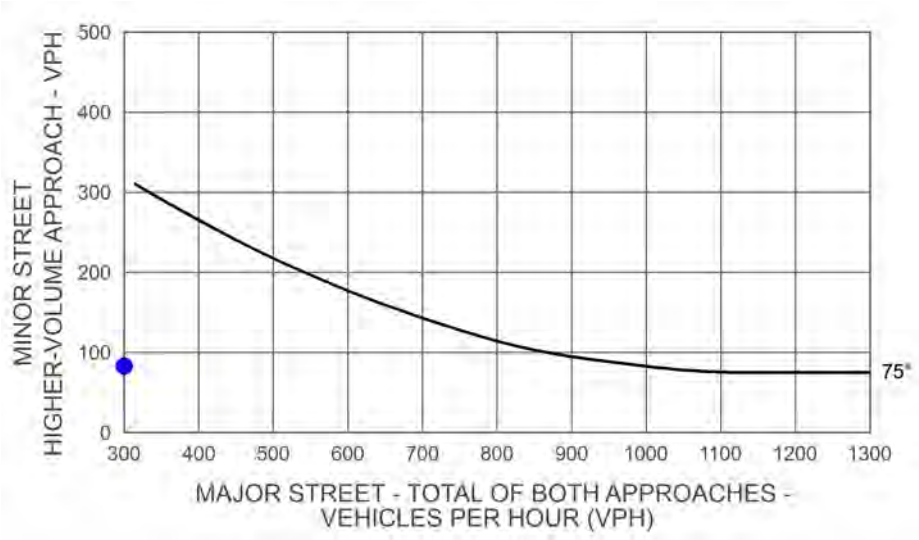


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Future
Intersection #: 1

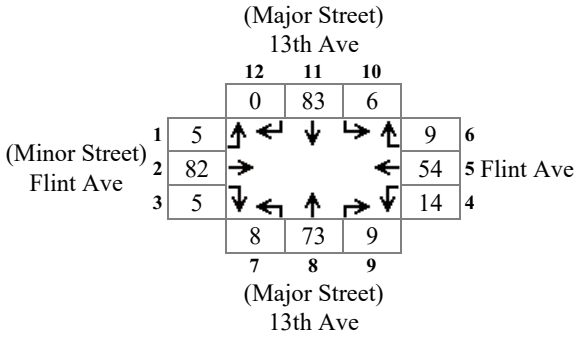


Major Total: 174
Minor High Volume: 83

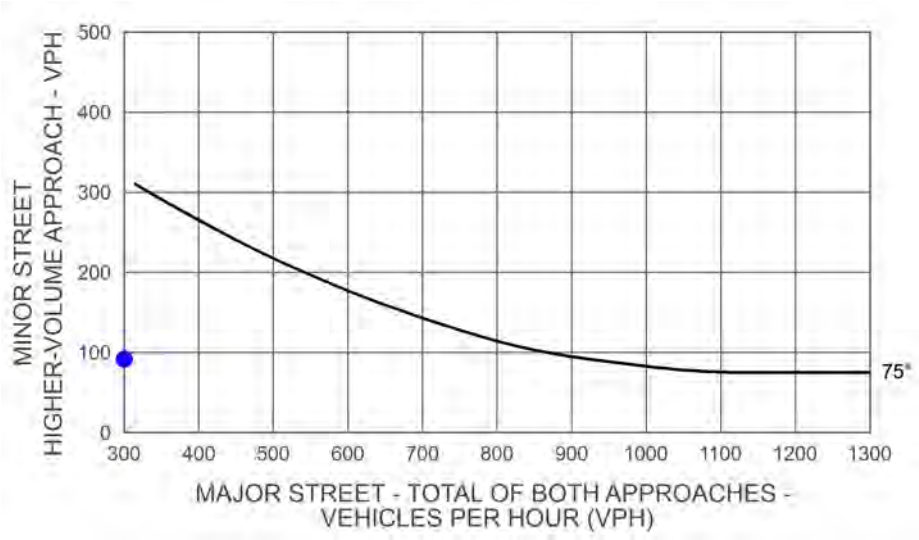


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Future+Project
Intersection #: 1

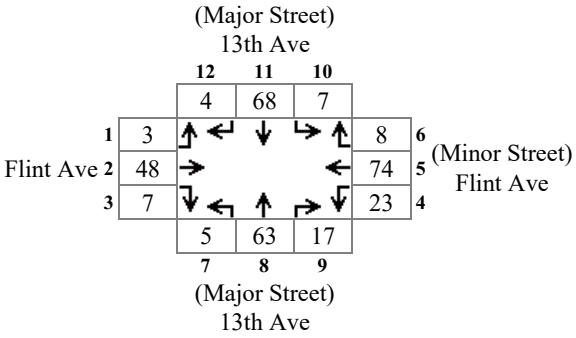


Major Total: 179
Minor High Volume: 92

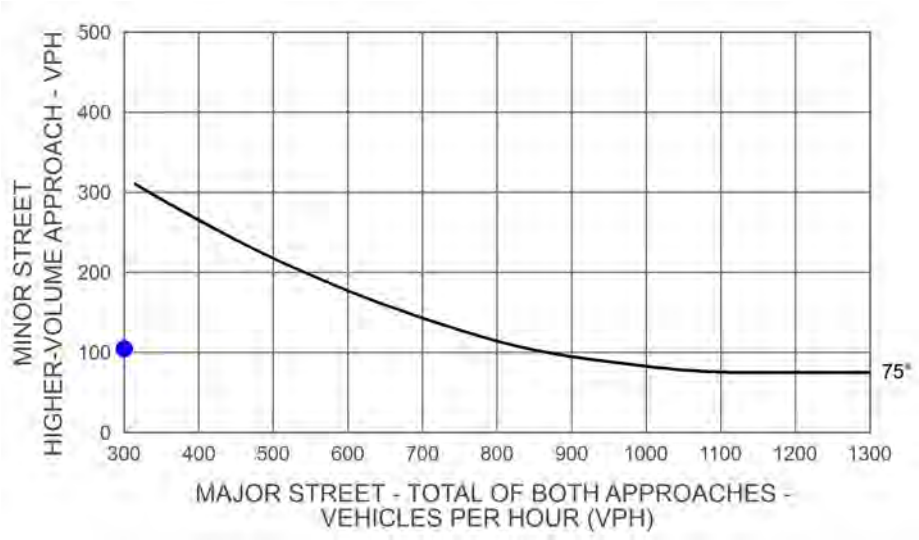


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Existing
Intersection #: 1

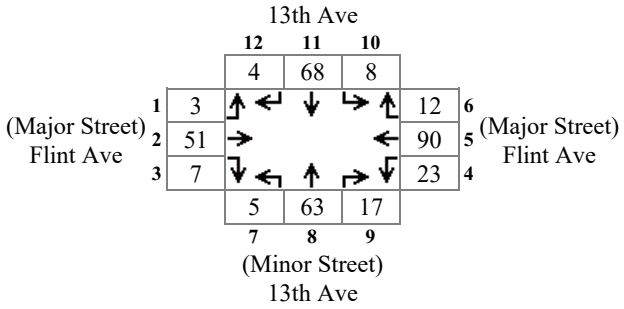


Major Total: 164
Minor High Volume: 105

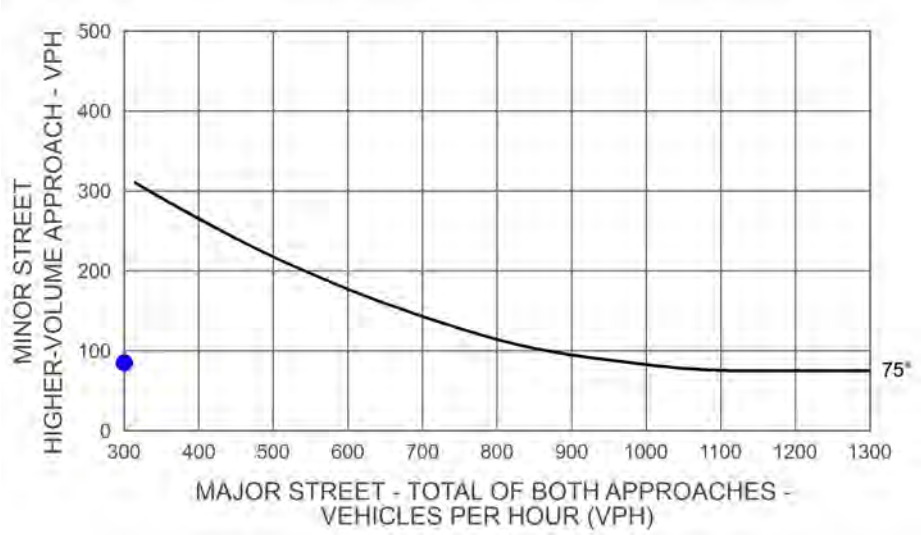


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Existing+Project
Intersection #: 1

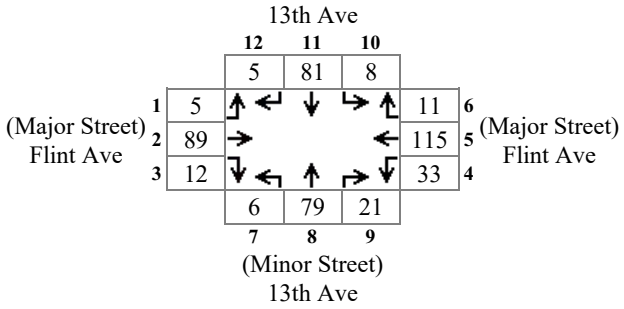


Major Total: 186
Minor High Volume: 85

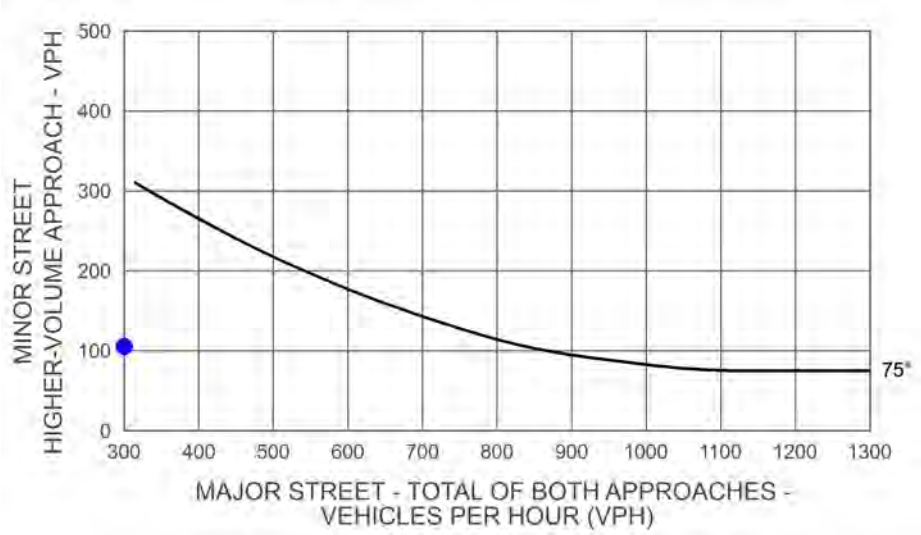


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Future
Intersection #: 1

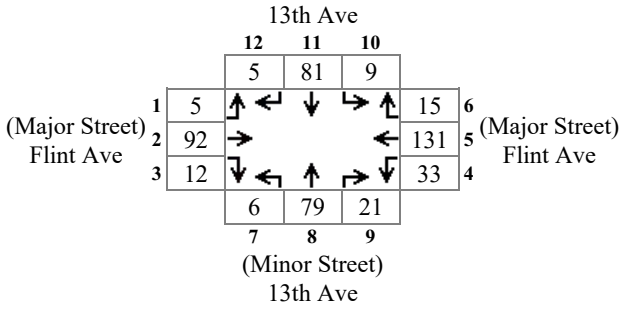


Major Total: 265
Minor High Volume: 106

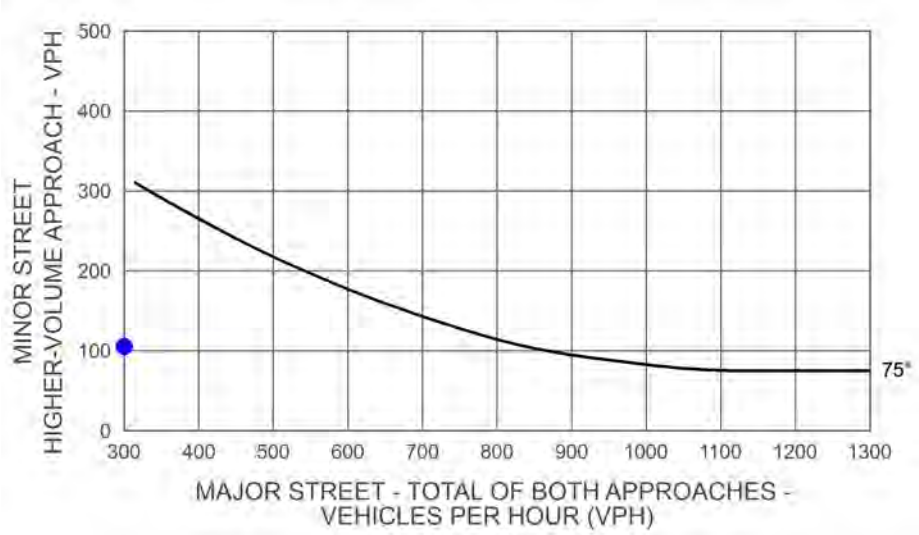


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Future+Project
Intersection #: 1

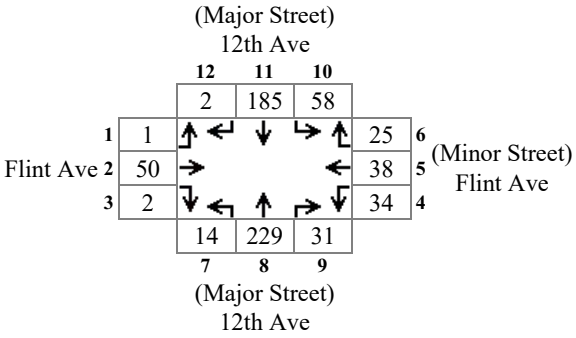


Major Total: 288
Minor High Volume: 106

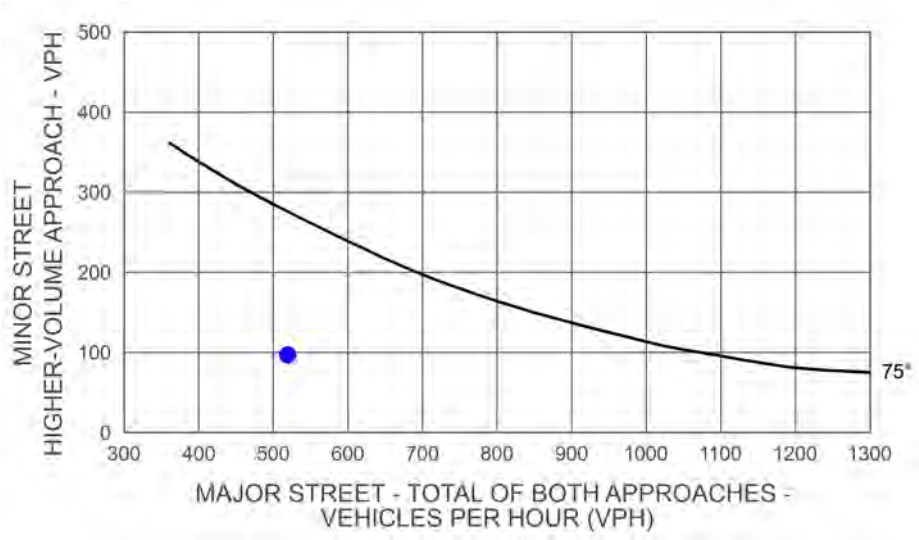


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Existing
Intersection #: 2

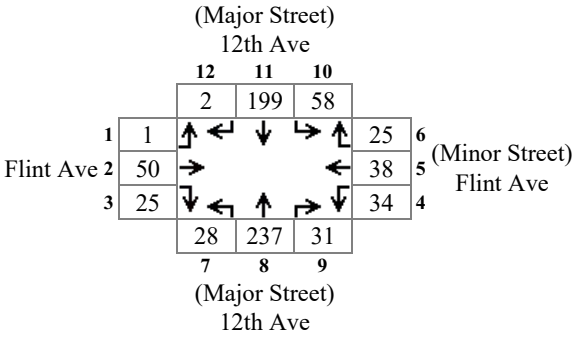


Major Total: 519
Minor High Volume: 97

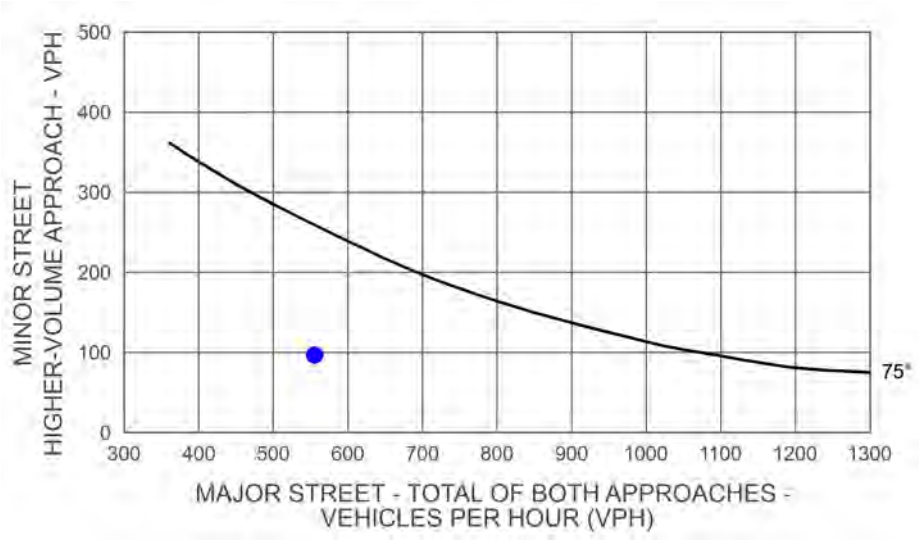


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Existing+Project
Intersection #: 2

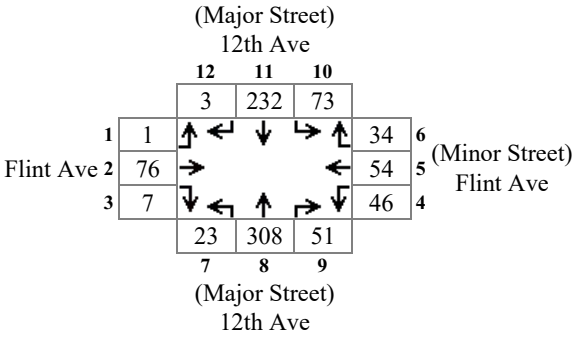


Major Total: 555
Minor High Volume: 97

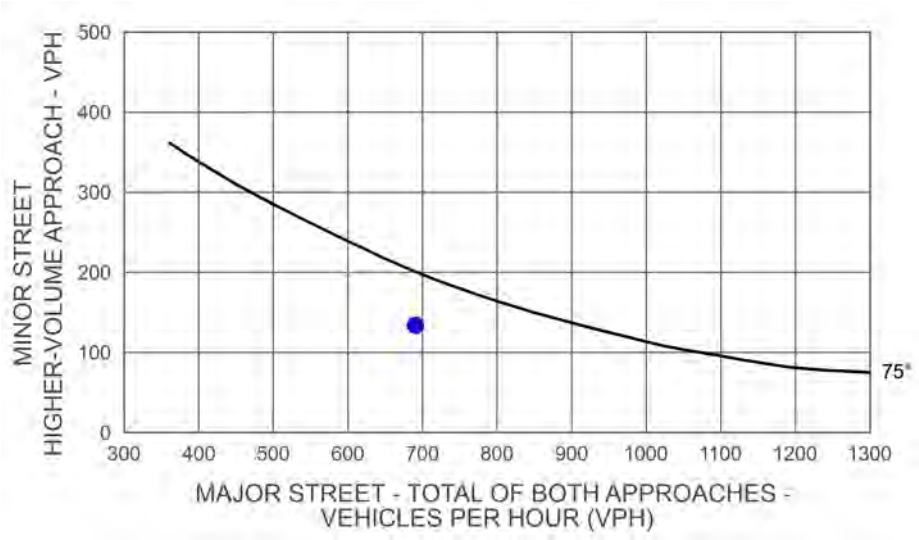


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Future
Intersection #: 2

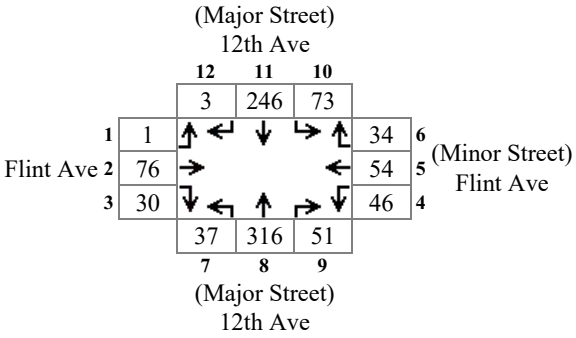


Major Total: 690
Minor High Volume: 134

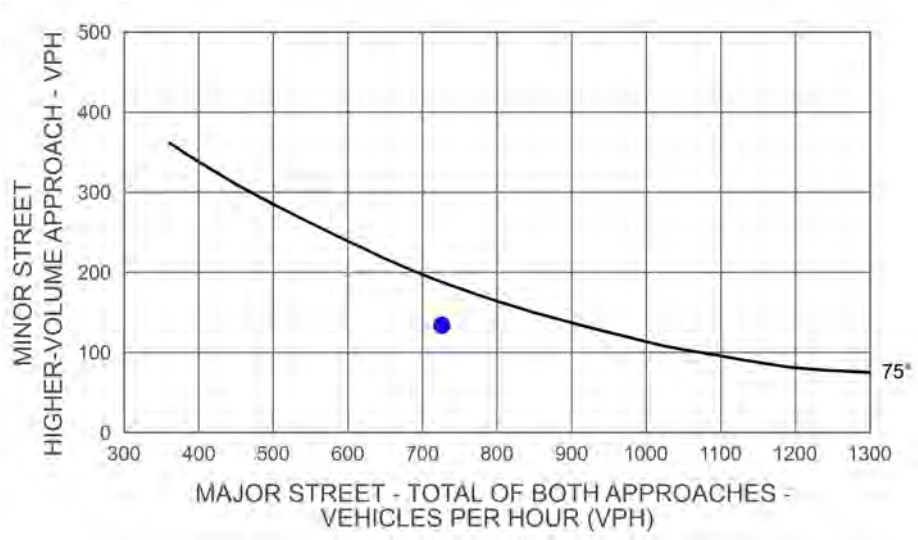


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Future+Project
Intersection #: 2

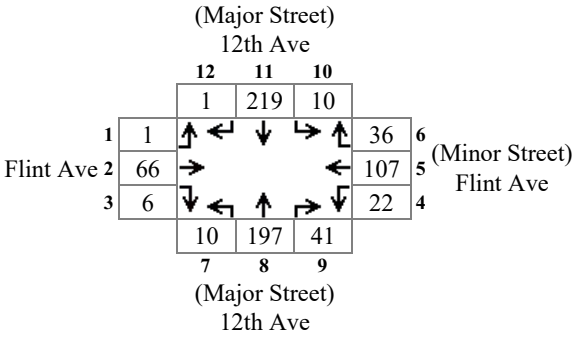


Major Total: 726
Minor High Volume: 134

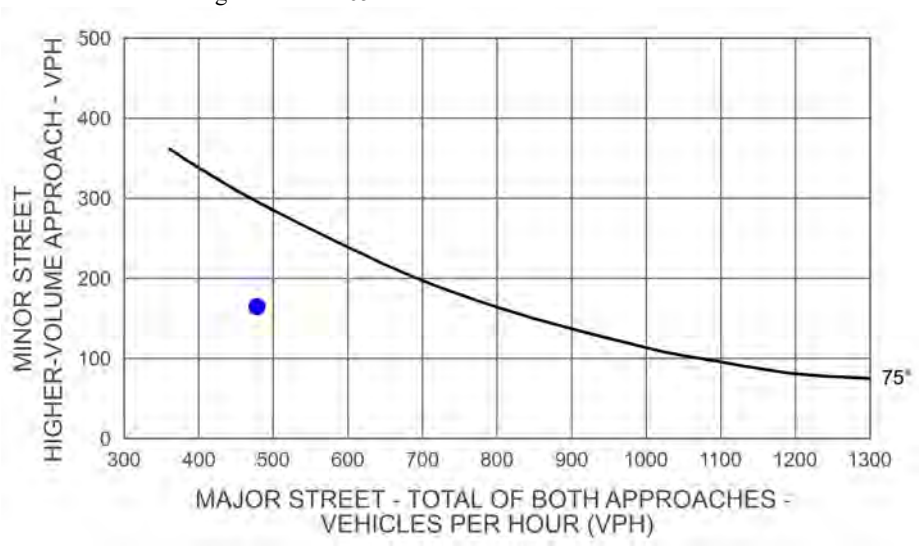


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Existing
Intersection #: 2

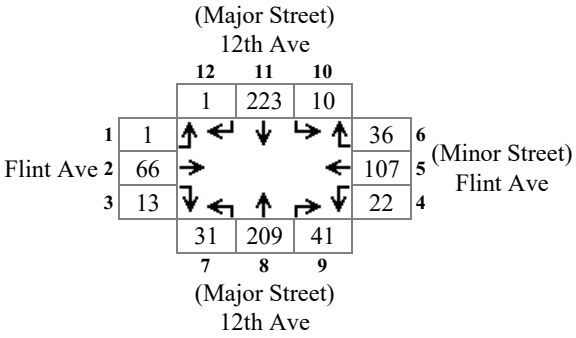


Major Total: 478
Minor High Volume: 165

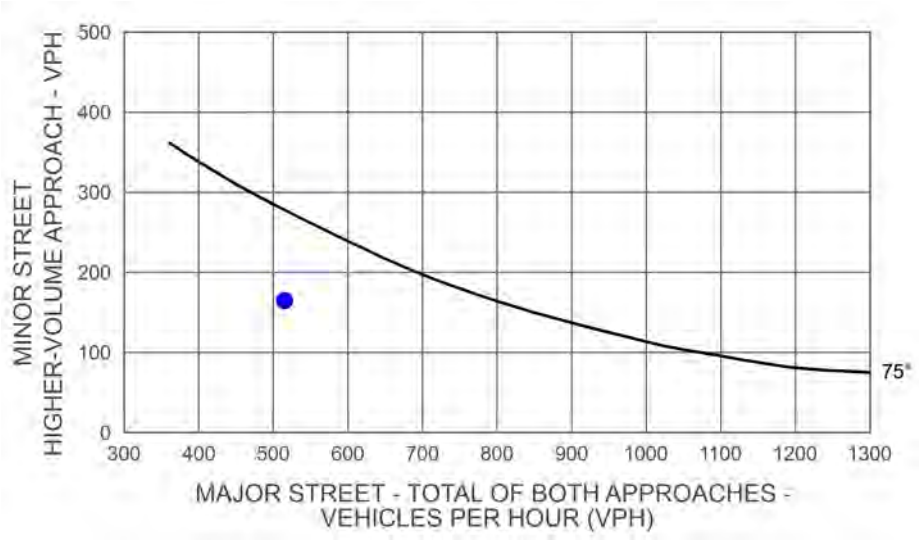


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Existing+Project
Intersection #: 2

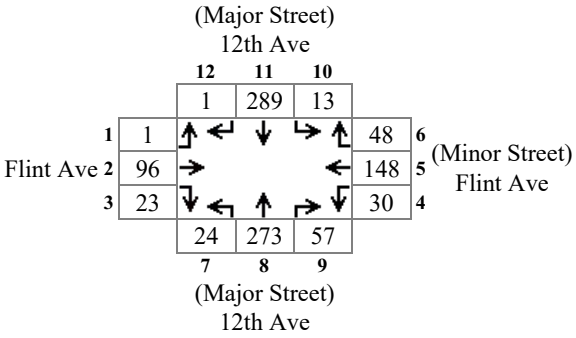


Major Total: 515
Minor High Volume: 165



Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

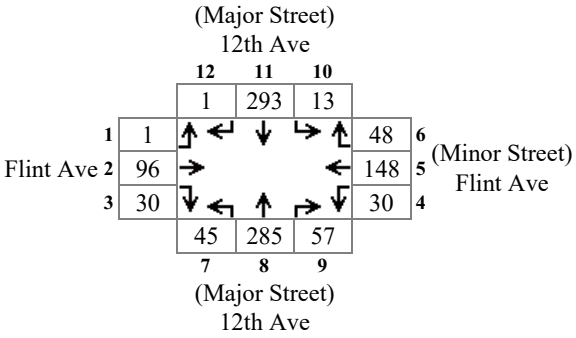
Scenario: AM Future
Intersection #: 2



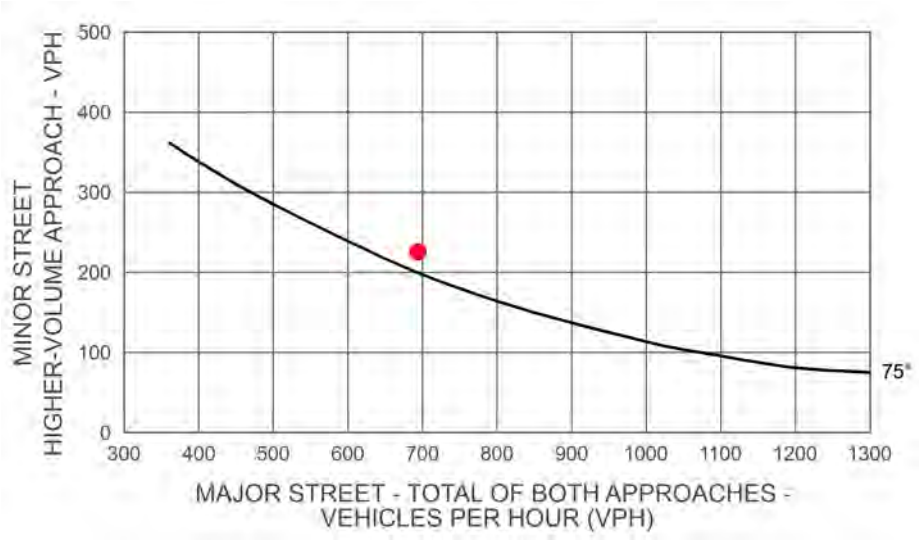
Major Total: 657
Minor High Volume: 226

Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Future+Project
Intersection #: 2

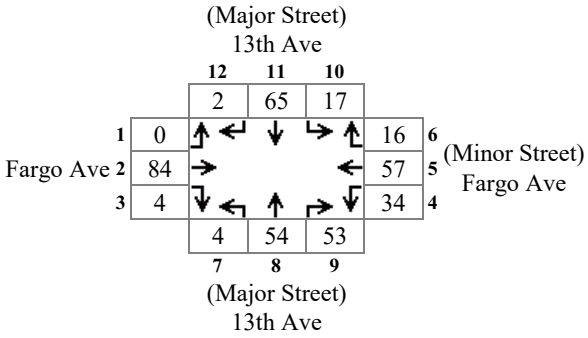


Major Total: 694
Minor High Volume: 226

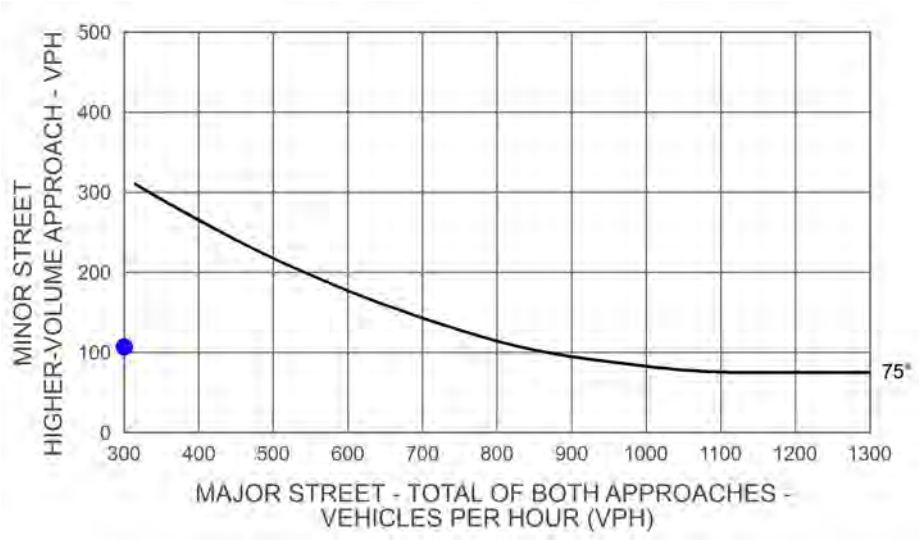


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Existing
Intersection #: 3

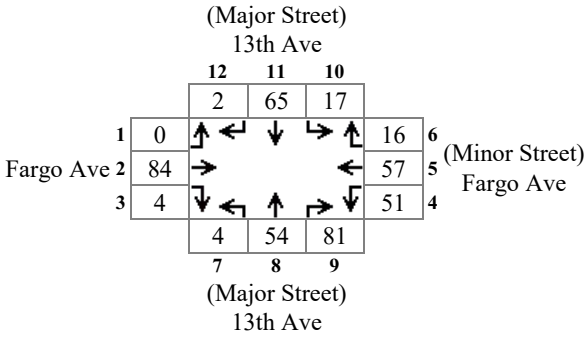


Major Total: 195
Minor High Volume: 107

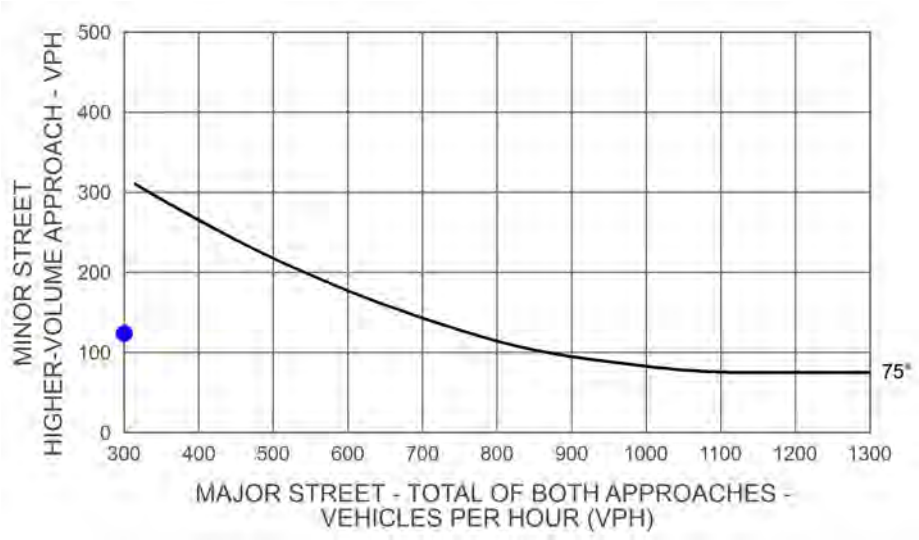


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Existing+Project
Intersection #: 3

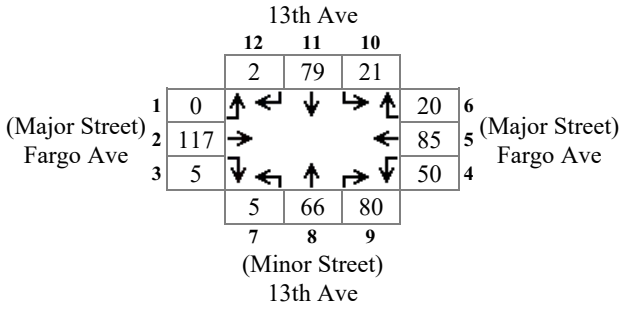


Major Total: 223
Minor High Volume: 124

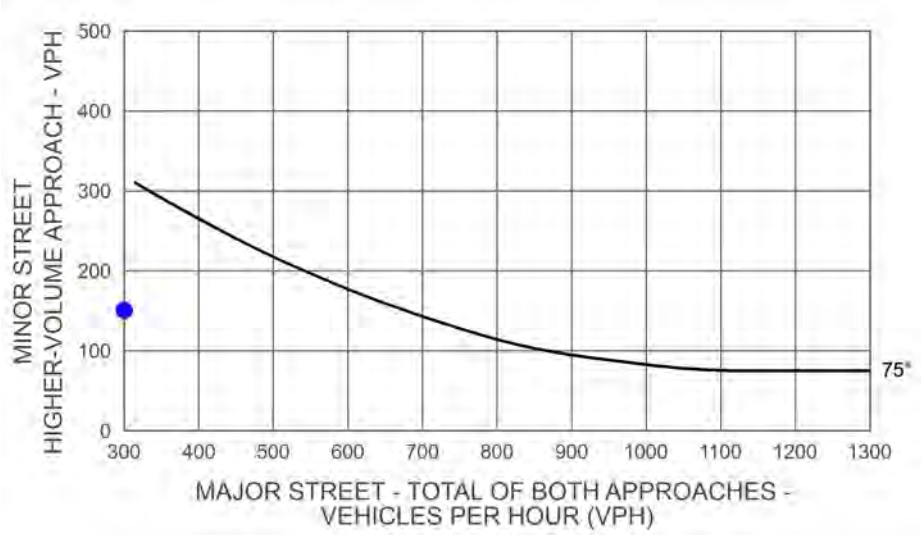


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Future
Intersection #: 3

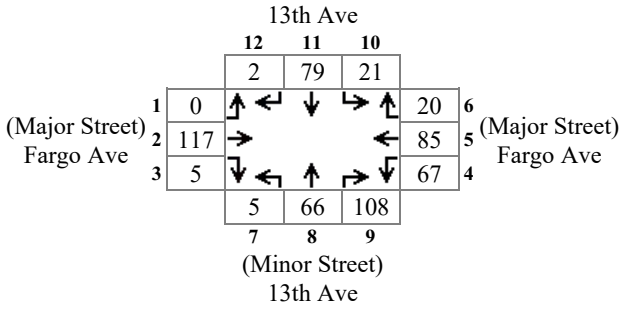


Major Total: 277
Minor High Volume: 151

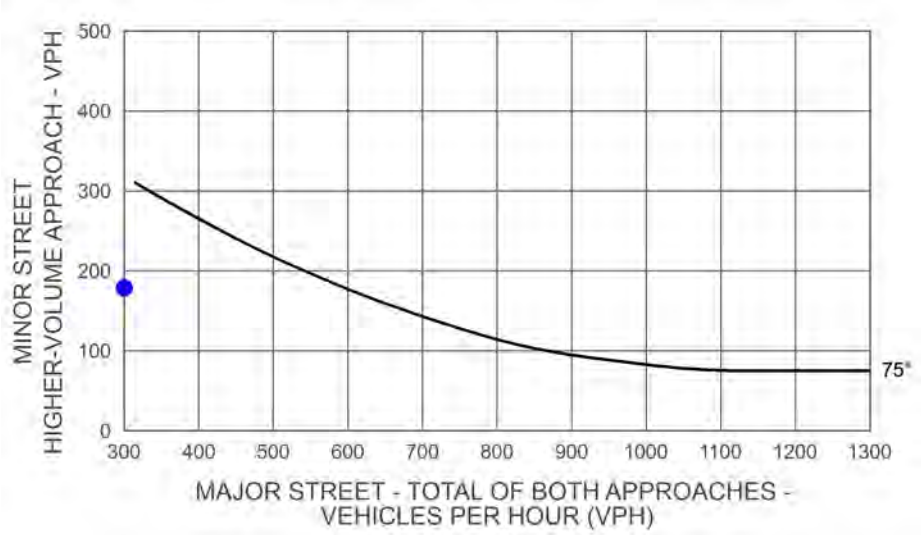


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Future+Project
Intersection #: 3

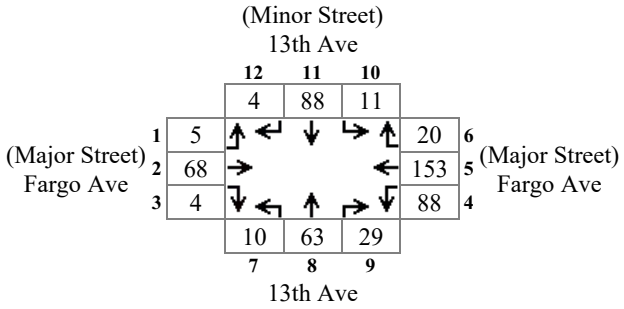


Major Total: 294
Minor High Volume: 179

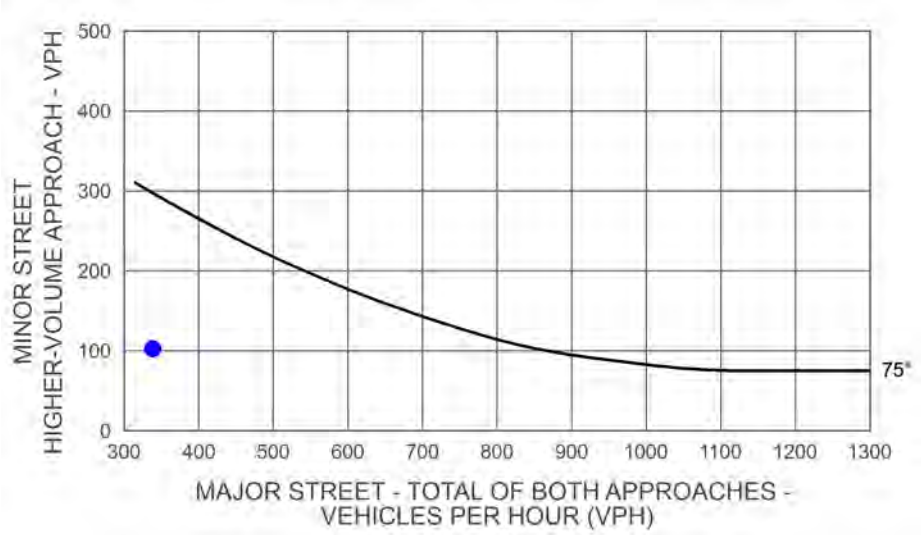


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Existing
Intersection #: 3

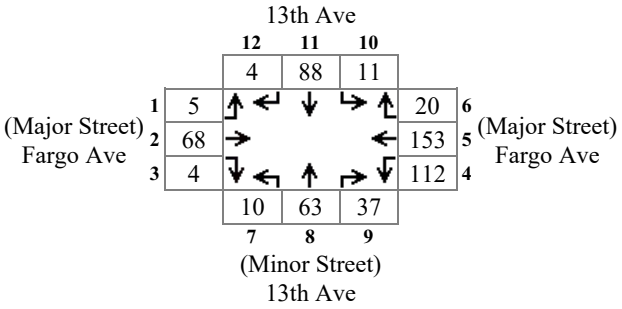


Major Total: 338
Minor High Volume: 103

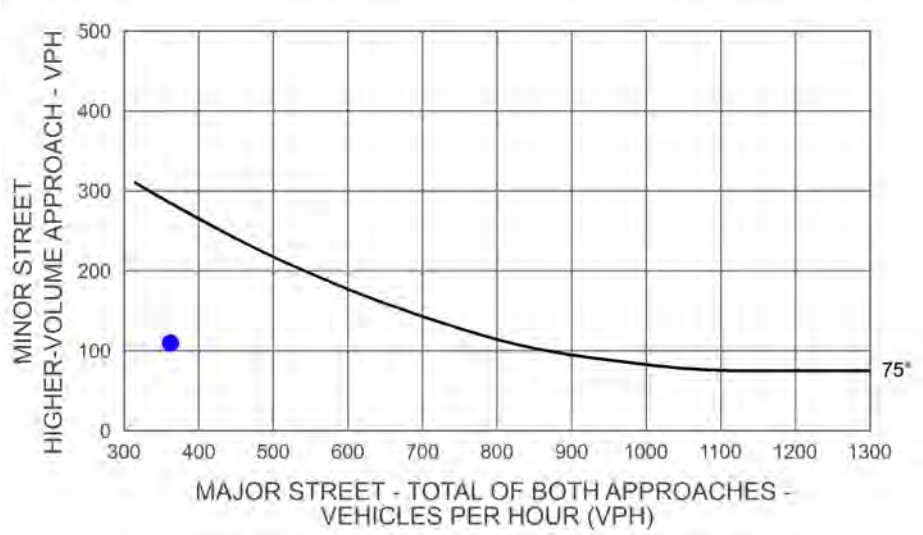


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Existing+Project
Intersection #: 3

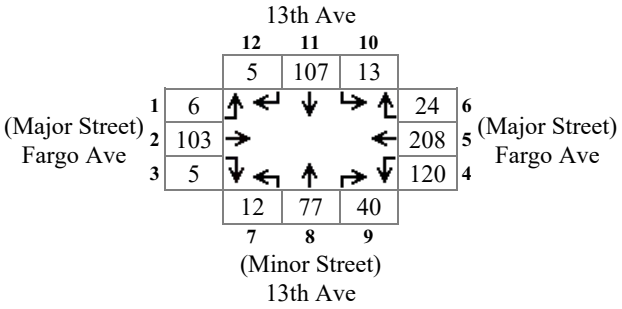


Major Total: 362
Minor High Volume: 110

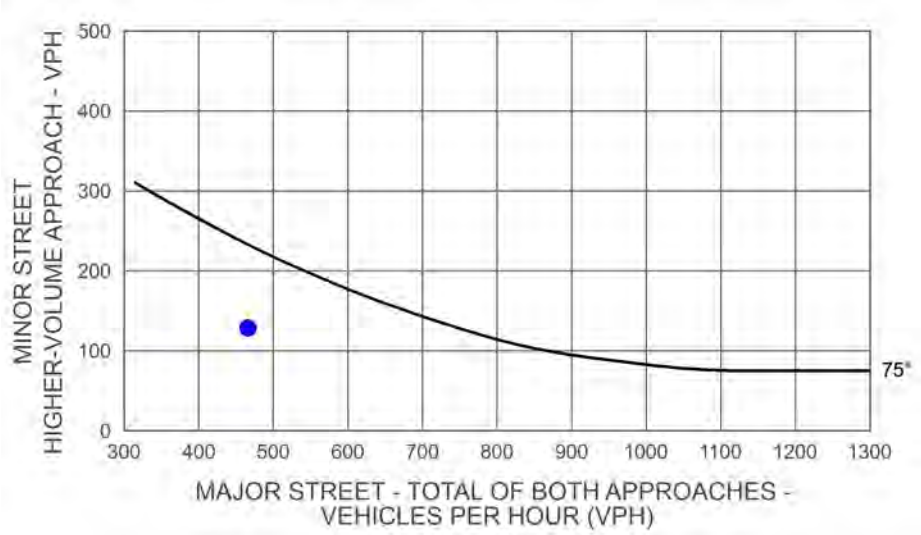


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Future
Intersection #: 3

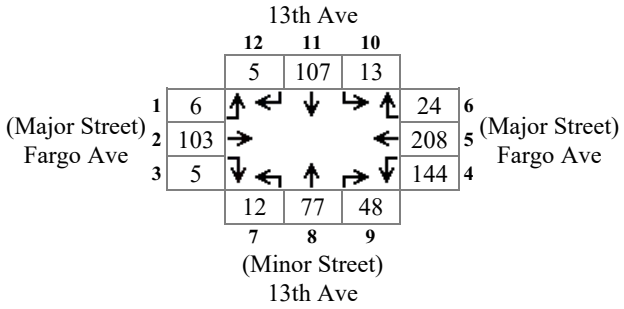


Major Total: 466
Minor High Volume: 129

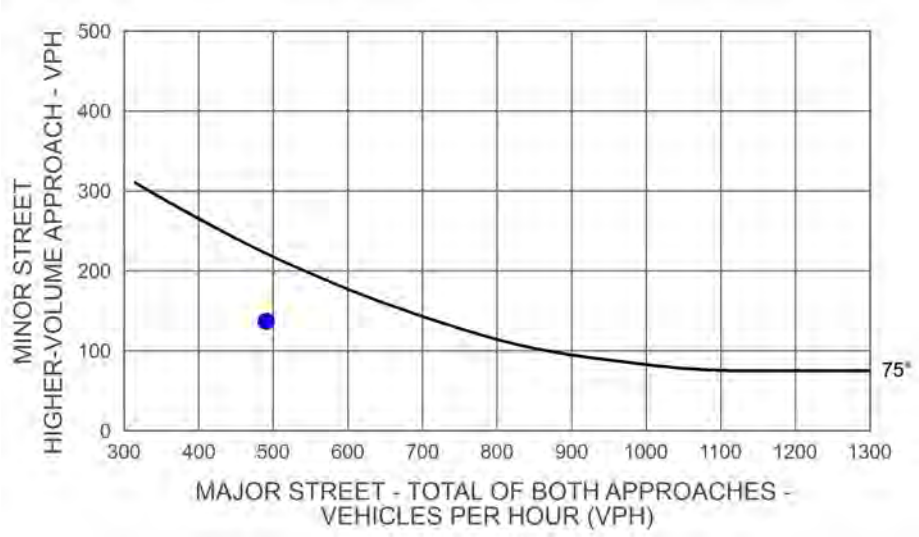


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Future+Project
Intersection #: 3

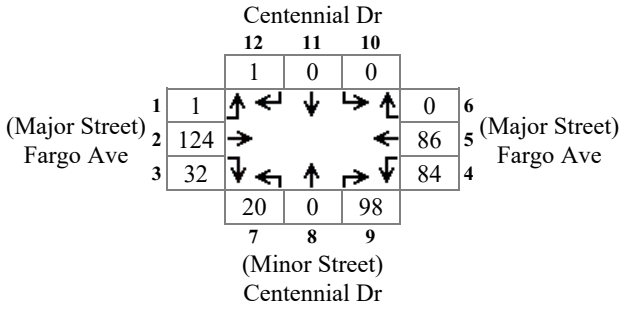


Major Total: 490
Minor High Volume: 137

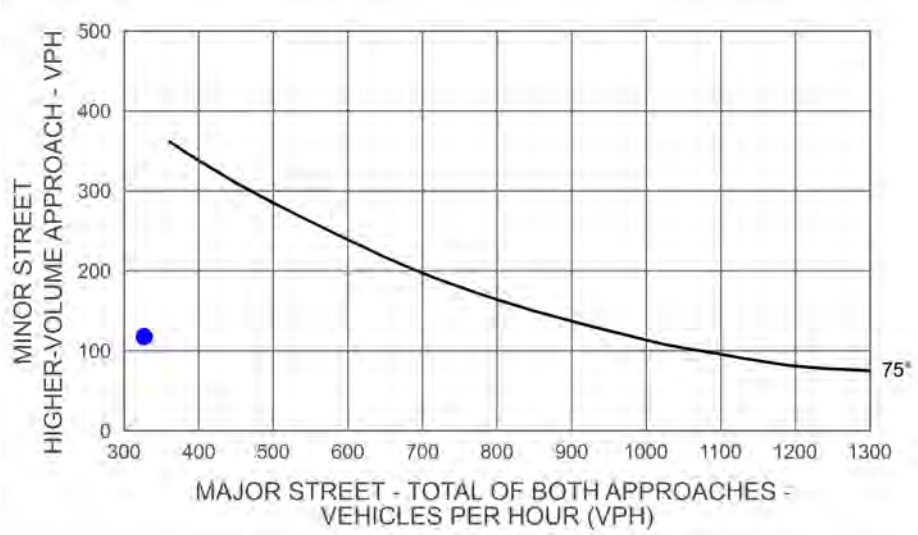


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Existing
Intersection #: 4

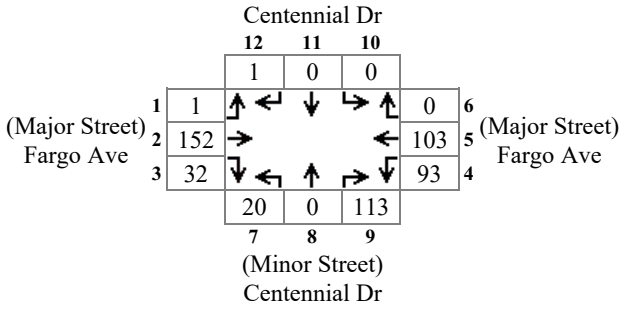


Major Total: 327
Minor High Volume: 118

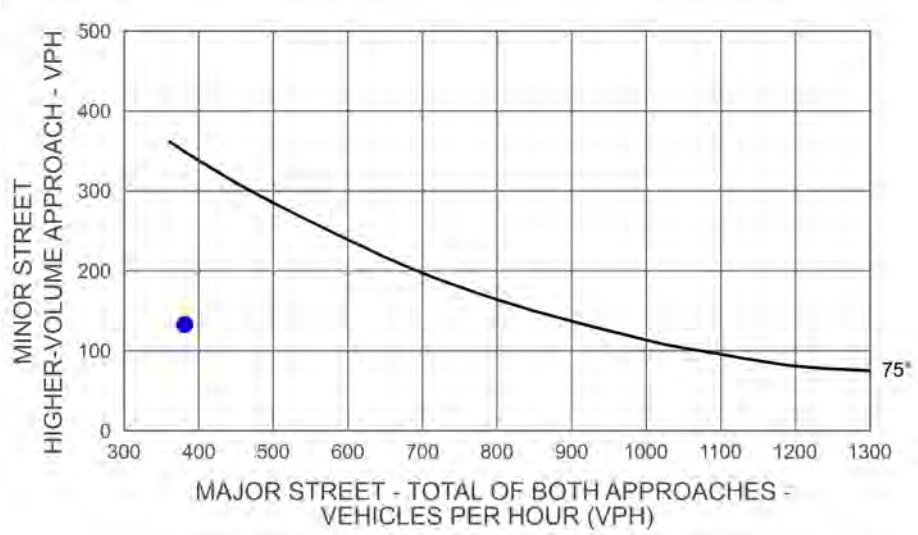


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Existing+Project
Intersection #: 4

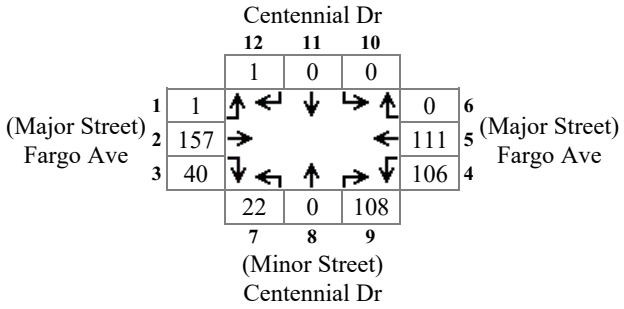


Major Total: 381
Minor High Volume: 133

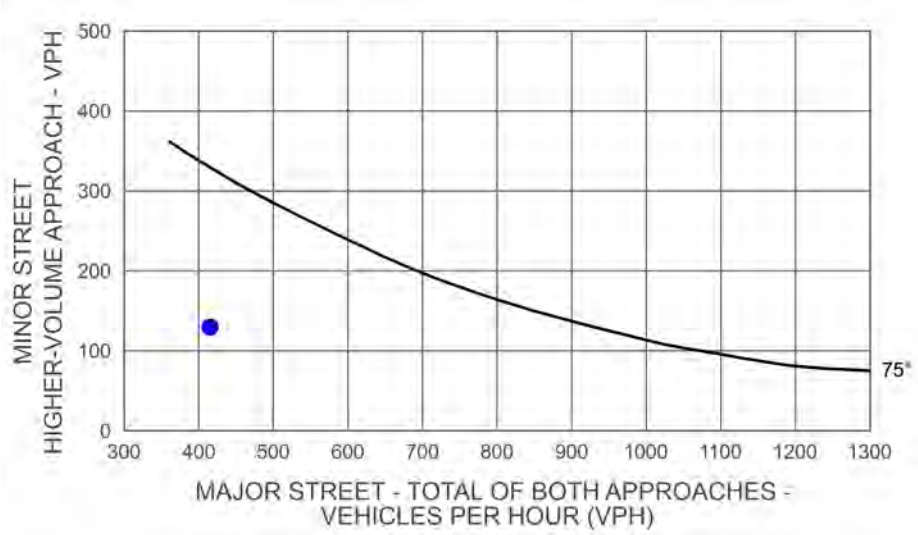


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Future
Intersection #: 4

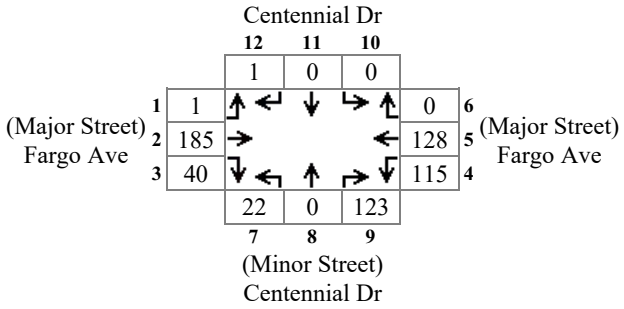


Major Total: 415
Minor High Volume: 130

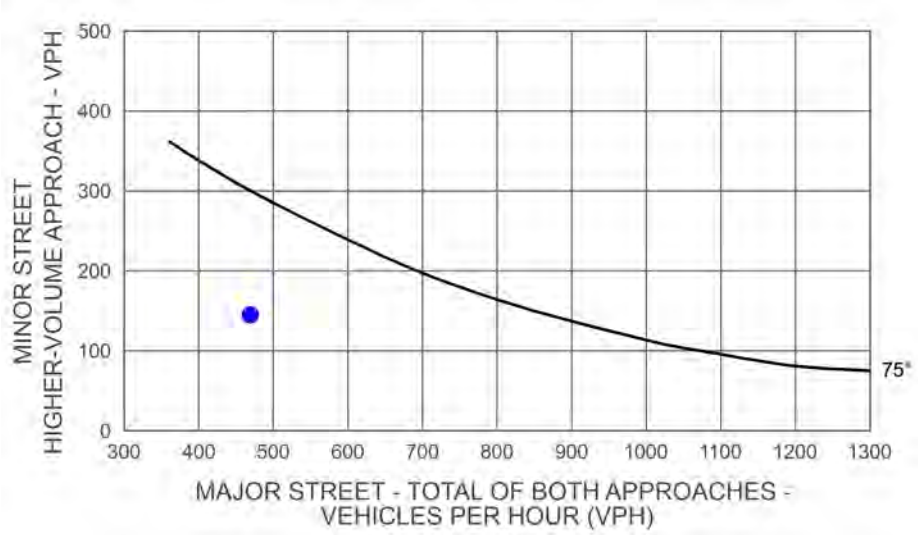


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Future+Project
Intersection #: 4

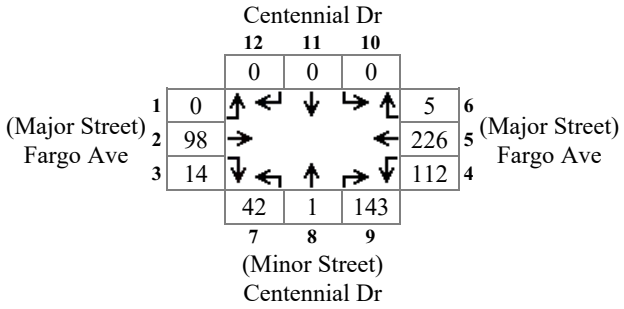


Major Total: 469
Minor High Volume: 145

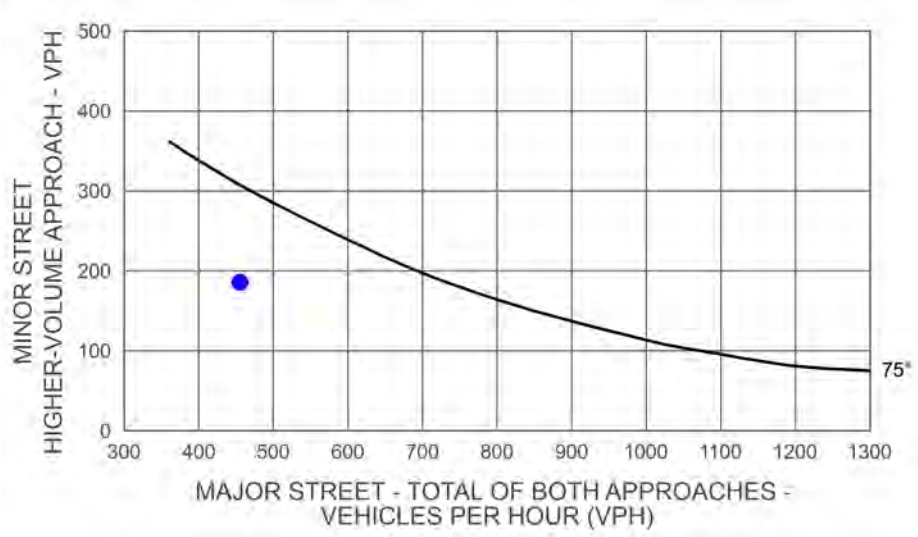


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Existing
Intersection #: 4

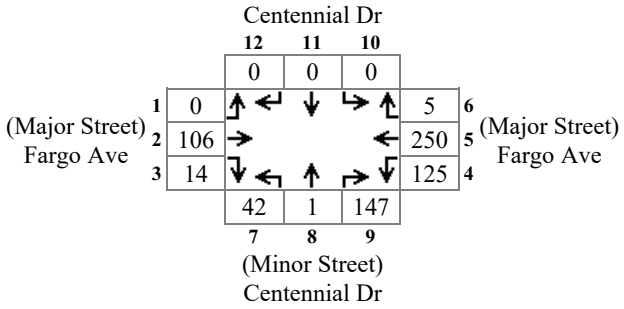


Major Total: 455
Minor High Volume: 186

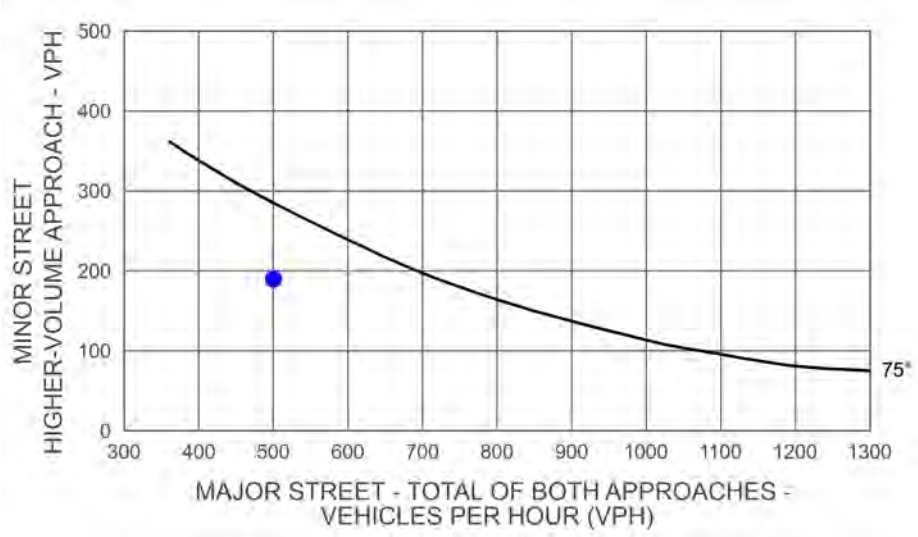


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Existing+Project
Intersection #: 4

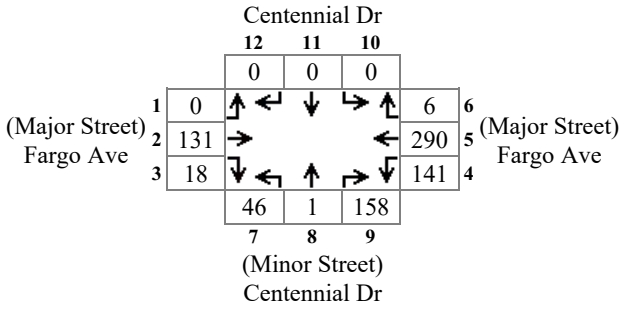


Major Total: 500
Minor High Volume: 190

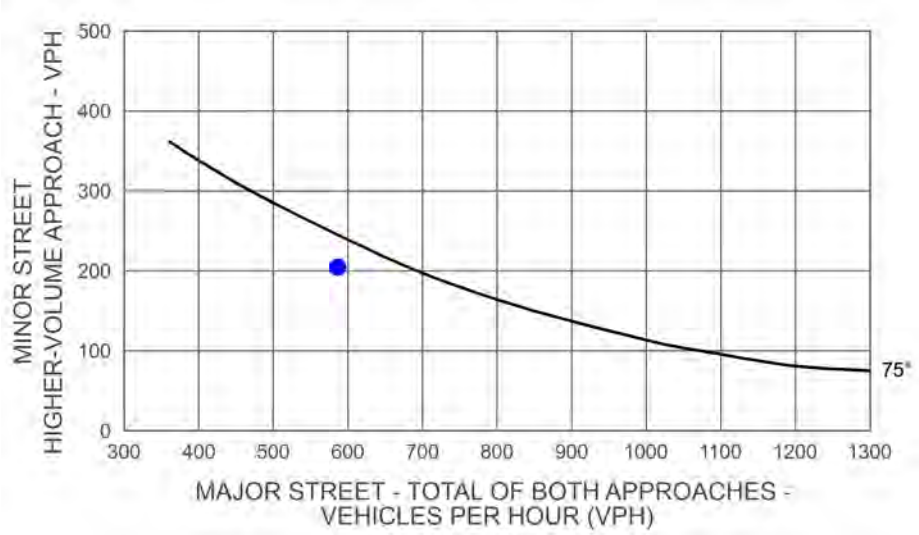


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Future
Intersection #: 4

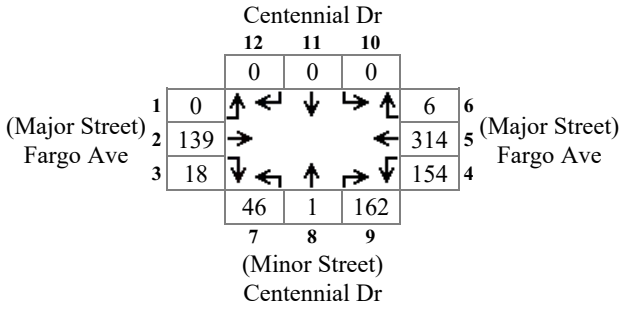


Major Total: 586
Minor High Volume: 205

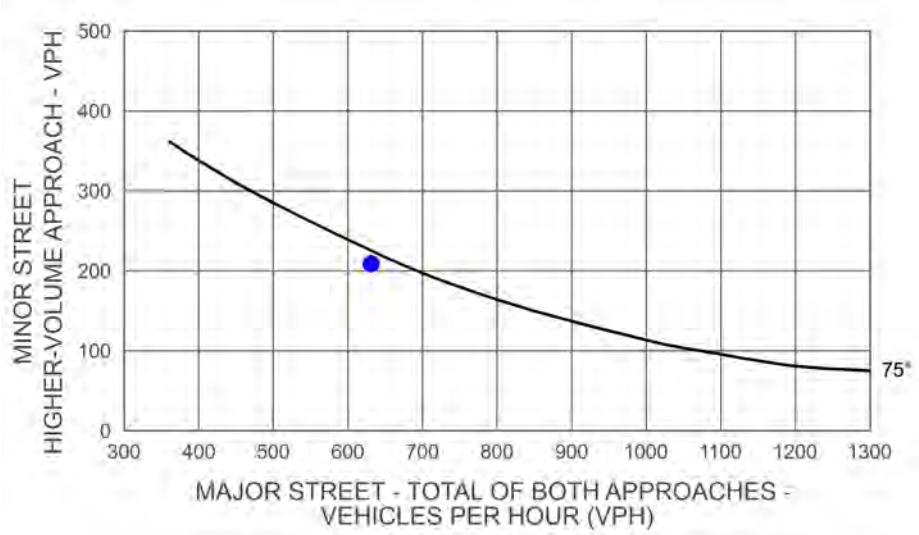


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Future+Project
Intersection #: 4

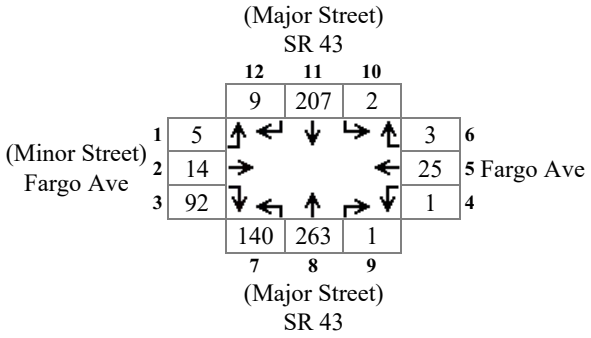


Major Total: 631
Minor High Volume: 209

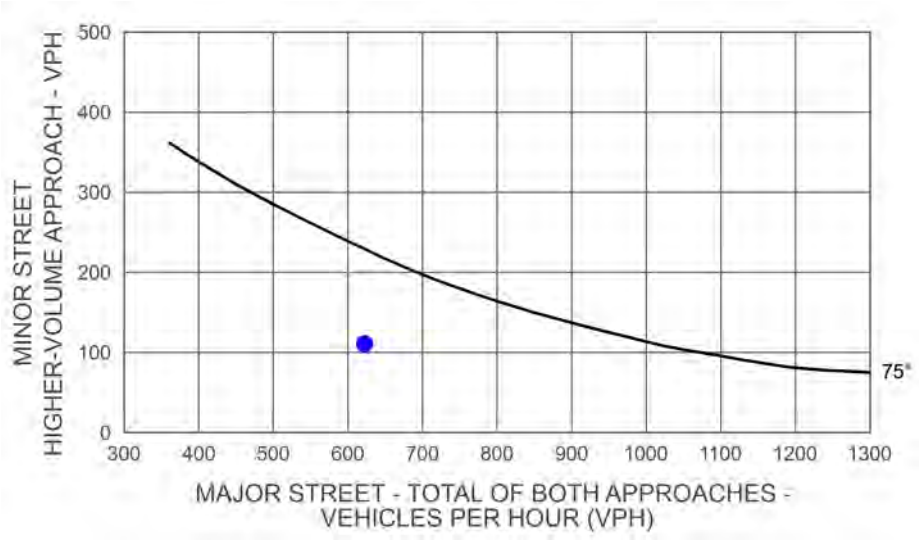


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Existing
Intersection #: 8

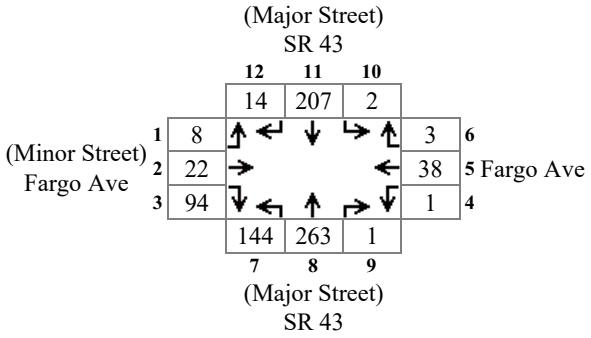


Major Total: 622
Minor High Volume: 111

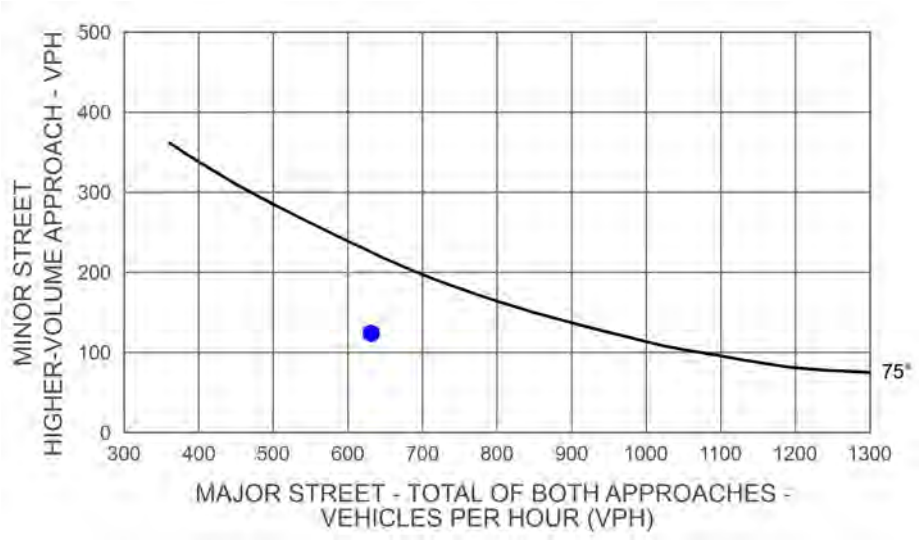


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Existing+Project
Intersection #: 8

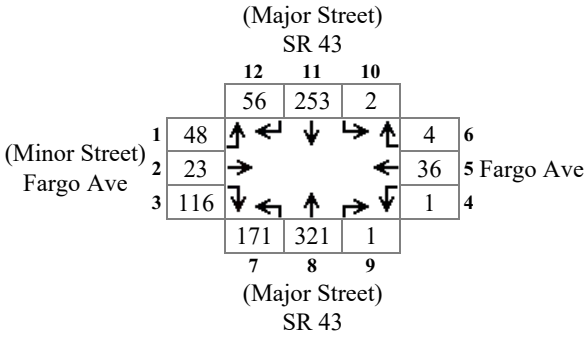


Major Total: 631
Minor High Volume: 124

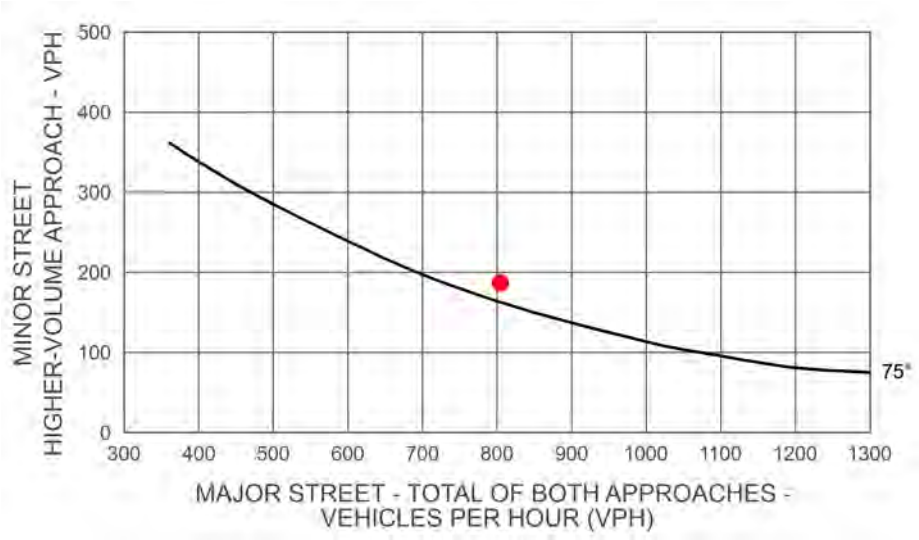


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Future
Intersection #: 8

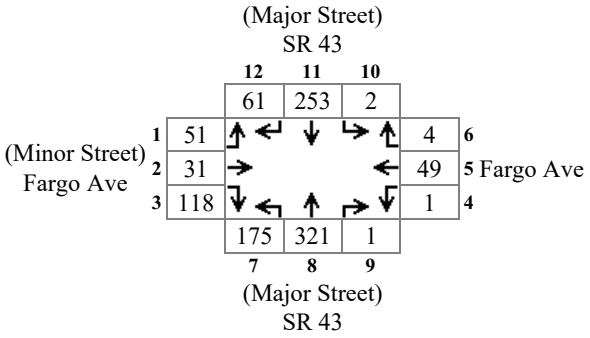


Major Total: 804
Minor High Volume: 187

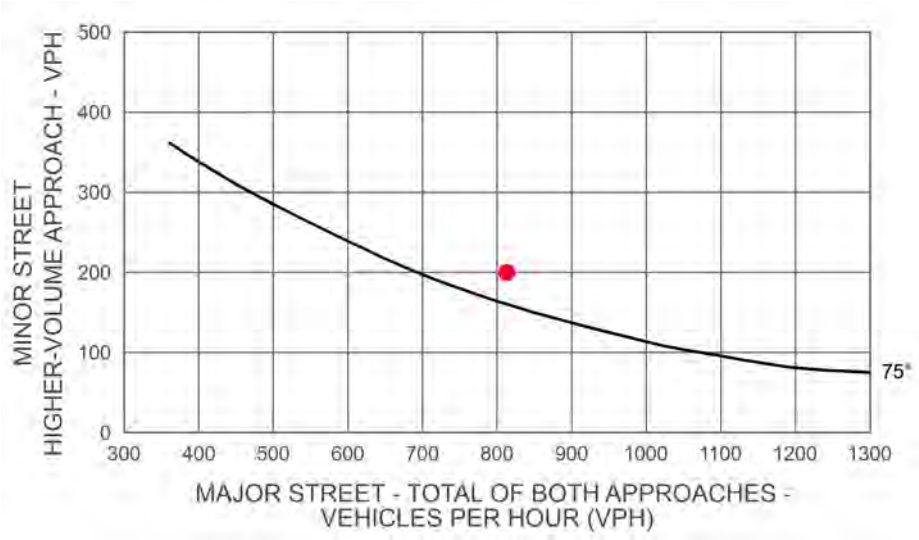


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Future+Project
Intersection #: 8

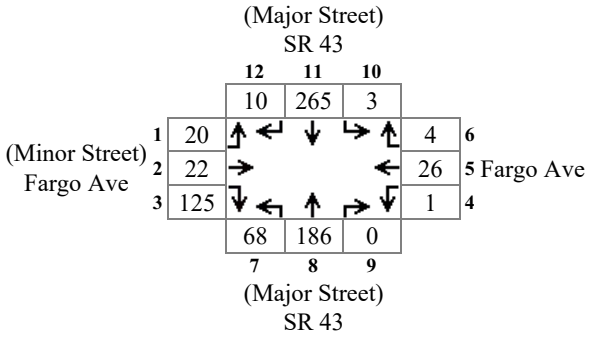


Major Total: 813
Minor High Volume: 200

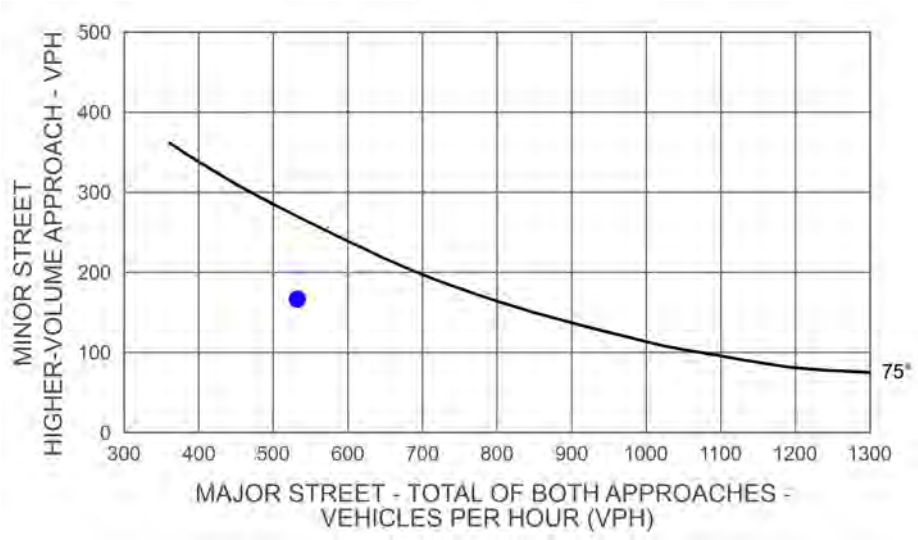


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Existing
Intersection #: 8

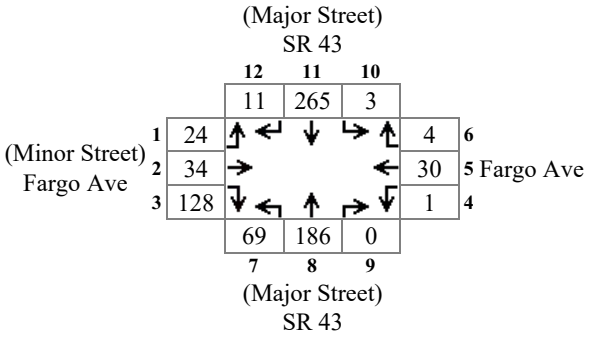


Major Total: 532
Minor High Volume: 167

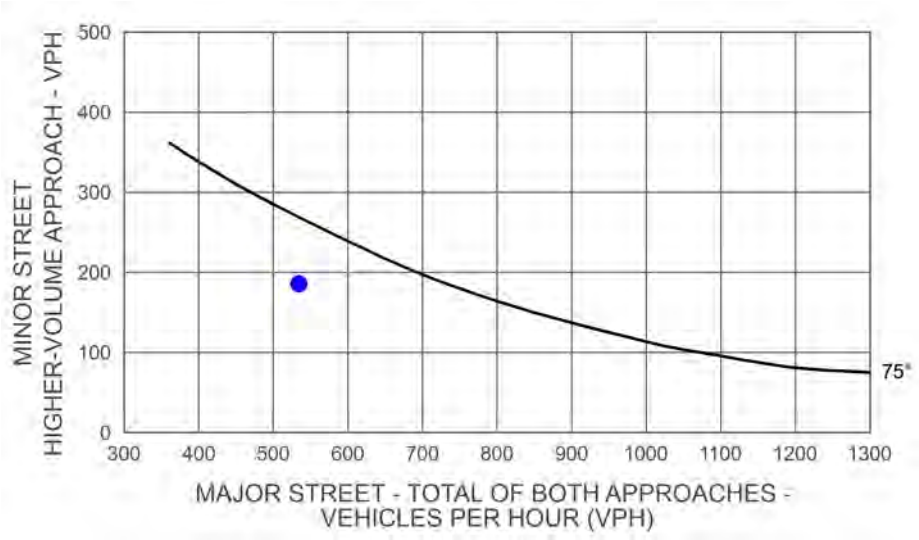


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Existing+Project
Intersection #: 8

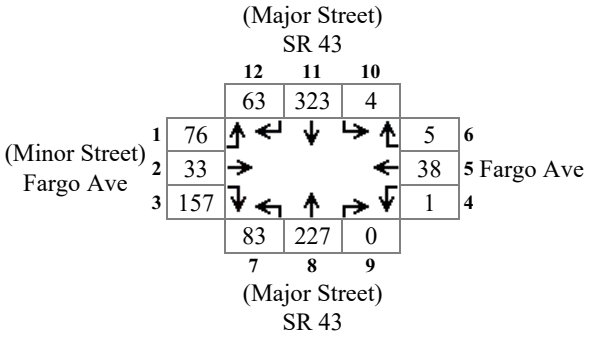


Major Total: 534
Minor High Volume: 186

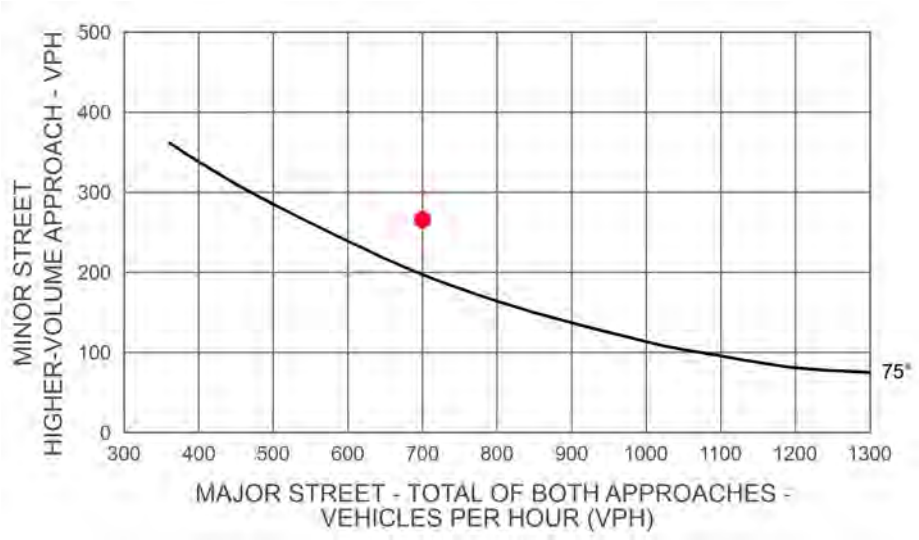


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Future
Intersection #: 8

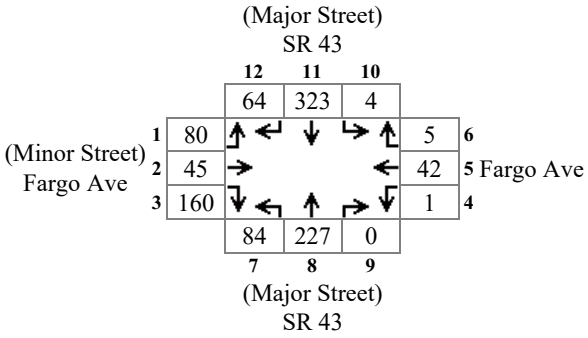


Major Total: 700
Minor High Volume: 266

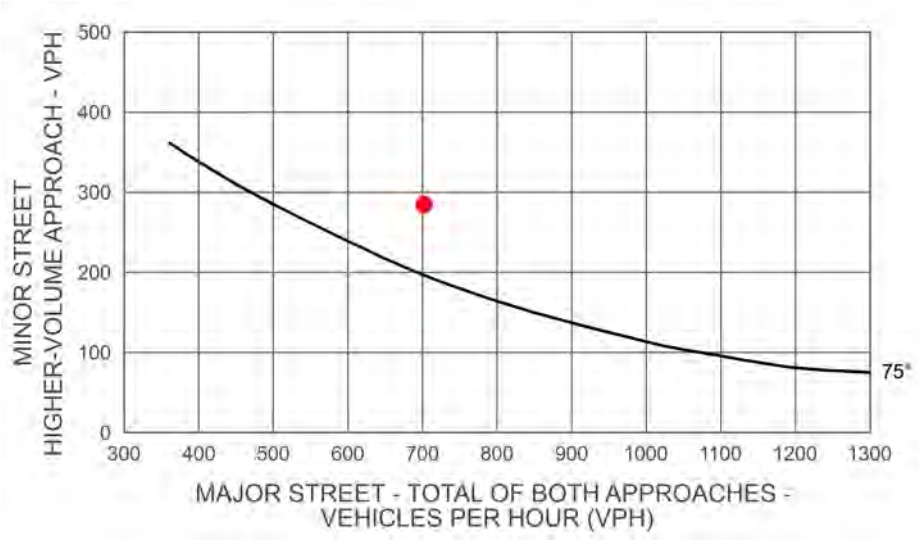


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Future+Project
Intersection #: 8

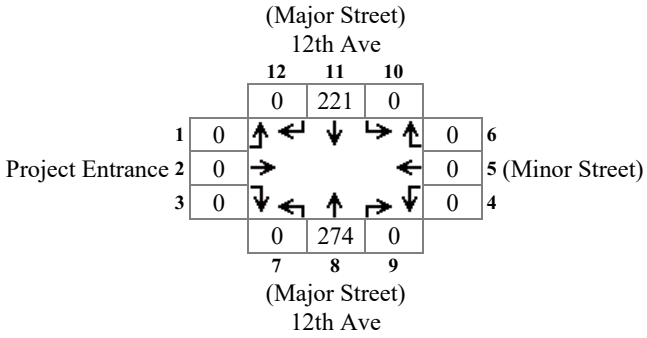


Major Total: 702
Minor High Volume: 285

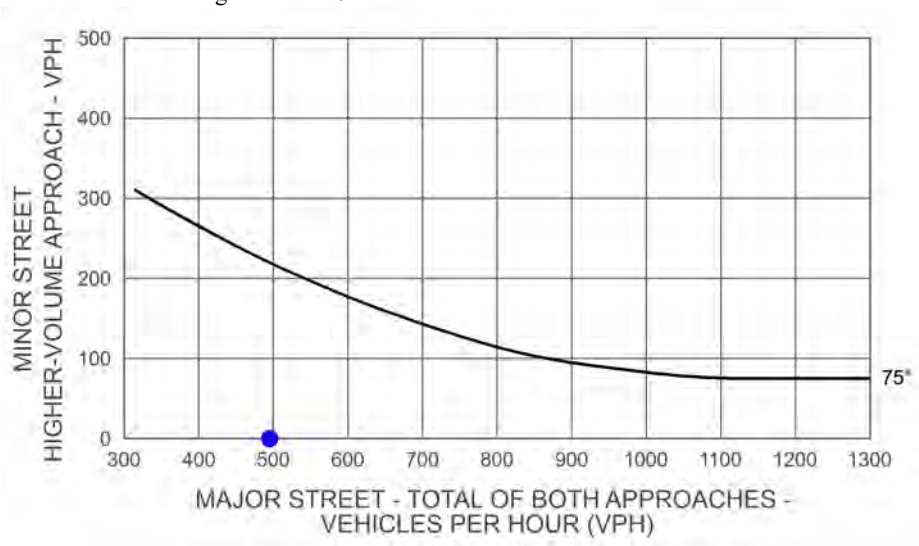


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Existing
Intersection #: 21

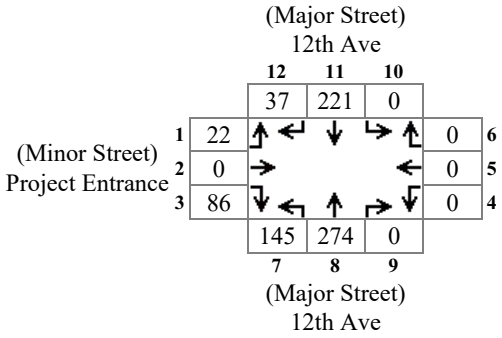


Major Total: 495
Minor High Volume: 0

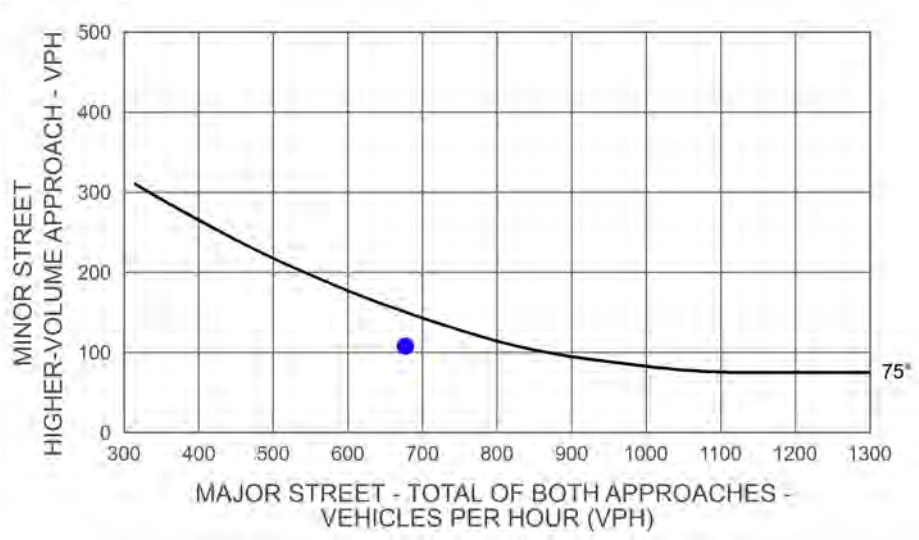


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Existing+Project
Intersection #: 21

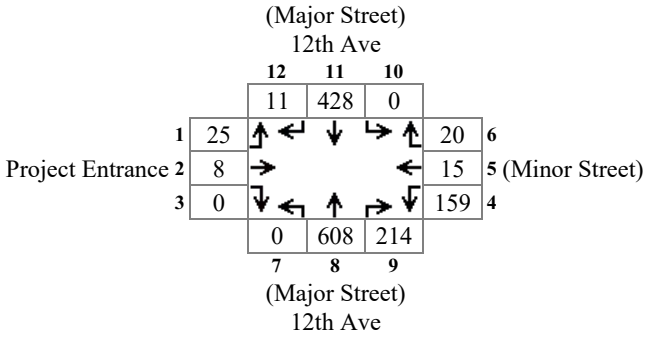


Major Total: 677
Minor High Volume: 108

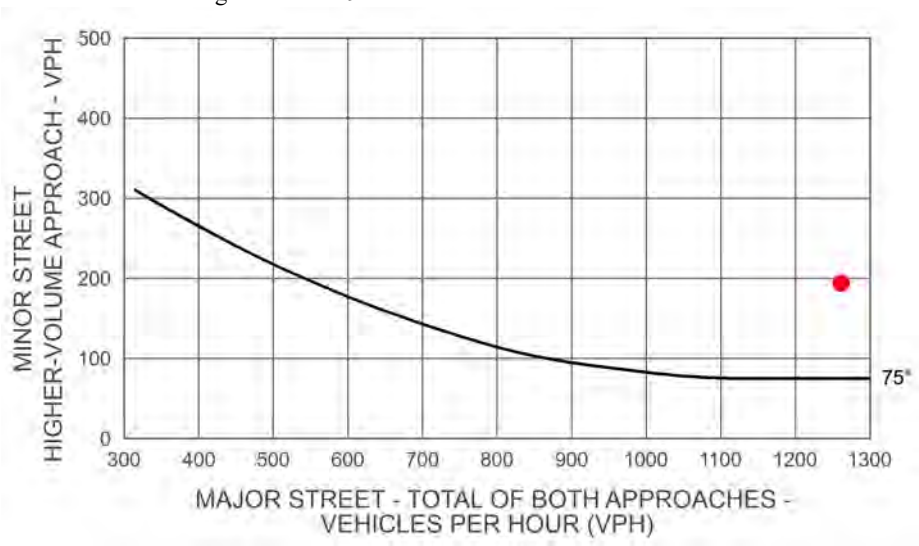


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Future
Intersection #: 21

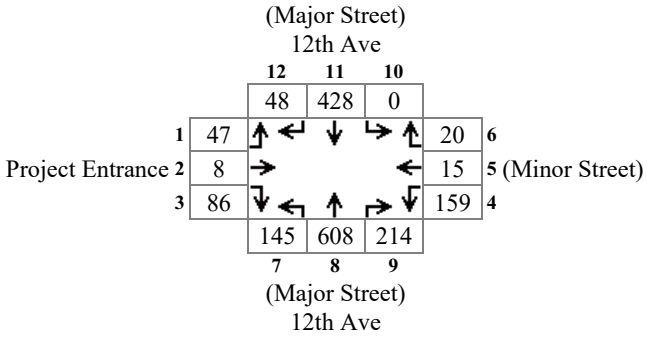


Major Total: 1261
Minor High Volume: 194

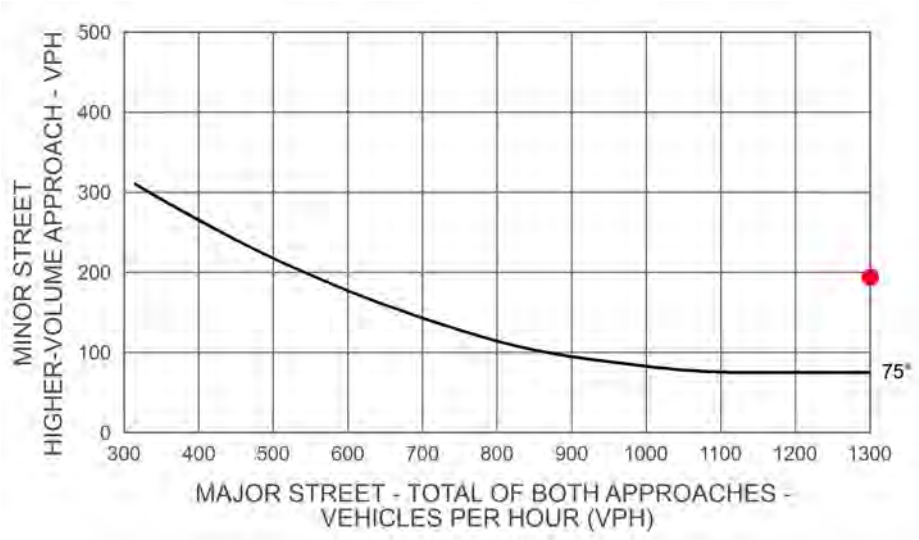


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: PM Future+Project
Intersection #: 21

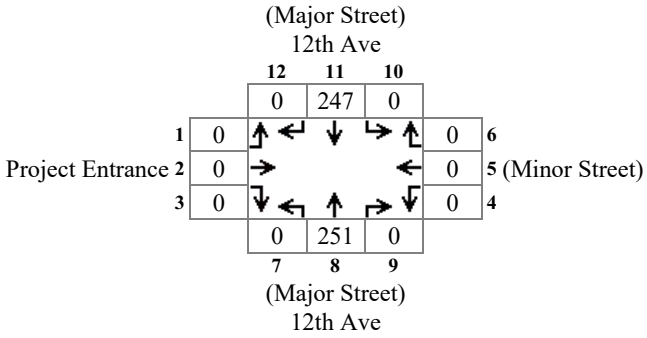


Major Total: 1443
Minor High Volume: 194

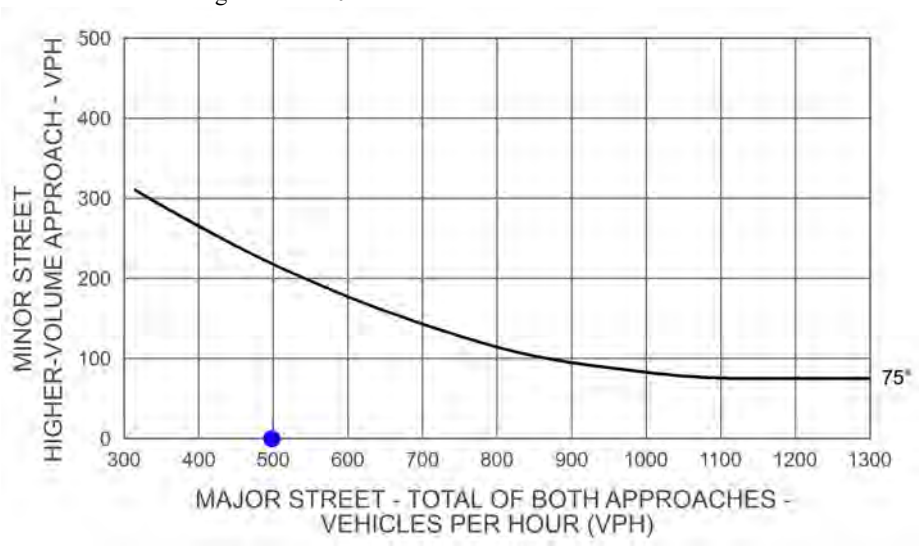


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Existing
Intersection #: 21

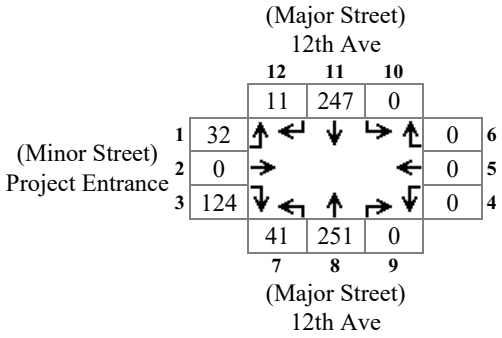


Major Total: 498
Minor High Volume: 0

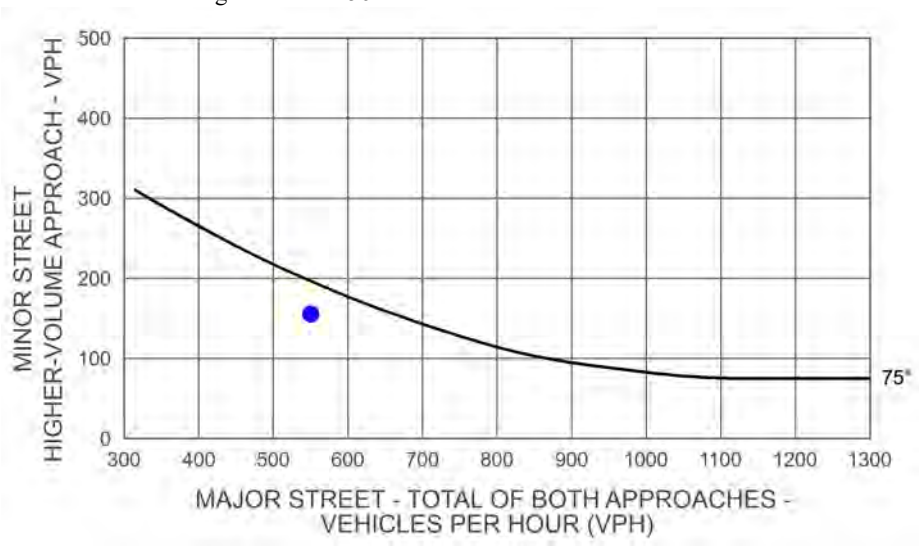


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Existing+Project
Intersection #: 21

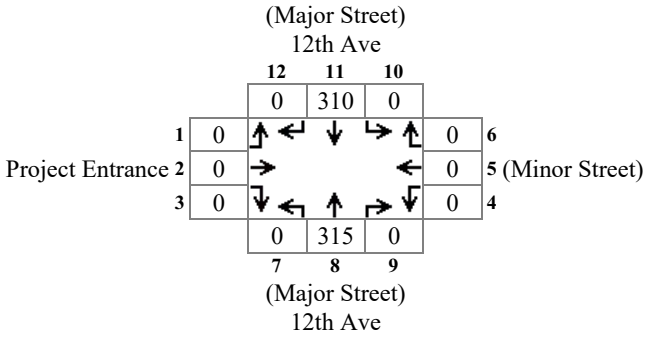


Major Total: 550
Minor High Volume: 156

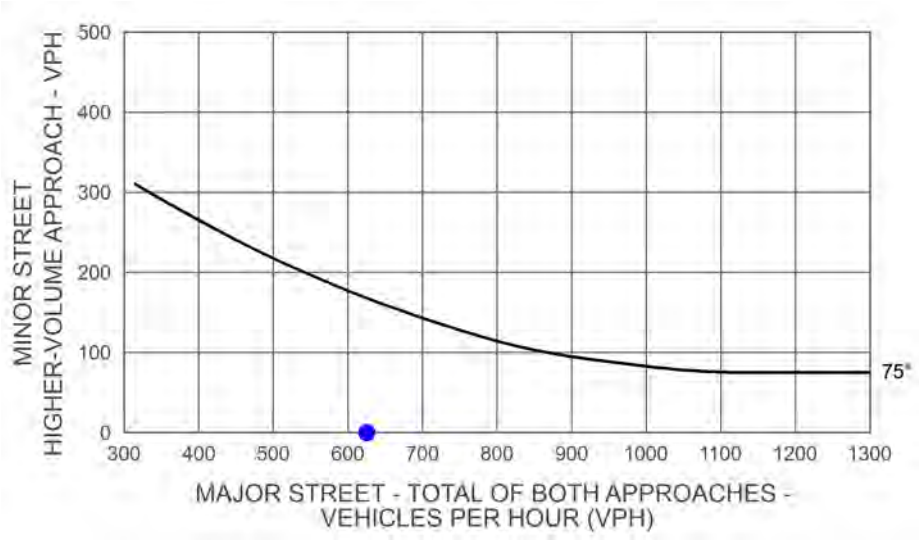


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Future
Intersection #: 21

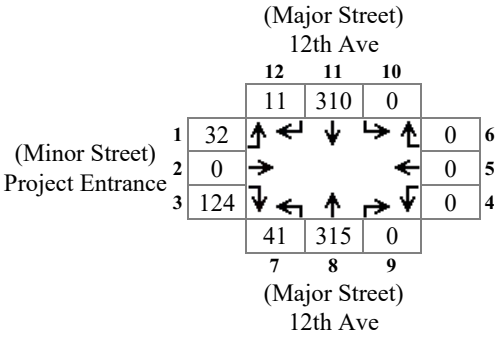


Major Total: 625
Minor High Volume: 0

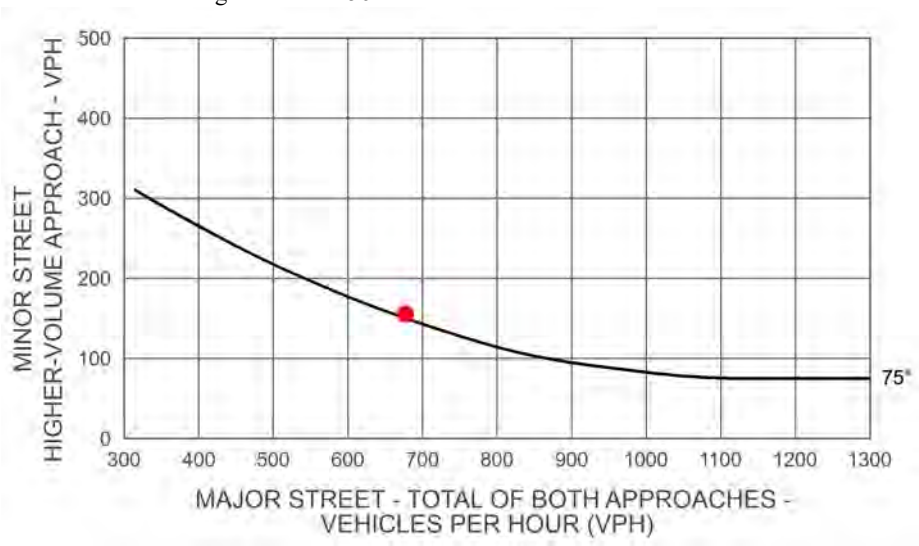


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Future+Project
Intersection #: 21

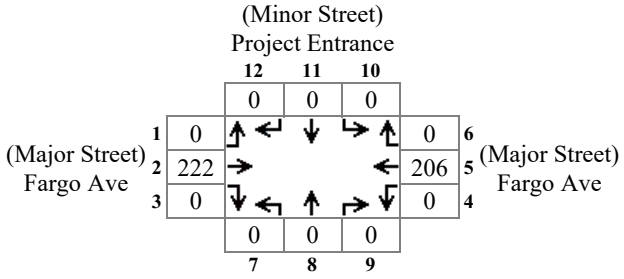


Major Total: 677
Minor High Volume: 156

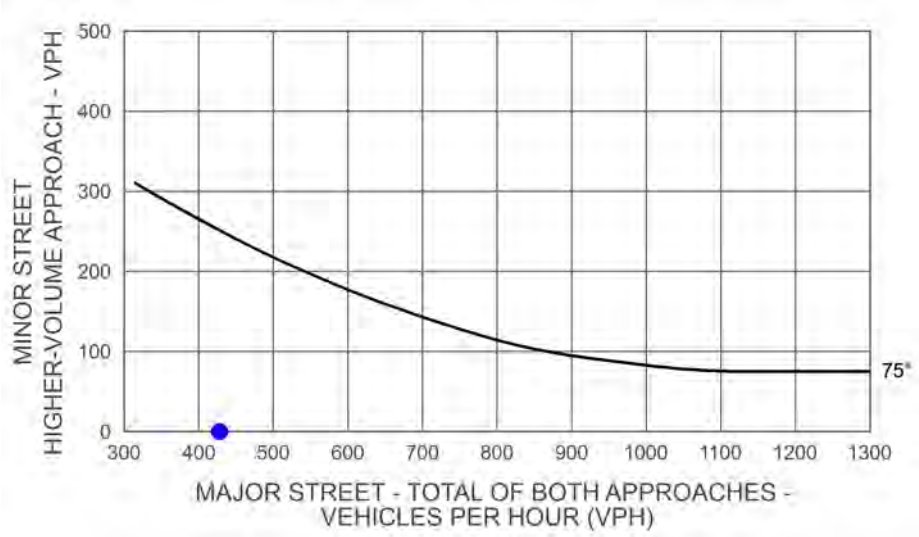


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Existing
Intersection #: 22

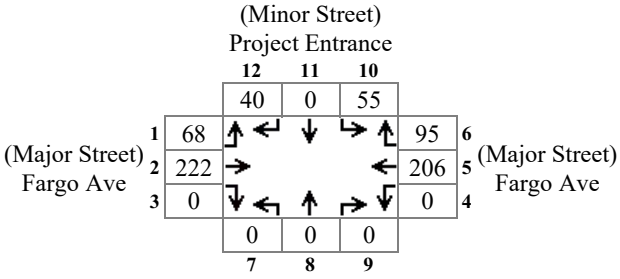


Major Total: 428
Minor High Volume: 0

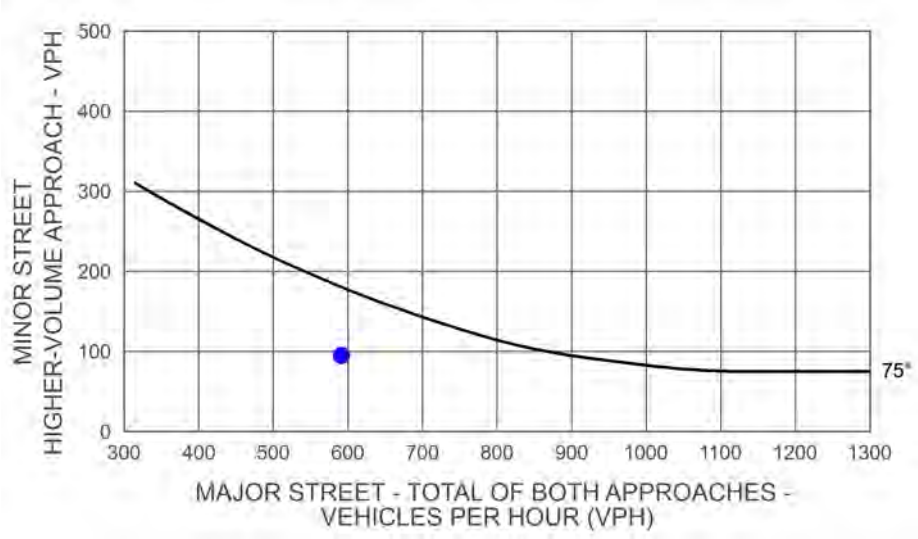


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Existing+Project
Intersection #: 22

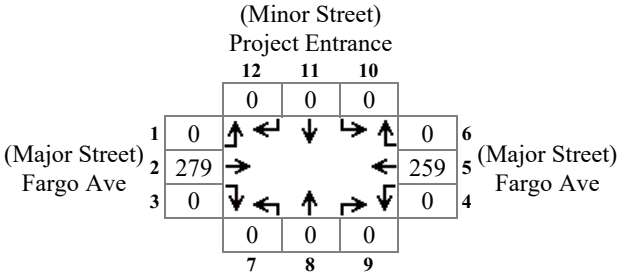


Major Total: 591
Minor High Volume: 95

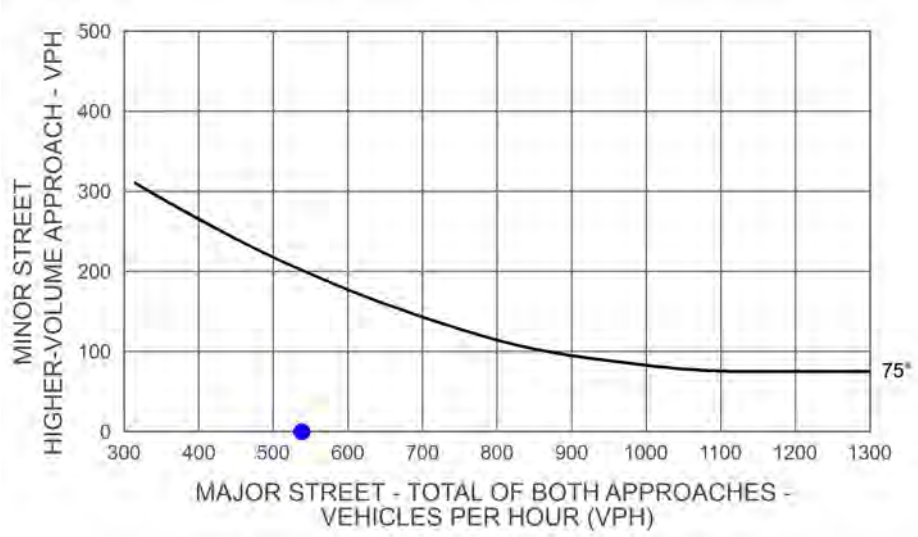


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Future
Intersection #: 22

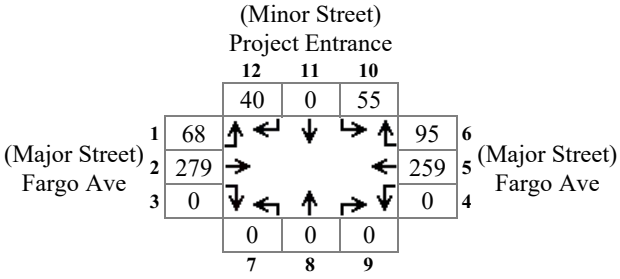


Major Total: 538
Minor High Volume: 0

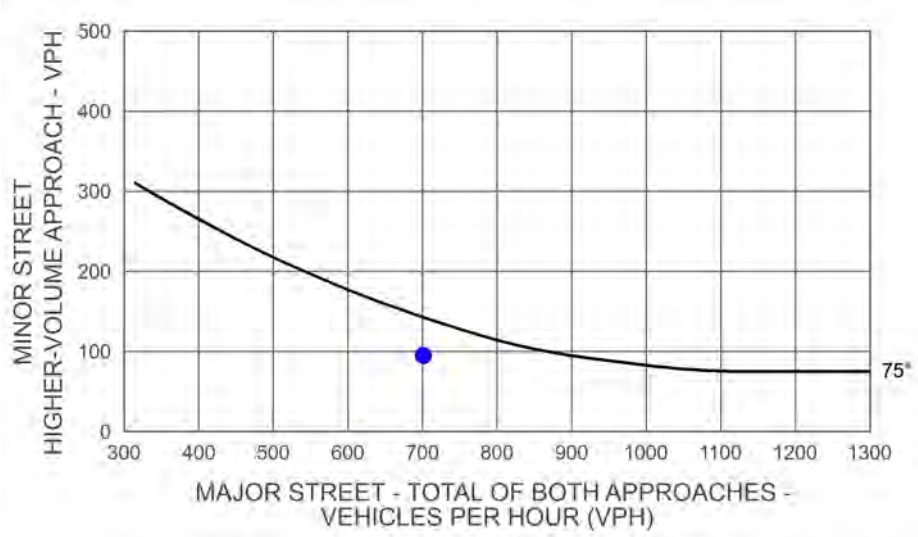


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: PM Future+Project
Intersection #: 22

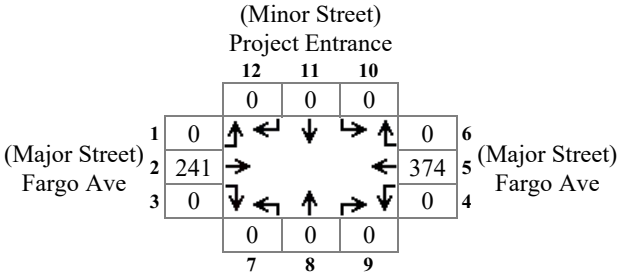


Major Total: 701
Minor High Volume: 95

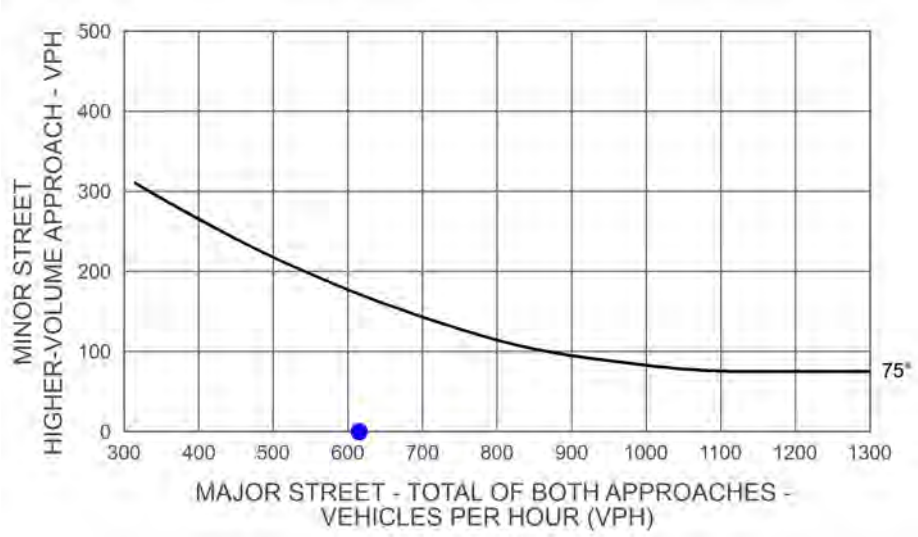


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Existing
Intersection #: 22

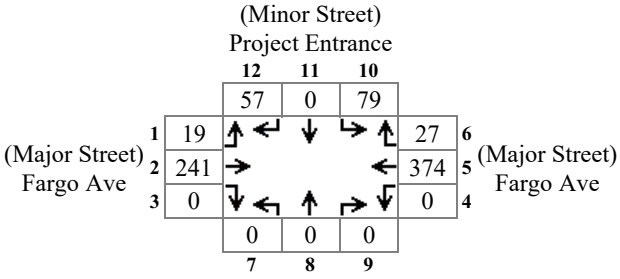


Major Total: 615
Minor High Volume: 0

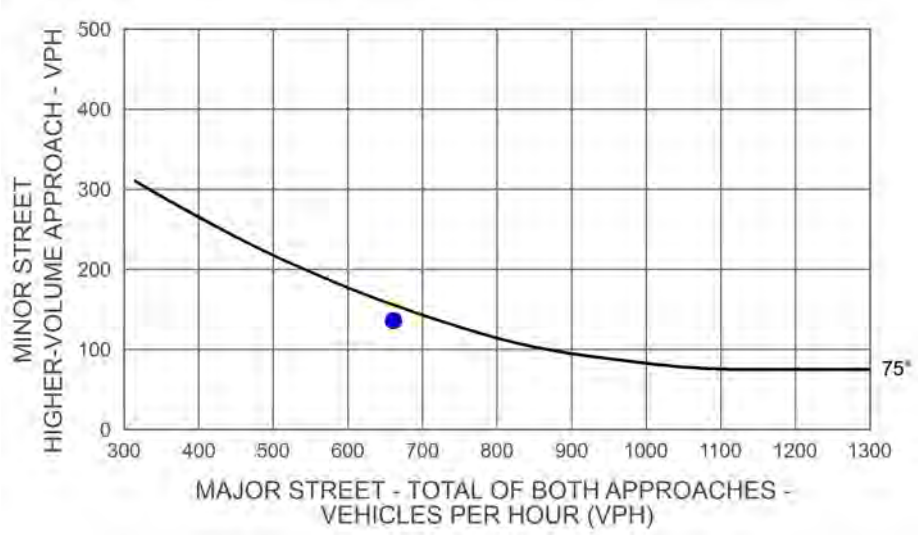


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Existing+Project
Intersection #: 22

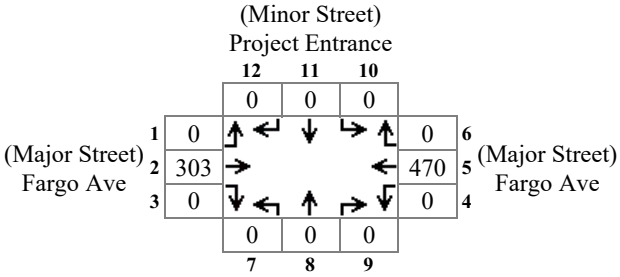


Major Total: 661
Minor High Volume: 136

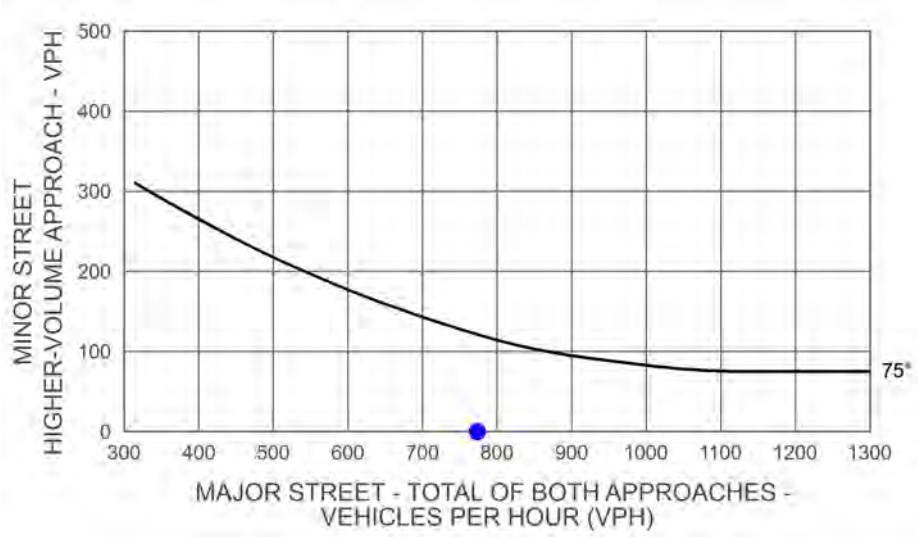


Rural Peak Hour Signal Warrant
Intersection Does Not Meet Signal Warrant

Scenario: AM Future
Intersection #: 22

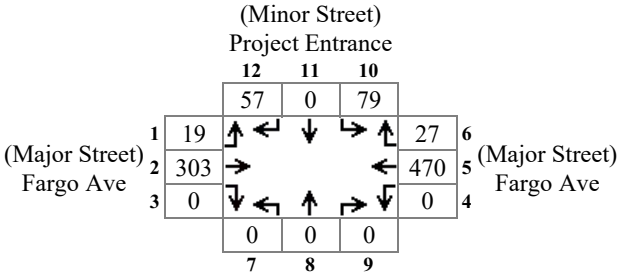


Major Total: 773
Minor High Volume: 0

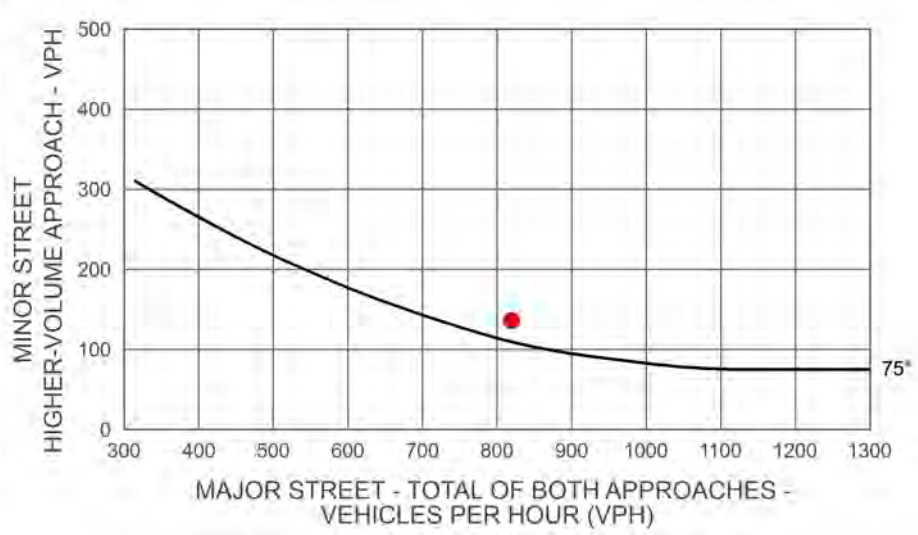


Rural Peak Hour Signal Warrant
Intersection Meets Signal Warrant

Scenario: AM Future+Project
Intersection #: 22



Major Total: 819
Minor High Volume: 136



RUETTGERS & SCHULER CIVIL ENGINEERS

Shalisha Hodson <shalisha@rscivil.com>

Traffic Impact Scope for Hanford Residential Development

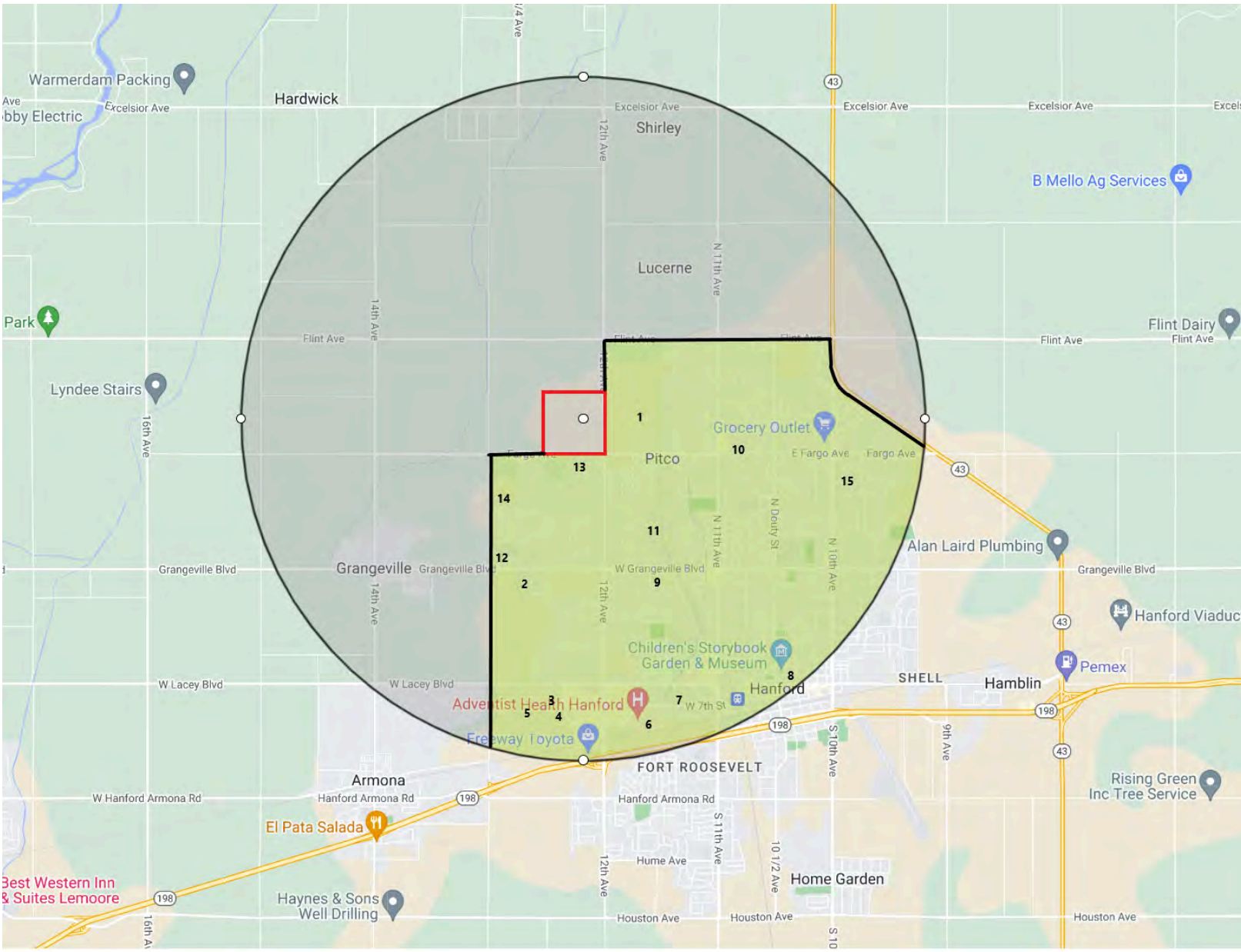
Gabrielle Myers <gmyers@hanfordca.gov>
To: Shalisha Hodson <shalisha@rscivil.com>
Cc: Steve Macias <smacias@sjvhomes.com>

Good Morning Shalisha,

I apologize for the delay.

The following projects are located within the City limits and are within the 3-mile radius of the proposed project site.

1. Location: NEC 12th and Fargo – project in entitlement phase, mixed-use project: the proposed construction and operation of 1,146 units of Low, Medium, and High-Density residential development, Neighborhood Commercial, a site for a school, and par gross acres
2. Location: S of Grangeville between 13th and 12th Avenues – Tract 934, Final Map pulled, Building permits submitted for SFD; residential subdivision that consists of 161 single-family lots (4.52 du/ac) to occupy approximately 36.48-acres
3. Location: S of Lacey Blvd, W of Centennial Drive, N of Millenium Way; Village at Hanford Square, under construction 100 units
4. Location: S of Lacey Blvd, W of Centennial Drive, S of Millenium Way; Millenium Way Apartments; building permits submitted 216 units
5. Location: E of 12 ½ Avenue, S of Lacey Blvd; The Enclave, Tract 915 (66 single-family gated); improvements under construction
6. Hanford Place – in entitlement phase; mixed-use medical campus with residential/hotel
7. Seventh Street Apartments – 40 units, permits submitted
8. Future KART Transit Station – under construction
9. Grangeville Apartments - 16 units on Grangeville between Rosewood Lane and University Ave. under construction
10. 72-unit Northstar Courts at 11th Ave/Northstar under construction – nearing occupancy
11. 55-unit Tract 930 east of Kings Road and north of Grangeville (entitled – no permits pulled)
12. 133-unit Tract 927 at the northeast corner of 13th Ave. and Grangeville under construction, majority built out
13. 283-unit Tract 928 at the southeast corner of Centennial Drive and Fargo Ave. under construction, majority built out
14. 158-unit Tract 929 at the northeast corner of 13th Ave. and Devon St. under construction, majority built out
15. 20-unit multifamily project at 2397 N. 10th Ave. – planned, building permits submitted



Gabrielle Myers
Senior Planner

City of Hanford

559-585-2578 | www.hanford.city

gmyers@hanfordca.gov 317 N. Douty St

As of December 2022, the City of Hanford has implemented a new digital permitting system. All applications must be submitted through the ***Citizen Self Service Portal.***

City of Hanford Office Hours

Effective Tuesday, September 5, 2023, Hanford's City Hall will have new customer service hours.

Monday – Thursday *7:30 a.m. – 5:30 p.m.*

Fridays *8 a.m. – noon.*

We look forward to assisting you.

From: Shalisha Hodson <shalisha@rscivil.com>
Sent: Monday, July 8, 2024 8:17 AM
To: Gabrielle Myers <gmyers@hanfordca.gov>

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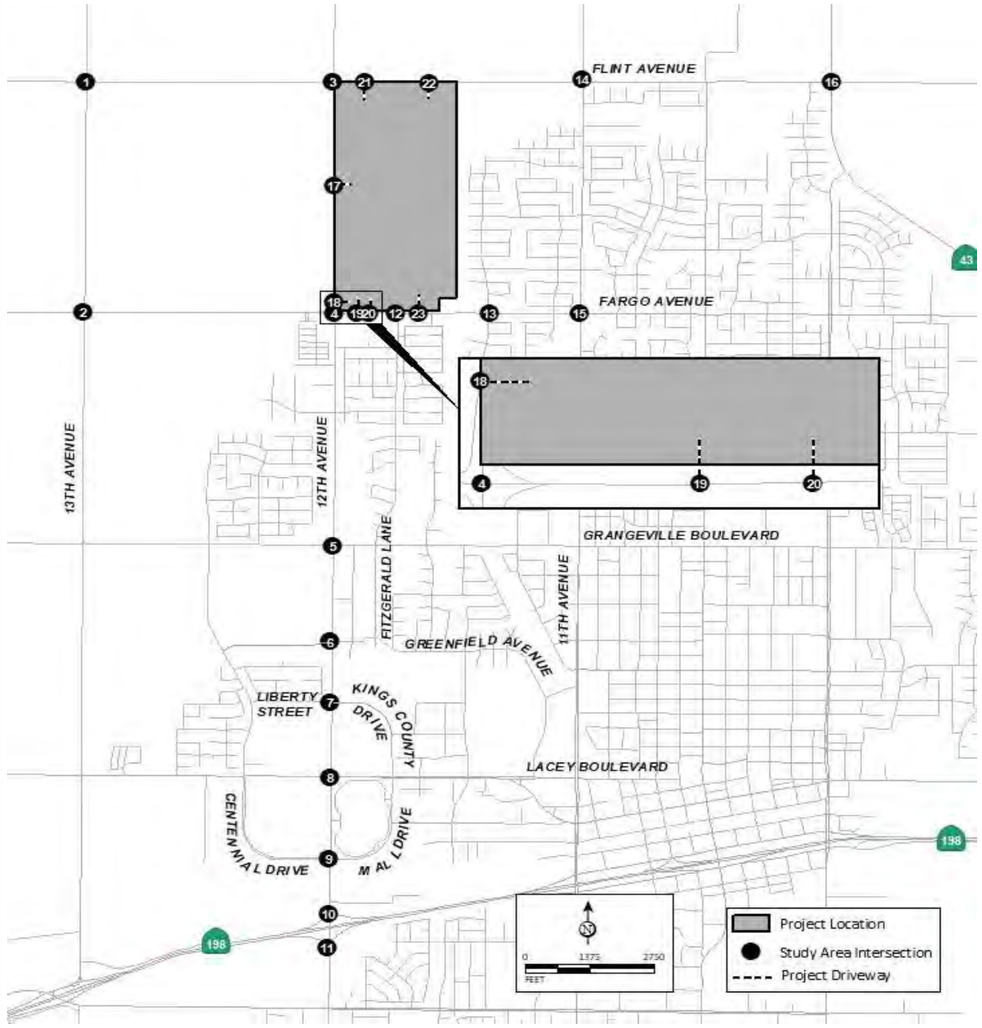
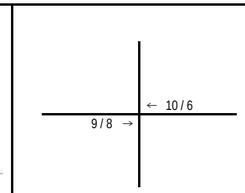
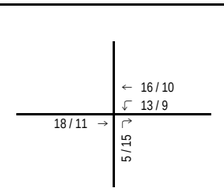
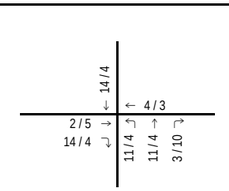




1 13th Avenue/Flint Avenue



2 13th Avenue/Fargo Avenue



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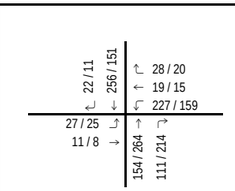

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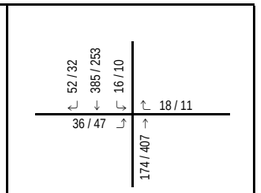

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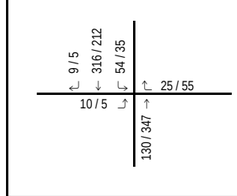

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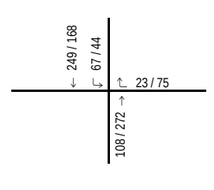

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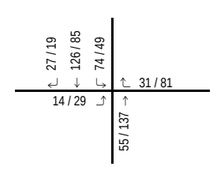
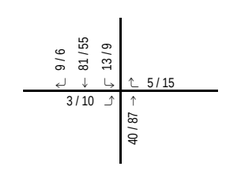


8 12th Avenue/Lacey Boulevard



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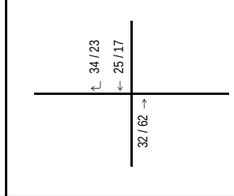
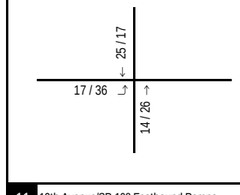


10 12th Avenue/SR-198 Westbound Ramps



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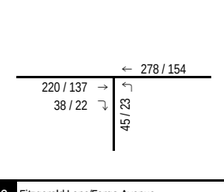
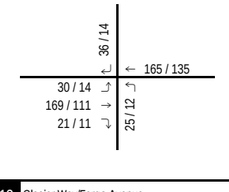
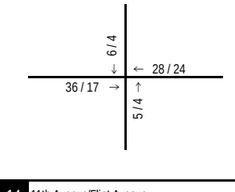


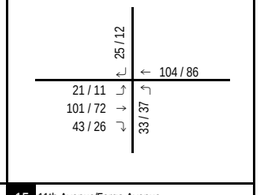
12 Fitzgerald Lane/Fargo Avenue



13 Glacier Way/Fargo Avenue



14 11th Avenue/Flint Avenue



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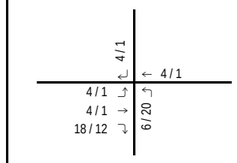
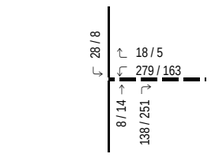
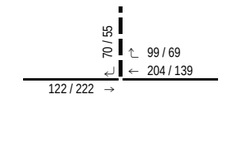


16 SR-43/Flint Avenue

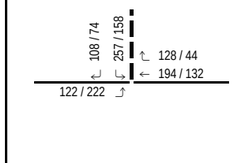


17 12th Avenue/Project Driveway 1

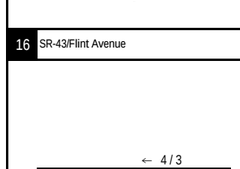
18 12th Avenue/Project Driveway 2



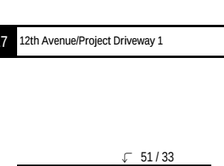
19 Project Driveway 3/Fargo Avenue



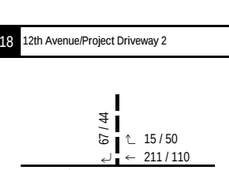
20 Project Driveway 4/Fargo Avenue



21 Project Driveway 5/Flint Avenue



22 Project Driveway 6/Flint Avenue



23 Project Driveway 7/Fargo Avenue

LSA

FIGURE 5-7

XXX / YYY
AM / PM Peak Hour Trips
Project Driveway

Singh Development Project
Traffic Study

Total Project Net Trip Assignment

P:\FOC2203\Traffic\z45_Assign_Total.xlsx 5/8/2023

2020
Quality/ Level of Service Handbook

FDOT

June 2020

State of Florida
Department of Transportation
Systems Implementation Office
605 Suwannee St. MS 19
Tallahassee, FL 32399

www.fdot.gov/planning

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1 Executive Summary

This Quality Level of Service (Q/LOS) Handbook is intended to be used by engineers, planners, and decision-makers in the development and review of roadway capacity and roadway users' Q/LOS at generalized planning levels. This Q/LOS Handbook provides tools to quantify multimodal transportation service inside the roadway environment (essentially inside the right of way).

This edition of the Q/LOS Handbook is updated and reorganized, still providing a foundation for high-quality, consistent capacity, and level of service (LOS) analyses and review in the State of Florida. It includes new analytical techniques from the Transportation Research Board's Highway Capacity Manual (HCM), Sixth Edition, and updated Generalized Service Volume Tables. With these professionally accepted techniques, analysts can easily evaluate roadways from a multimodal perspective, which results in better multimodal decisions for projects in generalized planning phases.

The focus of generalized planning is the extensive use of default values and is intended for broad applications such as regional analyses, initial problem identification, and future year analyses. Florida's Generalized Service Volume Tables at the end of this Q/LOS Handbook are the primary tools for conducting this type of planning analysis. At this time, only Freeways and Uninterrupted Flow Highways Generalized Service Volume Tables have been updated to be consistent with the HCM methodology. The State Signalized Arterials Generalized Service Volume Tables remained the same as the 2013 Q/LOS Handbook. There are future plans to update the State Signalized Arterials Generalized Service Volume Tables to be consistent with the HCM methodology.

Florida Department of Transportation (FDOT) welcomes questions and comments on the content and concepts of this Q/LOS Handbook. FDOT will provide technical assistance and training as needed for usage of the Q/LOS process. For additional resources, see the FDOT's Systems Implementation Office (SIO) website at https://www.fdot.gov/planning/systems/. **Initial contacts should be made with FDOT District and Florida's Turnpike Enterprise personnel**.

2 Q/LOS Handbook Purpose and Scope

This Q/LOS Handbook is a tool that can be utilized to analyze and review a roadway's capacity at a generalized planning level.

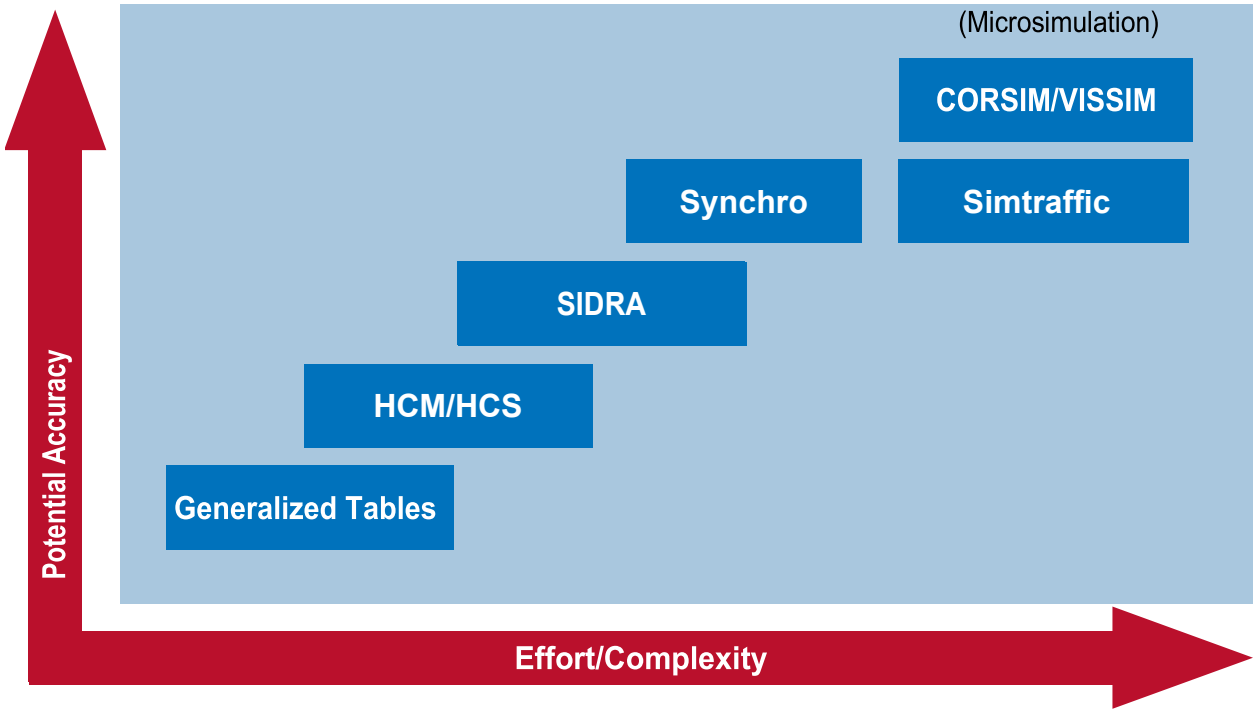
The quality of service (QOS) is a traveler-based perception of how well a transportation service or facility operates. The LOS is a quantitative stratification of the QOS into six letter grades. The LOS provides a measure that assesses multimodal service inside the roadway environment (essentially inside the right of way). **Capacity conceptually relates to the maximum number of vehicles that can pass a point on a roadway in a given amount of time under normal conditions.** The Q/LOS Handbook provides Generalized Service Volume Tables and background regarding statewide default values used in their development. The Generalized Service Volume Tables, found at the end of the Q/LOS Handbook, present maximum service volumes, or the highest numbers of vehicles for a given LOS.

Directions found within the Q/LOS Handbook provide assistance in selecting the most appropriate tools for Q/LOS analysis. This handbook offers specific instructions on how to use the Generalized Service Volume Tables.

2.1. Levels of Analysis

There are many methods for computing capacity and the LOS, which form a hierarchy ranging from Generalized Service Volume Tables (the simplest to use but potentially least accurate) to complex operational analysis tools (very precise, but time-intensive and costly). **Figure 2-1** provides a list of some traffic analysis tools measured by accuracy and complexity. In selecting the appropriate tools, tradeoffs among study purposes (e.g., generalized planning application, signal timing application), accuracy and precision of results (e.g., variability in data for current year analyses, variability in future year analyses), and data preparation effort (e.g., use of existing statewide traffic data, use of direct field measurements) should be considered. Please refer to the FDOT Traffic Analysis Handbook for additional tools and guidance in selecting the appropriate analysis tool.

Figure 2-1: Traffic Analysis Tools



2.1.1. Generalized Planning

Generalized planning covered in this handbook makes extensive use of default values and is intended for broad applications, such as initial problem identification (e.g., deficiency and needs analyses, geographic influence areas), statewide analyses (e.g., statewide calculation of delay), and future year analyses (e.g., 10-year planning horizon).

Florida's Generalized Service Volume Tables provided at the end of this handbook are the primary tools for conducting Generalized planning analysis. The updated tables have been developed using guidance provided in the HCM.

2.2 Travel Modes

The HCM defines four major travel modes: automobile, pedestrian, bicycle, and transit. Each mode includes a unique set of characteristics that define a traveler's experience during a trip, and it is important to consider each perspective when analyzing a multimodal facility.

2.2.1 Automobile

The three major elements that affect the operation of a vehicle are: roadway characteristics, traffic characteristics, and control characteristics.

Vehicles include passenger cars, trucks, vans, buses, recreational vehicles, and motorcycles. Each vehicle type has a unique set of operational characteristics, and the percentage makeup of each vehicle type within a traffic stream affects the capacity of a facility because of these differences. For example, trucks, buses, and recreational

vehicles have lower acceleration and deceleration rates than standard passenger cars. Factors, such as pavement type and condition, time of day, and weather, affect the operational characteristics of vehicles as well as driver behavior. Other factors, such as fatigue, health, and driving under the influence of drugs and alcohol, also affect driver behavior. **This handbook assumes base conditions that include typical drivers on dry pavement during daylight hours**.

2.2.2 Pedestrian

Many trips include at least one part where the traveler is a pedestrian. This is particularly important for transit trips, where the pedestrian section of the trip may have an impact on future mode choice.

Analyzing the pedestrian experience can be summarized by two primary types of analysis: individual delay and facility attributes. Delay at intersections can be easily quantified and analyzed. The factors that describe a facility and, therefore, contribute to the overall walking experience are less easily quantified, including safety, security, lighting, grades, surface conditions, and even street activity levels. Automobile and heavy vehicle traffic volume, and the extent to which pedestrians are separated from vehicular traffic, also influence pedestrians' perception of QOS while using a sidewalk. **This handbook accounts for the user's perception and facility attributes when determining Pedestrian LOS (PLOS).**

2.2.3 Bicycle

Bicycles are used to make a variety of trips, including trips for recreation, commuting, and errands. Bicycles can help extend the market area of transit service as bicycle travel is typically five times faster than travel on foot.

Similar to the pedestrian experience, Bicycle LOS (BLOS) can be summarized by delays encountered at intersections as well as the attributes of the facility itself. As with the pedestrian analysis, the Q/LOS Handbook focuses on facility attributes when determining BLOS. These attributes include the volume and speed of adjacent vehicles, heavy vehicle presence, the presence of on-street parking and pavement conditions. Because of the severe deterioration of perceived QOS at flow levels well below the theoretical capacity of a bike path, the concept of capacity has little utility in the design and analysis of bicycle paths.

2.2.4 Transit

Transit riders can be grouped into two primary categories: choice and captive riders. Choice transit riders typically have other means of transportation readily available, but choose transit to avoid congestion, save money on fuel and parking, use their travel time productively for other activities, and/or reduce their impact on the environment. Captive riders, however, are unable to drive because of age, physical, mental, or financial reasons, and depend on transit or other modes for their daily transportation needs.

Unlike other modes, transit is primarily focused on service levels rather than facility characteristics. Infrastructure for driving, biking, or walking is available at all times, once constructed; transit service is only available during certain times along designated routes. Additionally, transit passengers are not in direct control of their travel time, service frequency and reliability, therefore, these are important factors that affect the quality and utility of transit service.

When bus service frequencies reach a high enough level of demand (headway of approximately 10 minutes or less),

bus passengers do not feel the need to consult bus schedules. This allows transit users the freedom to treat the system as they would treat other modes. Service frequencies that require passengers to plan their trips around a limited transit schedule offer much less utility, and deter choice riders.

Because transit passengers typically must walk to and from transit stops on either end of their trip, the quality of the walking experience at the beginning or end of a trip may be just as important to the transit passenger as the actual transit experience.

2.3 What's New in This Version of the Q/LOS Handbook?

This edition of the Q/LOS Handbook primarily reflects an update to the 2013 edition and incorporates updates included in the sixth edition of the HCM. The Q/LOS Handbook has been revised to focus on generalized planning for freeways and highways. No changes have been made in this version of the handbook to the arterial methodology and arterial Generalized Service Volume Tables from the 2013 Q/LOS Handbook.

The Generalized Service Volume Tables are the primary tools supported by FDOT for generalized planning. The freeway and highway automobile mode portions of the tables have been updated using the Highway Capacity Software 7 (HCS7), which incorporates the latest procedures provided in the HCM, Sixth Edition. The updated tables also include revised inputs and parameters that coincide with the current methodology in the HCM and default values. The updated tables can be found at the end of this handbook. A summary of the methodology changes is provided below:

- The Generalized Service Volume Tables
  - The 2020 freeway and highway Generalized Service Volume Tables were developed using HCS7, which is based on the HCM, Sixth Edition.
  - There are **no changes** for arterial service volumes between the 2012 and 2020 Generalized Service Volume Tables.
- The freeway service volumes are now based on freeway facilities procedures, incorporating basic segments and interchanges rather than just basic segments.
- The inputs are generally consistent between the 2012 and 2020 versions of the tables, but there have been some updates to maintain internal consistency in the 2020 set of tables.
- New inputs such as Speed Adjustment Factor (SAF) and Capacity Adjustment Factor (CAF) have been introduced into the development of the tables because the input requirements for HCS7 are more extensive than those for Level of Service Planning (LOSPLAN).
- FDOT **no longer** supports the LOSPLAN program and it has not been included in this version of the handbook.

3 Q/LOS Principles

Providing safety and mobility for people and goods remains transportation's most essential function and part of FDOT's mission. There are four dimensions of mobility:

- Quality of travel: traveler satisfaction with a facility or service.
- Quantity of travel: magnitude of use of a facility or service.
- Accessibility: ease in which travelers can engage in desired activities.
- Capacity utilization: quantity of operations relative to capacity.

This Q/LOS Handbook focuses primarily on quality, followed by capacity utilization. The quantity of travel and accessibility dimensions are not addressed in this Q/LOS Handbook.

The QOS is based on a user's perception of how well a transportation service or facility operates. In other words, it's how travelers perceive the overall QOS.

The LOS is a quantitative stratification of the QOS.The HCM divides highways QOS into six letter grades, A through F, with A being the best and F being the worst. With this scheme, traffic engineers more easily explained operating and proposed design concepts to the general public and elected officials.

Despite its widespread use as an independent measurement, it is important to note that the LOS is simply a quantitative breakdown from transportation users' perspectives of transportation QOS. The LOS reflects the QOS, as measured by a scale of user satisfaction, and is applicable to each of the following modes that use roadways: automobiles, trucks, bicycles, pedestrians, and buses.

Because this handbook deals with the overall quality of user satisfaction and its quantitative breakdown, it is labeled as the Q/LOS Handbook. The measurement techniques, however, are simply referred to as LOS analysis. This Q/LOS Handbook deals with the QOS and the LOS that roadways provide to users (i.e., motorists, bicyclists, pedestrians, and transit passengers) and provides planning tools to assist transportation planners and engineers. The overall quality of the entire trip experience, which depends on a variety of factors, including aesthetics, safety, and other social measures are not covered in this handbook.

3.1 Common Q/LOS Misconceptions

Common misconceptions about Q/LOS that often arise:

- The QOS is directly related to all other dimensions of mobility.

This misconception is related to the relationship between quality and other dimensions of mobility. *The QOS is frequently related to the other dimensions of mobility, but not in all cases.* Q/LOS for automobile drivers is usually closely linked to how many other vehicles are on the road. However, the relationship is not always perfect.

For example, arterial speeds are more closely tied to signalization conditions than the number of other vehicles on the roadway. A higher Q/LOS grade may exist on a four-lane arterial with twice the volume of another arterial due to efficient signal progression. For transit users, pedestrians, and bicyclists, there is often an even weaker relationship between total demand and Q/LOS. **In most situations in Florida, the total number of bicyclists and pedestrians on a facility has very little, if any, impact on Q/LOS.Similarly, in most of Florida, bus**

frequency is typically much more important to transit users than how many people are actually on a bus.

In some cases, particularly for the non-automobile modes, an analysis of total potential demand is a more important component of the decision-making process than the QOS. This handbook only addresses Q/LOS, not the methods of determining overall demand or mode splits. Other tools, such as logit models, are more appropriate for these types of analyses.

- The LOS is applicable only to automobile analysis, while the QOS is related to the non-automobile modes.

This misconception is that LOS applies only to automobiles, and QOS applies to the non-automobile modes. It is often assumed that while automobile analyses are highly quantitative, the bicycle, pedestrian, and transit analyses are more qualitative. *However, the bicycle, pedestrian, and transit techniques are as quantitative and rigorously developed and tested as those for automobiles.* An example of LOS by mode for arterials is illustrated in **Figure 3-1**.

Figure 3-1: Examples of LOS by Mode for Arterials

- The LOS A–F grades are comparable to American school letter grades.

The most common misconception about LOS A–F grades is that they are comparable to school letter grades. Although they share some basic similarities, there are some important distinctions to make at a planning level. *Unlike school grades, LOS A is not necessarily a desirable goal, and the meaning of A–F is not entirely consistent across modes.* **Although it is true that LOS A is best and LOS F is worst, this is strictly from a traveler experience and perspective. LOS A is not necessarily a desirable goal to achieve from an overall transportation or societal perspective.** LOS A in a peak travel hour could be an indicator of an inefficient use of limited funding. It is simply not cost-effective to design the state's roadways to operate at LOS A during the peak hour. FDOT's LOS targets in **Chapter 10** should be considered a desirable condition during the peak hour, with significant variance from those targets in either direction an undesirable condition. The LOS targets are an FDOT Policy (000-525-006) and discussed in **Chapter 10**.

Although LOS F represents a failing condition, there are more factors to consider when the LOS reaches F. Essentially, LOS F either means travel demand exceeds capacity and the roadway is operating in oversaturated conditions, or another undesirable condition exists.

Although each of the methodologies for automobiles, bicycles, pedestrians, and buses make use of the LOS A–F

scales, **the meaning of A–F is not entirely consistent across the modes.**

Transportation professionals widely consider LOS D for the automobile mode an acceptable condition, and this threshold is often used as a design condition in urbanized areas. The bus and automobile LOS scales were developed by transportation professionals, with the objective of classifying various levels of congestion in undersaturated conditions. Members of the general public, however, determined the derivation of the bicycle and PLOS thresholds, thus incorporating a general perception of LOS D as a largely undesirable condition. Because of this, LOS D likely represents a worse condition from the user perspective for the bicycle and pedestrian modes than the automobile and bus modes. FDOT and its research team evaluated and considered various methods to make the LOS thresholds more consistent across modes, but found no scientific basis to adjust the scales. Users should therefore simply be cautious about comparing the same LOS letter grade across modes.

3.2. Highway Capacity Manual

For capacity and automobile, pedestrian, and bicycle Q/LOS analysis, the HCM is the foremost recognized and accepted analysis tool. HCM defines capacity as the maximum sustainable flow rate, which persons or vehicles can reasonably be expected to traverse a point or a uniform segment of a lane or a roadway during a given time period under prevailing roadway, environmental, traffic, and control conditions.

3.2.1 Traffic Flow and Capacity Concepts

The HCM defines two primary facility types: uninterrupted and interrupted flow facilities. The terms refer to the type of facility and, therefore, the analysis type, not the quality of traffic flow at any given time.

Uninterrupted flow facilities have no fixed causes of delay or interruption external to the traffic stream, such as signals or stop signs. Non-tolled freeways represent the purest form of uninterrupted flow, because there are no fixed interruptions to traffic flow, and access to the facilities are limited to ramp locations. Multilane and two-lane highways operate under uninterrupted flow in long segments between points of fixed interruption (e.g., traffic signals), but it is often necessary to examine the points of fixed interruption using interrupted flow methodologies.

Interrupted flow facilities have fixed causes of periodic delay or interruption to the traffic stream, such as traffic signals or stop signs, with average spacing less than or equal to 2 miles. Traffic flow patterns on interrupted flow facilities are the result not only of vehicle interactions and the facility's geometric characteristics, but also of the traffic control used at intersections and the frequency of access points to the facility. Traffic signals, for example, allow designated movements to occur only during portions of the signal cycle, and therefore affect flow and capacity, because the facility is not available for continuous use. Traffic signals also create platoons of vehicles that travel along the facility as a group. By contrast, intersections controlled by all-way stops and roundabouts discharge vehicles more randomly, creating periodic but sometimes small gaps in traffic at downstream locations.

Capacity on uninterrupted and interrupted flow facilities can be defined in terms of, passenger cars per hour (pcph), or vehicles per hour (vph), depending on the type of analysis or system element.

Reasonable expectancy is the basis for defining capacity. Capacity is, therefore, not the absolute maximum flow rate observed at a facility, but rather a flow rate that can be achieved repeatedly for peak periods of sufficient

demand.

Prevailing roadway, traffic, and control conditions define capacity. These conditions should be relatively uniform for any segment of a facility that is analyzed. Base conditions, by comparison, assume optimum conditions, including good weather, dry pavement conditions, users who are familiar with the system, and no impediments to traffic flow. In most cases, prevailing conditions differ from base conditions (e.g., there are trucks in the traffic stream, rolling terrain). As a result, the computations of capacity, service flow rate, and LOS include an adjustment to capacity under base conditions.

3.2.2. Bicycle LOS (BLOS)

BLOS is based on bicyclists' perceptions of the roadway environment. BLOS is based on five variables, with relative importance ordered in the following list:

- Average effective width of the outside through lane
- Vehicle volumes
- Vehicle speeds
- Heavy vehicle (truck) volumes
- Pavement condition

Average effective width is largely determined by the width of the outside travel lane and striping for bicyclists but includes other factors, such as the effects of street parking and drainage grates. Each of the variables is weighted by coefficients derived by stepwise regression modeling importance. A numerical LOS score, generally ranging from 0.5 to 6.5, is determined and stratified to an LOS letter grade. Thus, unlike the determination of automobile LOS, in which there is typically only one service measure (e.g., average travel speed), BLOS is determined by multiple factors.

3.2.3. Pedestrian LOS (PLOS)

Like BLOS, **PLOS is based on the pedestrians' perceptions of the roadway or nearby roadside environment.** PLOS is based on four variables with relative importance ordered in the following list:

- Existence of a sidewalk
- Lateral separation of pedestrians from vehicles
- Vehicle volumes
- Vehicle speeds

The PLOS model applies to the roadway facilities within the right of way. Therefore, estimating PLOS for facilities outside the right of way at significantly greater distance, may exceed the validated range of the model and is not recommended.

3.3. Transit Capacity and QOS

The Transportation Research Board (TRB) Transit Capacity and Quality of Service Manual (TCQSM) is the nation's leading document for transit and Q/LOS analysis. As used in this Q/LOS Handbook, transit or bus is limited to scheduled, fixed-route bus transit.

One significant exhibit in the TCQSM is a table for urban scheduled transit service based on service frequency. **Table 3-1** replicates this TCQSM table, but includes Florida-specific modifications to the adjusted service frequency.

Table 3-1: Service Frequency LOS Thresholds

Level of Service	Adjusted Service Frequency (Vehicles/hour)	Headway (minutes)	Comments
A	>6	<10	Passengers don't need schedules
B	>4	<15	Frequent service, passengers consult schedules
C	≥3	≤20	Maximum desirable time to wait if transit vehicle missed
D	≥2	≤30	Service unattractive to choice riders
E	≥1	≤60	Service available during hour
F	<1	>60	Service unattractive to all riders

3.4. Simplifying Assumptions

Planning-level analyses make extensive use of default values and simplifying assumptions to the operational models on which they are based. As such, there are multiple simplifying assumptions used in this Q/LOS Handbook.

3.4.1. Averages

This Q/LOS Handbook makes extensive use of averages. **For generalized planning (Generalized Service Volume Tables), most of the default input variables represent statewide averages. Similarly, for generalized planning, simple averages are recommended.** For example, if an arterial facility has daily volumes of 20,000, 25,000, and 24,000, it would be reasonable to use the average (23,000) of the three. However, users should be cautious of outlying values and use some judgment when applying simple averages. In the above example, if the first value were 10,000, the user may want to disregard that value or use the median value (i.e., 24,000).

3.4.2. Turning Movements

One of the most significant planning assumptions is that the mainline turning movements are adequately accommodated. Within this Q/LOS Handbook, the through movement is defined as the traffic stream with the greatest number of vehicles passing directly through a point. While this movement is typically the Straight Ahead movement, occasionally the right or left turn could qualify as the through movement. When the turning movement has the greatest number of vehicles (more than the Straight Ahead), it is recommended to consider the turning movement as the controlling movement. See **Section 5.9** for additional details.

Most analyses of through movements in the HCM are relatively straightforward. Complications arise with the treatment of turning or merging movements, especially for signalized intersections and arterials. By handling turning arterial movements (i.e., turns from the arterial, side-street movements) in a general way, Q/LOS and capacity analyses are greatly simplified. This is also true for some two-lane uninterrupted flow highways in which

mid-block turning movements may affect capacity. Off- and on-ramp movements along freeways are also handled in a general way and are assumed to be adequately accommodated. Most importantly, it is assumed that movements at off-ramps do not back up into the through lanes of the freeway.

When turning movements are not adequately accommodated in the available storage, the techniques to determine the LOS for an arterial found in this handbook are not appropriate. Although, the arterial analysis in this handbook includes all vehicles on the arterial, the focus is on the vehicles making through movements rather than turning movements. For example, only the green time for the through movement is included, and penalties are assigned if there are no left-turn lanes at signalized intersections and no medians exist mid-block.

3.4.3. Queue Spillback

Another major assumption is that turning movements do not back up into adjacent through lanes. Essentially, adequate storage is assumed to be available for turning vehicles on arterials and for vehicles exiting freeways. Therefore, where mainline turning movements are not adequately accommodated, the planning techniques found in the Q/LOS Handbook are not appropriate. If this is the case, higher level analysis is recommended.

3.4.4. Capacity

For the HCM analyses of uninterrupted flow facilities, capacity is set in terms of passenger cars per hour per lane (pcphpl). **Free-flow speed is estimated based on other variables, such as percent heavy vehicles, CAFs and SAFs, median type, and lateral clearance.**

For the HCM analyses of interrupted flow facilities, capacity represents the maximum number of vehicles that can pass a point during a specified time period under prevailing roadway, traffic, and control conditions.

The Q/LOS Handbook primarily relies on and reports capacity values based on the interrupted flow concept of capacity, with free-flow speed considered a roadway variable input. **For planning purposes, the assumed free-flow speed is 5 mph over the posted speed limit.**

3.4.5. Bus Frequency

For transit analysis purposes, the most significant assumption is that bus frequency is the single most important factor in determining the Q/LOS to transit users along a transit route segment or roadway facility. FDOT, in cooperation with the TCQSM authors and others, has incorporated that concept. Certainly, the LOS varies for individual transit users along a facility, but **in the determination of bus LOS along a transit route segment or roadway facility, the availability of buses is usually the more relevant performance measure.**

3.5. Arterial Analyses

ADJUSTED SATURATION FLOW RATE

Variables such as area type, speed limit, number of lanes, percent right turn lanes, percent heavy vehicles, median type, left turn lanes and population size have effects on adjusted saturation flow rates. Furthermore, as traffic queues get longer, traffic pressure affects capacity.These effects are included in FDOT's Generalized Service Volume Tables.

ADD-ON/DROP-OFF LANES

The add-on/drop-off lane (or expanded intersection) will contribute to intersection capacity, but not likely to the extent of a full through lane. The add-on/drop-off lane contains up to half the capacity of a full through lane. For any capacity benefit to be considered, two conditions should be met:

- the add lane and drop lane each must be at least 800 feet in length
- the add-on/drop-off pair combined must be at least 1,760 feet in length

For additional discussion, see **Section 4.3.1**.

ONE-WAY STREETS

The Generalized Service Volume Tables include a factor that has been approved for the evaluation of one-way streets. Essentially, one-way pairs are assumed to have a 20 percent higher service volumes than corresponding two-way roadways with the same number of lanes.

LOS CRITERIA

The maximum control delay at a signalized intersection for LOS D is 55 seconds. While that value may be reasonable based on user perception in an urbanized area, in a small town or at an isolated intersection on a rural highway, that delay would be considered LOS F. To overcome this difference in user perception, FDOT has adopted different control delay criteria in rural undeveloped and rural developed areas. The criteria are one-half, rounded up, of the urbanized area criteria. For arterials in rural developed areas, arterial Class I LOS thresholds apply. These LOS criteria are embedded in FDOT's rural undeveloped and rural developed Generalized Service Volume Tables. The LOS criteria appear on the back of each table.

3.5.1 Pedestrian and Bus Analyses

PEDESTRIAN LOS

PLOS is determined by the methodology contained in this handbook. **The methodology is consistent and unchanged from the 2013 Q/LOS Handbook.** The pedestrian LOS adjustment factors as they relate to bus LOS are shown in **Table 3-2**.

Table 3-2: PLOS Adjustment Factors on Bus LOS

Pedestrian Level of Service	Adjustment Factor
Pedestrian LOS A	1.15
Pedestrian LOS B	1.10
Pedestrian LOS C	1.05
Pedestrian LOS D	1.00
Pedestrian LOS E	0.80
Pedestrian LOS F	0.55

ROADWAY CROSSING DIFFICULTY

When catching a bus, transit users frequently have to cross a road. **Crossing difficulty is typically influenced by three broad factors: traffic signal density, crossing length, and vehicle volume.** It is more difficult to cross roadways with low signal densities than roadways with closely spaced, signalized intersections. Mid-block crossing difficulty increases with road width and lack of pedestrian refuges (i.e. restrictive or raised medians). Mid-block crossing difficulty also increases as the number of vehicles increase, which results in fewer gaps. These three broad factors and other major factors, such as vehicle speed, are interrelated. To account for crossing difficulty in a general way, FDOT's approach includes a set of roadway crossing adjustment factors which capture the crossing difficulty. **Roadway crossing adjustment factors are used to determine the adjusted bus frequency by applying a factor that captures crossing difficulty.**

PASSENGER LOAD FACTOR

Bus crowding plays a role in the user's perception of QOS, particularly on overcrowded buses when no seating is available. FDOT's approach includes a set of passenger load factors, which are applied to help determine the adjusted bus frequency value. **Passenger load factors are used to determine the adjusted bus frequency value by applying a factor commensurate to the level of passenger crowding.** These factors can be found in **Chapter 7** of this Q/LOS Handbook.

BUS STOP AMENITIES

Passenger comfort and safety within the passenger waiting areas play a role in user perception of the QOS and desirability of a transit system. FDOT's approach includes a set of bus stop amenity factors, which are used to help determine the adjusted bus frequency value. The factors can also be found in **Chapter 7** of this Q/LOS Handbook.

BUS STOP TYPE

Delay time at bus stops plays a role in travel times along routes, and thus impacts overall average travel speed. **FDOT includes a bus stop type adjustment factor, which is used to add 15 to 35 seconds of delay per route for typical and major bus stops, respectively.**

BUS FACILITY ANALYSIS

The TCQSM structure for Q/LOS analysis consists of points (e.g., bus stops), route segments, and systems. It does not include a facility analysis. Nevertheless, to maintain consistency, a method of aggregating segment-level bus frequency to facility-level was needed. At the generalized level, a simple average is acceptable. For example, if on a 3-mile facility, four buses serve the first 2 miles and two buses serve the last mile, then using a value of three buses [(4 + 2)/2] is acceptable for a generalized level analysis.

4 Roadway Variables

Florida's Generalized Service Volume Tables are based on the HCM, TCQSM, and Florida roadway, traffic, control (signalization), and multimodal data. **The resulting tables are valid in Florida, and FDOT encourages the use of the generalized planning level approach.** Recognizing varying characteristics with the state and differing roadway, traffic, control, and multimodal characteristics, the Generalized Service Volume Tables are not adequate for all analysis needs. **Chapters 4 through 7** provide a description of input variables used in the development of the Generalized Service Volume Tables. Roadway variables describe the geometric and functional characteristics of a facility.

4.1. Roadway Type

Compatible with the terminology of the HCM, this Q/LOS Handbook is based on three major roadway types:

- Freeways
- Uninterrupted flow highways
- Interrupted flow roadways

Note: when using the Generalized Service Volume Tables, the number of lanes for arterials and other interrupted flow facilities should be determined at major intersections, rather than mid-block.

4.1.1. Freeways

Freeways are multilane, divided highways with at least two lanes for exclusive use of traffic in each direction and full control of ingress and egress.

4.1.2. Highways

Uninterrupted flow highways are roadways with a combination of roadway segments, which have average signalized intersection spacing greater than 2 miles and are not freeways. Because of the significantly different operating characteristics, these types of roadways are frequently also distinguished as two-lane highways and multilane highways.

4.1.3. Arterials

Interrupted flow roadways or arterials are characterized by signals with average signalized intersection spacing less than or equal to 2 miles. In this Q/LOS Handbook, signalized arterials are the predominant type of interrupted flow roadway. They primarily are operated by the state and serve through traffic. Also included in this category are signalized Non-State roadways, but not local streets. As used here, signalized intersections refer to all fixed causes of interruption to the traffic stream and may occasionally include stop signs or other control types.

Arterials are further classified based on posted speed. There are two arterial classes:

- Class I: Arterials with a posted speed of 40 mph or greater
- Class II: Arterials with a posted speed of 35 mph or less

4.2. Area Type

Four broad area type groupings are used in this Q/LOS Handbook, as shown in **Figure 4-1**:

- Core Urbanized areas (areas with a population of 1,000,000+) and Urbanized areas (other urbanized areas with a population of 50,000+)
- Transitioning areas (transitioning into urbanized areas)
- Urban areas (areas with a population of more than 5,000 not in urbanized areas)
- Rural areas (rural undeveloped areas or developed areas with less than 5,000 population)

Figure 4-1: Area Types

The area types in the Generalized Service Volume Tables correspond well with FDOT's LOS targets; however, there are a few special cases**. FDOT District LOS Coordinators should be consulted for applicable boundaries within their districts.**

There may be small lengths of roadways (e.g., approximately 6 miles for freeways, 3 miles for nonfreeways) between area types or adjacent to an area type that, from a logical and analytical sense, should be combined into one area type or another.

These situations typically occur with adjacent interchanges or in transitioning areas, but may also occur elsewhere. FDOT districts have the flexibility to adjust the area type boundaries or designate a roadway with a certain area

type under these circumstances.

As Florida's population grows, area types may change for a specific location or roadway in future years. FDOT's district offices (contact information available at http://www.fdot.gov/info/moreDOT/districts/district.shtm) should be consulted if analysts believe different area types are appropriate for a future study period.

4.2.1. Core Urbanized and Urbanized Areas

Core urbanized and urbanized areas are defined as approved boundary, which encompasses the entire Census Urbanized Area, as well as the surrounding geographic area likely to become urbanized within the next 20 years, as agreed on by FDOT, Federal Highway Administration (FHWA), and the Metropolitan/Transportation Planning Organization (MPO/TPO). **Core urbanized area types are distinguished by whether the area's population is more or less than 1 million.** Currently, the grouping of more than 1 million applies to the MPO areas that include central cities: Fort Lauderdale, Jacksonville, Miami, Orlando, St. Petersburg, Tampa, and West Palm Beach. These are referred to as "core urbanized." **The minimum population for an urbanized area is 50,000.**

Previously, core urbanized thresholds were developed by applying a different K factor to the urbanized design hourly volume (DHV) thresholds, but after careful consideration, it was noted that additional factors could be applied in the analysis process for a core urbanized area, such as speed and ramp density, and these should be considered. As a result, new DHV, directional design hourly volume (DDHV), and annual average daily traffic (AADT) thresholds were developed for core urbanized areas based on separate analysis from the urbanized thresholds. **The urbanized areas with less than 1 million population are referred to as "other urbanized."**

4.2.2. Transitioning Areas

Transitioning areas are fringe areas that exhibit characteristics between rural and urbanized/urban. Transitioning areas are intended to include areas that, based on their growth characteristics, are anticipated to become urbanized or urban in the next 20 years.

Frequently, the Metropolitan Planning Area is used for the transitioning area adjacent to an FHWA Urbanized Area (Adjusted Census Urbanized Area Boundary). The definition of Metropolitan Planning Area mentions the "contiguous area expected to become urbanized with the 20-year forecast period." It is the contiguous area that should be considered the transitioning area. However, in practice, most MPOs have not delineated those contiguous or transitioning areas, and many of the Metropolitan Planning Areas extend to remote rural areas of counties. When the MPO does not identify these transitioning areas, or areas adjacent to urban (but not urbanized) areas, FDOT districts, in cooperation with local governments, may delineate transitioning areas for LOS purposes.

Keeping the boundaries relatively consistent over time is desirable to achieve understanding by all potential parties. The transitioning boundary should be reviewed and adjusted as a part of the census cycle update, consistent with the setting of the FHWA Urbanized Area boundaries. It is appropriate to review the transitioning boundary in conjunction with a Long-Range Transportation Plan update. The FDOT District LOS Coordinators should be consulted for transitioning boundaries within their districts. It is recommended that boundaries for transitioning areas be based on the location of major roadways or at interchanges. This avoids portions of a freeway changing from transitioning to urbanized or rural between interchanges. It is desirable for an urban street to have the same designation between major roadways and not change mid-block when aligning the boundary with major roads is impractical.

4.2.3. Urban Areas

An urban area has a population between 5,000 and 50,000 and is not within an urbanized area. The boundaries for cities with populations over 5,000 and not within urbanized areas are primarily set by existing city limits and must be agreed upon by FDOT, the local government, and FHWA. However, the 5,000 population threshold is primarily a surrogate for areas that exhibit urban traffic characteristics. When a city has a population of less than 5,000 but the surrounding area has a population of more than 5,000 and the city has an urban character, then it is reasonable to classify it with a population of more than 5,000 in the Generalized Service Volume corresponding to a population of over 5,000. These are Generalized Service Threshold Volume Tables 2, 5 and 8 at the end of this handbook following the Glossary.

Other situations exist in which an area has a population of over 5,000 and yet, the area is more characteristic of a rural developed area. In this situation, it is reasonable to use the "developed areas less than 5,000 population" sections of Generalized Service Threshold Volume Tables 3, 6, and 9 included at the end of this handbook following the Glossary. In both of these situations, FDOT District Planning Offices, after consultation with the Central Office Systems Implementation Office, should determine the appropriate designation to use.

4.2.4. Rural Areas

Rural areas consist of two types:

- Rural undeveloped: areas in which there is no or minimal population or development
- Rural developed: areas consisting of cities and other populated areas with populations of less than 5,000 or along coastal roadways

Generally, the portion for cities or developed areas in Generalized Service Threshold Volume Tables 3, 6, and 9 should be applied to areas with a population between 500 and 5,000 and not immediately adjacent to urbanized, urban, or transitioning areas. This portion of the tables also should be generally applied to coastal roads not in urbanized, urban, or transitioning areas.

4.3. Number of Through Lanes

The number of through lanes is one of the most important variables to analyze a roadway's capacity and LOS. Emphasis is placed on through lanes, or lanes that directly accommodate through traffic. The number includes shared lanes (e.g., through/right), but does not include exclusive turn lanes or two-way left-turn lanes on arterials, auxiliary lanes on freeways, or passing lanes on two-lane highways. Arterials are often described as having an odd number of lanes when two-way left-turn lanes are present. However, for highway capacity and LOS analyses, that is not appropriate. The two-way left-turn lane does not accommodate through vehicles, and the facility is more appropriately characterized as having an even number of lanes with a non-restrictive median.

Usually the total number of through lanes in both directions is used to describe roadways. However, this Q/LOS Handbook bases analyses upon a single peak direction. As an example, an LOS analysis for a six-lane freeway is based on three lanes, using the higher directional traffic volume. Similarly, an LOS analysis for a four-lane urban street would be based on two directional lanes.

A common question when using the Generalized Service Volume Tables is how do we handle odd number lanes along the facility. The Generalized Service Volume Tables contain adjustment factors based on certain

characteristics of the facility (i.e., turn lanes, medians, etc.). Any applicable adjustment factors are first applied and then the average service volumes are averaged.

For example, a rural undivided 5-lane arterial facility with exclusive left-turn lanes and without exclusive right-turn lanes will have an adjusted LOS C threshold of 35,388. This is calculated using the Generalized Service Volume Table 3. The LOS C thresholds for an undivided 4 and 6-lane arterial in a rural area is 29,300 and 45,200, respectively. To calculate the 5-lane LOS C threshold, first account for any applicable adjustment factors. For this example, the LOS thresholds must be adjusted by -5% for multilane arterials that have exclusive left-turn lanes and no exclusive right-turn lanes. After this adjustment is applied, the new 4 and 6-lane LOS C thresholds are 27,835 and 42,940, respectively. To obtain the final 5-lane LOS C threshold, the newly adjusted 4 and 6-lane LOS C thresholds, 27,835 and 42,940, are averaged to obtain the 5-lane LOS C threshold of 35,388 to be used in the analysis.

4.3.1. Arterials

An important aspect of this Q/LOS Handbook is the methodology for determining an arterial's number of through lanes. The ultimate result of the LOS analysis is a facility estimation of the LOS, and **it is widely recognized that signalized intersections are the arterial's primary capacity constraint; therefore, it is appropriate to place more emphasis on the intersections' characteristics than the mid-block characteristics.** Generally, mid-block segments have capacities far exceeding those of major intersections, and it is rare for significant delays to occur mid-block. By weighting the effects of intersections more heavily, a more accurate aggregate estimation is possible.

Site-specific characteristics (e.g., intensity and type of land use, driver behavior, speed, etc.) can dramatically affect the viability of add-on/drop-off pairs as through lanes; therefore, each approach should be examined on a case-by-case basis. Analysts are strongly cautioned to review all pertinent characteristics prior to adjusting the number of through lanes used. The reviews should be conducted during peak travel conditions. Analysts are encouraged to consult with their FDOT District LOS Coordinators prior to applying this concept. The following guidelines are offered as a capacity estimating tool only. This process should never be used for the design or redesign of an expanded intersection.

For any capacity estimation to be considered, two conditions should be met:

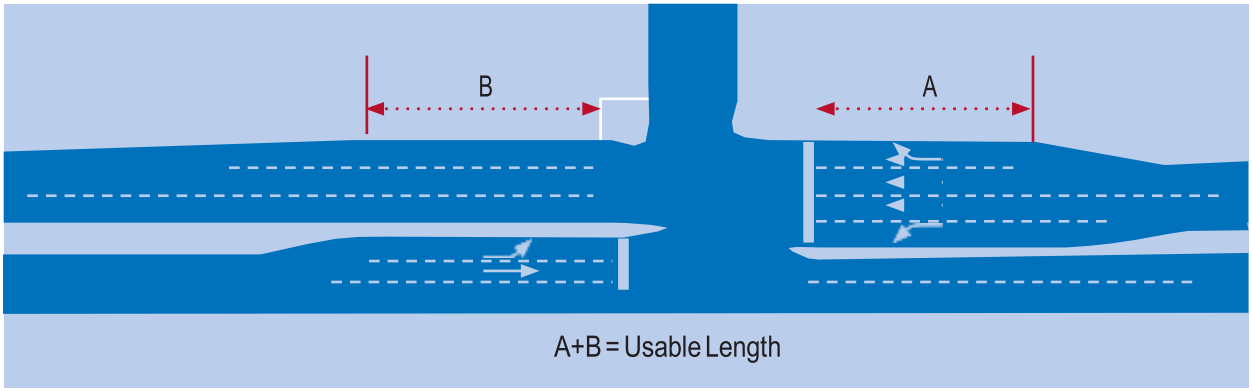
- The add and drop lanes must each be at least 800 feet in length
- The add-on/drop-off pair combined must be at least 1,760 feet in length

If either of these conditions is not met, then no additional capacity is assumed.

If the add-on/drop-off pair is at least one-third of a mile in length (roughly divided equally between approach and departure and exclusive of tapers and cross-street width, as represented by A+B in **Figure 4-2**), it may be reasonable to consider an additional one-half lane for capacity purposes. For example, in the accompanying diagram, if A = 1,000 feet and B = 1,000 feet, then it would be reasonable to consider that the intersection approach has 2.5 effective through lanes.

With a length of at least one-half mile (roughly divided equally between the add and drop lanes), it may be reasonable to consider the add-on/drop-off pair as adding up to one full through lane.

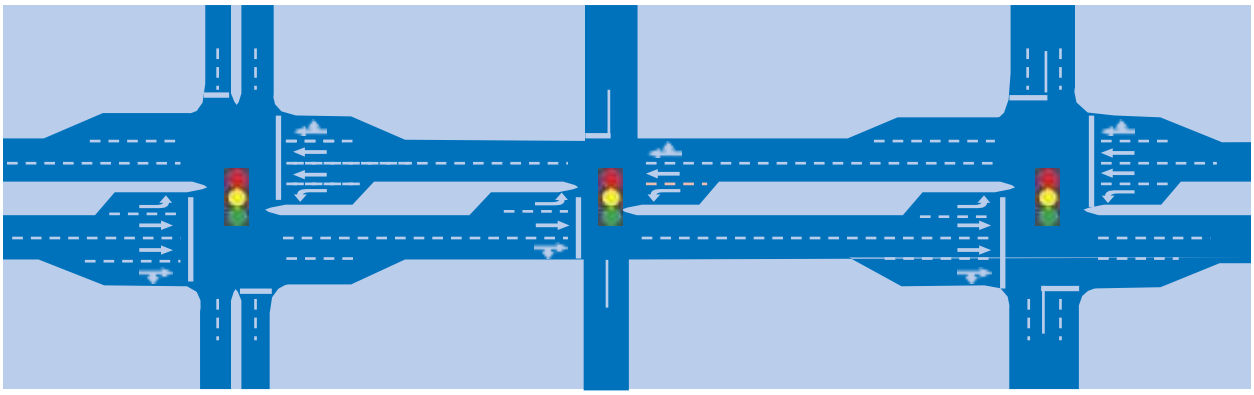
Figure 4-2: Usable Length



When using the Generalized Service Volume Tables, the number of through lanes on a facility is typically determined by the through and shared through/right lanes at major intersections rather than mid-block. **Figure 4-3** shows the mid-block segments with four lanes, with two lanes in each direction. The major intersections each have six lanes, with two through and one shared through/right add-on/drop-off lane with tapers adequate for safe merging.

In this illustration, as in many cases, minor signalized intersections have green times so heavily weighted to the major urban street that they do not cause significant delays to through traffic. When this is the case, it is sometimes acceptable to disregard the number of lanes at these minor intersections; instead, the determination should be based on the lanes at major intersections. So in terms of the LOS, this particular facility has six lanes.

Figure 4-3: Example of Six-Lane Roadway



4.3.2. Highways

For uninterrupted flow highway facilities, the number of lanes is the basic segment or mid-block laneage. For example, a two-lane highway, which is widened to four lanes at major intersections, should be considered a two-lane highway.

4.4. Speed

4.4.1. Posted Speed

The maximum speed at which vehicles are legally allowed to travel over a roadway segment.

4.4.2. Free-Flow Speed

Free-flow speed is the average speed of vehicles not operating under the influence of speed reduction conditions. In general, free-flow is the average speed under low-flow conditions and not influenced by control conditions, such as signalized intersections. The assumption used in this handbook is that the free-flow speed is 5 mph above the posted speed. As an example, if an arterial has a posted speed of 40 mph, the default free-flow speed used is 45 mph; however, if a more accurate free-flow speed is available, it should be used.

4.5. Median Type

4.5.1. Arterials

As used in this document, medians may be classified in one of three ways:

- restrictive median (r)
- non-restrictive median (nr)
- no median (n)

A restrictive median is a raised or grassed area normally at least 10 feet in width separating opposing mid-block traffic lanes and includes left-turn lanes.

A non-restrictive median is a painted at-grade area normally at least 10 feet in width separating opposing mid-block traffic lanes, and for arterials, accommodates mid-block left-turning vehicles to exit from through lanes. Continuous two-way left-turn lanes are considered a non-restrictive median under this definition. Situations in which restrictive or non-restrictive medians are less than 10 feet wide are considered as having no median.

FDOT included the median factor to account for lowering mid-block average travel speeds when no median is present. From the aspect of getting left-turning vehicles out of the traffic stream, the difference between a restrictive and a non-restrictive median is relatively inconsequential. Thus, in determining automobile LOS, restrictive and non-restrictive medians are treated the same.

From a pedestrian point of view, there is a significant difference between non-restrictive medians and restrictive medians. Restrictive medians give pedestrians a much safer mid-block crossing. Thus, this type of median is a consideration in determining the pedestrian crossing factor that enters the bus LOS analysis. **A non-restrictive median provides no pedestrian refuge.**

A pedestrian refuge is an area at least 5 feet but less than 10 feet in width (not a full, raised median) separating opposing mid-block traffic lanes and allowing pedestrians to cross the roadway more safely and comfortably. From a pedestrian point of view, a pedestrian refuge has nearly the same benefit as a restrictive

median. In terms of pedestrian crossing difficulty, the difference between a restrictive median and pedestrian refuge is relatively small; therefore, in determining pedestrian crossing difficulty, the two may be treated the same.

Pedestrian refuges are not included as a distinct category. If an analyst needs to evaluate the effects of a pedestrian refuge, it should be treated as a restricted median for transit analysis, but as no median for automobile analysis.

4.6. Exclusive Turn Lanes

4.6.1. Arterials

EXCLUSIVE LEFT-TURN LANES

The exclusive left-turn lanes are reserved for the exclusive use of left-turning vehicles. The length of these lanes must accommodate turning demand such that left-turn traffic (1) is able to enter the turn lanes behind through queues or (2) can be stored in the turn lane to ensure the through lane traffic is not blocked. When left-turn lanes are not present, a shared lane exists which is included in the number of through lanes.

When analyzing arterials without left-turn lanes, the use of the Generalized Service Volume Tables is discouraged in all but the most basic analyses. If used, the Generalized Service Volume Tables include adjustment factors for the absence of left turn-lanes. To account for the absence of left-turn lanes, adjustment factors provided in the Generalized Service Volume Tables must be manually applied to the service volumes. However, the user is cautioned that research indicates that the true value of the reduction is highly dependent on the distribution of traffic volumes among all the various movements, and a constant reduction factor, as used in the tables is not accurate.

Storage length refers to the total amount of storage available for left-turning vehicles, measured in feet. The default value is 235 feet. For new turn lanes, FDOT Design Standards must be consulted (found at https://www.fdot.gov/design/standardplans/DS.shtm).

EXCLUSIVE RIGHT-TURN LANES

Exclusive right-turn lanes are storage areas designated to exclusively accommodate right-turning vehicles.

The length of these lanes must be able to accommodate turning demand to allow for the free flow of the through movement. The number of pedestrians crossing at these locations should also be considered and accommodated.

4.7. Roadway Lengths

To properly apply the Generalized Service Volume Tables, it is necessary to partition roadways into appropriate lengths for analysis. Setting lengths too short may not adequately capture traffic flow characteristics. Vehicles will not achieve the same average running speed on a segment as over a longer facility length. Short lengths would also be subject to bias caused by signal control delay.

Furthermore, analysis results would not conform to the concept of LOS that is based on the driver perception of the operation of roadways and may not show where the most significant impact of proposed development traffic will occur. Conversely, setting lengths too long may dilute the impact of hot spots by averaging them into other portions that operate better.

FDOT District LOS Coordinators have primary responsibility for the segmentation of the State Highway System (SHS) for LOS purposes. FDOT Central Office may combine smaller segmentation lengths of a facility for statewide reporting and other purposes.

In general, the partitioning of roadways for facility analyses should be based on the following considerations, ranked in order:

- Highway system structure (including facility type, number of lanes, etc.)
- Area type boundaries
- Lengths
- AADTs

At the local level, government agencies frequently make highway capacity and LOS termini at their own jurisdictional boundaries, regardless of the appropriate facility length and termini considerations described above. Jurisdictional boundaries by themselves are usually not appropriate termini for capacity and LOS analyses. Local governments are encouraged to consult with FDOT District LOS Coordinators for applicable segmentation within their jurisdictional boundaries.

4.7.1. Arterials

For an arterial facility analysis, the general recommendation is that the facility be at least two (2) miles in length to use the service measure of average travel speed. Major intersecting arterials frequently serve as logical breaks in segmenting the arterial facility. In downtown areas, the general recommended length is at least one (1) mile.

When evaluating arterial section or facility LOS for planning, the roadway should begin and end at a signalized intersection. The following guidance is provided for some special cases:

(1) Interchanges along an arterial: At a generalized planning level, it is typically appropriate to make a break at an interchange (highway system structure criterion) that does not include a signalized intersection.

(2) Boundaries, especially urbanized area boundaries: When a signalized intersection lies just outside the boundary, it is proper to extend an analysis to the next signalized intersection if within 2 miles of a boundary for a conceptual planning analysis. For example, if a signalized intersection lies 1 mile beyond the existing urbanized boundary in a transitioning area, it is appropriate to include that signalized intersection and the 1 mile of transitioning area as part of an urbanized area analysis.

5 Traffic Variables

This chapter provides an overview of key traffic variables used in the development and use of the Generalized Service Volume Tables.

5.1. Volume and Demand

Traffic volume is the most basic of all traffic parameters and is generally defined as the number of vehicles passing a point on a transportation facility during a specified time period. Traffic volumes typically are developed separately from capacity/LOS analyses and provide input to those analyses. Various sources that determine traffic data include:

- FDOT's Florida Traffic Online (FTO) Web Application
- Extrapolation of historical growth trends
- FDOT's travel demand forecasting models
- Institute of Transportation Engineers (ITE) Trip Generation Manual

The sources listed below provide guidance on traffic forecasting and analysis:

- FDOT's Project Traffic Forecasting (PTF) Handbook
- HCM, Sixth Edition
- FDOT's Traffic Analysis Handbook

Volume is the parameter most often used to quantify traffic demand. **Traffic demand is the number of vehicles with drivers who desire to traverse a particular highway during a specified time period. While traffic demand expresses a desire, volume typically represents actual measurement.**

Misuse of measured volumes often occurs in capacity/LOS analysescausing traffic studies to report the observation and measurement of conditions as they presently exist. Current observations do not reflect constraints in the existing highway system that may prevent vehicles from accessing a desired segment of the system at any given point in time. Observed volumes on congested facilities are more a reflection of capacity constraints than of true demand.

Measured traffic volume cannot theoretically exceed roadway capacity, but traffic demand volume can exceed capacity. An example of a common misinterpretation of these two distinct terms typically occurs while collecting traffic data at an oversaturated intersection. The traffic volume that can physically be processed through a traffic signal is a measure of the capacity (or supply). When traffic volumes approach roadway capacity, the transportation system may experience abnormally long vehicle queues and excess vehicular delay. The length of the vehicle queue upstream of a traffic signal is a more accurate measure of the traffic demand that cannot be processed in the one-hour analysis period.

The impact of bottlenecks, alternative routes, latent demand, and future growth further complicates the relationship between measured traffic volume and traffic demand. **If questions arise as to the appropriateness of using measured volumes or demand volumes for capacity and LOS analyses, it is clear demand volumes should be used.**

5.2. Annual Average Daily Traffic (AADT)

AADT is the total volume of vehicle traffic on a highway or roadway segment for one year divided by the number of days in the year. Most planning applications require AADT volumes. Determining AADT values is a separate process and distinct from capacity/LOS analyses. FDOT routinely provides AADT values for state roads.

AADT values are easy to confuse with two other traffic count numbers that are used to estimate AADT. **The average daily traffic (ADT) is the total traffic volume during a given time period, more than a day and less than a year, divided by the number of days in that time period.** ADT is generated from a short-term traffic count and can be used to estimate AADT. Ensuring ADT counts are reflective of the normal average traffic is an important consideration when using them to estimate AADT on the roadways. Traffic taken during a four-day holiday, long weekend, or Saturday night when 50,000 or more football fans gather is not a normal occurrence.

Peak season weekday average daily traffic (PSWADT) is the average weekday traffic during the peak season. PSWADT numbers are normally generated by travel demand forecasting planning models, such as Florida Standard Urban Transportation Model Structure (FSUTMS). Like ADT, they can be converted to AADT by an adjustment factor.

FDOT operates two types of traffic monitoring programs: 1) continuous monitoring at selected locations using permanently installed equipment and 2) coverage counts at many temporary or short term sites using portable equipment. Further information about the traffic monitoring programs can be found in the FDOT PTF Handbook.

There are two count adjustment factors used to calculate AADT. The first, **axle correction factors are used to compensate for an axle counter's tendency to count more vehicles than are actually present.** For example, an axle counter would show a count of two when a four-axle truck runs over the sensor, even though only one vehicle is present. The second, **seasonal adjustment factors have been developed to adjust for the variation in traffic over the course of a year.** The peak season is the 13 consecutive weeks with the highest volumes. The weekly seasonal factors for those weeks will be the lowest, and the factors will be the highest for the weeks with the lowest volumes. The seasonal factor is used as follows:

AADT = (short-term traffic count) x (seasonal factor) x (axle correction factor)

Although, for planning purposes AADT is usually used, actual capacity and LOS analyses are conducted on an hourly or sub-hourly directional basis. All of FDOT's Generalized Service Volume Tables are based on peak hour directional roadway, traffic, control, and multimodal characteristics. FDOT's hourly directional tables may be viewed as the most fundamental of the tables, because the daily tables are created by dividing the peak hour directional values by the directional distribution factor (D) and the planning analysis hour factor (K). Although the determination of AADT is outside the capacity/LOS analyses, the determination of K and D is a fundamental part of capacity/LOS analyses in planning stages because of the need to convert AADT to peak hour directional volumes.

5.3. Planning Analysis Hour Factor (K)

The K factor is the ratio of the traffic volume in the study hour to AADT. Historically, FDOT has used a variety of study hours and K factors depending on the application. Frequently used K factors included the 30th highest volume hour of the year (K30), 100th highest volume hour of the year (K100), highest hourly volume to daily volume (Kp/d), 5–6 p.m. weekday volume to AADT (K5-6pm), average p.m. weekday peak volume to AADT (Kpm), average a.m. peak weekday volume to AADT (Kam), and noon weekday volume to AADT (Knoon). In general, K factors

are used for peak hour traffic analyses, but analyses can also be based on low-volume conditions, such as the analysis of truck travel in early morning hours. Roadway, traffic, and control conditions vary considerably during the day, potentially affecting capacity values and service volume thresholds.

Standard K is the primary planning analysis hour factor used in Florida, and the value is set based on the area type and facility type. The use of Standard K represents a design approach in which the K factor for a roadway is established from the planning phase through the design phase of the project development process. Rather than being a variable, Standard K values are a fixed, cost-effective parameter, much like the use of 12-foot through lanes on major, high-speed roadways. Unless otherwise noted, all references in this Q/LOS Handbook that refer to a study hour or K factor refer to Standard K.

The Standard K factor is used to convert a peak hour volume to an AADT and vice versa. The Standard K factors used in the Generalized Service Volume Tables were obtained through a methodical process to obtain representative Standard K factors. On the freeways in the seven largest urbanized areas in Florida (Fort Lauderdale, Jacksonville, Miami, Orlando, St. Petersburg, Tampa, and West Palm Beach), Standard K represents a peak study period. For all other facilities, Standard K represents a peak hour not within the peak season. Standard K Factors for planning and design analysis are not directly applicable to the Turnpike, other toll roads, and managed lanes. For more information on the K Factors, refer to FDOT's PTF Handbook.

The K factor generally drops as an area becomes more urbanized and high traffic volumes are spread out over longer time periods. If adequate documentation is provided, FDOT would consider deviations from the Standard K table for special facility types.

The recommended Standard K factors can be found in the FDOT PTF Handbook and the analyst must refer to the PTF Handbook for use of appropriate K factors in projects. The K values used in development of the Generalized Service Volume Tables included in this handbook are consistent with the PTF Handbook. They are listed below:

- Urbanized (Core urbanized/Core freeways)
  - Freeways: 0.09 (0.085)
  - Highways: 0.090
  - Arterials: 0.090
- Transitioning
  - Freeways: 0.098 (average of Transitioning to Urbanized Areas and Urban)
  - Highways and arterials: 0.090
- Rural developed and rural undeveloped
  - Freeways: 0.105
  - Highways and arterials: 0.095

Standard K values on freeways in large urbanized areas range from 8.0 to 9.0 percent, while Standard K values on these "core freeways" in large urbanized areas are typically lower in this range. The lower K values signify a peak period, as opposed to a peak hour. The urban core freeway K values in large urbanized areas are available on FDOT FTO Web Application managed by FDOT's Transportation Data and Analytics (TDA) Office.

5.3.1 Multimodal Transportation Districts (MMTD)

The purpose of MMTDs is to encourage desirable transportation environments for all users, including transit passengers, pedestrians, cyclists, and motorists. The designation of such districts recognizes the inherent, integral relationship between transportation, land use, and urban design and the degree to which each of these elements affect the others. Local governments opting to designate an MMTD assign secondary priority to vehicle mobility and primary priority to assuring a safe, comfortable, and attractive pedestrian environment, with convenient connections to transit. FDOT supports local governments that are committed to such efforts. Implementing MMTDs should help foster the use of multiple modes of transportation, leading to a reduction in automobile use while maintaining high mobility characteristics in the area.

The primary way FDOT supports these designated areas is through its LOS targets. FDOT promotes lower acceptable automobile travel speeds for longer durations in the planning, design, and operations of its facilities.

5.4. Directional Distribution Factor (D)

The peak hour D factor is the proportion of an hour's total volume occurring in the higher volume direction.

The preferred approach to obtain D factor data is from the FTO Web Application, which provides a D factor for all state roads. The FTO Web Application reports the average of measured D values around the 200th highest hour from nearby and comparable roadway sites. The statewide minimum acceptable D factor is 0.51 (this is not the default valueand should only be used in an LOS analysis if adequate justification is provided for the specific roadway). The D factor of 0.55 was used in the Generalized Service Volume Tables for all facility and area types. Using such an approach provides statewide consistency and reasonable accuracy in the values indicated and at a minimum cost. Additional guidance and the recommended range of D factors can be found in the FDOT PTF Handbook.

5.5. Peak Hour Factor (PHF)

The peak hour factor (PHF) is the hourly volume divided by the peak 15-minute rate of flow within the peak hour, specifically:

$$PHF = \frac{(Hourly\ Volume)}{4(Peak\ 15-minute)}$$

The planning-level approach for addressing volume variations within the study hour has been adopted within this handbook. PHF based on area type were used to develop the vehicular service volumes in this Q/LOS Handbook. The PHF associated with each area type is:

- Urbanized areas**:** 0.95
- Transitioning/urban areas**:** 0.92
- Rural areas**:** 0.88

The PHF associated with the area type is consistent with the sixth edition of the HCM. For more information on the PHF, refer to FDOT's PTF Handbook.

5.6. Base Saturation Flow Rate

The HCM uses the term "base saturation flow rate" for interrupted flow roadways and capacity, or base capacity, for uninterrupted flow roadways to describe the maximum steady flow. **Base saturation flow rate is the maximum steady flow rate, expressed in pcphpl, at which passenger cars can cross a point on interrupted flow roadways.** These are not the same as capacity, as normally used to define how many vehicles a roadway can reasonably accommodate. The base saturation flow rates/capacities for Florida's roadway facilities are:

- Arterials and other interrupted flow facilities: 1,950 pcphpl (assuming 100 percent green time)
- Basic freeway segment (70 mph free flow speed): 2,400 pcphpl
- Uninterrupted flow multilane highway segments (60 mph free flow speed): 2,200 pcphpl
- Uninterrupted flow two-lane highway segments: 1,700 pcphpl

5.7. Heavy Vehicle Percent

The FHWA has a vehicle classification scheme in which vehicles larger than a pickup truck are considered heavy vehicles. This includes vehicles with more than four wheels or a classification group of four or higher. **The percentage of these heavy vehicles in a given hour is frequently referred to as a truck factor (T).** However, to be more consistent with HCM terminology and to overcome some definitional problems with the common understanding of the meaning of a truck, this Q/LOS Handbook uses the term "heavy vehicle" and makes use of the percent of heavy vehicles in a given hour.

The heavy vehicle percentage varies dramatically by the time of day, day of week, roadway type, and adjacent land uses. Operational characteristics of heavy vehicles also vary dramatically by type of heavy vehicle (e.g., a relatively small delivery truck compared to a fully loaded 18-wheel semi-truck) and whether they are operating on an uncongested freeway or on signalized roadways. The blast effect of heavy vehicles on bicyclists also varies significantly based on the type and speed of heavy vehicles.

5.8. Speed and Capacity Adjustment Factors

The HCM 6th Edition has replaced the local adjustment factor (LAF) with the SAF and CAF. The LAF previously provided an adjustment to capacity to account for driver aggression, hurriedness, and familiarity with the facility.

The SAF is used to adjust the speed of a facility based on a combination of sources, including weather and construction work zone effects. The SAF may also be used to calibrate the estimated free-flow speed for local conditions or other effects that contribute to a reduction in free-flow speed.

The CAF is used to adjust the capacity of a facility for reduced-capacity situations or to match field measurements. The capacity can be reduced to represent situations such as construction and maintenance activities, adverse weather, traffic incidents, and vehicle breakdowns.

The SAF and CAF can be used to adjust for driver familiarity (or unfamiliarity) with the facility. Additionally, these adjustment factors are used to calibrate a roadway to existing conditions. For the Generalized Service Volume Tables analysis, an SAF of 0.975 and a CAF of 0.968 was assumed for all analyses and area types. These values are derived from the HCM 6th Edition.

5.9. Percent Turns from Exclusive Turn Lanes

Percent turns from exclusive turn lanes is the percent of vehicles approaching an intersection served by an exclusive turn lane or lanes. More specifically, the percent left turns is the percentage of vehicles performing a left-turning movement at a signalized intersection, and the percent right turns is the percentage of vehicles performing a right-turning movement at a signalized intersection. Typically, the percent turns from an exclusive lane is the percent of traffic using an exclusive left-turn lane, with traffic predominantly moving straight ahead.

Some of the most complicated calculations within the HCM chapter on signalized intersections deal with accommodating left-turn movements. **The Generalized Service Volume Tables assume that left-turn lanes adequately serve left-turning vehicles.** In other words, the base condition assumes there is no queue spillback from the left-turn lane into the adjacent through lanes. If this assumption cannot be made, results obtained from the planning analysis tools are possibly inaccurate. For these reasons and more, the tables should not be used for intersection design or detailed traffic operations analysis.

The automobile LOS methodology described in this Q/LOS Handbook applies the HCM procedures to through traffic at each signalized intersection. Turning movement adjustments are made internally, based on the user-specified value of percent turns from exclusive lanes. Turning volumes are added to the through volumes to determine the overall service volumes shown in the Generalized Service Volume Tables.

The accuracy of LOS calculations is highly dependent on the percent turns from exclusive turn lanes. Although it is typically of moderate importance, at some key intersections, it may be one of the most significant variables. While FDOT does not routinely suggest acquiring percent turns from exclusive turn lanes, data collection should be considered at key intersections. Furthermore, some FDOT districts may require specific counts. If the percent turns at key intersections are obtained in the field, a value of 10 percent may be assumed for the other intersections, assuming an exclusive left-turn lane and no exclusive right-turn lane. If the percentage of turns from exclusive turn lanes is acquired, the turning movement count should be conducted during the peak hour, as illustrated in **Table 5-1**.

Table 5-1: Calculation of Percent Turns from Exclusive Turn Lanes

Measured Day	Peak Hour	Signalized Intersection	Total Peak Hour Predominant Approach Volume	Exclusive Lane Volume	% Turns from Exclusive Turn Lanes	
					A	B
22-Jan	4-5 PM	A	884	130	14.7%	16.7%
		B	900	150		
23-Jan	5-6 PM	A	1,152	150	13.0%	13.0%
		B	1,150	150		
24-Jan	5-6 PM	A	1,102	150	13.6%	14.7%
		B	1,090	160		
Totals	–	A	3,138	430	13.7%	14.6%
		B	3,140	460		

SPECIAL TURNING MOVEMENT CASES

There are two special cases when dealing with turns from exclusive lanes. The first is when the predominant movement is a turn movement instead of the straight-ahead movement. The second involves T intersections.

In **Figure 5-1**, the predominant movement is the left-turning movement, and the 550 vehicles turning left should be considered the through movement.The 200 vehicles going straight ahead should be treated as left-turning vehicles with 20 percent left turns [(200/(550 + 200 + 250)] from an exclusive left-turn lane. The 250 vehicles turning right should be treated normally, with 25 percent right turns [(250/(550 + 200 + 250)] from an exclusive right-turn lane.

In **Figure 5-2**, all vehicles are turning from exclusive turn lanes at a T intersection. The 600 vehicles turning right is the predominant movement and should be considered through vehicles. The 400 vehicles turning left should be treated normally, which is to say there are 40 percent left-turns [400/(400 + 600)] from an exclusive left-turn lane.

In **Figure 5-3**, another T intersection is shown, featuring a shared left/through lane in addition to the predominant movement served by the exclusive right lane. Normally, a shared left/through lane does not have the same capacity as a through lane because of the effect of opposing vehicles blocking permitted left turns for the main movement. However, in this case, there is no opposing movement, and the capacity of this shared lane is virtually the same as a typical through lane. In this situation, an analyst should assume one through lane and one shared through lane with 20 percent left turns [(200/(200 + 200 + 600].

Figure 5-1: Predominant Turning Movement

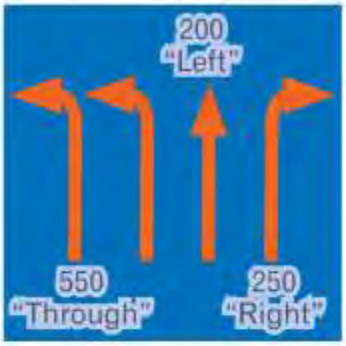


Figure 5-2: Through Movement at a T Intersection with Exclusive Lanes

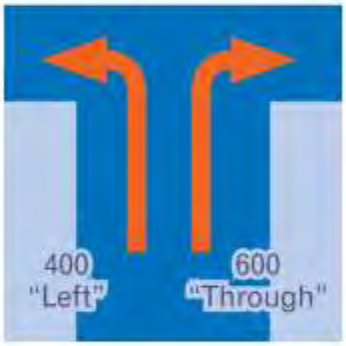
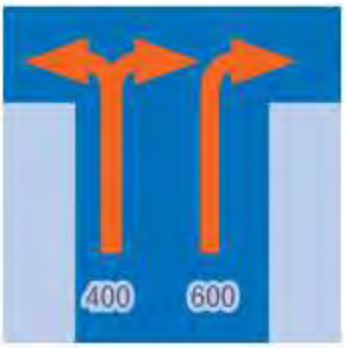


Figure 5-3: Through Movement at a T Intersection with Shared Lanes



6 Control Variables

This chapter provides an overview of each control variable used to generate the Generalized Service Volume Tables.

Control variables refer to roadway or area traffic controls and regulations in effect for a roadway point or segment, including the type, phasing, and timing of traffic signals, stop signs, lane use and turn controls, and other similar measures. In this Q/LOS Handbook, control variables refer to those regularly occurring at signalized intersections, unless otherwise noted. For uninterrupted flow facilities, such as freeways and highways, the LOS can readily be derived from the volume of vehicles and roadway capacity, and control variables are not applicable. For signalized roadways (interrupted flow), however, v/c is not sufficient to determine the LOS, and control variables must be considered. These include:

- Number of signals
- Arrival type
- Cycle length
- Effective green ratio (g/C)

The Generalized Service Volume Tables use default control variables that are representative of typical conditions on Florida roadways. The default control variables (or characteristics) — along with the roadway, traffic, and multimodal variables assumed in the creation of each table — are provided on the back of the Generalized Service Volume Tables.

Table 6-1 provides an overview of the control variable input requirements within the Generalized Service Volume Tables.

Table 6-1: Control Variable Input Requirements

	Input Variable	Generalized Service Volume Tables
CONTROL	Number of Signals	D
	Arrival Type	D
	Signal Type	D
	Cycle Length (C)	D
	Through Effective Green Ratio (g/C)	D
	Exclusive Left Effective Green Ratio	D

Legend: D Default variables that cannot be altered

The effects that individual variables have on the computational process vary. **Table 6-2** indicates the sensitivity of the control variables on capacity and LOS.

Table 6-2: Sensitivity of Control Variables on Service Volumes

Control Variable	Sensitivity on Service Volumes
Number of Signals	high
Arrival Type	medium
Signal Type	low
Cycle Length (C)	medium
Through Effective Green Ratio (g/C)	high
Exclusive Left Effective Green Ratio	medium

Traffic variables, including AADT, Standard K, and D data, should be obtained from FDOT's FTO, PTF Handbook and field counts. Although turning movement counts at key intersections may be necessary, as discussed previously, FDOT does not recommend the use of travel time studies for LOS planning applications.

Field visits should be conducted to collect traffic and other items needed for analyses. Up-to-date aerial or satellite imagery may be sufficient for most of the data entry items. Signalization information is often available from the applicable traffic operations agency's signal timing plans. The applicable transit agency should be contacted for transit data.

6.1. Number of Signals

The cumulative effect of numerous traffic signals, lack of green time, and lack of effective signal progression often have a detrimental effect on the LOS of arterials. An important feature of FDOT's Generalized Service Volume Tables is the inclusion of the number of signals on the determination of the LOS.

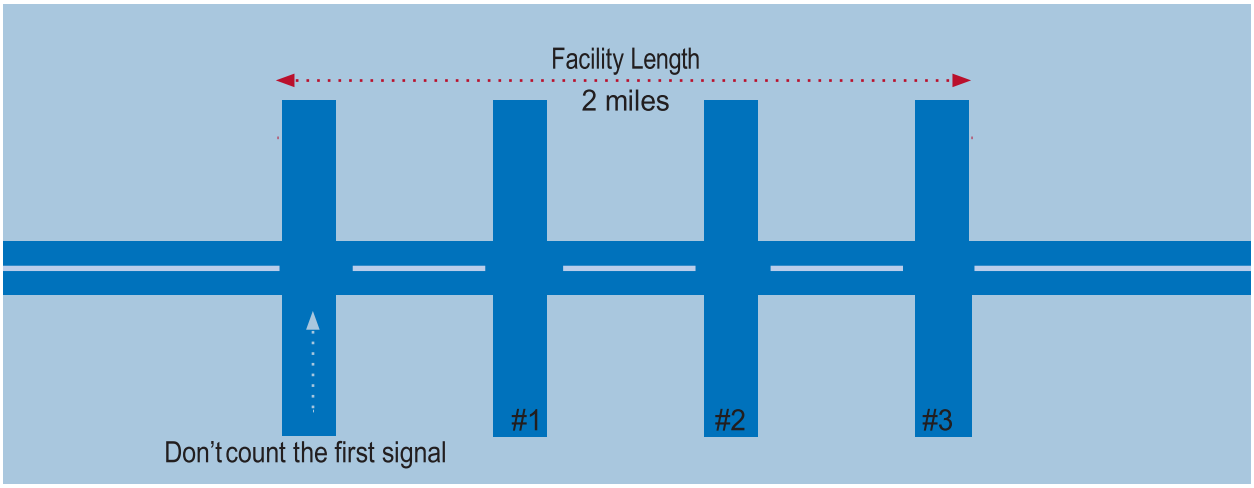
The distance between signalized intersections is required to determine specific service volumes for a roadway. FDOT's Generalized Service Volume Tables use signalized intersections per mile as an input and assume uniform spacing. While this approach may be acceptable for an areawide analysis, precise distances between signalized intersections should be determined when an individual roadway is analyzed at the conceptual planning level.

For analysis purposes, 100 feet between signalized intersections is considered the minimum distance. When the actual distance is less than 100 feet (e.g., side streets with wide medians), it is reasonable to consider these together as one signalized intersection.

Roadway and traffic characteristics often change over time. The number of signals per mile is frequently the most significant change. As development takes place and an area becomes more urbanized, the number of signals per mile is likely to increase. The LOS analysis of future conditions should, therefore, take into account changes in roadway and signalization characteristics.

To avoid double counting when determining the number of signals, only one intersection at the ends of the facility should be counted, as shown in **Figure 6-1**. In general, FDOT recommends including the last intersection within the analysis and ignoring the first, or entry, intersection. This allows the analysis to include the effects of delay, backup, and the LOS from the last intersection for the facility under study.

Figure 6-1: Total Number of Signals



For example, in southeast Florida, principal arterials are often spaced 1 mile apart, with other signalized intersections in between. In this situation, only one of the signalized intersections at the ends of the roadway, plus the signals in between, should be counted when determining the number of signals per mile. In general, the last signalized intersection in the peak flow direction would be counted, ignoring the first signalized intersection.

As discussed previously, the arterial should begin and end at a signalized intersection. In unusual situations when this assumption is not applicable (e.g., lane drops, ramp junctions, etc.), the following guidance is provided:

- For the Generalized Service Volume Tables, do not count the unsignalized terminus as a signalized intersection.

In general, only fixed, periodic interruptions should be considered in determining the number of signals. Only one intersection at the ends of the facility should be counted. Draw bridges, at-grade railroad crossings, school zones, pedestrian crossings, and median openings should not be counted. Depending on the site-specific conditions or analysis desired, there may be exceptions to this general guidance.

When using the Generalized Service Volume Tables, an intersection with a stop sign for the through movement is considered a signalized intersection for a state-signalized arterial. When analyzing a Non-State signalized roadway, the roadway must have at least one signalized intersection.

6.2. Arrival Type

Arrival type is a general categorization of the quality of signal progression. The HCM defines six arrival types, with Type 1 representing the worst progression quality and Type 6 representing the best. Uncoordinated operation, or random arrivals, is represented by Type 3 and is appropriate for actuated signals. Arrival Type 4 is FDOT's default for coordinated signal systems. A more favorable progression (Types 5 or 6) may be appropriate when progression design strongly favors the peak direction of travel, and all signals are coordinated for the length of the facility. One-way facilities tend to have better quality progression than two-way facilities. A higher level of progression may also be appropriate around freeway interchanges, where signals are typically highly coordinated. The arrival type may vary significantly from one signal to the next, even in coordinated signal systems. Actuated-coordinated signals have varying green times, with breaks between groups of coordinated signals.

The assumption of very good progression in one direction does not imply efficient progression in the other direction. Even with less traffic volume, off-peak direction speeds could be lower, if favorable progression has been established for the peak direction only.

6.3. Signal Type

The signal type indicates the degree to which a traffic signal's cycle length, phase plan, and phase times are preset or actuated. The three main types are:

- Actuated
- Actuated-coordinated
- Pretimed

It should be noted that modern traffic signals can handle multiple settings and can vary by time of day. Consequently, a traffic signal's operation (actuated, coordinated-actuated, or pretimed) can change by the time of day to best meet traffic demands.

6.3.1. Actuated

Actuated, or fully actuated signals, use vehicle detection for all signal phases on the main and side street approaches. Each phase is subject to a minimum and maximum green time, and some phases may be skipped if there is no demand for the phase. The length of the green time observed in the field generally depends on the amount of vehicular demand for the phase. If there is little demand, then a relatively short green time will be allocated to the phase. If there is significant demand, a relatively long green time will be allocated, subject to the maximum green time for that phase. The minimum and maximum green times for each phase can be easily changed by entering new values into the traffic signal controller.

Because phases can be skipped, and the amount of green time for each phase generally depends on demand, the cycle length will often vary substantially from cycle to cycle. The exception occurs during periods of heavy vehicular demand, when all phases consistently reach their maximum values, making it seem as if the cycle length is fixed. Actuated signal operations are most frequently used when the signalized intersection is isolated, or when there is a desire to minimize delay without concern for progression.

6.3.2. Actuated-Coordinated

A subset of actuated control is referred to as actuated-coordinated control. **In this type of signal operation, the cycle length is typically fixed, while the amount of green time for the main street through phase varies.** It consists of a minimum amount of green time plus any unused time from the minor phases. Holding the main street green in this manner at all of the signals along a facility allows platoons of vehicles to move relatively unimpeded along the main street with decent progression. Actuated-coordinated signal operations are typically used in Florida's developed areas, especially during peak travel times. This type of operation typically offers the best balance of capacity and progression for the main street through movement.

6.3.3. Pretimed

Pretimed signals use a preset sequence of phase times in a repetitive order and make no use of vehicle detection. Each phase is green for a fixed period of time, irrespective of vehicular demand, and none of

the phases can be skipped. Thus, the cycle length is fixed. This type of signal operation is most frequently used in downtown areas with high signal density, or when the desire is to maximize progression without extensive concern about maximizing capacity for the through movement.

6.4. Cycle Length (C)

Cycle length (C) is the total time for a signal to complete a sequence of signal indications for all traffic movements. The cycle lengths used in the development of the arterial service volume tables were based on representative cycle lengths for different functional classifications of arterials and for different area types. Cycle lengths are typically highest on principal arterials in urbanized areas, where the primary purpose of the facility is to provide a high level of mobility to through movements on the mainline and where roadways are typically at or near capacity during peak periods. Lower cycle lengths are typically used for the less saturated conditions typical of rural areas to provide better access and service to all directions. The cycle lengths used to develop the Generalized Service Volume Tables are provided on the back of each table.

6.5. Effective Green Ratio (g/C)

One of the most significant variables used in calculating the highway capacity and LOS on a signalized roadway is the through movement's effective green time (g) to signal cycle length ratio (g/C). It is the amount of time allocated for the through movement (typically calculated as the green plus yellow plus all-red indication times less the lost time) divided by C. Along with the number of through lanes, it is usually one of the two most important factors for determining the capacity of a roadway's through movement at any given intersection and for the roadway as a whole. Despite this, for generalized analyses, g/C is often ignored, because:

- g/C ratio typically varies from intersection to intersection along an arterial
- g/C ratio typically varies by time of day

Ignoring g/C undermines any arterial LOS analysis at a generalized planning level. This Handbook includes guidance to provide default g/Cs for generalized planning arterial analyses.

A major simplifying assumption that is essential to the development of the Generalized Service Volume Tables is the selection of one g/C for all intersections on an arterial. The g/C ratio of 0.44 was used for arterial analysis for all area types. FDOT has determined that for generalized planning analyses, the weighted average g/C ratio yields the closest results to actual conditions. **The weighted g/C ratio of an arterial is the average of the critical intersection through movement g/C ratio and the average of all the other intersections through movement g/C ratios for urban streets.** For example, if there are four signals with a through g/C ratio of 0.50 and one signal with a through g/C ratio of 0.40, then the weighted average g/C ratio for urban street is 0.45 (Refer to HCM for additional information). Essentially, the worst intersection is given equal weight to all the other intersections combined.

As an example, for the through movement phase, G is the green displayed time, Y the yellow displayed time (typically 3 or 4 seconds), R the all-red indication (typically 1 or 2 seconds), and C the cycle length. The most representative situation in Florida is for cycles to consist of four phases and 12 indications: one phase each to accommodate the main road through movement, the side road left movement, the side road through movement, and the main road left movement, with G, Y, and R indications for each of the four phases. The effective green time, which includes the effects of vehicular startup and clearance lost times is g.

FDOT's preferred approach for g/C determination for current year analyses is to use the actual signal timing plan from the traffic operations agency for the p.m. peak hour (typically 5–6 p.m.) for each signalized intersection. This is a consistent and cost-effective approach that provides reasonable accuracy. If the signal is actuated, (G + 4)/C should be used for the through movement. This assumes the typical Y + R time of 4 seconds as additional time allocated to the through movement as a result of unused time from the other movements. If the signal is pretimed, the g/C for the through movement should be used.

For consistency and ease of review, FDOT recommends using signal timing plans from the applicable traffic operations agency.

Analysts should be aware that signal timing plans come in a variety of forms, use many notations, and are not designed to directly address the determination of g/C. It may be necessary to coordinate with the operating agency directly to interpret the output values.

Analysts should calculate and input g/C for the through movement at all intersections. The g/C for left turning movements need only be collected at major intersections. A 10 percent value can be assumed as the left g/C for other intersections.

In previous FDOT guidance, FDOT offered two other methods for determining g/C:

- actual signal timings from the traffic operations agency
- field studies

Both approaches have some merit; however, after FDOT analyzed and tested both approaches, the preferred approach of using signal timing plans in general offers the best combination of consistency, accuracy, and cost-effectiveness. The use of field studies for g/C is discouraged, unless an early agreement by the affected parties is reached. The maximum acceptable facility through movement g/C ratios during the peak hour typically should not exceed:

- State principal arterials
  - Current year: 0.50
  - Long term (≥ 10 years out): 0.47
- Other roadways: 0.44

Under most circumstances, arterial facilities are 1.5–5.0 miles in length and include principal arterials as terminus points. The g/C value of 0.50 approximates FDOT's maximum allowable arterial capacity volumes of 1,000 vehicles per hour per lane (vphpl) and 950 vphpl in large urbanized areas and other urbanized areas, respectively.

7 Multimodal Variables

This chapter provides an overview of each multimodal variable used within Generalized Service Volume Tables to allow the user to recognize these variations and analyze multimodal LOS on specific roadways. Where applicable, generally acceptable ranges are provided. Multimodal variables describe the various geometric and demand characteristics that are needed to determine pedestrian, bicycle, and bus LOS. As with the control variables, multimodal variables are only applicable for arterial analyses:

- Paved shoulder/bicycle lane
- Outside lane width
- Pavement condition
- Sidewalk
- Sidewalk/roadway separation
- Sidewalk protective barrier
- Bus frequency
- Bus stop amenities
- Bus stop type
- Passenger loads

Table 7-1 provides an overview of the multimodal variable input requirements within the Generalized Service Volume Tables.

Table 7-1: Multimodal Variable Input Requirements

Input Variable	Generalized Service Volume Tables
Paved Shoulder/Bicycle Lane	R
Outside Lane Width	D
Pavement Condition	D
Sidewalk	R
Sidewalk/Roadway Separation	D
Sidewalk/Roadway Protective Barrier	D
Bus Frequency	R
Bus Stop Amenities	D
Bus Stop Type	D
Passenger Loads	D

Legend: R Required table input
D Default cannot be altered

The effects that individual variables have on the computational process vary. **Table 7-2** indicates the sensitivity of the multimodal variables on the capacity and LOS.

Table 7-2: Sensitivity of Multimodal Variables on Service Volumes

Control Variable	Sensitivity on Service Volumes
Paved Shoulder/Bicycle Lane	high
Outside Lane Width	low
Pavement Condition	low
Sidewalk	high
Sidewalk/Roadway Separation	medium
Sidewalk/Roadway Protective Barrier	medium
Bus Frequency	high
Bus Stop Amenities	low
Bus Stop Type	low
Passenger Loads	low

7.1. Paved Shoulder/Bicycle Lane

Within this Q/LOS Handbook, a bicycle lane is a designated or undesignated (paved shoulder) portion of a roadway for bicycles adjacent to vehicle lanes. Painted lines separate paved shoulders/bicycle lanes from vehicle lanes.

For planning purposes, a designated bicycle lane is usually 4 to 5 feet in width and has a bicycle logo. An undesignated bicycle lane is usually 4 feet in width and does not have a bicycle logo. To be considered a paved shoulder/bicycle lane, at least 3 feet of paved shoulder must exist outside the painted line. Facilities with striped shoulders between 1 and 3 feet should be considered as having wide outside lane widths.

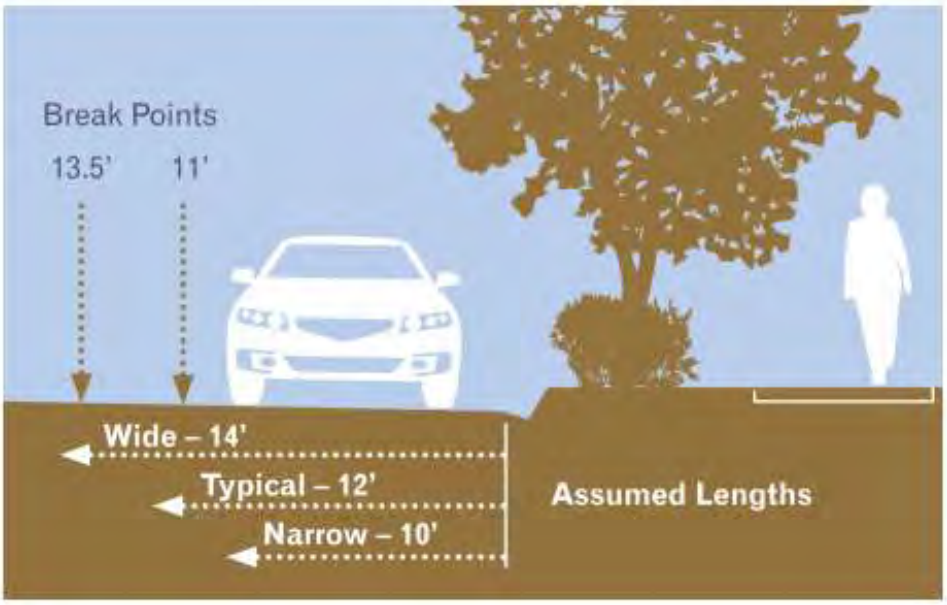
7.2. Outside Lane Width

Within this Q/LOS Handbook, **the outside lane width is the width, in feet, of a roadway's outside vehicle through lane, not including the gutter.** This factor is usually important in the determination of a roadway's BLOS. The majority of the SHS lane widths are 12 feet. Many local roads and some state highways have 14-foot outside lanes; these are sometimes referred to as wide curb lanes. Many other local roads and some state facilities have outside lane widths less than 12 feet.

These dimensions as shown in **Figure 7-1,** are for planning analyses only:

- Wide: greater than or equal to 13.5 feet.
- Typical: greater than or equal to 11 feet and less than 13.5 feet.
- Narrow: less than 11 feet.

Figure 7-1: Outside Lane Width



7.3. Pavement Condition

Pavement condition for BLOS analysis is a general classification of the roadway surface where bicycling usually occurs, not necessarily that drivers of vehicles experience. Three general classifications are used: desirable, typical, and undesirable. These general classifications are used in lieu of detailed pavement surface grades found in the operational model on which this planning technique is based.

- Desirable pavement condition is new or recently resurfaced pavement. The pavement still maintains a dark black color, is free of cracks, and rides smoothly.
- Typical pavement condition is the most common type of pavement condition of Florida's roadways and is used in the Generalized Service Volume Tables. Generally, the pavement has a light gray color, the surface appears worn, and may have some cracks; however, the ride for the bicyclist is smooth.
- Undesirable pavement condition consists of pavement with noticeable cracks, broken pavement, or ruts. There may be existing or partially filled potholes, or drainage grates hazardous to bicycles. When the bicycle riding surface contains loose dirt, gravel, or debris, even if the roadway surface is typical or desirable, then it would be considered undesirable.

In general, FDOT recommends the use of a typical pavement condition for most analyses, especially those involving future years.

For analysts familiar with FHWA's PAVECON factors, "desirable" would equate to a 4.5 or 5.0 rating, "typical" would equate to a 3.0 to 4.0 rating, and "undesirable" would equate to 2.5 or less.

7.4. Sidewalk

Within this Q/LOS Handbook, a sidewalk is a paved walkway for pedestrians at the side of a roadway, typically 5 feet in width. Paved roadway shoulders are not considered sidewalks. Because LOS analyses are directional, the existence of a sidewalk is based on the directional side of the arterial being analyzed.

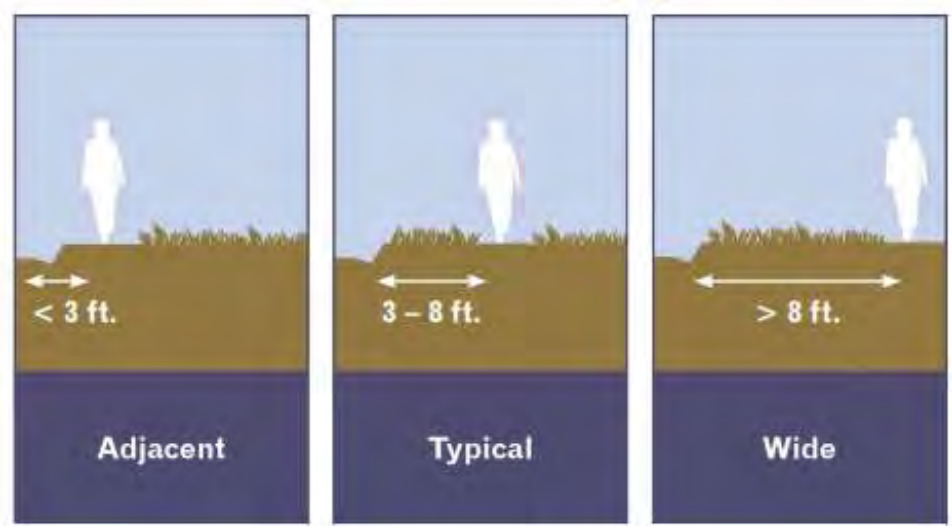
SIDEWALK/ROADWAY SEPARATION

Sidewalk/roadway separation is the lateral distance in feet from the outside edge of pavement to the inside edge of the sidewalk. Within this Q/LOS Handbook, sidewalk/roadway separation is classified in three ways, as shown in **Figure 7-2**:

- Adjacent: less than or equal to 3.0 feet
- Typical: greater than 3.0 feet and less than or equal to 8.0 feet
- Wide: greater than 8.0 feet

In general, pedestrians tend to walk toward the outer half of sidewalks, away from traffic.

Figure 7-2: Sidewalk/Roadway Separation



In downtown environments, sidewalks frequently extend at least 10-12 feet from the curb. When there are no tree plantings or other sidewalk/roadway protective barriers, sidewalks should be classified as adjacent. When there are tree plantings or some other barrier between where people walk and the outside edge of the travel lane, sidewalks are assumed to have typical separation.

When on-street parking and sidewalks both exist, the sidewalk/roadway separation should be considered wide, regardless of how close the sidewalk is to the edge of the pavement. Essentially, on-street parking adds approximately 8 additional feet between pedestrians and vehicles.

7.5. Sidewalk Protective Barrier

In addition to sidewalk width, this Q/LOS Handbook adds an overall sidewalk protective barrier factor to include the added benefits of trees, on-street parking, or other barriers.

7.6. Bus Frequency

Bus frequency, also known as headway, refers to the number of scheduled, fixed-route buses that have a potential to stop on a given roadway segment in one direction of flow in a one-hour time period. Express buses with no potential of stopping along a roadway are not included.

7.7. Bus Stop Amenities

The bus stop is often the first component of any transit system a passenger will encounter, and available amenities for comfort or safety can greatly influence the perceived QOS along a route. Rather than quantify all potential bus stop components, this Q/LOS Handbook creates four categories of bus stop amenities: excellent, good, fair, and poor. Having shelter from the weather and a place to sit is the most desirable condition at any bus stop, regardless of type, and is considered an excellent condition. A shelter without a bench represents a good condition, because rain, wind, and sun could otherwise deter choice riders. A stop with only a bench is less desirable than a stop with only a shelter and is considered a fair condition. A stop with no bench and no shelter is considered a poor condition. Because excellent bus stops may improve a user's perception of the system, the bus stop amenity factor is used to increase the adjusted bus frequency value. Bus stops with no amenities are uninviting and discourage use, and the variable is, therefore, used to decrease the adjusted bus frequency value, as shown in **Table 7-3**.

Table 7-3: Bus Stop Amenity Factors

Bus Stop Amenities	Adjustment Factor
Excellent	1.1
Good	1.0
Fair	1.0
Poor	0.9

7.8. Bus Stop Type

Bus travel speed depends not only on distances and congestion along the route, but also the number of stops and the dwell time at each stop. Typical bus stops delay a bus for around 15 seconds, while major stations with numerous boardings and alightings can add around 35 seconds of delay.

7.9. Passenger Loads

Just as traffic congestion contributes to the degradation of the LOS, crowding on buses can affect the QOS. Because overcrowded buses may reduce the overall desirability of a route, a passenger load factor is used to modify the adjusted bus frequency value, as shown in **Table 7-4**.

Table 7-4: Passenger Load Factor

Passenger Load Factor	Adjustment Factor
< 30%	1.05
< 70%	1.00
≤ 100%	0.95
> 100%	0.85

8 Future Year Analyses

Traffic and development conditions change on roadways over time. This raises questions about what input values, analysis tools, and LOS targets should be used for capacity and LOS analyses in future years. Analysis years and planning horizons vary appreciably in transportation planning. To help with understanding and for simplification in this text, **"long term" means 10 or more years from the current year, and "short term" means less than 10 years from the current year.** However, for a specific application, FDOT district LOS coordinators should be consulted for more detailed guidance.

For future year analyses, it is important to consider changes in the appropriate roadway, traffic volumes, land use, signal control, and multimodal characteristics. For example, under existing conditions in a transitioning area, signalization may be very infrequent; however, as development occurs, more signalized intersections can be anticipated and should be accounted for in future year capacity and LOS analyses. The traffic and control variables relevant to this handbook are discussed in the following sections. Refer to the FDOT PTF Handbook and the Traffic Analysis Handbook for further guidance on future year traffic development and analyses.

8.1. Change in Traffic Variables

8.1.1. AADT

Historical growth trends and the state's travel demand forecasting models are typically used for long-term traffic projections. Analysts and reviewers of capacity and LOS analyses need to agree on what future AADT values to use. Additional information can be found in the PTF Handbook.

For site impact analyses, volumes are frequently presented in terms of trips generated by the site rather than roadway-specific AADT, K, and D values. Institute of Transportation Engineer's (ITE's) Trip Generation Handbook is typically used for trip generation for site impact analyses; however, FDOT should be consulted about supplemental material. In all cases, care should be given to ensure final values are compatible with statewide Standard K and D factors.

8.1.2. Planning Analysis Hour Factor (K)

As areas become more developed, measured K values often drop, primarily for two reasons. The first is that more urban situations typically are not subject to highly volatile volumes, such as holiday traffic in rural areas. Generally, more developed areas are subject to frequent recurring volumes, such as weekday commuter traffic. The second is that as congestion develops, the spreading of the peak travel hour traffic also occurs. Refer to FDOT PTF Handbook for Standard K values used by facility type.

For future year generalized planning analyses, the Standard K values for the assumed area and facility types on the backs of FDOT's Generalized Service Volume Tables are appropriate. In the longer term, it may be necessary to determine if the area is projected to transition into a different area type over the analysis period.

8.1.3. Directional Distribution Factor (D)

For future year generalized planning analyses performed in this handbook, the D factor value for all area

and facility types is 0.55. If a site-specific analysis is conducted in the short term, FDOT's preferred approach is to use the FDOT's 200th Highest Hour Traffic Count Report from the FTO Web Application. In the longer term, some lowering of the factor may be appropriate. The analyst should refer to the D factors and their acceptable range in FDOT PTF Handbook.

8.2. Change in Control Variables

Making traffic and roadway projections into the future is a well-accepted practice for generalized planning analysis. For reasonable generalized planning analysis of signalized roadways, control variables must be addressed in the short and long terms. **Typically, the two most important control variables are the through movement g/C and signal density.**

8.2.1 g/C

Determining current and future g/Cs for a roadway is complicated, and judgments must be made. In the short and long terms:

- For Class II arterials, using the existing g/Cs is appropriate
- For Class I arterials not subject to significant development pressure, using the existing g/Cs is appropriate
- For Class I arterials incurring significant new development pressure, it is appropriate to lower through movement g/Cs
- For new individual signals, through movement g/Cs will vary greatly; however, for planning purposes, none should be assumed to be higher than 0.55

Within the HCS, an acceptable method to estimate future g/C ratios is by conducting intersection capacity analyses. The HCS will determine the required g/C ratios to progress through traffic movements on the major street, while simultaneously minimizing the delay to the minor street approaches.

8.2.2 Signal Density

As areas grow in population, additional traffic signals are frequently installed. Usually, these new signals do not significantly affect the capacity of roadways, unless they are in a previously undeveloped area or are so closely spaced that queue spillback occurs. They can play a major role in the determination of the LOS if stops occur more frequently and average travel speeds drop.

In short- and long-term analyses, it is appropriate to consider the probability of new traffic signals, especially based on proposed new developments. In the absence of specific development plans or intersecting traffic volume cross-product signalization criteria, general guidance should be used in developed areas.

In the short term:

- For Class II arterials, using the existing signalized intersection locations is appropriate
- For Class I arterials not subject to significant development pressure, using the existing signalized intersection locations is appropriate
- For Class I arterials incurring significant new development pressure, one additional signalized intersection per mile may be assumed

In the long term:

- For Class II arterials, one additional signalized intersection per mile may be assumed
- For Class I in small towns, one additional signalized intersection per mile may be assumed

Because of the wide variety of circumstances along generally uninterrupted flow highways in rural areas, no specific guidance can be given on future signal locations. However, for capacity and LOS purposes, the possibility of new signalized intersections should be considered. Because of the importance of signal density on the LOS on state roadways, for site impact applications, the number of new signals should be reviewed and approved by the FDOT district prior to use in an analysis.

Typically, other roadway, traffic, control, and multimodal variables do not have as large of an effect on the capacity and LOS as the ones addressed above. If some of these other inputs (e.g., turning movement percentages) were determined in a current year analysis, they can usually be applied to future year analysis. If these other variables were not determined for a current year analysis, the statewide default values on the backs of the Generalized Service Volume Tables may be assumed.

9 Maximum Capacity Volumes

The use of highway capacity and LOS analysis, whether applied appropriately or not, has resulted in projected traffic volumes beyond normal capacity ranges found on Florida facilities. There are multiple reasons for this, but to aid analysts and reviewers on what capacity values will normally be acceptable, FDOT has adopted a set of general guidelines. The values provided below are based on site-specific freeway studies and counts, as well as arterial maximum acceptable g/C ratios.

9.1. Arterials

For arterials, the maximum generally acceptable per-lane approach volumes are:

- Large urbanized: 1,000 vehicles per hour per lane (vphpl)
- Other urbanized: 950 vphpl
- Transitioning: 920 vphpl
- Urban: 920 vphpl
- Rural: 850 vphpl

The Maximum volumes may vary due to widely varying g/C, turning movements at intersections, and the segmentation of roadways. The maximum volumes represent a weighted g/C of approximately 0.50, which is the average of the critical g/C and the average of all other g/Cs along an urban street facility. Typically, there will be at least one principal arterial intersecting an urban street being analyzed. Such intersections are usually the critical intersections (hot spots) for an arterial analysis, and g/C ratios for the through movements are in the range of about 0.40. Although these intersections are frequently flared out to achieve greater capacity, the through movement g/C ratios cannot increase appreciably if all intersection movements are included. Therefore, the use of a 0.50 g/C ratio for determining the capacity of an urban street should represent the upper bounds of what can be reasonably expected.

Arterial facility analyses typically involve intersecting principal arterials, but section analyses may not have intersecting principal arterials. Under these circumstances, urban street through movements during peak travel hours may feature g/C ratios in the 0.50 to 0.60 range. Such values may be appropriate for segment or section analyses; however, the use of such high g/C ratios is not normally acceptable for a facility analysis and may represent an inappropriate segmentation of roadways.

Another situation in which g/C ratios may be above 0.50 is in the outlying parts of urbanized areas or in transitioning areas for both arterials and generally uninterrupted flow highways. In these areas, signals have typically been recently installed, and side traffic has not yet reached the high levels that it will in future years. Therefore, although current maximum volumes per lane may be higher than those shown above, in the future, such values will likely not be sustained and should be avoided in the arterial analysis.

9.2. Freeways

For freeway facilities and sections, the maximum volumes at 70 mph free flow speed are 2,400 pcphpl as per HCM.

Freeway operational measures such as ramp metering may result in higher volumes.

In general, the implementation of ramp metering could have a 5 percent or less improvement on capacity.

9.3. Highways

For highway segments (generally uninterrupted flow highways), the maximum per-lane approach volumes as per HCM are:

- Two-lane
  - Developed: 1,700 pcphpl
  - Undeveloped: 1,700 pcphpl
- Multilane
  - Developed (55 mph free flow speed): 2,100 pcphpl
  - Undeveloped (60 mph free flow speed): 2,200 pcphpl

10 Florida's LOS Policy

REQUIREMENTS FOR LOS TARGETS FOR THE STATE HIGHWAY SYSTEM

It is FDOT's intent to plan, design, and operate the SHS at an acceptable LOS for the traveling public. The LOS targets are consistent with FDOT's Policy on Level of Service Targets for the SHS, Topic No. 000-525-006. The policy outlines the automobile mode LOS target for urbanized areas and outside urbanized areas. The automobile mode LOS targets for the SHS during peak travel hours are D in urbanized areas and C outside urbanized areas. FDOT shall work with local governments to establish appropriate LOS targets for multimodal mobility and system design. The targets shall be responsive to all users, for context, roadway function, network design, and user safety.

11 Generalized Planning Analysis

11.1. Introduction

FDOT's Generalized Service Volume Tables found at the end of this Q/LOS Handbook are the primary analysis tool in conducting this type of planning analysis. **Although considered a good generalized planning tool, the Generalized Service Volume Tables are not detailed enough for project development and environment (PD&E) traffic analysis, final design, or operational analysis work, and should not be used for those purposes.** In addition, the Generalized Service Volume Tables cannot be relied upon when approaching LOS E and LOS F thresholds, because of operational fluctuations at the thresholds. More detailed analysis should be performed in these situations.

Specific applications of the Generalized Service Volume Tables include:

- Generalized comprehensive plan amendment analyses
- Statewide highway system deficiencies and needs
- Statewide mobility performance measure reporting
- Areawide baseline capacity (e.g., MPO boundaries) and service volume values for travel demand forecasting models
- Areawide influence areas (e.g., impact areas) for major developments
- Future year analyses (e.g., SIS Needs Plans, MPO LRTPs which have a 10 to 25-year planning horizon)
- Baseline capacity and service volumes for concurrency management systems

Generalized Service Volume Tables must be appropriately applied using the right area type and facility type designations and interpreted selecting the right values from the tables. The adjustment factors must be applied, as applicable.

It is quite possible that no single roadway has the exact values for all the roadway, traffic volumes, land use, signal control, and multimodal variables used in the Generalized Service Volume Tables. The tables must be applied with care to roadway facilities and in the determination of the LOS grade.

The automobile, bicycle, and pedestrian parts of the Generalized Service Volume Tables were developed based on the definitions and methodology of the HCM. Nationally the TCQSM is the comparable document to the HCM for bus analyses.

FDOT's Generalized Service Volume Tables consist of five area types grouped into three tables:

- Urbanized areas
- Areas transitioning into urbanized/urban areas, or cities with population of more than 5,000 not in urbanized areas
- Rural undeveloped areas, or cities and developed areas with population of less than 5,000

Most planning applications begin with AADT volumes given as an input, or end with AADT as a calculated output. Therefore, the generalized daily service volumes shown in Tables 1 through 3 depict the AADT based on a standard peak hour. Some local and regional entities have adopted two-direction peak hour standards.

Tables 4 through 6 provide generalized peak hour two-way service volumes. Generalized peak hour directional volumes (Tables 7 through 9) are provided, because traffic engineering analyses are conducted on an hourly directional basis. These hourly directional tables may be viewed as the most fundamental of the tables, because the two-way tables are simply the peak hour directional values divided by D, and the daily tables are simply the peak hour directional values divided by the D and K factors.

All three sets of tables are internally consistent. All of the volumes within the tables are based on the Standard K factors. The urban/transitioning freeways are based on the average of urbanized and rural Standard K factors. The PHFs of 0.95, 0.92, and 0.88 were used in the creation of the urbanized, transitioning/urban, and rural tables, respectively. The 200th highest hour for the directional distribution variable is approximately equivalent to the typical peak hour of a day during a peak season in a developed area. Again, it is stressed that the daily, peak hour two-way, and peak hour directional tables are internally consistent and based on the same time period and directional flow of traffic.

The input values used to generate the Generalized Service Volume Tables can be found on the backs of Tables 1 through 9 and yield the results on the fronts of the Tables.

The Generalized Service Volume Tables present maximum service volumes, or the highest numbers of vehicles, for a given LOS. Any number greater than the value shown for a roadway with a given number of lanes would drop the LOS to the next letter grade.

The Generalized Service Volume Tables should not be referred to as capacity tables. In general, the values shown are the maximum service volumes for a given LOS based on roadway, traffic, control, and multimodal conditions during the peak hour in the peak travel direction. Whereas the maximum service volume deals with the highest number of vehicles for a given LOS, capacity deals with the maximum number of vehicles or persons that can pass a point during a specified time period under prevailing roadway, traffic, and control conditions. Many of the LOS E service volumes in the hourly directional tables also represent the capacity of the roadway, but in general, most of the values do not reflect a roadway's capacity.

A clear case of not representing capacity values is the daily tables. Roadway capacities for the day far exceed the volumes shown in the daily tables. All roadways are underutilized in the early morning hours and many heavily congested roads will have volumes higher than the highest volumes shown in the daily tables, because traffic is backed up for more than a one-hour time period.

Another case of not representing capacity is the arterial LOS E service volumes. **The primary criterion for the LOS on arterials is the average travel speed, not the capacity of the roadway.** The average travel speed along arterials is made of many control variables (e.g., progression, cycle length), not just the capacity (i.e., v/c ratios) of signalized intersections. Only in the special case of when the capacity of signalized intersections controls how many vehicles can pass through the intersections does capacity essentially dictate the lowest acceptable average travel speeds along arterials.

FDOT's Generalized Service Volume Tables are:

- Annual Average Daily Service Volume Tables
  - Table 1: urbanized areas
  - Table 2: transitioning into urbanized areas or urban areas

  - Table 3: rural undeveloped or rural developed areas
- Peak hour two-way service volume
  - Table 4: urbanized areas
  - Table 5: transitioning into urbanized areas or urban areas
  - Table 6: rural undeveloped or rural developed areas
- Peak hour directional service volume tables
  - Table 7: urbanized areas
  - Table 8: transitioning into urbanized areas or urban areas
  - Table 9: rural undeveloped or rural developed areas

11.2. Special Cases

The volumes in the Generalized Service Volume Tables should be considered as average volumes over the facility under analysis.

For example: If a 4-mile facility has AADT counts of:

- Segment 1 - 23,000
- Segment 2 - 22,000
- Segment 3 - 25,000
- Segment 4 - 23,000 and
- Segment 5 - 27,000

FDOT recommends the use of the average value 24,000 for comparison to the tables to determine the LOS.

The use of the average volume works reasonably well, unless there is one segment that has a widely disparate value, in which case a median value may be more appropriate.

11.2.1. Mid-Block Considerations

In general, Q/LOS analyses for interrupted flow facilities primarily focus on signalized intersections. The majority of motorist aggravation is generally attributable to delay, which primarily occurs at signalized intersections on arterials. Therefore, when using the Generalized Service Volume Tables, the number of lanes for arterials and other interrupted flow facilities should be determined at major intersections rather than mid-block.

Travelers place a greater emphasis on mid-block considerations while traveling on uninterrupted flow facilities and non-automobile modes. **For example, on two-lane highways in rural undeveloped areas, the LOS is largely determined by the ability to pass other vehicles.** For freeways, most travelers are concerned about the operation of the whole facility and not the operation of particular interchanges. For bicycle and pedestrian movements, the BLOS and PLOS models are calibrated for mid-block conditions. For bus LOS, the emphasis is on the ability to travel by bus over the length of facility, with less importance placed on individual intersections. Therefore, in general, the number of lanes for these situations reflect mid-block considerations.

11.2.2. Non-State Signalized Roadways Adjustment

The primary purpose of this Q/LOS Handbook is to compute the LOS for state facilities. However, the Generalized Service Volume Tables are structured and are reasonably well-suited to local governments that desire to use them to evaluate roads under local jurisdiction. A feature of the urbanized and transitioning/urban Generalized Service Volume Tables is that Non-State roadways are addressed. The only types of roadways not addressed in the tables are unsignalized local streets and unpaved roads.

The mere fact that roadways are operated and maintained by different governmental entities has no effect on the capacity or LOS of the roadways. **However, in general, Non-State roadways have lower capacities and service volumes than state facilities, because they have lower green times at signalized intersections.** The Generalized Service Volume Tables contain a 10 percent adjustment factor for Non-State roadways.

The HCM LOS criteria address arterials rather than collectors or local streets. FDOT considers it appropriate for local governments to decide how to analyze collectors.

Uninterrupted flow facilities are analyzed the same, regardless of whether they are state facilities or not.

11.2.3. Variations in Levels of Service

Higher Q/LOS for the automobile, bicycle, and pedestrian modes may not be achieved, even with extremely low traffic volumes, given the default values used in the Generalized Service Volume Tables. In the case of automobiles, the higher Q/LOS cannot be achieved primarily because the control characteristics simply will not allow vehicles to attain relatively high average travel speeds. In the case of bicycles and pedestrians, it is primarily caused by the lack of facilities serving those modes. The tables have adequate footnotes to reflect this unachievable concept.

Lower Q/LOS for the automobile, bicycle, and pedestrian modes may not be applicable, even with extremely high traffic volumes, given the default values used in the Generalized Service Volume Tables. In the case of automobiles, the lower Q/LOS are not applicable, primarily because the control characteristics do not allow enough vehicles to pass through an intersection in an hour. If vehicles could get through the intersection, they could obtain the applicable LOS speed threshold, but there is not enough capacity at the intersection to let them pass through.

In the case of bicycles and pedestrians, it is primarily caused by the existence of facilities adequately serving those modes. For example, if a sidewalk exists, it is very difficult to establish a set of conditions in which the LOS to the pedestrian is F.

Essentially, once the maximum service volume is reached, the next LOS grade is F. For example, in Service Volume Table 1 for multilane Class I arterials, if demand volumes are greater than the LOS D threshold, then the LOS is F, and if the volume is at the LOS D threshold, the LOS is D; essentially, LOS E does not exist.

11.2.4. Median and Turn Lane Adjustment (Divided/Undivided Roadways)

For simplicity, the Generalized Service Volume Tables have factors to adjust for the effects of mid-block medians and exclusive turn lanes at intersections. The cumulative effects of medians and exclusive turn lanes from common

occurrences are shown in the Generalized Service Volume Tables.

A median has the effect of changing the adjusted saturation flow rate or service volume by 5 percent. In Florida, most two-lane roadways do not have a median (e.g., a two-way left turn lane), so the tables assume no median for those facilities. However, if there is a median, appropriate service volumes should be increased 5 percent. Most multilane arterials and highways in Florida have medians, so the tables are set up to assume medians for those facilities. However, if there is no median, appropriate service volumes should be decreased 5 percent.

Most major roadways in Florida have exclusive left-turn lanes at intersections, except those with very low volumes. **If a roadway does not have left-turn lanes at major intersections, its service volume drops 20 to 25 percent, depending on the number of lanes, as indicated in the table.** The common design practice in Florida is to use shared through/right-turn lanes to accommodate right-turning vehicles. However, exclusive right-turn lanes have large capacity and service volume impacts for vehicles at major intersections.

11.2.5. One-Way Facility Adjustments

For simplicity, the urbanized and transitioning/urban area Generalized Service Volume Tables have an intuitive factor for the effects of one-way streets on vehicles. **Essentially, one-way pairs are assumed to have a 20 percent higher service volumes than corresponding two-way roadways with the same number of lanes.**

However, the Generalized Service Volume Tables treat each facility of a one-way pair separately. To account for that, the volumes in the daily and hourly two-way Tables 1 through 6 should be multiplied by 0.6, while the volumes in the hourly directional Tables 7 through 9 should be multiplied by 1.2, to obtain the correct volume and LOS.

For example, the AADT LOS D threshold for a 2-lane Class I arterial one-way facility in a transitioning area would be 9,720. This example is calculated using the Generalized Service Volume Table 2. The AADT LOS D threshold for a 2-lane Class I arterial in a transitioning area is 16,200. To calculate the LOS D threshold for a one-way facility, multiply 16,200 by the one-way facility adjustment, 0.6, to calculate the one-way facility LOS D threshold of 9,720.

11.2.6. Auxiliary Lane Adjustment

Freeway auxiliary lanes (lanes connecting on- and off-ramps) usually have significant capacity and LOS benefits. The values contained in the tables indicate their importance in a general way. To apply the values, simply add the volume shown in the freeway adjustment to the maximum service volume shown in the table.

11.2.7. Ramp Metering Adjustment

Freeway ramp metering has the benefit of smoothing out traffic demand entering a freeway during peak travel times. This benefit is reflected by increasing the service volumes shown on the tables by 5 percent.

11.2.8. Bicycle LOS (BLOS)

The bicycle portions of the Generalized Service Volume Tables make primary use of the two most important factors in determining the LOS for bicyclists: the existence of paved shoulders/bicycle lanes and vehicle volumes. **It is important to note that the volumes shown in the tables are not the number of bicyclists; rather, they are the number of vehicles in the outside lane.** Unlike automobile LOS, which is highly dependent on the number

of other vehicles on the roadway, **BLOS is not determined by how many other bicyclists are on road; rather, it is primarily determined by the bicycle accommodations on the roadway and volume of vehicles.**

The other factor used in the Generalized Service Volume Tables is the volume of vehicles in the outside lane. For analysis purposes, vehicle volumes are assumed to be equally spread across the number of directional roadway lanes. Unlike the automobile entries in the table, in which the number of lanes is an entry into the tables, a step of multiplying the volume by the number of lanes is needed to use the volume (hourly directional, hourly two-way, or daily) of vehicles. For example, in Table 7, the LOS C threshold for zero percent bicycle lane coverage is 150 vehicles for the outside lane. If the roadway has four lanes, then the 150 vehicles would be multiplied by 2 (number of directional lanes) to determine the maximum volume of vehicles for BLOS C in one direction of flow. The additional step was included to simplify the appearance of the tables and save space.

11.2.9. Pedestrian LOS (PLOS)

The pedestrian portions of the Generalized Service Volume Tables make primary use of the two most important factors in determining the LOS for pedestrians: the existence of a sidewalk and vehicle volumes. It is important to note that the volumes shown in the tables are not the number of pedestrians; rather, they are the number of vehicles in the outside lane. Unlike automobile LOS, which is highly dependent on the number of other vehicles on the roadway, PLOS is not determined by how many other pedestrians use the facility; rather, it is primarily determined by the presence of sidewalks and the volume of vehicles.

The other factor used in these tables is the volume of vehicles in the outside lane. For analysis purposes, vehicle volumes are assumed to be equally spread across the number of directional roadway lanes. Unlike the automobile entries in the table, in which the number of lanes is an entry into the tables, a step of multiplying the vehicle volume by the number of lanes is needed to use the volume (hourly directional, hourly nondirectional, or daily) of vehicles. For example, in Table 7, the LOS C threshold for 100 percent sidewalk coverage is 540 vehicles for the outside lane. If the roadway has four lanes, then the 540 vehicles would be multiplied by 2 (number of directional lanes) to determine the maximum volume of vehicles for PLOS C in one direction of flow. The additional step was included to simplify the appearance of the tables and save space.

All techniques in this Q/LOS Handbook are based on a directional analysis. For example, in the case of evaluating the automobile LOS on arterials, the LOS is for the peak directional flow, and the LOS for the off-peak direction could be higher, lower, or the same. This directional technique results in some unique perspectives when evaluating PLOS. Sidewalks, whether on one or both sides of a road, serve pedestrians in both directions, unlike facilities for the other modes. Furthermore, analysts should be especially careful when using the Generalized Service Volume Tables for determining PLOS when there is a sidewalk only on one side of the roadway. Because all the Generalized Service Volume Tables are based on peak hour directional analyses, PLOS based on the tables should be considered applicable only to the direction of the peak flow of traffic. When using the tables, there is typically a difference of two LOS grades if the sidewalk is, or is not, on the same side of roadway as the peak flow of traffic. Generally, having sidewalks on both sides of arterials in developed areas is considered desirable; yet, the Generalized Service Volume Tables do not adequately reflect that concept.

11.2.10. Bus LOS

The bus portions of the Generalized Service Volume Tables are primarily dependent on bus frequency,

which is the number of scheduled fixed-route buses that have a potential to stop in a given segment in the peak direction of flow in a one-hour time period. That measure is supplemented by pedestrian accessibility. In the Generalized Service Volume Tables, pedestrian accessibility is represented by two broad ranges of sidewalk coverage.

There are two unique aspects of bus mode entries of the Generalized Service Volume Tables. First, it is important to note that the volumes shown in the tables are the number of buses per hour. Unlike automobile, bicycle, and PLOS thresholds, the bus mode LOS thresholds are not related to the number of vehicles on the roadway. Second, regardless of the table used, all numbers are shown in terms of buses per hour for the peak hour in the peak direction. Thus, even in the daily urbanized table (Table 1), the threshold values shown are still in terms of peak hour directional buses.

11.3. Service Volume Calculation Process

All service volumes and resulting tables are first calculated for the peak hour in the peak direction. The peak hour two-way values are obtained by dividing the peak hour peak direction service volumes by D. The daily volumes are obtained by dividing the peak hour two-way service volumes by K.

Peak hour directional and peak hour two-way service volumes are rounded to the nearest 10 vehicles. Daily service volumes are rounded to the nearest 100 vehicles.

11.3.1. Arterial LOS

For the automobile mode, arterial analyses starts with a volume of 10 vph and then calculates the v/c ratio at each intersection. Then, the speed on each segment is calculated, which also accounts for the signal delay and the overall average speed for the facility. The average speed is checked against the average speed criterion for LOS A. If the speed is below the LOS A threshold, the volume is incremented by either 50 vph (if the difference in the actual speed and LOS threshold speed is large) or 10 vph (if the difference in actual speed and LOS threshold speed is small). This process is repeated until the average facility speed is approximately equal to the LOS A threshold. The volume level at which this occurs is the service volume for LOS A. The volume (i.e., LOS A service volume) is then incremented by 10 vph and incrementally increased until the average facility speed is approximately equal to the LOS B threshold speed. This process repeats for LOS C, D, and E. If at any point during this process the v/c ratio exceeds 1.0 for the full hour, the calculation is stopped. If that condition is met, this volume becomes the service volume for whichever LOS letter grade was being evaluated at the time, as well as for the lower Q/LOS grades.

For the bicycle and pedestrian modes, again the analyses is started with a volume of 10 vph and then BLOS and PLOS scores are calculated based on the BLOS and PLOS models. Then, that score is checked against the LOS A criterion. If the score is below the LOS A threshold value, the volume is incremented by 10 vph. This process is repeated until the facility score is approximately equal to the LOS A threshold. The volume level at which this occurs is then the service volume for LOS A. The volume (i.e., LOS A service volume) is then incremented by 10 vph and incrementally increased until the average facility score is approximately equal to the LOS B threshold volume. This process repeats for LOS C, D, and E. If at any point during this process the vehicle v/c ratio exceeds 1.0 for the full hour, the calculation is stopped. If that condition is met, this volume becomes the service volume for whichever LOS letter grade was being evaluated at the time as well as for the lower Q/LOS grades.

For the bus mode, the LOS service frequency criteria that appear in the TCQSM is used, modified by PLOS, relative auto speed, bus stop amenities, and passenger load factors.

11.3.2. Freeway Facilities LOS

For freeways, the HCS7 freeway facilities module was used to obtain the service volume thresholds. The automobile volume is incrementally increased until the demand flow rate to the mean speed of the traffic stream produces an average facility density that is approximately equal to the LOS A threshold. The volume level at which this occurs is the service volume for LOS A. The volume (i.e., LOS A service volume) is then incrementally increased by 10 vph and until the average facility density is approximately equal to the LOS B threshold speed. This process repeats for LOS C, D, and E. If at any point during this process the v/c ratio exceeds 1.0 for the full hour, the calculation stops. If that condition is met, this volume becomes the service volume for whichever LOS letter grade was being evaluated at the time, as well as for the lower Q/LOS grades. The traffic factors and other inputs such as CAF and SAF used in the analyses are discussed in the previous sections of this handbook and listed at the back of the Generalized Service Volume Tables.

11.3.3. Highways LOS

For multilane uninterrupted flow highways, HCS7's multilane highways procedure starts with a volume of 10 vph and then calculates density. If the density is below the LOS A threshold density, the volume is incremented by 10 vph. This process is repeated until the average density is approximately equal to the LOS A threshold. The volume level at which this occurs is then the service volume for LOS A. The volume (i.e., LOS A service volume) is then increased by 10 vph until the average facility density is approximately equal to the LOS B threshold density. This process repeats for LOS C, D, and E. If at any point during this process the v/c ratio exceeds 1.0 for the full hour, the calculation stops. If that condition is met, this volume becomes the service volume for whichever LOS letter grade was being evaluated at the time, as well as for the lower Q/LOS grades. The traffic factors and other inputs such as CAF and SAF used in the analyses are discussed in the previous sections of this handbook and listed at the back of the Generalized Service Volume Tables. A different free flow speed is used in the analyses for multilane uninterrupted flow highways passing through undeveloped areas and developed areas.

For two-lane uninterrupted flow highways, the computational process is similar to the process followed for multilane uninterrupted flow highways. The HCS7's two-lane highways module is dependent on the highway class (I, II, or III). The traffic factors and other inputs used in the analyses are discussed in the previous sections of this handbook and listed at the back of the Generalized Service Volume Tables. A different free flow speed is used in the analyses for two-lane uninterrupted flow highways passing through undeveloped areas and developed areas.

Glossary

Acceleration lane	A freeway lane extending from the on-ramp gore to where its taper ends.
Accessibility	The dimension of mobility that addresses the ease in which travelers can engage in desired activities.
Actuated control	All approaches to the signalized intersection have vehicle detectors, with each phase subject to a minimum and maximum green time, and some phases may be skipped if no vehicle is detected. Same as *actuated* and *fully actuated control*.
Actuated-Coordinated control	The fixed-cycle signal control of an intersection in which the through movement on the designated main roadway gets the unused green time from side movements because of limited or no vehicle activation from side movements. Same as *coordinated-actuated*.
Add-on/drop-off lanes	The roadway lanes added before an intersection and dropped after the intersection. Same as *expanded intersections*.
Adjusted saturation flow rate	In this Q/LOS Handbook, the base saturation flow rate times the effect of many roadway variables and traffic variables.
Adjustment factor	In the Generalized Service Volume Tables: additive or multiplicative factors to adjust service volumes.
All-way stop control	An intersection with a stop sign at all approaches.
Annual average daily traffic	The volume passing a point or segment of a roadway in both directions for one year, divided by the number of days in the year.
Areawide analysis	An evaluation within a geographic boundary.
Arrival type	A general categorization of the quality of signal progression.
Arterial	A signalized roadway that primarily serves through traffic with average signalized intersection spacing of 2 miles or less; a type of roadway based on FDOT's functional classification.
Auxiliary lane	An additional lane on a freeway connecting an on-ramp of one interchange to the off-ramp of the downstream interchange.
Average daily traffic	The total traffic volume during a given time period (more than a day and less than a year) divided by the number of days in that time period.
Average travel speed	The facility length divided by the average travel time of all vehicles traversing the facility, including all stopped delay times.
Axle correction factors	The adjustment factors used to calculate the annual average daily traffic by compensating for an axle counter's tendency to count more vehicles than are present.
Base conditions	The best possible characteristic in terms of capacity for a given type of facility.

Base saturation flow rate	The maximum steady flow rate, expressed in passenger cars per hour per lane, at which passenger cars can cross a point on interrupted flow roadways.
Basic segment	In this Q/LOS Handbook, the length of a freeway in which operations are unaffected by interchanges. Same as *basic freeway segment*.
Basic two-lane highway Segments	A highway segment upstream of the intersection influence area and downstream of the affected downstream highway segment, and thus not affected by signalized intersections.
Bicycle lane	In this Q/LOS Handbook, a designated or undesignated portion of roadway for bicycles adjacent to vehicle lanes.
Bicycle level of service score	A numerical value calculated by the BLOS Model that corresponds to a BLOS.
Bus frequency	The number of buses per hour serving one direction of a roadway facility.
Bus stop	An area where bus passengers wait for, board, alight, and transfer.
Bus stop amenities	Enhancements for comfort or safety that can greatly influence the perceived QOS along a route. Four categories of bus stop amenities exist: excellent, good, fair, and poor.
Bus stop amenity factors	Factors used to determine the adjusted bus frequency value by applying a factor commensurate to the quality of bus stop amenities.
Bus stop type adjustment factors	Factors that adjust travel times along bus routes by adding 15 to 35 seconds of delay per route for typical and major bus stops, respectively.
Capacity	The maximum sustainable flow rate at which persons or vehicles reasonably can be expected to traverse a point or a uniform section of roadway during a given time period under prevailing conditions. As typically used in this Q/LOS Handbook, the maximum number of vehicles that can pass a point in one hour under prevailing roadway, traffic and control conditions.
Capacity adjustment factor	An adjustment factor used in the HCS7 freeways and multilane highways module to adjust the capacity of a facility for reduced capacity situations or to match field measurements. The capacity can be reduced to represent incident situations, such as construction and maintenance activities, adverse weather, traffic incidents, and vehicle breakdowns.
Capacity constrained	A condition in which traffic *demand* exceeds the capacity of a roadway.
Capacity utilization	The dimension of mobility that addresses the quantity of operations relative to capacity.
Captive rider	A transit rider who is limited by circumstances to use transit as a primary source of transportation.
Choice rider	A transit rider who chooses to take transit over other readily available transportation options.
Class I arterial	A roadway that has posted speeds of 40 mph or higher.

Class II arterial	A roadway that has posted speeds of 35 mph or less.
Collector	A roadway providing land access and traffic circulation with residential, commercial and industrial areas.
Concurrency	A systematic process utilized by local governments to ensure new development does not occur unless adequate infrastructure is in place to support growth.
Context classification	A classification assigned to a roadway that broadly identifies the various built environments in Florida, based on existing or future land use characteristics, development patterns, and the roadway connectivity of an area.
Control delay	The component of delay that results when a signal causes traffic to reduce speed or stop.
Control variables	The parameters associated with roadway controls.
Core freeways	The major, non-toll freeways going through the urbanized core areas of the largest metropolitan areas, such as Interstate 4 in Orlando. FDOT has adopted lower K values for these freeways to represent a peak period, as opposed to a peak hour analysis. The lower K values affect daily service volumes only in the Generalized Service Volume Tables.
Critical signalized intersection	The signalized intersection with the lowest volume-to-capacity ratio (v/c), typically the one with the lowest effective green ratio (g/C) for the through movement. Same as *critical signalized intersection*.
Cycle length	The time it takes a traffic signal to go through one complete sequence of signal indications.
Deceleration lane	A freeway lane extending from the taper to the off-ramp gore.
Delay	The additional travel time experienced by a traveler.
Demand	The number of persons or vehicles desiring service on a roadway. Same as *demand traffic*.
Density	The number of vehicles, averaged over time, occupying a given length of lane or roadway; usually expressed as vehicles per mile or vehicles per mile per lane.
Developed areas	All areas not rural undeveloped. Same as rural developed areas.
Directional distribution factor	The proportion of an hour's total volume occurring in the higher volume direction.
Effective green ratio	Typically in this Q/LOS Handbook, the ratio of the effective green time (g) for the through movement at a signal intersection to its cycle length (C).
Effective green time	The time allocated for the through movement to proceed; calculated as the through movement green plus yellow plus all-red indication times less the lost time.
Exclusive left-turn storage length	The total amount of storage length, in feet, for exclusive left-turn lanes.
Exclusive right-turn lanes	A storage area designated to only accommodate right-turning vehicles.

Exclusive turn lane	A storage area designated to only accommodate left- or right-turning vehicles; in this Q/LOS Handbook, the turn lane must be long enough to accommodate enough turning vehicles to allow the free flow of the through movement.
Five-lane section	A roadway with four through lanes, two in each direction, separated by a two-way left turn lane; in the Generalized Service Volume Tables, a five-lane section is treated as a roadway with four lanes and a median.
Flow rate	In this Q/LOS Handbook, the equivalent hourly rate at which vehicles pass a point on a roadway for a 15-minute period.
Free flow speed	In this Q/LOS Handbook, the average speed of vehicles under low-flow traffic conditions and not under the influence of signals, stop signs, or other fixed causes of interruption, generally assumed to be 5 mph over the posted speed limit.
Freeway	A multilane, divided highway with at least two lanes for the exclusive use of traffic in each direction and full control of ingress and egress.
Freeway segment	In this Q/LOS Handbook, a basic segment, interchange or toll plaza.
FSUTMS	Florida Standard Urban Transportation Model Structure; Florida's software that forecasts travel demand.
Functional classification	The assignment of roads into systems according to the character of service they provide in relation to the total road network.
Generalized Service Volume Tables	Maximum service volumes based on areawide roadway, traffic, and control variables and presented in tabular form.
Generalized planning	A broad type of planning application that includes statewide analyses, initial problem identification, and future year analyses. In this Q/LOS Handbook, typically performed by using the Generalized Service Volume Tables.
Gore	The point located immediately between the left edge of a ramp pavement and the right edge of the roadway pavement at a merge or diverge area.
Headway	The time, in seconds, between two successive vehicles as they pass a point on a roadway.
Heavy vehicle	An FHWA vehicle classification of 4 or higher; essentially, vehicles with more than 4 wheels touching the pavement during normal operation.
Heavy vehicle factor	The adjustment factor for heavy vehicles.
Heavy vehicle percent	The percentage of heavy vehicles in the traffic stream.
Highway capacity analysis	An examination of the maximum of vehicles or persons that can reasonably be expected to pass a point on a roadway during a specified time period under prevailing roadway, traffic, and control conditions. Same as *capacity analysis*.
Highway Capacity Manual	The Transportation Research Board's document on highway capacity and QOS.
Highway Capacity Software 7	Software that replicates the HCM, Sixth Edition.

Interchange	In this Q/LOS Handbook, the influence area associated with the off-ramp influence area, overpass/underpass, and on-ramp influence area of a connection to a freeway. Same as *freeway interchange influence area*.
Interrupted flow	A category of roadways characterized by signals, stop signs, or other fixed causes of periodic delay or interruption to the traffic stream, with average spacing less than or equal to 2.0 miles.
Intersection influence area	In this Q/LOS Handbook, a segment of an uninterrupted flow highway influenced by an isolated intersection.
Interval	A period of time in which all traffic signal indications remain constant.
Isolated intersection	An intersection occurring along an uninterrupted flow highway.
Large urbanized area	A Metropolitan Planning Organization urbanized area greater than 1 million in population; in Florida, these seven areas consist of the following central cities: Fort Lauderdale, Jacksonville, Miami, Orlando, St. Petersburg, Tampa, and West Palm Beach.
Lateral clearance	Clearance distance from edges of outside lanes to fixed obstructions.
Level of service	A quantitative stratification of the QOS to a typical traveler of a service or facility into six letter-grade levels, with A describing the highest quality and F describing the lowest quality; a discrete stratification of a QOS continuum.
Level of service targets	The same as the statewide minimum LOS targets for the State Highway System.
Load factor	The ratio of passengers actually carried to the total passenger capacity of a bus.
Local adjustment factor	In the 2013 Q/LOS Handbook, an adjustment factor FDOT used to adjust base saturation flow rates or base capacities to better match actual Florida traffic volumes; mostly consisted of a driver population factor and an area type factor.
Maximum service volume	The highest number of vehicles for a given LOS.
Median	In this Q/LOS Handbook, areas at least 10 feet wide that are restrictive or non-restrictive, which separate opposing-direction mid-block traffic lanes and, on arterials, contain turn lanes that allow left-turning vehicles to exit from the through traffic lanes.
Median type	A classification of roadway medians as restrictive, non-restrictive, or no median.
Mid-block	In this Q/LOS Handbook, the part of a roadway between two signalized intersections.
Mobility	The movement of people and goods.
Mode	A method of travel; in this Q/LOS Handbook, either automobile, bus, bicycle, or pedestrian.
Motorized mode	A method of travel by automobile or bus.

MPO/TPO	Metropolitan/Transportation Planning Organization.
Multilane highway	A nonfreeway roadway with two or more lanes in each direction and, although occasional interruptions to flow at signalized intersections may exist, is generally uninterrupted flow.
Multimodal	In this Q/LOS Handbook, more than one mode.
Multimodal Transportation District	An area in which secondary priority is given to vehicle mobility, and primary priority is given to ensuring a safe, comfortable, and attractive pedestrian environment, with convenient interconnection to transit (F.S. 163.3180[15]).
No passing zone	In this Q/LOS Handbook, a segment of a two-lane highway along which passing is prohibited in the analysis direction.
Non-restrictive median	A painted, at-grade area separating opposing mid-block traffic lanes.
Non-State signalized roadway	A signalized roadway not on the State Highway System.
Number of effective lanes	In terms of capacity, the equivalent number of through lanes. Typically, the number is expressed as a fraction (e.g., 2.7) to reflect the partial beneficial effects of freeway auxiliary lanes or arterial add-on/drop-off lanes.
Number of through lanes	The number of lanes relevant to an analysis of a roadway's LOS. FOR ARTERIALS ■ Usually at the signalized intersection, not mid-block ■ Usually through and shared right-turn lanes ■ Maybe a fractional number reflecting add-on/drop-off lanes or other special lane utilization considerations ■ Using the Generalized Service Volume Tables, the number at major signalized intersections FOR FREEWAYS AND UNINTERRUPTED FLOW HIGHWAYS ■ Does not include auxiliary lanes between two points ■ Usually the predominant number of through lanes between two points
Off-ramp influence area	The geographic limits affecting the capacity of a freeway associated with traffic exiting a freeway. Same as *diverge area*.
On-ramp influence area	The geographic limits affecting the capacity of a freeway associated with traffic entering a freeway. Same as *merge area*.
One-way	A type of roadway in which vehicles are allowed to move in only one direction.
Operational analysis	A detailed analysis of a roadway's present or future LOS, as opposed to a generalized planning.
Other urbanized area	A Metropolitan Planning Organization urbanized area with less than 1 million in population.
Oversaturated	A traffic condition in which demand exceeds capacity.
Passenger load factors	Factors used to determine the adjusted bus frequency value by applying a factor commensurate to the level of passenger crowding.

Passing lane	A lane added to provide passing opportunities in one direction of travel on a two-lane highway. Two-way left-turn lanes are not considered passing lanes.
Paved shoulder/bicycle lane	In this Q/LOS Handbook, pavement at least 3 feet in width separated by a solid pavement marking from the outside vehicle through lane to the edge of the pavement.
Peak direction	The course of the higher flow of traffic.
Peak hour	In this Q/LOS Handbook, a one-hour time period with high volume.
Peak hour factor	The ratio of the hourly volume to the peak 15-minute flow rate for that hour; specifically, hourly volume/(4 x peak 15-minute volume).
Peak period	A multi-hour analysis period with high volume; peak periods rather than peak hours are typically used for the analysis of core freeways or roadways within a Multimodal Transportation District.
Peak season	The 13 consecutive weeks with the highest daily volumes for an area.
Peak season weekday average daily traffic	The average daily traffic for Monday through Friday during the peak season.
Pedestrian	An individual traveling on foot and other non-motorized modes such as skateboards, scooters and both motorized and non-motorized wheelchairs.
Pedestrian accessibility	In this Q/LOS Handbook, the ease in which a pedestrian can reach a bus stop.
Pedestrian LOS Model	The operational methodology from which this Q/LOS Handbook's pedestrian Q/LOS analyses are based.
Pedestrian level of service score	A numerical value calculated by the PLOS Model that corresponds to a PLOS.
Pedestrian/sidewalk/roadway separation	The lateral distance, in feet, from the outer edge of the pavement to where a pedestrian walks on a sidewalk.
Percent time spent following	The average percent of total travel time that vehicles must travel in platoons behind slower vehicles because of the inability to pass on a two-lane highway.
Performance measure	A qualitative or quantitative factor used to evaluate a particular aspect of travel quality.
Person flow	The capacity on uninterrupted and interrupted flow facilities, defined in terms of persons per hour.
Phase	The part of a traffic signal's cycle allocated to any combination of traffic movements receiving the right of way simultaneously during one or more intervals.
Planning analysis hour factor	The ratio of the traffic volume in the study hour to the annual average daily traffic.
Planning horizon	A time period, typically 20 years, applicable to the analysis of a project, roadway or service.
Platoon	A group of vehicles traveling together as a group, either voluntarily or

	involuntarily because of signal control, geometrics, or other factors.
Point	A boundary between links. In this Q/LOS Handbook, usually a signalized intersection, but maybe other places where modal users enter, leave, or cross a facility, or roadway characteristics change.
Posted speed	The maximum speed at which vehicles are legally allowed to travel over a roadway segment.
Pretimed control	Traffic signal control in which the cycle length, phase plan, and phase times are preset and repeated continuously, according to a preset plan.
Prevailing conditions	Existing circumstances that primarily include roadway, traffic, and control conditions, but may also include weather, construction, incidents, lighting, and area type.
Principal arterial	A signalized roadway that primarily serves through traffic between centers of metropolitan areas and provides a high degree of mobility. In this Q/LOS Handbook, principal arterials have approximately one signal every half mile and a posted speed limit of 50 mph.
Quality of service	A traveler-based perception of how well a service or facility is operating.
Quality/level of service	A combination of the broad QOS and more detailed LOS concepts.
Queue spillback	When a link's queue of vehicles extends to upstream links.
Ramp overlap segment	The length for which the upstream on-ramp influence area and the downstream off-ramp influence area overlap.
Restrictive median	A raised or grassed area that restricts crossing movements.
Roadway	A general categorization of an open way for persons and vehicles to traverse; in this Q/LOS Handbook, it encompasses streets, arterials, freeways, highways, and other facilities.
Roadway class	The categories of two-lane highways; two-lane highways are primarily grouped by area type. Same as *class*.
Roadway variables	The parameters associated with roadways. Also known as *roadway characteristics*.
Rolling terrain	A combination of horizontal and vertical alignments causing heavy vehicles to reduce their running speeds substantially below that of passenger cars, but not to operate at crawl speeds for a significant amount of time.
Route	As used in the TCQSM, a designated, specified path to which a bus is assigned.
Route segment	As used in the TCQSM, a portion of a bus route ranging from two stops to the entire length of the route.
Running speed	The distance a vehicle travels divided by the travel time the vehicle is in motion.
Rural area	In the Generalized Service Volume Tables, areas that are not

	urbanized areas, transitioning areas, or urban areas.
Rural developed areas	The portions of rural areas that are along coastal roadways or in generally populated areas with a population of less than 5,000.
Rural undeveloped areas	Portions of rural areas with no or minimal population or development.
Scheduled fixed route	In this Q/LOS Handbook, bus service provided on a repetitive, fixed-schedule basis along a specific route, with buses stopping to pick up and deliver passengers to specific locations.
Seasonal adjustment factor	A factor used to adjust for the variation in traffic over the course of a year.
Section	A group of consecutive segments that have similar roadway characteristics, traffic characteristics and, as appropriate, control characteristics for a mode of travel. A characteristic describing laneage (e.g., three-lane section, five-lane section, seven-lane section).
Segment	A portion of a facility defined by two boundary points; usually the length of roadway from one signalized intersection to the next signalized intersection.
Service measure	A specific performance measure used to assign a LOS to a set of operating conditions for a transportation facility or service.
Service volume table	Maximum service volumes based on roadway, traffic and control variables and presented in tabular form.
Seven-lane section	A roadway with six through lanes, three in each direction separated by a two-way left-turn lane; in the Generalized Service Volume Tables, a seven-lane section is treated as a roadway with six lanes and a median.
Shared lane	A roadway lane shared by two or three traffic movements; in Florida, a shared lane usually serves through and right-turning traffic movements.
Sidewalk	A paved walkway for pedestrians at the side of a roadway.
Sidewalk/roadway protective barrier	Physical barriers separating pedestrians on sidewalks and vehicles.
Sidewalk/roadway separation	The lateral distance in feet from the outside edge of the pavement to the inside edge of the sidewalk.
Signal	In this Q/LOS Handbook, a traffic control device regulating the flow of traffic with green, yellow, and red indications. A traffic control device that routinely stops vehicles during the study period; excluded from this definition are flashing yellow lights, railroad crossings, draw bridges, yield signs, and other control devices.
Signal density	The number of signals intersections per mile.
Signal type	The kind of traffic signal (actuated, pretimed or coordinated-actuated) with respect to the way its cycle length, phase plan, and phase times are operated.

Signalized intersection	A place where two roadways cross and have a signal controlling traffic movements.
Signalized intersection spacing	The distance between signalized intersections.
Simple average	An average that gives equal weight to each component.
Speed	In this Q/LOS Handbook, the same as average travel speed, unless specifically noted.
Speed adjustment factor	An adjustment factor in HCS 7's freeways and multilane highways module, used to adjust the speed of a facility to account for the effects of adverse weather and construction work zones. The SAF also may be used to calibrate estimates of free-flow speed for local conditions or other effects that contribute to a reduction in free-flow speed.
Standard K	FDOT's standard peak hour to annual average daily traffic ratio (K), based on a roadway's characteristics (facility type) and location (area type). Values of less than 9 percent essentially represent a multi-hour peak period rather than a peak hour.
State Highway System	All roadways that FDOT operates and maintains; the State Highway System consists of the Florida Intrastate Highway System and other state roads.
Stochastic	A description of a type of model that incorporates variability and uncertainty into analysis.
Strategic Intermodal System	Florida's system of transportation facilities and services of statewide and interregional significance.
Termini	In this Q/LOS Handbook, the beginning and endpoints of a facility.
Three-lane section	A roadway with two through lanes separated by a two-way left-turn lane. In the Generalized Service Volume Tables, a three-lane section is treated as a roadway with two lanes and a median. An exclusive passing lane on a two-lane highway is not considered a three-lane section.
Threshold	The breakpoints between LOS differentiations.
Threshold delay	The additional travel time represented by the difference between the time associated with a roadway's generally accepted speed (LOS D threshold in urbanized areas and LOS C threshold in nonurbanized areas) and average travel speed. Same as LOS threshold delay.
Through movement	In this Q/LOS Handbook, the traffic stream with the greatest number of vehicles passing directly through a point. Typically, this is the straight-ahead movement, but occasionally it may be a turning movement.
Traffic demand	The number of vehicles with drivers who desire to traverse a particular highway during a specified time period.
Traffic volume	The number of vehicles passing a point on a highway during a specified time period.
Transit	In this Q/LOS Handbook, the same as *bus*.

Transit Capacity and Quality of Service Manual (TCQSM)	The document and operational methodology from which this Q/LOS Handbook's bus Q/LOS analyses are based.
Transitioning area	An area adjacent to an urbanized area that exhibits characteristics between rural and urbanized/urban, and will be urbanized in the next 20 years.
Transportation planning boundaries	Precisely defined lines that delineate geographic areas. These boundaries are used throughout transportation planning in Florida. Their mapping is described in Urban Boundaries and Functional Classification of Roadways FDOT's Procedure Topic No. 525-020-311.
Travel time	The average time spent by vehicles traversing a roadway.
Two-lane highway	A roadway with one lane in each direction on which passing maneuvers must be made in the opposing lane and, although occasional interruptions to flow at signalized intersections may exist, is generally uninterrupted flow.
Two-way	Movement allowed in either direction.
Two-way left-turn lane	A lane that simultaneously serves left-turning vehicles traveling in opposite directions. Same as continuous left-turn lane.
Two-way stop control	The type of traffic control at an intersection where drivers on the minor street, or a driver turning left from the major street, wait for a gap in major-street traffic to complete a maneuver.
Undesignated bicycle lane	A lane, usually 4 feet in width, that does not contain a bicycle logo.
Undivided	As used in the Generalized Service Volume Tables, a roadway with no median.
Uninterrupted flow	A category of roadway not characterized by signals, stop signs, or other fixed causes of periodic delay or interruption to traffic stream.
Uninterrupted flow highway	A nonfreeway roadway that generally has uninterrupted flow, with average signalized intersection spacing of greater than 2.0 miles; a two-lane highway or a multilane highway.
Urban area	A place with a population between 5,000 and 50,000 and not in an urbanized area. The applicable boundary includes the census' urban area and the surrounding geographical area agreed on by the FDOT, the local government, and the FHWA. The boundaries are commonly called FHWA Urban Area Boundaries and include areas expected to develop medium density before the next decennial census.

Urbanized area	An area within a Metropolitan Planning Organization's (MPO) designated urbanized area boundary. The minimum population for an urbanized area is 50,000 people. Based on the census, any area the U.S. Bureau of Census designates as urbanized, together with any surrounding geographical area agreed on by the FDOT, the relevant MPO, and the FHWA, commonly called the FHWA Urbanized Area Boundary.
Volume-to-capacity ratio	The ratio of demand flow rate to capacity of a signalized intersection, segment or facility.
Weaving distance	A length of freeway over which traffic streams across paths through lane-changing maneuvers. Same as *weaving segment*.
Weighted effective green ratio	In this Q/LOS Handbook, the average of the critical intersection's through effective green ratio and the average of all the other signalized intersections' through effective green ratios along the arterial facility.

TABLE 1

Generalized **Annual Average Daily** Volumes for Florida's Urbanized Areas

January 2020

INTERRUPTED FLOW FACILITIES

STATE SIGNALIZED ARTERIALS

Class I (40 mph or higher posted speed limit)

Lanes	Median	B	C	D	E
2	Undivided	*	16,800	17,700	**
4	Divided	*	37,900	39,800	**
6	Divided	*	58,400	59,900	**
8	Divided	*	78,800	80,100	**

Class II (35 mph or slower posted speed limit)

Lanes	Median	B	C	D	E
2	Undivided	*	7,300	14,800	15,600
4	Divided	*	14,500	32,400	33,800
6	Divided	*	23,300	50,000	50,900
8	Divided	*	32,000	67,300	68,100

Non-State Signalized Roadway Adjustments

(Alter corresponding state volumes by the indicated percent.)

Non-State Signalized Roadways - 10%

Median & Turn Lane Adjustments

Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors
2	Divided	Yes	No	+5%
2	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
–	–	–	Yes	+ 5%

One-Way Facility Adjustment

Multiply the corresponding two-directional volumes in this table by 0.6

BICYCLE MODE[2]

(Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	2,900	7,600	19,700
50-84%	2,100	6,700	19,700	>19,700
85-100%	9,300	19,700	>19,700	**

PEDESTRIAN MODE[2]

(Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	B	C	D	E
0-49%	*	*	2,800	9,500
50-84%	*	1,600	8,700	15,800
85-100%	3,800	10,700	17,400	>19,700

BUS MODE (Scheduled Fixed Route)[3]

(Buses in peak hour in peak direction)

Sidewalk Coverage	B	C	D	E
0-84%	> 5	≥ 4	≥ 3	≥ 2
85-100%	> 4	≥ 3	≥ 2	≥ 1

UNINTERRUPTED FLOW FACILITIES

FREEWAYS

Core Urbanized

Lanes	B	C	D	E
4	47,600	66,400	83,200	87,300
6	70,100	97,800	123,600	131,200
8	92,200	128,900	164,200	174,700
10	115,300	158,900	203,600	218,600
12	136,500	192,400	246,200	272,900

Urbanized

Lanes	B	C	D	E
4	45,900	62,700	75,600	85,400
6	68,900	93,900	113,600	128,100
8	91,900	125,200	151,300	170,900
10	115,000	156,800	189,300	213,600

Freeway Adjustments

Auxiliary Lanes Present in Both Directions	Ramp Metering
+ 20,000	+ 5%

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Median	B	C	D	E
2	Undivided	11,700	18,000	24,200	32,600
4	Divided	36,300	52,600	66,200	75,300
6	Divided	54,600	78,800	99,400	113,100

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
2	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

[1]Values shown are presented as two-way annual average daily volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the HCM and the Transit Capacity and Quality of Service Manual.

[2] Level of service for the bicycle and pedestrian modes in this table is based on number of vehicles, not number of bicyclists or pedestrians using the facility.

[3] Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.

* Cannot be achieved using table input value defaults.

** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:
Florida Department of Transportation
Systems Implementation Office
https://www.fdot.gov/planning/systems/

TABLE 1
(continued)

Generalized **Annual Average Daily** Volumes for Florida's Urbanized Areas

January 2020

INPUT VALUE ASSUMPTIONS	Uninterrupted Flow Facilities				Interrupted Flow Facilities					
					State Arterials				Class I	
	Freeways	Core Freeways	Highways		Class I		Class II		Bicycle	Pedestrian
ROADWAY CHARACTERISTICS										
Area type (urban, rural)	urban	urban								
Number of through lanes (both dir.)	4-10	4-12	2	4-6	2	4-8	2	4-8	4	4
Posted speed (mph)	70	65	50	50	45	50	30	30	45	45
Free flow speed (mph)	75	70	55	55	50	55	35	35	50	50
Auxiliary Lanes (n,y)	n	n								
Median (d, twlt, n, nr, r)				d	n	r	n	r	r	r
Terrain (l,r)	l	l	l	l	l	l	l	l	l	l
% no passing zone			80							
Exclusive left turn lane impact (n, y)			[n]	y	y	y	y	y	y	y
Exclusive right turn lanes (n, y)					n	n	n	n	n	n
Facility length (mi)	3	3	5	5	2	2	1.9	1.8	2	2
TRAFFIC CHARACTERISTICS										
Planning analysis hour factor (K)	0.090	0.085	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090
Directional distribution factor (D)	0.55	0.55	0.55	0.55	0.550	0.560	0.565	0.560	0.565	0.565
Peak hour factor (PHF)	0.95	0.95	0.95	0.95	1.000	1.000	1.000	1.000	1.000	1.000
Base saturation flow rate (pcphpl)	2,400	2,400	1,700	2,200	1,950	1,950	1,950	1,950	1,950	1,950
Heavy vehicle percent	4.0	4.0	2.0	2.0	1.0	1.0	1.0	1.0	2.5	2.0
Speed Adjustment Factor (SAF)	0.975	0.975		0.975						
Capacity Adjustment Factor (CAF)	0.968	0.968		0.968						
% left turns					12	12	12	12	12	12
% right turns					12	12	12	12	12	12
CONTROL CHARACTERISTICS										
Number of signals					4	4	10	10	4	6
Arrival type (1-6)					3	3	4	4	4	4
Signal type (a, c, p)					c	c	c	c	c	c
Cycle length (C)					120	150	120	120	120	120
Effective green ratio (g/C)					0.44	0.45	0.44	0.44	0.44	0.44
MULTIMODAL CHARACTERISTICS										
Paved shoulder/bicycle lane (n, y)									n, 50%, y	n
Outside lane width (n, t, w)									t	t
Pavement condition (d, t, u)									t	
On-street parking (n, y)										
Sidewalk (n, y)										n, 50%, y
Sidewalk/roadway separation(a, t, w)										t
Sidewalk protective barrier (n, y)										n

LEVEL OF SERVICE THRESHOLDS

Level of Service	Freeways	Highways		Arterials		Bicycle	Ped	Bus
	Density	Two-Lane %ffs	Multilane Density	Class I ats	Class II ats	Score	Score	Buses/hr.
B	≤ 17	> 83.3	≤ 17	> 31 mph	> 22 mph	≤ 2.75	≤ 2.75	≤ 6
C	≤ 24	> 75.0	≤ 24	> 23 mph	> 17 mph	≤ 3.50	≤ 3.50	≤ 4
D	≤ 31	> 66.7	≤ 31	> 18 mph	> 13 mph	≤ 4.25	≤ 4.25	< 3
E	≤ 39	> 58.3	≤ 35	> 15 mph	> 10 mph	≤ 5.00	≤ 5.00	< 2

% ffs = Percent free flow speed ats = Average travel speed

TABLE 2

Generalized **Annual Average Daily** Volumes for Florida's Transitioning Areas **and** Areas Over 5,000 Not In Urbanized Areas[1]

January 2020

INTERRUPTED FLOW FACILITIES

STATE SIGNALIZED ARTERIALS

Class I (40 mph or higher posted speed limit)

Lanes	Median	B	C	D	E
2	Undivided	*	14,400	16,200	**
4	Divided	*	34,000	35,500	**
6	Divided	*	52,100	53,500	**

Class II (35 mph or slower posted speed limit)

Lanes	Median	B	C	D	E
2	Undivided	*	6,500	13,300	14,200
4	Divided	*	9,900	28,800	31,600
6	Divided	*	16,000	44,900	47,600

Non-State Signalized Roadway Adjustments

(Alter corresponding state volumes by the indicated percent.)

Non-State Signalized Roadways - 10%

Median & Turn Lane Adjustments

Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors
2	Divided	Yes	No	+5%
2	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
–	–	–	Yes	+ 5%

One-Way Facility Adjustment

Multiply the corresponding two-directional volumes in this table by 0.6

BICYCLE MODE[2]

(Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	2,600	6,100	19,500
50-84%	1,900	5,500	18,400	>19,500
85-100%	7,500	19,500	>19,500	**

PEDESTRIAN MODE[2]

(Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	B	C	D	E
0-49%	*	*	2,800	9,400
50-84%	*	1,600	8,600	15,600
85-100%	3,800	10,500	17,100	>19,500

BUS MODE (Scheduled Fixed Route)[3]

(Buses in peak hour in peak direction)

Sidewalk Coverage	B	C	D	E
0-84%	> 5	≥ 4	≥ 3	≥ 2
85-100%	> 4	≥ 3	≥ 2	≥ 1

UNINTERRUPTED FLOW FACILITIES

FREEWAYS

Lanes	B	C	D	E
4	45,100	59,000	70,300	72,600
6	65,300	86,600	104,100	108,900
8	85,900	114,500	138,100	145,300
10	101,600	135,600	161,900	181,800

Freeway Adjustments

Auxiliary Lanes Present in Both Directions	Ramp Metering
+ 20,000	+ 5%

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Median	B	C	D	E
2	Undivided	11,300	17,300	23,400	31,600
4	Divided	34,600	49,900	63,000	71,700
6	Divided	51,700	74,800	94,600	107,400

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
2	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

[1] Values shown are presented as two-way annual average daily volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the HCM and the Transit Capacity and Quality of Service Manual.

[2] Level of service for the bicycle and pedestrian modes in this table is based on number of vehicles, not number of bicyclists or pedestrians using the facility.

[3] Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.

* Cannot be achieved using table input value defaults.

** Not applicable le for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:
Florida Department of Transportation
Systems Implementation Office
https://www.fdot.gov/planning/systems/

TABLE 2
(continued)

Generalized **Annual Average Daily** Volumes for Florida's Transitioning Areas **and** Areas Over 5,000 Not In Urbanized Areas

January 2020

INPUT VALUE ASSUMPTIONS	Uninterrupted Flow Facilities			Interrupted Flow Facilities					
				State Arterials				Class I	
	Freeways	Highways		Class I		Class II		Bicycle	Pedestrian
ROADWAY CHARACTERISTICS									
Area type (urban, rural)	urban								
Number of through lanes (both dir.)	4-10	2	4-6	2	4-6	2	4-6	4	4
Posted speed (mph)	70	50	50	45	50	30	30	45	45
Free flow speed (mph)	75	55	55	50	55	35	35	50	50
Auxiliary lanes (n,y)	n								
Median (d, n, nr, r)			d	n	y	n	y	r	r
Terrain (l,r)	l	l	l	l	l	l	l	l	l
% no passing zone		60							
Exclusive left turn lane impact (n, y)		[n]	y	y	y	y	y	y	y
Exclusive right turn lanes (n, y)				n	n	n	n	n	n
Facility length (mi)	6	5	5	1.8	2	2	2	2	2
TRAFFIC CHARACTERISTICS									
Planning analysis hour factor (K)	0.098	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090
Directional distribution factor (D)	0.55	0.55	0.55	0.550	0.570	0.570	0.565	0.570	0.570
Peak hour factor (PHF)	0.92	0.92	0.92	1.000	1.000	1.000	1.000	1.000	1.000
Base saturation flow rate (pcphpl)	2,400	1,700	2,200	1,950	1,950	1,950	1,950	1,950	1,950
Heavy vehicle percent	9.0	4.0	4.0	2.0	3.0	2.0	3.0	3.0	3.0
Speed Adjustment Factor (SAF)	0.975		0.975						
Capacity Adjustment Factor (CAF)	0.968		0.968						
% left turns				12	12	12	12	12	12
% right turns				12	12	12	12	12	12
CONTROL CHARACTERISTICS									
Number of signals				5	4	10	10	4	6
Arrival type (1-6)				4	3	4	4	4	4
Signal type (a, c, p)				c	c	c	c	c	c
Cycle length (C)				120	150	120	150	120	120
Effective green ratio (g/C)				0.44	0.45	0.44	0.45	0.44	0.44
MULTIMODAL CHARACTERISTICS									
Paved shoulder/bicycle lane (n, y)								n, 50%, y	n
Outside lane width (n, t, w)								t	t
Pavement condition (d, t, u)								t	
On-street parking (n, y)								n	n
Sidewalk (n, y)									n, 50%, y
Sidewalk/roadway separation (a, t, w)									t
Sidewalk protective barrier (n, y)									n

LEVEL OF SERVICE THRESHOLDS

Level of Service	Freeways	Highways		Arterials		Bicycle	Ped	Bus
	Density	Two-Lane %ffs	Multilane Density	Class I ats	Class II ats	Score	Score	Buses/hr.
B	≤ 17	> 83.3	≤ 17	> 31 mph	> 22 mph	≤ 2.75	≤ 2.75	≤ 6
C	≤ 24	> 75.0	≤ 24	> 23 mph	> 17 mph	≤ 3.50	≤ 3.50	≤ 4
D	≤ 31	> 66.7	≤ 31	> 18 mph	> 13 mph	≤ 4.25	≤ 4.25	< 3
E	≤ 39	> 58.3	≤ 35	> 15 mph	> 10 mph	≤ 5.00	≤ 5.00	< 2

% ffs = Percent free flow speed ats = Average travel speed

TABLE 3

Generalized **Annual Average Daily** Volumes for Florida's Rural Undeveloped Areas **and** Developed Areas Less Than 5,000 Population[1]

January 2020

INTERRUPTED FLOW FACILITIES

STATE SIGNALIZED ARTERIALS

Lanes	Median	B	C	D	E
2	Undivided	*	12,900	14,200	**
4	Divided	*	29,300	30,400	**
6	Divided	*	45,200	45,800	**

Non-State Signalized Roadway Adjustments

(Alter corresponding state volumes by the indicated percent.)

Non-State Signalized Roadways - 10%

Median & Turn Lane Adjustments

Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors
2	Divided	Yes	No	+5%
2	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
–	–	–	Yes	+ 5%

One-Way Facility Adjustment

Multiply the corresponding two-directional volumes in this table by 0.6

BICYCLE MODE[2]

(Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Rural Undeveloped

Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	1,300	2,000	3,200
50-84%	1,000	2,100	3,200	10,600
85-100%	2,600	3,900	18,500	>18,500

Developed Areas

Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	2,300	4,900	15,600
50-84%	1,700	4,500	13,300	18,500
85-100%	5,900	18,500	>18,500	**

PEDESTRIAN MODE[2]

(Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	B	C	D	E
0-49%	*	*	2,700	9,200
50-84%	*	1,500	8,400	14,900
85-100%	3,600	10,200	16,700	>19,200

UNINTERRUPTED FLOW FACILITIES

FREEWAYS

Lanes	B	C	D	E
4	34,800	48,000	56,700	63,200
6	48,900	69,000	82,600	94,800
8	62,900	90,400	108,400	126,400

Freeway Adjustments

Auxiliary Lanes Present in Both Directions + 20,000

UNINTERRUPTED FLOW HIGHWAYS

Rural Undeveloped

Lanes	Median	B	C	D	E
2	Undivided	4,600	8,600	14,000	28,500
4	Divided	31,200	44,900	55,700	62,700
6	Divided	46,800	67,600	83,500	94,200

Developed Areas

Lanes	Median	B	C	D	E
2	Undivided	10,300	15,700	21,300	28,500
4	Divided	29,300	42,300	54,000	61,600
6	Divided	44,000	63,600	81,200	92,400

Passing Lane Adjustments

Alter LOS B-D volumes in proportion to the passing lane length to the highway segment length

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
2	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

[1]Values shown are presented as two-way annual average daily volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the HCM and the Transit Capacity and Quality of Service Manual.

[2] Level of service for the bicycle and pedestrian modes in this table is based on number of vehicles, not number of bicyclists or pedestrians using the facility.

* Cannot be achieved using table input value defaults.

** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:
Florida Department of Transportation
Systems Implementation Office
https://www.fdot.gov/planning/systems/

TABLE 3
(continued)

Generalized **Annual Average Daily** Volumes for Florida's
Rural Undeveloped Areas **and**
Developed Areas Less Than 5,000 Population

January 2020

INPUT VALUE ASSUMPTIONS	Uninterrupted Flow Facilities					Interrupted Flow Facilities				
	Freeways	Highways				Arterials		Bicycle		Pedestrian
		Undeveloped		Developed						
ROADWAY CHARACTERISTICS										
Area type (urban, rural)	rural									
Number of through lanes (both dir.)	4-8	2	4-6	2	4-6	2	4-6	4	4	2
Posted speed (mph)	70	55	55	50	50	45	45	55	45	45
Free flow speed (mph)	75	60	60	55	55	50	50	60	50	50
Auxiliary lanes (n,y)	n									
Median (d, n, nr, r)			d		d	n	r	r	r	n
Terrain (l,r)	l	l	l	l	l	l	l	l	l	l
% no passing zone		20		60						
Exclusive left turn lanes (n, y)		[n]	y	[n]	y	y	y	y	y	y
Exclusive right turn lanes (n, y)						n	n	n	n	n
Facility length (mi)	18	10	10	5	5	1.9	2.2	4	2	2
TRAFFIC CHARACTERISTICS										
Planning analysis hour factor (K)	0.105	0.095	0.095	0.095	0.095	0.095	0.095	0.095	0.095	0.095
Directional distribution factor (D)	0.55	0.55	0.55	0.55	0.55	0.550	0.550	0.570	0.570	0.550
Peak hour factor (PHF)	0.88	0.88	0.88	0.88	0.88	1.000	1.000	1.000	1.000	1.000
Base saturation flow rate (pcphpl)	2,400	1,700	2,200	1,700	2,200	1,950	1,950	1,950	1,950	1,950
Heavy vehicle percent	12.0	5.0	12.0	5.0	8.0	3.0	3.0	6.0	3.5	3.0
Speed Adjustment Factor (SAF)	0.975		0.975		0.975					
Capacity Adjustment Factor (CAF)	0.968		0.968		0.968					
% left turns						12	12		12	12
% right turns						12	12		12	12
CONTROL CHARACTERISTICS										
Number of signals						5	6	2	4	4
Arrival type (1-6)						3	3	3	3	3
Signal type (a, c, p)						c	c	a	a	a
Cycle length (C)						90	90	60	90	90
Effective green ratio (g/C)						0.44	0.44	0.37	0.44	0.44
MULTIMODAL CHARACTERISTICS										
Paved shoulder/bicycle lane (n, y)								n,50%,y	n,50%,y	n
Outside lane width (n, t, w)								t	t	t
Pavement condition (d, t, u)								t	t	
Sidewalk (n, y)										n,50%,y
Sidewalk/roadway separation(a, t,w)										t
Sidewalk protective barrier (n, y)										n

LEVEL OF SERVICE THRESHOLDS

Level of Service	Freeways	Highways				
		Two-Lane ru		Two-Lane rd	Multilane ru	Multilane rd
	Density	%tsf	ats	%ffs	Density	Density
B	≤ 14	≤ 50	≤ 55	> 83.3	≤ 14	≤ 14
C	≤ 22	≤ 65	≤ 50	> 75.0	≤ 22	≤ 22
D	≤ 29	≤ 80	≤ 45	> 66.7	≤ 29	≤ 29
E	≤ 36	> 80	≤ 40	> 58.3	≤ 34	≤ 34

Level of Service	Arterials	Bicycle	Pedestrian
	Major City/Co.(ats)	Score	Score
B	> 31 mph	≤ 2.75	≤ 2.75
C	> 23 mph	≤ 3.50	≤ 3.50
D	> 18 mph	≤ 4.25	≤ 4.25
E	> 15 mph	≤ 5.00	≤ 5.00

%tsf = Percent time spent following %ffs = Percent of free flow speed ats = Average travel speed ru = Rural undeveloped rd = Rural developed

TABLE 4

Generalized **Peak Hour Two-Way** Volumes for Florida's Urbanized Areas[1]

January 2020

INTERRUPTED FLOW FACILITIES

STATE SIGNALIZED ARTERIALS

Class I (40 mph or higher posted speed limit)

Lanes	Median	B	C	D	E
2	Undivided	*	1,510	1,600	**
4	Divided	*	3,420	3,580	**
6	Divided	*	5,250	5,390	**
8	Divided	*	7,090	7,210	**

Class II (35 mph or slower posted speed limit)

Lanes	Median	B	C	D	E
2	Undivided	*	660	1,330	1,410
4	Divided	*	1,310	2,920	3,040
6	Divided	*	2,090	4,500	4,590
8	Divided	*	2,880	6,060	6,130

Non-State Signalized Roadway Adjustments

(Alter corresponding state volumes by the indicated percent.)

Non-State Signalized Roadways - 10%

Median & Turn Lane Adjustments

Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors
2	Divided	Yes	No	+5%
2	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
–	–	–	Yes	+ 5%

One-Way Facility Adjustment

Multiply the corresponding two-directional volumes in this table by 0.6

BICYCLE MODE[2]

(Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	260	680	1,770
50-84%	190	600	1,770	>1,770
85-100%	830	1,700	>1,770	**

PEDESTRIAN MODE[2]

(Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	B	C	D	E
0-49%	*	*	250	850
50-84%	*	150	780	1,420
85-100%	340	960	1,560	>1,770

BUS MODE (Scheduled Fixed Route)[3]

(Buses in peak hour in peak direction)

Sidewalk Coverage	B	C	D	E
0-84%	> 5	≥ 4	≥ 3	≥ 2
85-100%	> 4	≥ 3	≥ 2	≥ 1

UNINTERRUPTED FLOW FACILITIES

FREEWAYS

Core Urbanized

Lanes	B	C	D	E
4	4,050	5,640	6,800	7,420
6	5,960	8,310	10,220	11,150
8	7,840	10,960	13,620	14,850
10	9,800	13,510	17,040	18,580
12	11,600	16,350	20,930	23,200

Urbanized

Lanes	B	C	D	E
4	4,130	5,640	7,070	7,690
6	6,200	8,450	10,510	11,530
8	8,270	11,270	13,960	15,380
10	10,350	14,110	17,310	19,220

Freeway Adjustments

Auxiliary Lanes Present in Both Directions	Ramp Metering
+ 1,800	+ 5%

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Median	B	C	D	E
2	Undivided	1,050	1,620	2,180	2,930
4	Divided	3,270	4,730	5,960	6,780
6	Divided	4,910	7,090	8,950	10,180

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
2	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

[1]Values shown are presented as peak hour directional volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the HCM and the Transit Capacity and Quality of Service Manual.

[2] Level of service for the bicycle and pedestrian modes in this table is based on number of vehicles, not number of bicyclists or pedestrians using the facility.

[3] Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.

* Cannot be achieved using table input value defaults.

** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:
Florida Department of Transportation
Systems Implementation Office
https://www.fdot.gov/planning/systems/

TABLE 4
(continued)

Generalized **Peak Hour Two-Way** Volumes for Florida's Urbanized Areas

January 2020

INPUT VALUE ASSUMPTIONS	Uninterrupted Flow Facilities				Interrupted Flow Facilities					
					State Arterials				Class I	
	Freeways	Core Freeways	Highways		Class I		Class II		Bicycle	Pedestrian
ROADWAY CHARACTERISTICS										
Area type (urban, rural)	urban	urban								
Number of through lanes (both dir.)	4-10	4-12	2	4-6	2	4-8	2	4-8	4	4
Posted speed (mph)	70	65	50	50	45	50	30	30	45	45
Free flow speed (mph)	75	70	55	55	50	55	35	35	50	50
Auxiliary Lanes (n,y)	n	n								
Median (d, twlt, n, nr, r)				d	n	r	n	r	r	r
Terrain (l,r)	l	l	l	l	l	l	l	l	l	l
% no passing zone			80							
Exclusive left turn lane impact (n, y)			[n]	y	y	y	y	y	y	y
Exclusive right turn lanes (n, y)					n	n	n	n	n	n
Facility length (mi)	3	3	5	5	2	2	1.9	1.8	2	2
TRAFFIC CHARACTERISTICS										
Planning analysis hour factor (K)	0.090	0.085	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090
Directional distribution factor (D)	0.55	0.55	0.55	0.55	0.550	0.560	0.565	0.560	0.565	0.565
Peak hour factor (PHF)	0.95	0.95	0.95	0.95	1.000	1.000	1.000	1.000	1.000	1.000
Base saturation flow rate (pcphpl)	2,400	2,400	1,700	2,200	1,950	1,950	1,950	1,950	1,950	1,950
Heavy vehicle percent	4.0	4.0	2.0	2.0	1.0	1.0	1.0	1.0	2.5	2.0
Speed Adjustment Factor (SAF)	0.975	0.975		0.975						
Capacity Adjustment Factor (CAF)	0.968	0.968		0.968						
% left turns					12	12	12	12	12	12
% right turns					12	12	12	12	12	12
CONTROL CHARACTERISTICS										
Number of signals					4	4	10	10	4	6
Arrival type (1-6)					3	3	4	4	4	4
Signal type (a, c, p)					c	c	c	c	c	c
Cycle length (C)					120	150	120	120	120	120
Effective green ratio (g/C)					0.44	0.45	0.44	0.44	0.44	0.44
MULTIMODAL CHARACTERISTICS										
Paved shoulder/bicycle lane (n, y)									n, 50%, y	n
Outside lane width (n, t, w)									t	t
Pavement condition (d, t, u)									t	
On-street parking (n, y)										
Sidewalk (n, y)										n, 50%, y
Sidewalk/roadway separation(a, t, w)										t
Sidewalk protective barrier (n, y)										n

LEVEL OF SERVICE THRESHOLDS

Level of Service	Freeways	Highways		Arterials		Bicycle	Ped	Bus
	Density	Two-Lane %ffs	Multilane Density	Class I ats	Class II ats	Score	Score	Buses/hr.
B	≤ 17	> 83.3	≤ 17	> 31 mph	> 22 mph	≤ 2.75	≤ 2.75	≤ 6
C	≤ 24	> 75.0	≤ 24	> 23 mph	> 17 mph	≤ 3.50	≤ 3.50	≤ 4
D	≤ 31	> 66.7	≤ 31	> 18 mph	> 13 mph	≤ 4.25	≤ 4.25	< 3
E	≤ 39	> 58.3	≤ 35	> 15 mph	> 10 mph	≤ 5.00	≤ 5.00	< 2

% ffs = Percent free flow speed ats = Average travel speed

TABLE 5

Generalized **Peak Hour Two-Way** Volumes for Florida's Transitioning Areas **and** Areas Over 5,000 Not In Urbanized Areas[1]

January 2020

INTERRUPTED FLOW FACILITIES

STATE SIGNALIZED ARTERIALS

Class I (40 mph or higher posted speed limit)

Lanes	Median	B	C	D	E
2	Undivided	*	1,300	1,460	**
4	Divided	*	3,060	3,200	**
6	Divided	*	4,690	4,820	**

Class II (35 mph or slower posted speed limit)

Lanes	Median	B	C	D	E
2	Undivided	*	580	1,200	1,280
4	Divided	*	890	2,590	2,850
6	Divided	*	1,440	4,040	4,280

Non-State Signalized Roadway Adjustments

(Alter corresponding state volumes by the indicated percent.)

Non-State Signalized Roadways - 10%

Median & Turn Lane Adjustments

Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors
2	Divided	Yes	No	+5%
2	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
–	–	–	Yes	+ 5%

One-Way Facility Adjustment

Multiply the corresponding two-directional volumes in this table by 0.6

BICYCLE MODE[2]

(Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	140	550	1,760
50-84%	170	500	1,650	>1,760
85-100%	670	1,760	>1,760	**

PEDESTRIAN MODE[2]

(Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	B	C	D	E
0-49%	*	*	250	850
50-84%	*	150	780	1,410
85-100%	340	950	1,540	>1,760

BUS MODE (Scheduled Fixed Route)[3]

(Buses in peak hour in peak direction)

Sidewalk Coverage	B	C	D	E
0-84%	> 5	≥ 4	≥ 3	≥ 2
85-100%	> 4	≥ 3	≥ 2	≥ 1

UNINTERRUPTED FLOW FACILITIES

FREEWAYS

Lanes	B	C	D	E
4	4,420	5,780	6,890	7,110
6	6,400	8,490	10,200	10,670
8	8,420	11,220	13,530	14,240
10	9,960	13,290	15,870	17,820

Freeway Adjustments

Auxiliary Lanes Present in Both Directions	Ramp Metering
+ 1,800	+ 5%

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Median	B	C	D	E
2	Undivided	1,020	1,560	2,110	2,840
4	Divided	3,110	4,490	5,670	6,450
6	Divided	4,650	6,730	8,510	9,670

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
2	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

[1] Values shown are presented as peak hour directional volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the HCM and the Transit Capacity and Quality of Service Manual.

[2] Level of service for the bicycle and pedestrian modes in this table is based on number of vehicles, not number of bicyclists or pedestrians using the facility.

[3] Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.

* Cannot be achieved using table input value defaults.

** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:
Florida Department of Transportation
Systems Implementation Office
https://www.fdot.gov/planning/systems/

TABLE 5
(continued)

Generalized **Peak Hour Two-Way** Volumes for Florida's Transitioning Areas **and** Areas Over 5,000 Not In Urbanized Areas

January 2020

INPUT VALUE ASSUMPTIONS	Uninterrupted Flow Facilities			Interrupted Flow Facilities					
				State Arterials				Class I	
	Freeways	Highways		Class I		Class II		Bicycle	Pedestrian
ROADWAY CHARACTERISTICS									
Area type (urban, rural)	urban								
Number of through lanes (both dir.)	4-10	2	4-6	2	4-6	2	4-6	4	4
Posted speed (mph)	70	50	50	45	50	30	30	45	45
Free flow speed (mph)	75	55	55	50	55	35	35	50	50
Auxiliary lanes (n,y)	n								
Median (d, n, nr, r)			d	n	y	n	y	r	r
Terrain (l,r)	l	l	l	l	l	l	l	l	l
% no passing zone		60							
Exclusive left turn lane impact (n, y)		[n]	y	y	y	y	y	y	y
Exclusive right turn lanes (n, y)				n	n	n	n	n	n
Facility length (mi)	6	5	5	1.8	2	2	2	2	2
TRAFFIC CHARACTERISTICS									
Planning analysis hour factor (K)	0.098	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090
Directional distribution factor (D)	0.55	0.55	0.55	0.550	0.570	0.570	0.565	0.570	0.570
Peak hour factor (PHF)	0.92	0.92	0.92	1.000	1.000	1.000	1.000	1.000	1.000
Base saturation flow rate (pcphpl)	2,400	1,700	2,200	1,950	1,950	1,950	1,950	1,950	1,950
Heavy vehicle percent	9.0	4.0	4.0	2.0	3.0	2.0	3.0	3.0	3.0
Speed Adjustment Factor (SAF)	0.975		0.975						
Capacity Adjustment Factor (CAF)	0.968		0.968						
% left turns				12	12	12	12	12	12
% right turns				12	12	12	12	12	12
CONTROL CHARACTERISTICS									
Number of signals				5	4	10	10	4	6
Arrival type (1-6)				4	3	4	4	4	4
Signal type (a, c, p)				c	c	c	c	c	c
Cycle length (C)				120	150	120	150	120	120
Effective green ratio (g/C)				0.44	0.45	0.44	0.45	0.44	0.44
MULTIMODAL CHARACTERISTICS									
Paved shoulder/bicycle lane (n, y)								n, 50%, y	n
Outside lane width (n, t, w)								t	t
Pavement condition (d, t, u)								t	
On-street parking (n, y)								n	n
Sidewalk (n, y)									n, 50%, y
Sidewalk/roadway separation (a, t, w)									t
Sidewalk protective barrier (n, y)									n

LEVEL OF SERVICE THRESHOLDS

Level of Service	Freeways	Highways		Arterials		Bicycle	Ped	Bus
	Density	Two-Lane %ffs	Multilane Density	Class I ats	Class II ats	Score	Score	Buses/hr.
B	≤ 17	> 83.3	≤ 17	> 31 mph	> 22 mph	≤ 2.75	≤ 2.75	≤ 6
C	≤ 24	> 75.0	≤ 24	> 23 mph	> 17 mph	≤ 3.50	≤ 3.50	≤ 4
D	≤ 31	> 66.7	≤ 31	> 18 mph	> 13 mph	≤ 4.25	≤ 4.25	< 3
E	≤ 39	> 58.3	≤ 35	> 15 mph	> 10 mph	≤ 5.00	≤ 5.00	< 2

% ffs = Percent free flow speed ats = Average travel speed

TABLE 6

Generalized **Peak Hour Two-Way** Volumes for Florida's Rural Undeveloped Areas **and** Developed Areas Less Than 5,000 Population[1]

January 2020

INTERRUPTED FLOW FACILITIES

STATE SIGNALIZED ARTERIALS

Lanes	Median	B	C	D	E
2	Undivided	*	1,220	1,350	**
4	Divided	*	2,790	2,890	**
6	Divided	*	4,300	4,350	**

Non-State Signalized Roadway Adjustments

(Alter corresponding state volumes by the indicated percent.)

Non-State Signalized Roadways - 10%

Median & Turn Lane Adjustments

Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors
2	Divided	Yes	No	+5%
2	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
–	–	–	Yes	+ 5%

One-Way Facility Adjustment

Multiply the corresponding two-directional volumes in this table by 0.6

BICYCLE MODE[2]

(Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Rural Undeveloped

Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	120	190	300
50-84%	100	200	310	1,010
85-100%	250	370	1,760	>1,760

Developed Areas

Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	220	460	1,480
50-84%	170	430	1,270	>1,760
85-100%	560	1,760	>1,760	**

PEDESTRIAN MODE[2]

(Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	B	C	D	E
0-49%	*	*	220	840
50-84%	*	120	780	1,390
85-100%	320	940	1,560	>1,820

UNINTERRUPTED FLOW FACILITIES

FREEWAYS

Lanes	B	C	D	E
4	3,650	5,040	5,950	6,640
6	5,130	7,250	8,670	9,950
8	6,600	9,490	11,380	13,270

Freeway Adjustments

Auxiliary Lanes Present in Both Directions + 1,800

UNINTERRUPTED FLOW HIGHWAYS

Rural Undeveloped

Lanes	Median	B	C	D	E
2	Undivided	440	820	1,330	2,710
4	Divided	2,960	4,270	5,290	5,960
6	Divided	4,450	6,420	7,930	8,950

Developed Areas

Lanes	Median	B	C	D	E
2	Undivided	980	1,490	2,020	2,710
4	Divided	2,780	4,020	5,130	5,850
6	Divided	4,180	6,040	7,710	8,780

Passing Lane Adjustments

Alter LOS B-D volumes in proportion to the passing lane length to the highway segment length

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
2	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

[1]Values shown are presented as peak hour directional volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the HCM and the Transit Capacity and Quality of Service Manual.

[2] Level of service for the bicycle and pedestrian modes in this table is based on number of vehicles, not number of bicyclists or pedestrians using the facility.

* Cannot be achieved using table input value defaults.

** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:
Florida Department of Transportation
Systems Implementation Office
https://www.fdot.gov/planning/systems/

TABLE 6
(continued)

Generalized **Peak Hour Two-Way** Volumes for Florida's Rural Undeveloped Areas **and** Developed Areas Less Than 5,000 Population

January 2020

INPUT VALUE ASSUMPTIONS	Uninterrupted Flow Facilities					Interrupted Flow Facilities				
	Freeways	Highways				Arterials		Bicycle		Pedestrian
		Undeveloped		Developed						
ROADWAY CHARACTERISTICS										
Area type (urban, rural)	rural									
Number of through lanes (both dir.)	4-8	2	4-6	2	4-6	2	4-6	4	4	2
Posted speed (mph)	70	55	55	50	50	45	45	55	45	45
Free flow speed (mph)	75	60	60	55	55	50	50	60	50	50
Auxiliary lanes (n,y)	n									
Median (d, n, nr, r)			d		d	n	r	r	r	n
Terrain (l,r)	l	l	l	l	l	l	l	l	l	l
% no passing zone		20		60						
Exclusive left turn lanes (n, y)		[n]	y	[n]	y	y	y	y	y	y
Exclusive right turn lanes (n, y)						n	n	n	n	n
Facility length (mi)	18	10	10	5	5	1.9	2.2	4	2	2
TRAFFIC CHARACTERISTICS										
Planning analysis hour factor (K)	0.105	0.095	0.095	0.095	0.095	0.095	0.095	0.095	0.095	0.095
Directional distribution factor (D)	0.55	0.55	0.55	0.55	0.55	0.550	0.550	0.570	0.570	0.550
Peak hour factor (PHF)	0.88	0.88	0.88	0.88	0.88	1.000	1.000	1.000	1.000	1.000
Base saturation flow rate (pcphpl)	2,400	1,700	2,200	1,700	2,200	1,950	1,950	1,950	1,950	1,950
Heavy vehicle percent	12.0	5.0	12.0	5.0	8.0	3.0	3.0	6.0	3.5	3.0
Speed Adjustment Factor (SAF)	0.975		0.975		0.975					
Capacity Adjustment Factor (CAF)	0.968		0.968		0.968					
% left turns						12	12		12	12
% right turns						12	12		12	12
CONTROL CHARACTERISTICS										
Number of signals						5	6	2	4	4
Arrival type (1-6)						3	3	3	3	3
Signal type (a, c, p)						c	c	a	a	a
Cycle length (C)						90	90	60	90	90
Effective green ratio (g/C)						0.44	0.44	0.37	0.44	0.44
MULTIMODAL CHARACTERISTICS										
Paved shoulder/bicycle lane (n, y)								n,50%,y	n,50%,y	n
Outside lane width (n, t, w)								t	t	t
Pavement condition (d, t, u)								t	t	
Sidewalk (n, y)										n,50%,y
Sidewalk/roadway separation(a, t,w)										t
Sidewalk protective barrier (n, y)										n

LEVEL OF SERVICE THRESHOLDS

Level of Service	Freeways	Highways				
		Two-Lane ru		Two-Lane rd	Multilane ru	Multilane rd
	Density	%tsf	ats	%ffs	Density	Density
B	≤ 14	≤ 50	≤ 55	> 83.3	≤ 14	≤ 14
C	≤ 22	≤ 65	≤ 50	> 75.0	≤ 22	≤ 22
D	≤ 29	≤ 80	≤ 45	> 66.7	≤ 29	≤ 29
E	≤ 36	> 80	≤ 40	> 58.3	≤ 34	≤ 34

Level of Service	Arterials	Bicycle	Pedestrian
	Major City/Co.(ats)	Score	Score
B	> 31 mph	≤ 2.75	≤ 2.75
C	> 23 mph	≤ 3.50	≤ 3.50
D	> 18 mph	≤ 4.25	≤ 4.25
E	> 15 mph	≤ 5.00	≤ 5.00

%tsf = Percent time spent following %ffs = Percent of free flow speed ats = Average travel speed ru = Rural undeveloped rd = Rural developed

TABLE 7 Generalized **Peak Hour Directional** Volumes for Florida's Urbanized Areas

January 2020

INTERRUPTED FLOW FACILITIES

STATE SIGNALIZED ARTERIALS

Class I (40 mph or higher posted speed limit)

Lanes	Median	B	C	D	E
1	Undivided	*	830	880	**
2	Divided	*	1,910	2,000	**
3	Divided	*	2,940	3,020	**
4	Divided	*	3,970	4,040	**

Class II (35 mph or slower posted speed limit)

Lanes	Median	B	C	D	E
1	Undivided	*	370	750	800
2	Divided	*	730	1,630	1,700
3	Divided	*	1,170	2,520	2,560
4	Divided	*	1,610	3,390	3,420

Non-State Signalized Roadway Adjustments

(Alter corresponding state volumes by the indicated percent.)

Non-State Signalized Roadways - 10%

Median & Turn Lane Adjustments

Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors
1	Divided	Yes	No	+5%
1	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
–	–	–	Yes	+ 5%

One-Way Facility Adjustment

Multiply the corresponding directional volumes in this table by 1.2

BICYCLE MODE[2]

(Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	150	390	1,000
50-84%	110	340	1,000	>1,000
85-100%	470	1,000	>1,000	**

PEDESTRIAN MODE[2]

(Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	B	C	D	E
0-49%	*	*	140	480
50-84%	*	80	440	800
85-100%	200	540	880	>1,000

BUS MODE (Scheduled Fixed Route)[3]

(Buses in peak hour in peak direction)

Sidewalk Coverage	B	C	D	E
0-84%	> 5	≥ 4	≥ 3	≥ 2
85-100%	> 4	≥ 3	≥ 2	≥ 1

UNINTERRUPTED FLOW FACILITIES

FREEWAYS

Core Urbanized

Lanes	B	C	D	E
2	2,230	3,100	3,740	4,080
3	3,280	4,570	5,620	6,130
4	4,310	6,030	7,490	8,170
5	5,390	7,430	9,370	10,220
6	6,380	8,990	11,510	12,760

Urbanized

Lanes	B	C	D	E
2	2,270	3,100	3,890	4,230
3	3,410	4,650	5,780	6,340
4	4,550	6,200	7,680	8,460
5	5,690	7,760	9,520	10,570

Freeway Adjustments

Auxiliary Lane	Ramp Metering
+ 1,000	+ 5%

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Median	B	C	D	E
1	Undivided	580	890	1,200	1,610
2	Divided	1,800	2,600	3,280	3,730
3	Divided	2,700	3,900	4,920	5,600

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
1	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

[1]Values shown are presented as peak hour directional volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the HCM and the Transit Capacity and Quality of Service Manual.

[2] Level of service for the bicycle and pedestrian modes in this table is based on number of vehicles, not number of bicyclists or pedestrians using the facility.

[3] Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.

* Cannot be achieved using table input value defaults.

** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:
Florida Department of Transportation
Systems Implementation Office
https://www.fdot.gov/planning/systems/

TABLE 7
(continued)

Generalized **Peak Hour Directional** Volumes for Florida's Urbanized Areas

January 2020

INPUT VALUE ASSUMPTIONS	Uninterrupted Flow Facilities				Interrupted Flow Facilities					
					State Arterials				Class I	
	Freeways	Core Freeways	Highways		Class I		Class II		Bicycle	Pedestrian
ROADWAY CHARACTERISTICS										
Area type (urban, rural)	urban	urban								
Number of through lanes (both dir.)	4-10	4-12	2	4-6	2	4-8	2	4-8	4	4
Posted speed (mph)	70	65	50	50	45	50	30	30	45	45
Free flow speed (mph)	75	70	55	55	50	55	35	35	50	50
Auxiliary Lanes (n,y)	n	n								
Median (d, twlt, n, nr, r)				d	n	r	n	r	r	r
Terrain (l,r)	l	l	l	l	l	l	l	l	l	l
% no passing zone			80							
Exclusive left turn lane impact (n, y)			[n]	y	y	y	y	y	y	y
Exclusive right turn lanes (n, y)					n	n	n	n	n	n
Facility length (mi)	3	3	5	5	2	2	1.9	1.8	2	2
TRAFFIC CHARACTERISTICS										
Planning analysis hour factor (K)	0.090	0.085	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090
Directional distribution factor (D)	0.55	0.55	0.55	0.55	0.550	0.560	0.565	0.560	0.565	0.565
Peak hour factor (PHF)	0.95	0.95	0.95	0.95	1.000	1.000	1.000	1.000	1.000	1.000
Base saturation flow rate (pcphpl)	2,400	2,400	1,700	2,200	1,950	1,950	1,950	1,950	1,950	1,950
Heavy vehicle percent	4.0	4.0	2.0	2.0	1.0	1.0	1.0	1.0	2.5	2.0
Speed Adjustment Factor (SAF)	0.975	0.975		0.975						
Capacity Adjustment Factor (CAF)	0.968	0.968		0.968						
% left turns					12	12	12	12	12	12
% right turns					12	12	12	12	12	12
CONTROL CHARACTERISTICS										
Number of signals					4	4	10	10	4	6
Arrival type (1-6)					3	3	4	4	4	4
Signal type (a, c, p)					c	c	c	c	c	c
Cycle length (C)					120	150	120	120	120	120
Effective green ratio (g/C)					0.44	0.45	0.44	0.44	0.44	0.44
MULTIMODAL CHARACTERISTICS										
Paved shoulder/bicycle lane (n, y)									n, 50%, y	n
Outside lane width (n, t, w)									t	t
Pavement condition (d, t, u)									t	
On-street parking (n, y)										
Sidewalk (n, y)										n, 50%, y
Sidewalk/roadway separation(a, t, w)										t
Sidewalk protective barrier (n, y)										n

LEVEL OF SERVICE THRESHOLDS

Level of Service	Freeways	Highways		Arterials		Bicycle	Ped	Bus
	Density	Two-Lane %ffs	Multilane Density	Class I ats	Class II ats	Score	Score	Buses/hr.
B	≤ 17	> 83.3	≤ 17	> 31 mph	> 22 mph	≤ 2.75	≤ 2.75	≤ 6
C	≤ 24	> 75.0	≤ 24	> 23 mph	> 17 mph	≤ 3.50	≤ 3.50	≤ 4
D	≤ 31	> 66.7	≤ 31	> 18 mph	> 13 mph	≤ 4.25	≤ 4.25	< 3
E	≤ 39	> 58.3	≤ 35	> 15 mph	> 10 mph	≤ 5.00	≤ 5.00	< 2

% ffs = Percent free flow speed ats = Average travel speed

TABLE 8

Generalized **Peak Hour Directional** Volumes for Florida's Transitioning Areas **and** Areas Over 5,000 Not In Urbanized Areas[1]

January 2020

INTERRUPTED FLOW FACILITIES

STATE SIGNALIZED ARTERIALS

Class I (40 mph or higher posted speed limit)

Lanes	Median	B	C	D	E
1	Undivided	*	710	800	**
2	Divided	*	1,740	1,820	**
3	Divided	*	2,670	2,740	**

Class II (35 mph or slower posted speed limit)

Lanes	Median	B	C	D	E
1	Undivided	*	330	680	720
2	Divided	*	500	1,460	1,600
3	Divided	*	810	2,280	2,420

Non-State Signalized Roadway Adjustments

(Alter corresponding state volumes by the indicated percent.)

Non-State Signalized Roadways - 10%

Median & Turn Lane Adjustments

Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors
1	Divided	Yes	No	+5%
1	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
–	–	–	Yes	+ 5%

One-Way Facility Adjustment

Multiply the corresponding directional volumes in this table by 1.2

BICYCLE MODE[2]

(Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	140	320	1,000
50-84%	100	280	940	>1,000
85-100%	380	1,000	>1,000	**

PEDESTRIAN MODE[2]

(Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	B	C	D	E
0-49%	*	*	140	480
50-84%	*	80	440	800
85-100%	200	540	880	>1,000

BUS MODE (Scheduled Fixed Route)[3]

(Buses in peak hour in peak direction)

Sidewalk Coverage	B	C	D	E
0-84%	> 5	≥ 4	≥ 3	≥ 2
85-100%	> 4	≥ 3	≥ 2	≥ 1

UNINTERRUPTED FLOW FACILITIES

FREEWAYS

Lanes	B	C	D	E
2	2,430	3,180	3,790	3,910
3	3,520	4,670	5,610	5,870
4	4,630	6,170	7,440	7,830
5	5,480	7,310	8,730	9,800

Freeway Adjustments

Auxiliary Lane	Ramp Metering
+ 1,000	+ 5%

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Median	B	C	D	E
1	Undivided	560	860	1,160	1,560
2	Divided	1,710	2,470	3,120	3,550
3	Divided	2,560	3,700	4,680	5,320

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
1	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

[1]Values shown are presented as peak hour directional volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the HCM and the Transit Capacity and Quality of Service Manual.

[2] Level of service for the bicycle and pedestrian modes in this table is based on number of vehicles, not number of bicyclists or pedestrians using the facility.

[3] Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.

* Cannot be achieved using table input value defaults.

** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:
Florida Department of Transportation
Systems Implementation Office
https://www.fdot.gov/planning/systems/

TABLE 8
(continued)

Generalized **Peak Hour Directional** Volumes for Florida's Transitioning Areas **and** Areas Over 5,000 Not In Urbanized Areas

January 2020

INPUT VALUE ASSUMPTIONS	Uninterrupted Flow Facilities			Interrupted Flow Facilities					
				State Arterials				Class I	
	Freeways	Highways		Class I		Class II		Bicycle	Pedestrian
ROADWAY CHARACTERISTICS									
Area type (urban, rural)	urban								
Number of through lanes (both dir.)	4-10	2	4-6	2	4-6	2	4-6	4	4
Posted speed (mph)	70	50	50	45	50	30	30	45	45
Free flow speed (mph)	75	55	55	50	55	35	35	50	50
Auxiliary lanes (n,y)	n								
Median (d, n, nr, r)			d	n	y	n	y	r	r
Terrain (l,r)	l	l	l	l	l	l	l	l	l
% no passing zone		60							
Exclusive left turn lane impact (n, y)		[n]	y	y	y	y	y	y	y
Exclusive right turn lanes (n, y)				n	n	n	n	n	n
Facility length (mi)	6	5	5	1.8	2	2	2	2	2
TRAFFIC CHARACTERISTICS									
Planning analysis hour factor (K)	0.098	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090
Directional distribution factor (D)	0.55	0.55	0.55	0.550	0.570	0.570	0.565	0.570	0.570
Peak hour factor (PHF)	0.92	0.92	0.92	1.000	1.000	1.000	1.000	1.000	1.000
Base saturation flow rate (pcphpl)	2,400	1,700	2,200	1,950	1,950	1,950	1,950	1,950	1,950
Heavy vehicle percent	9.0	4.0	4.0	2.0	3.0	2.0	3.0	3.0	3.0
Speed Adjustment Factor (SAF)	0.975		0.975						
Capacity Adjustment Factor (CAF)	0.968		0.968						
% left turns				12	12	12	12	12	12
% right turns				12	12	12	12	12	12
CONTROL CHARACTERISTICS									
Number of signals				5	4	10	10	4	6
Arrival type (1-6)				4	3	4	4	4	4
Signal type (a, c, p)				c	c	c	c	c	c
Cycle length (C)				120	150	120	150	120	120
Effective green ratio (g/C)				0.44	0.45	0.44	0.45	0.44	0.44
MULTIMODAL CHARACTERISTICS									
Paved shoulder/bicycle lane (n, y)								n, 50%, y	n
Outside lane width (n, t, w)								t	t
Pavement condition (d, t, u)								t	
On-street parking (n, y)								n	n
Sidewalk (n, y)									n, 50%, y
Sidewalk/roadway separation (a, t, w)									t
Sidewalk protective barrier (n, y)									n

LEVEL OF SERVICE THRESHOLDS

Level of Service	Freeways	Highways		Arterials		Bicycle	Ped	Bus
	Density	Two-Lane %ffs	Multilane Density	Class I ats	Class II ats	Score	Score	Buses/hr.
B	≤ 17	> 83.3	≤ 17	> 31 mph	> 22 mph	≤ 2.75	≤ 2.75	≤ 6
C	≤ 24	> 75.0	≤ 24	> 23 mph	> 17 mph	≤ 3.50	≤ 3.50	≤ 4
D	≤ 31	> 66.7	≤ 31	> 18 mph	> 13 mph	≤ 4.25	≤ 4.25	< 3
E	≤ 39	> 58.3	≤ 35	> 15 mph	> 10 mph	≤ 5.00	≤ 5.00	< 2

% ffs = Percent free flow speed ats = Average travel speed

TABLE 9

Generalized **Peak Hour Directional** Volumes for Florida's Rural Undeveloped Areas **and** Developed Areas Less Than 5,000 Population[1]

January 2020

INTERRUPTED FLOW FACILITIES

STATE SIGNALIZED ARTERIALS

Lanes	Median	B	C	D	E
1	Undivided	*	670	740	**
2	Divided	*	1,530	1,580	**
3	Divided	*	2,360	2,400	**

Non-State Signalized Roadway Adjustments

(Alter corresponding state volumes by the indicated percent.)

Non-State Signalized Roadways - 10%

Median & Turn Lane Adjustments

Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors
1	Divided	Yes	No	+5%
1	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
–	–	–	Yes	+ 5%

One-Way Facility Adjustment

Multiply the corresponding directional volumes in this table by 1.2

BICYCLE MODE[2]

(Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Rural Undeveloped

Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	70	110	170
50-84%	60	120	180	580
85-100%	140	210	1,000	>1,000

Developed Areas

Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	120	260	840
50-84%	100	240	720	1,000
85-100%	320	1,000	>1,000	**

PEDESTRIAN MODE[2]

(Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	B	C	D	E
0-49%	*	*	120	460
50-84%	*	80	430	770
85-100%	180	520	860	>1,000

UNINTERRUPTED FLOW FACILITIES

FREEWAYS

Lanes	B	C	D	E
2	2,010	2,770	3,270	3,650
3	2,820	3,990	4,770	5,470
4	3,630	5,220	6,260	7,300

Freeway Adjustments

Auxiliary Lane
+ 1,000

UNINTERRUPTED FLOW HIGHWAYS

Rural Undeveloped

Lanes	Median	B	C	D	E
1	Undivided	240	450	730	1,490
2	Divided	1,630	2,350	2,910	3,280
3	Divided	2,450	3,530	4,360	4,920

Developed Areas

Lanes	Median	B	C	D	E
1	Undivided	540	820	1,110	1,490
2	Divided	1,530	2,210	2,820	3,220
3	Divided	2,300	3,320	4,240	4,830

Passing Lane Adjustments

Alter LOS B-D volumes in proportion to the passing lane length to the highway segment length

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
1	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

[1]Values shown are presented as peak hour directional volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the HCM and the Transit Capacity and Quality of Service Manual.

[2] Level of service for the bicycle and pedestrian modes in this table is based on number of vehicles, not number of bicyclists or pedestrians using the facility.

* Cannot be achieved using table input value defaults.

** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:
Florida Department of Transportation
Systems Implementation Office
https://www.fdot.gov/planning/systems/

TABLE 9
(continued)

Generalized **Peak Hour Directional** Volumes for Florida's Rural Undeveloped Areas **and** Developed Areas Less Than 5,000 Population

January 2020

INPUT VALUE ASSUMPTIONS	Uninterrupted Flow Facilities					Interrupted Flow Facilities				
	Freeways	Highways				Arterials		Bicycle		Pedestrian
		Undeveloped		Developed						
ROADWAY CHARACTERISTICS										
Area type (urban, rural)	rural									
Number of through lanes (both dir.)	4-8	2	4-6	2	4-6	2	4-6	4	4	2
Posted speed (mph)	70	55	55	50	50	45	45	55	45	45
Free flow speed (mph)	75	60	60	55	55	50	50	60	50	50
Auxiliary lanes (n,y)	n									
Median (d, n, nr, r)			d		d	n	r	r	r	n
Terrain (l,r)	l	l	l	l	l	l	l	l	l	l
% no passing zone		20		60						
Exclusive left turn lanes (n, y)		[n]	y	[n]	y	y	y	y	y	y
Exclusive right turn lanes (n, y)						n	n	n	n	n
Facility length (mi)	18	10	10	5	5	1.9	2.2	4	2	2
TRAFFIC CHARACTERISTICS										
Planning analysis hour factor (K)	0.105	0.095	0.095	0.095	0.095	0.095	0.095	0.095	0.095	0.095
Directional distribution factor (D)	0.55	0.55	0.55	0.55	0.55	0.550	0.550	0.570	0.570	0.550
Peak hour factor (PHF)	0.88	0.88	0.88	0.88	0.88	1.000	1.000	1.000	1.000	1.000
Base saturation flow rate (pcphpl)	2,400	1,700	2,200	1,700	2,200	1,950	1,950	1,950	1,950	1,950
Heavy vehicle percent	12.0	5.0	12.0	5.0	8.0	3.0	3.0	6.0	3.5	3.0
Speed Adjustment Factor (SAF)	0.975		0.975		0.975					
Capacity Adjustment Factor (CAF)	0.968		0.968		0.968					
% left turns						12	12		12	12
% right turns						12	12		12	12
CONTROL CHARACTERISTICS										
Number of signals						5	6	2	4	4
Arrival type (1-6)						3	3	3	3	3
Signal type (a, c, p)						c	c	a	a	a
Cycle length (C)						90	90	60	90	90
Effective green ratio (g/C)						0.44	0.44	0.37	0.44	0.44
MULTIMODAL CHARACTERISTICS										
Paved shoulder/bicycle lane (n, y)								n,50%,y	n,50%,y	n
Outside lane width (n, t, w)								t	t	t
Pavement condition (d, t, u)								t	t	
Sidewalk (n, y)										n,50%,y
Sidewalk/roadway separation(a, t,w)										t
Sidewalk protective barrier (n, y)										n

LEVEL OF SERVICE THRESHOLDS

Level of Service	Freeways	Highways				
		Two-Lane ru		Two-Lane rd	Multilane ru	Multilane rd
	Density	%tsf	ats	%ffs	Density	Density
B	≤ 14	≤ 50	≤ 55	> 83.3	≤ 14	≤ 14
C	≤ 22	≤ 65	≤ 50	> 75.0	≤ 22	≤ 22
D	≤ 29	≤ 80	≤ 45	> 66.7	≤ 29	≤ 29
E	≤ 36	> 80	≤ 40	> 58.3	≤ 34	≤ 34

Level of Service	Arterials	Bicycle	Pedestrian
	Major City/Co.(ats)	Score	Score
B	> 31 mph	≤ 2.75	≤ 2.75
C	> 23 mph	≤ 3.50	≤ 3.50
D	> 18 mph	≤ 4.25	≤ 4.25
E	> 15 mph	≤ 5.00	≤ 5.00

%tsf = Percent time spent following %ffs = Percent of free flow speed ats = Average travel speed ru = Rural undeveloped rd = Rural developed

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Turning Movement Report

Prepared For:

Ruettgers & Schuler Civil Engineers
1800 30th St, Ste 260
Bakersfield, CA 93301

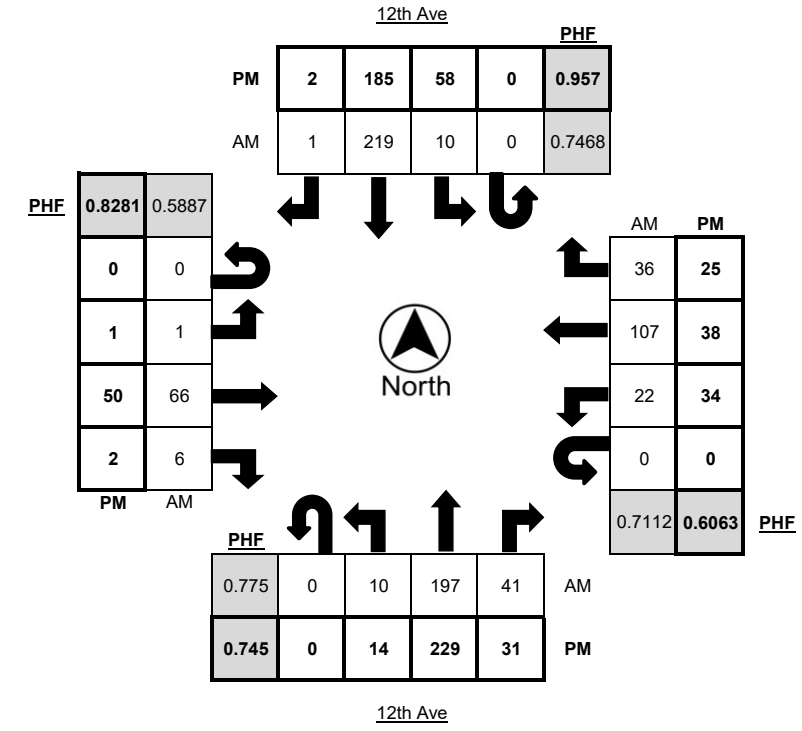
LOCATION Flint Ave@ 12th Ave
LATITUDE 36.3717
COUNTY Kings
LONGITUDE -119.6731
COLLECTION DATE Thursday, June 6, 2024
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
6:00 AM - 6:15 AM	0	0	18	3	0	0	0	16	1	1	0	1	4	1	0	0	1	3	4	0
6:15 AM - 6:30 AM	0	1	25	4	0	0	5	13	0	2	0	1	6	0	0	0	0	6	5	0
6:30 AM - 6:45 AM	0	0	22	4	0	0	1	35	1	2	0	0	3	1	0	0	1	7	8	0
6:45 AM - 7:00 AM	0	1	33	2	0	0	5	40	0	2	0	2	6	0	0	0	5	7	7	1
7:00 AM - 7:15 AM	0	2	23	2	0	0	1	31	0	0	0	0	9	0	1	0	2	11	11	1
7:15 AM - 7:30 AM	0	3	61	5	1	0	5	60	0	1	0	0	13	1	3	0	4	16	8	1
7:30 AM - 7:45 AM	0	3	64	13	0	0	2	53	1	0	0	1	15	3	0	0	9	38	8	2
7:45 AM - 8:00 AM	0	2	49	21	0	0	2	75	0	2	0	0	29	2	0	0	7	42	9	2
TOTAL	**0**	**12**	**295**	**54**	**1**	**0**	**21**	**323**	**3**	**10**	**0**	**5**	**85**	**8**	**4**	**0**	**29**	**130**	**60**	**7**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	0	6	54	6	2	0	9	50	1	0	0	3	12	3	0	0	7	5	3	0
4:15 PM - 4:30 PM	0	0	43	9	1	0	10	47	0	0	0	0	11	2	0	0	6	6	4	0
4:30 PM - 4:45 PM	0	4	50	4	3	0	10	53	1	1	0	0	14	2	0	0	7	6	3	0
4:45 PM - 5:00 PM	0	3	57	9	1	0	17	45	0	3	0	1	12	0	0	0	9	8	4	1
5:00 PM - 5:15 PM	0	4	75	13	1	0	19	37	0	2	0	0	9	0	0	0	9	19	12	2
5:15 PM - 5:30 PM	0	3	47	5	0	0	12	50	1	0	0	0	15	0	2	0	9	5	6	0
5:30 PM - 5:45 PM	0	2	42	6	0	0	9	54	3	1	0	1	12	1	1	0	8	9	4	0
5:45 PM - 6:00 PM	0	1	49	11	0	0	5	39	2	0	0	1	12	1	0	0	6	5	8	0
TOTAL	**0**	**23**	**417**	**63**	**8**	**0**	**91**	**375**	**8**	**7**	**0**	**6**	**97**	**9**	**3**	**0**	**61**	**63**	**44**	**3**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 8:00 AM	0	10	197	41	1	0	10	219	1	3	0	1	66	6	4	0	22	107	36	6
4:30 PM - 5:30 PM	0	14	229	31	5	0	58	185	2	6	0	1	50	2	2	0	34	38	25	3

	PHF	Trucks
AM	0.752	2.0%
PM	0.849	2.4%



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Turning Movement Report

Prepared For:

Ruettgers & Schuler Civil Engineers
1800 30th St, Ste 260
Bakersfield, CA 93301

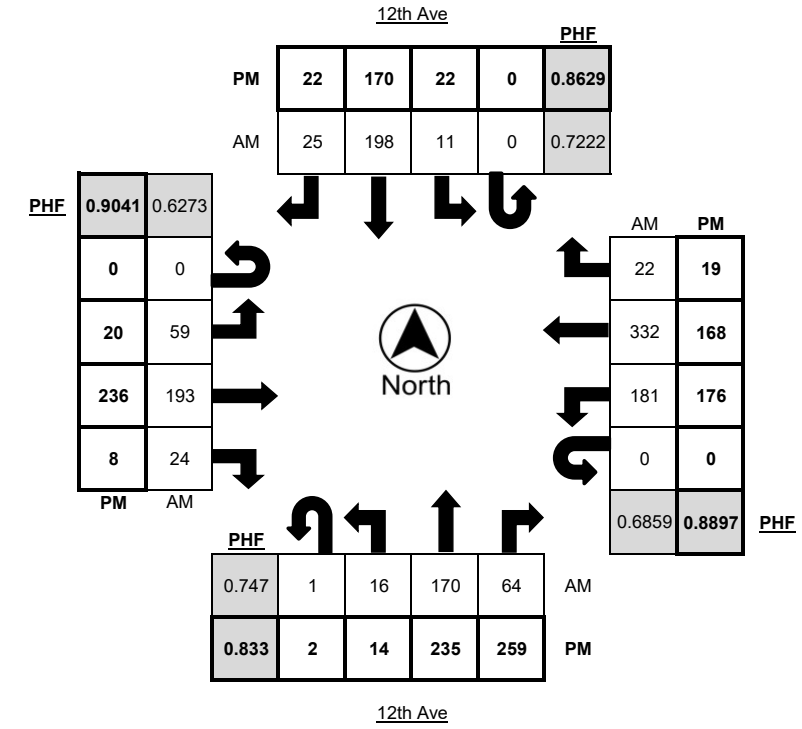
LOCATION Fargo Ave @ 12th Ave
LATITUDE 36.3572
COUNTY Kings
LONGITUDE -119.6728
COLLECTION DATE Thursday, June 6, 2024
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
6:00 AM - 6:15 AM	0	4	14	1	0	0	2	16	0	1	0	0	14	6	0	0	26	34	1	1
6:15 AM - 6:30 AM	0	3	14	2	0	0	3	12	0	1	0	3	25	9	0	0	20	35	4	0
6:30 AM - 6:45 AM	0	3	11	0	1	0	2	32	1	2	0	3	20	12	0	0	20	19	4	1
6:45 AM - 7:00 AM	0	5	20	1	1	0	3	40	1	2	0	1	28	18	0	0	25	41	5	0
7:00 AM - 7:15 AM	0	1	22	9	0	0	1	31	3	0	0	8	30	4	2	0	32	49	2	1
7:15 AM - 7:30 AM	0	5	53	15	0	0	2	52	1	1	0	12	30	5	1	0	34	79	5	4
7:30 AM - 7:45 AM	1	5	54	24	1	0	2	50	11	0	0	16	55	6	2	0	43	89	7	1
7:45 AM - 8:00 AM	0	5	41	16	1	0	6	65	10	2	0	23	78	9	2	0	72	115	8	1
TOTAL	**1**	**31**	**229**	**68**	**4**	**0**	**21**	**298**	**27**	**9**	**0**	**66**	**280**	**69**	**7**	**0**	**272**	**461**	**36**	**9**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	1	1	64	69	1	0	8	48	6	0	0	4	57	3	1	2	47	46	3	1
4:15 PM - 4:30 PM	0	5	43	44	1	0	8	47	3	0	0	2	63	4	0	1	50	40	4	0
4:30 PM - 4:45 PM	1	4	49	54	2	0	3	55	4	1	0	5	68	0	0	0	35	30	5	1
4:45 PM - 5:00 PM	0	3	63	60	2	0	9	39	6	0	0	2	54	3	0	0	50	49	3	0
5:00 PM - 5:15 PM	0	4	73	76	1	0	4	36	8	0	0	9	56	4	0	0	44	46	8	2
5:15 PM - 5:30 PM	1	3	50	69	0	0	6	40	4	0	0	4	58	1	0	0	47	43	3	0
5:30 PM - 5:45 PM	0	3	41	44	0	0	5	61	5	1	0	8	45	3	0	0	32	38	1	1
5:45 PM - 6:00 PM	0	4	54	55	0	0	6	37	3	0	0	3	47	4	0	0	39	34	6	0
TOTAL	**3**	**27**	**437**	**471**	**7**	**0**	**49**	**363**	**39**	**2**	**0**	**37**	**448**	**22**	**1**	**3**	**344**	**326**	**33**	**5**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 8:00 AM	1	16	170	64	2	0	11	198	25	3	0	59	193	24	7	0	181	332	22	7
4:30 PM - 5:30 PM	2	14	235	259	5	0	22	170	22	1	0	20	236	8	0	0	176	168	19	3

	PHF	Trucks
AM	0.723	1.5%
PM	0.918	0.7%



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Turning Movement Report

Prepared For:

Ruettgers & Schuler Civil Engineers
1800 30th St, Ste 260
Bakersfield, CA 93301

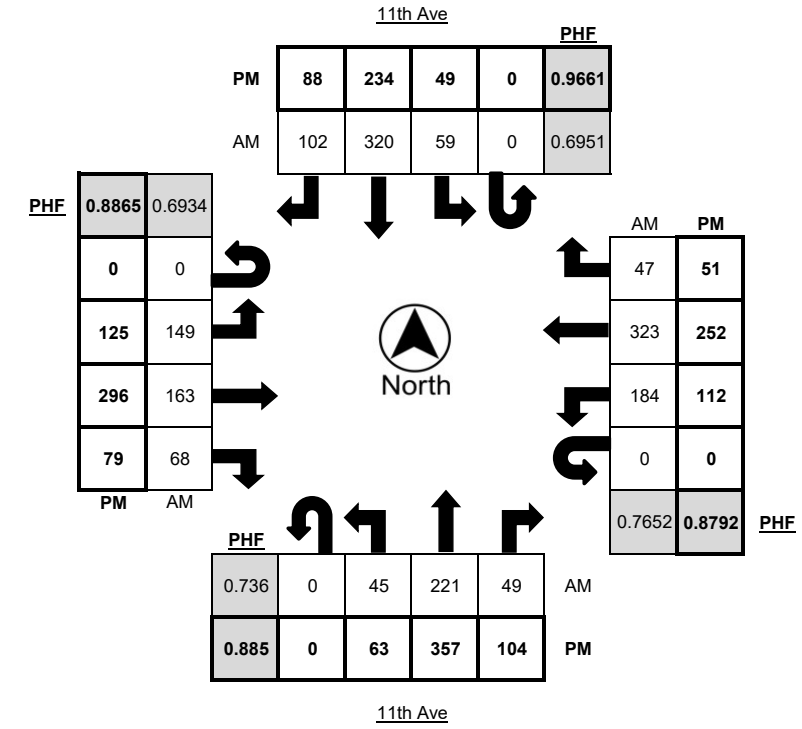
LOCATION Fargo Ave @ 11th Ave
LATITUDE 36.3573
COUNTY Kings
LONGITUDE -119.6551
COLLECTION DATE Thursday, June 6, 2024
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
6:00 AM - 6:15 AM	0	2	25	9	1	0	5	28	13	2	0	8	11	8	0	0	11	22	1	1
6:15 AM - 6:30 AM	0	5	46	3	1	0	3	31	11	1	0	12	19	5	0	0	16	26	4	1
6:30 AM - 6:45 AM	0	2	25	10	2	0	4	28	5	0	0	15	20	9	1	0	18	30	6	1
6:45 AM - 7:00 AM	0	2	44	6	0	0	9	47	12	2	0	20	24	8	1	0	21	40	5	0
7:00 AM - 7:15 AM	0	5	47	12	3	0	7	47	12	2	0	21	27	10	3	0	36	50	14	1
7:15 AM - 7:30 AM	0	13	46	9	1	0	14	69	23	6	0	29	30	10	0	0	38	62	11	4
7:30 AM - 7:45 AM	0	12	56	8	0	0	11	99	26	2	0	46	47	23	2	0	56	94	12	2
7:45 AM - 8:00 AM	0	15	72	20	1	0	27	105	41	1	0	53	59	25	0	0	54	117	10	2
TOTAL	**0**	**56**	**361**	**77**	**9**	**0**	**80**	**454**	**143**	**16**	**0**	**204**	**237**	**98**	**7**	**0**	**250**	**441**	**63**	**12**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	0	16	84	25	0	0	5	50	17	0	0	39	56	23	0	0	37	79	18	1
4:15 PM - 4:30 PM	0	13	96	30	0	0	16	48	23	1	0	37	53	25	0	0	40	61	13	0
4:30 PM - 4:45 PM	0	11	83	30	0	0	12	49	16	0	0	26	46	16	0	0	29	68	14	0
4:45 PM - 5:00 PM	0	17	102	29	3	0	13	55	19	2	0	35	79	27	1	0	33	68	17	0
5:00 PM - 5:15 PM	0	25	94	27	0	0	12	57	26	2	0	34	71	20	0	0	22	59	13	1
5:15 PM - 5:30 PM	0	10	78	31	0	0	9	61	26	1	0	33	74	17	0	0	34	65	9	0
5:30 PM - 5:45 PM	0	11	83	17	0	0	15	61	17	0	0	23	72	15	1	0	23	60	12	1
5:45 PM - 6:00 PM	0	14	76	25	1	0	7	46	26	1	0	42	46	10	0	0	32	79	18	0
TOTAL	**0**	**117**	**696**	**214**	**4**	**0**	**89**	**427**	**170**	**7**	**0**	**269**	**497**	**153**	**2**	**0**	**250**	**539**	**114**	**3**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 8:00 AM	0	45	221	49	5	0	59	320	102	11	0	149	163	68	5	0	184	323	47	9
4:45 PM - 5:45 PM	0	63	357	104	3	0	49	234	88	5	0	125	296	79	2	0	112	252	51	2

	PHF	Trucks
AM	0.723	1.7%
PM	0.916	0.7%



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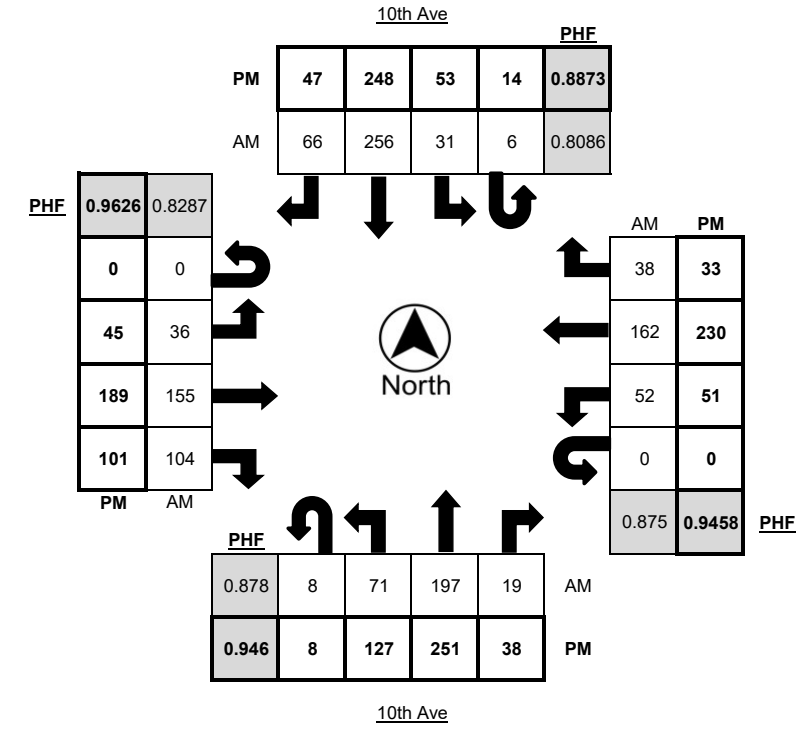
LOCATION Fargo Ave @ 10th Ave
LATITUDE 36.3573
COUNTY Kings
LONGITUDE -119.6370
COLLECTION DATE Thursday, June 6, 2024
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
6:00 AM - 6:15 AM	1	4	44	6	2	0	0	26	2	2	0	5	13	11	1	0	5	14	6	1
6:15 AM - 6:30 AM	1	5	42	4	2	1	7	42	3	7	0	5	26	14	2	0	7	9	10	0
6:30 AM - 6:45 AM	0	13	33	3	3	0	5	32	9	4	0	6	27	8	0	0	14	22	15	1
6:45 AM - 7:00 AM	0	12	37	2	2	2	13	42	6	5	0	3	34	16	1	0	11	28	11	1
7:00 AM - 7:15 AM	1	14	50	10	1	0	11	51	13	6	0	6	23	25	1	0	10	34	11	1
7:15 AM - 7:30 AM	2	15	42	4	2	3	8	55	10	2	0	10	43	28	1	0	12	40	8	3
7:30 AM - 7:45 AM	3	20	46	4	3	3	9	77	22	4	0	8	42	21	3	0	12	49	11	2
7:45 AM - 8:00 AM	2	22	59	1	6	0	3	73	21	4	0	12	47	30	1	0	18	39	8	0
TOTAL	**10**	**105**	**353**	**34**	**21**	**9**	**56**	**398**	**86**	**34**	**0**	**55**	**255**	**153**	**10**	**0**	**89**	**235**	**80**	**9**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	1	43	66	6	2	1	11	63	8	1	0	10	33	23	1	0	7	44	8	0
4:15 PM - 4:30 PM	1	39	57	8	1	2	11	61	10	3	0	6	49	18	0	0	8	52	9	0
4:30 PM - 4:45 PM	1	34	56	7	1	1	14	74	6	0	0	11	42	10	0	0	7	56	7	1
4:45 PM - 5:00 PM	3	34	55	8	2	1	12	65	10	1	0	14	44	24	0	0	11	58	8	0
5:00 PM - 5:15 PM	2	22	79	9	2	3	18	70	11	2	0	10	51	26	1	0	17	56	10	0
5:15 PM - 5:30 PM	1	30	65	15	1	7	10	65	15	0	0	12	50	25	1	0	7	59	7	1
5:30 PM - 5:45 PM	2	41	52	6	0	3	13	48	11	0	0	9	44	26	1	0	16	57	8	0
5:45 PM - 6:00 PM	0	35	44	6	1	2	18	78	17	1	0	10	33	16	0	0	13	52	10	0
TOTAL	**11**	**278**	**474**	**65**	**10**	**20**	**107**	**524**	**88**	**8**	**0**	**82**	**346**	**168**	**4**	**0**	**86**	**434**	**67**	**2**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 8:00 AM	8	71	197	19	12	6	31	256	66	16	0	36	155	104	6	0	52	162	38	6
4:45 PM - 5:45 PM	8	127	251	38	5	14	53	248	47	3	0	45	189	101	3	0	51	230	33	1

	PHF	Trucks
AM	0.896	3.3%
PM	0.934	0.8%



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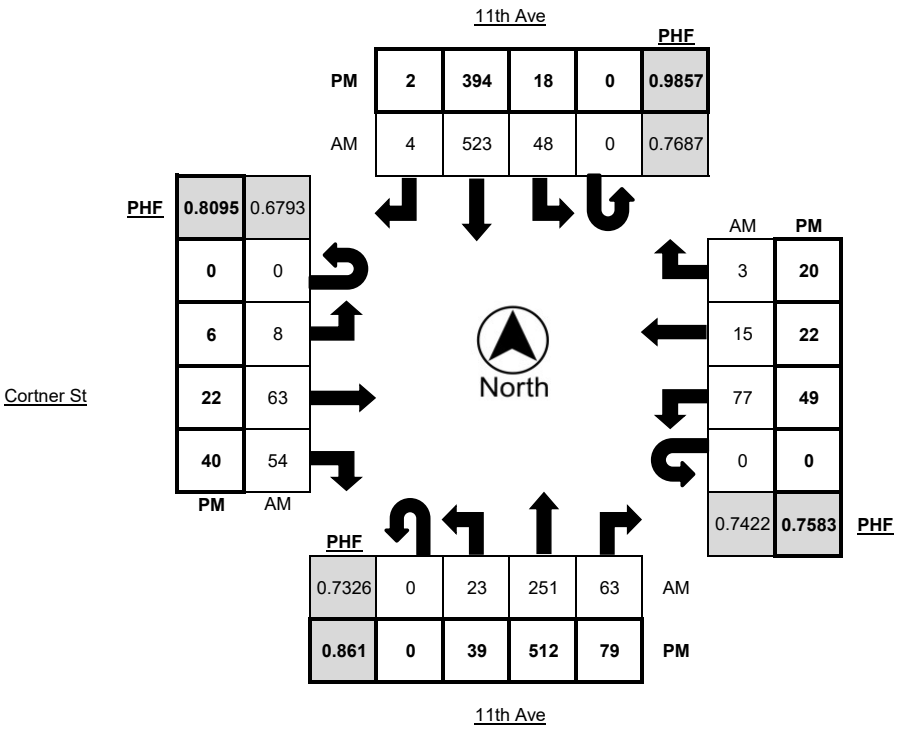
	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
6:00 AM - 6:15 AM	0	6	40	6	2	0	2	50	0	1	0	0	1	4	0	0	6	0	1	0
6:15 AM - 6:30 AM	0	2	44	0	1	0	3	49	0	2	0	0	5	4	0	0	10	1	0	0
6:30 AM - 6:45 AM	0	3	34	6	1	0	1	56	0	1	0	0	4	7	0	0	10	2	0	0
6:45 AM - 7:00 AM	0	4	36	6	2	0	3	75	1	0	0	1	2	8	0	0	14	1	0	0
7:00 AM - 7:15 AM	0	2	56	7	2	0	6	87	0	4	0	1	6	5	0	0	12	1	2	0
7:15 AM - 7:30 AM	0	6	50	11	1	0	9	103	1	5	0	1	15	12	0	0	19	1	1	0
7:30 AM - 7:45 AM	0	7	61	22	0	0	19	162	1	3	0	4	20	15	0	0	22	5	0	0
7:45 AM - 8:00 AM	0	8	84	23	1	0	14	171	2	2	0	2	22	22	0	0	24	8	0	0
TOTAL	**0**	**38**	**405**	**81**	**10**	**0**	**57**	**753**	**5**	**18**	**0**	**9**	**75**	**77**	**0**	**0**	**117**	**19**	**4**	**0**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	0	11	118	24	0	0	5	95	2	0	0	1	10	10	0	0	12	9	9	0
4:15 PM - 4:30 PM	0	6	127	16	0	0	4	101	0	1	0	3	4	9	0	0	19	5	2	0
4:30 PM - 4:45 PM	0	6	117	22	0	0	4	99	0	0	0	1	4	13	0	0	8	4	4	0
4:45 PM - 5:00 PM	0	16	150	17	1	0	5	99	0	2	0	1	4	8	0	0	10	4	5	1
5:00 PM - 5:15 PM	0	15	129	17	1	0	2	94	1	0	0	1	5	11	0	0	10	4	7	0
5:15 PM - 5:30 PM	0	8	123	22	0	0	5	100	4	1	0	0	4	8	0	0	15	4	5	0
5:30 PM - 5:45 PM	0	10	102	19	0	0	2	90	3	0	0	2	3	6	0	0	19	2	3	0
5:45 PM - 6:00 PM	0	7	109	15	1	0	7	78	0	1	0	1	3	8	0	0	13	9	10	0
TOTAL	**0**	**79**	**975**	**152**	**3**	**0**	**34**	**756**	**10**	**5**	**0**	**10**	**37**	**73**	**0**	**0**	**106**	**41**	**45**	**1**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 8:00 AM	0	23	251	63	4	0	48	523	4	14	0	8	63	54	0	0	77	15	3	0
4:00 PM - 5:00 PM	0	39	512	79	1	0	18	394	2	3	0	6	22	40	0	0	49	22	20	1

	PHF	Trucks
AM	0.745	1.6%
PM	0.943	0.4%



Metro Traffic Data Inc.
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Turning Movement Report

Prepared For:

Ruettgers & Schuler Civil Engineers
1800 30th St, Ste 260
Bakersfield, CA 93301

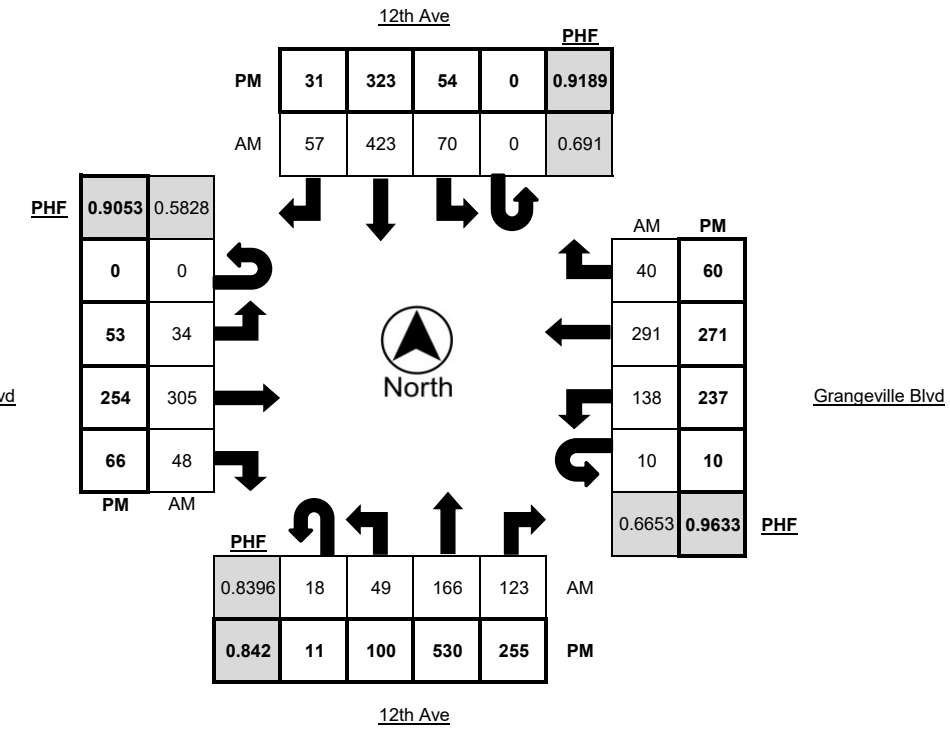
LOCATION Grangeville Blvd @ 12th Ave
LATITUDE 36.3426
COUNTY Kings
LONGITUDE -119.6729
COLLECTION DATE Thursday, June 6, 2024
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
6:00 AM - 6:15 AM	3	11	19	4	2	0	7	46	8	0	0	1	23	3	0	2	7	26	3	0
6:15 AM - 6:30 AM	4	11	30	9	0	0	9	29	10	2	0	1	22	3	0	2	18	40	9	0
6:30 AM - 6:45 AM	3	12	30	10	1	0	15	58	8	4	0	1	20	6	1	2	22	38	3	0
6:45 AM - 7:00 AM	3	17	27	9	1	0	7	53	9	1	0	10	30	8	0	3	35	29	10	2
7:00 AM - 7:15 AM	6	11	29	19	0	0	8	69	11	0	0	2	34	12	1	1	20	43	6	2
7:15 AM - 7:30 AM	4	7	48	21	1	0	24	91	10	1	0	9	45	8	1	3	25	46	5	2
7:30 AM - 7:45 AM	3	18	55	29	1	0	16	104	18	2	0	11	89	11	0	2	35	99	14	2
7:45 AM - 8:00 AM	5	13	34	54	2	0	22	159	18	4	0	12	137	17	2	4	58	103	15	2
TOTAL	**31**	**100**	**272**	**155**	**8**	**0**	**108**	**609**	**92**	**14**	**0**	**47**	**400**	**68**	**5**	**19**	**220**	**424**	**65**	**10**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	2	29	127	44	1	0	10	82	10	0	0	19	64	12	1	1	35	37	8	2
4:15 PM - 4:30 PM	2	21	91	51	2	0	14	105	11	1	0	11	72	20	0	4	45	48	19	1
4:30 PM - 4:45 PM	2	27	117	48	1	0	20	81	7	1	0	7	71	16	1	1	42	54	13	2
4:45 PM - 5:00 PM	5	22	143	61	1	0	15	85	11	0	0	16	63	14	0	1	68	63	13	2
5:00 PM - 5:15 PM	3	29	169	65	2	0	16	75	4	0	0	15	66	22	0	5	45	70	17	0
5:15 PM - 5:30 PM	3	25	123	58	1	0	11	78	10	1	0	12	66	18	1	3	54	75	14	2
5:30 PM - 5:45 PM	0	24	95	71	0	0	12	85	6	1	0	10	59	12	0	1	70	63	16	0
5:45 PM - 6:00 PM	2	26	115	55	0	0	20	66	10	0	0	15	69	12	1	2	57	57	11	1
TOTAL	**19**	**203**	**980**	**453**	**8**	**0**	**118**	**657**	**69**	**4**	**0**	**105**	**530**	**126**	**4**	**18**	**416**	**467**	**111**	**10**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 8:00 AM	18	49	166	123	4	0	70	423	57	7	0	34	305	48	4	10	138	291	40	8
4:45 PM - 5:45 PM	11	100	530	255	4	0	54	323	31	2	0	53	254	66	1	10	237	271	60	4

	PHF	Trucks
AM	0.680	1.3%
PM	0.938	0.5%



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Turning Movement Report

Prepared For:

Ruettgers & Schuler Civil Engineers
1800 30th St, Ste 260
Bakersfield, CA 93301

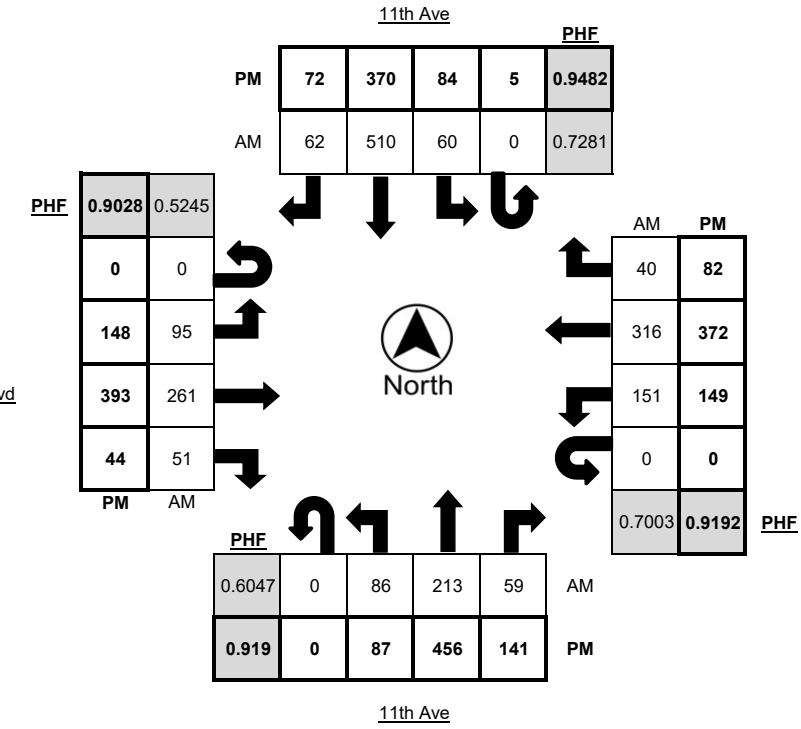
LOCATION Grangeville Blvd @ 11th Ave
LATITUDE 36.3427
COUNTY Kings
LONGITUDE -119.6551
COLLECTION DATE Thursday, June 6, 2024
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
6:00 AM - 6:15 AM	0	4	41	3	3	0	5	44	8	1	0	6	15	3	0	0	14	26	6	0
6:15 AM - 6:30 AM	0	8	25	5	2	0	7	45	16	3	0	11	24	9	0	0	9	39	12	2
6:30 AM - 6:45 AM	0	4	29	11	0	0	10	58	5	0	0	8	24	7	2	0	19	35	3	1
6:45 AM - 7:00 AM	0	9	33	8	5	0	12	83	15	3	0	11	46	9	2	0	24	52	4	4
7:00 AM - 7:15 AM	0	7	30	14	2	0	8	83	16	3	0	15	25	9	2	0	21	43	8	0
7:15 AM - 7:30 AM	0	16	43	12	3	0	12	108	14	4	0	19	51	7	2	0	30	51	11	1
7:30 AM - 7:45 AM	0	19	54	15	1	0	16	145	13	2	0	19	56	12	0	0	44	109	9	0
7:45 AM - 8:00 AM	0	44	86	18	2	0	24	174	19	2	0	42	129	23	1	0	56	113	12	2
TOTAL	**0**	**111**	**341**	**86**	**18**	**0**	**94**	**740**	**106**	**18**	**0**	**131**	**370**	**79**	**9**	**0**	**217**	**468**	**65**	**10**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	0	19	108	29	0	2	21	94	23	0	0	35	84	11	1	0	26	67	19	1
4:15 PM - 4:30 PM	0	15	107	31	2	2	25	102	17	1	0	29	80	8	0	0	26	72	21	2
4:30 PM - 4:45 PM	0	11	107	25	0	2	18	86	23	1	0	35	79	8	1	0	26	95	27	0
4:45 PM - 5:00 PM	0	23	124	39	3	1	26	92	10	2	0	43	91	9	0	0	35	90	20	0
5:00 PM - 5:15 PM	0	28	109	30	0	0	17	97	18	0	0	40	114	8	1	0	36	110	18	0
5:15 PM - 5:30 PM	0	21	117	44	1	2	29	91	18	1	0	34	91	10	0	0	44	85	17	0
5:30 PM - 5:45 PM	0	15	106	28	0	2	12	90	26	0	0	31	97	17	0	0	34	87	27	0
5:45 PM - 6:00 PM	0	18	81	27	2	1	14	58	15	1	0	27	81	13	1	0	39	78	19	0
TOTAL	**0**	**150**	**859**	**253**	**8**	**12**	**162**	**710**	**150**	**6**	**0**	**274**	**717**	**84**	**4**	**0**	**266**	**684**	**168**	**3**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 8:00 AM	0	86	213	59	8	0	60	510	62	11	0	95	261	51	5	0	151	316	40	3
4:45 PM - 5:45 PM	0	87	456	141	4	5	84	370	72	3	0	148	393	44	1	0	149	372	82	0

	PHF	Trucks
AM	0.643	1.4%
PM	0.961	0.3%



Metro Traffic Data Inc.
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Turning Movement Report

Prepared For:

Ruettgers & Schuler Civil Engineers
1800 30th St, Ste 260
Bakersfield, CA 93301

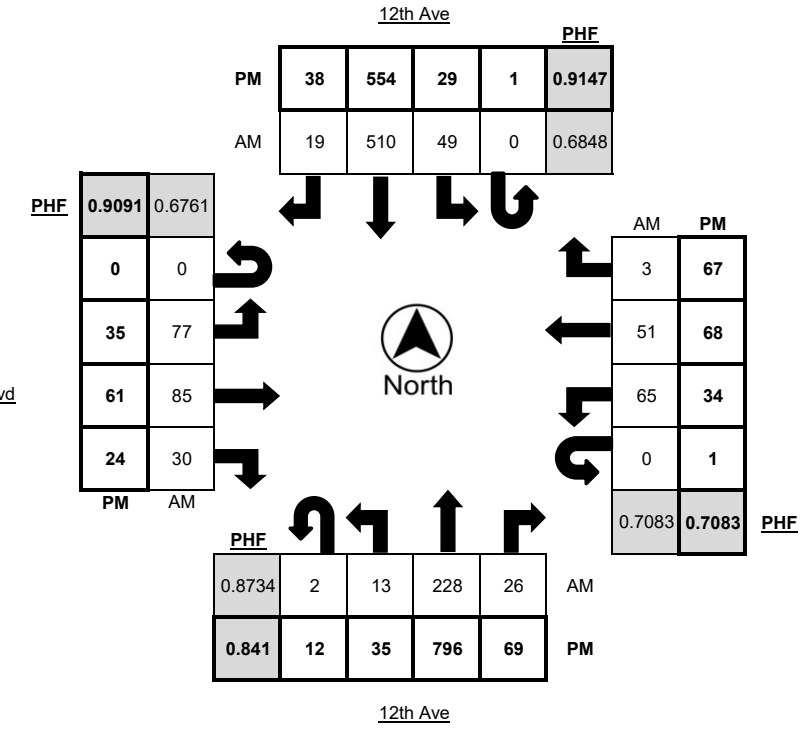
LOCATION Greenfield Ave @ 12th Ave
LATITUDE 36.3365
COUNTY Kings
LONGITUDE -119.6729
COLLECTION DATE Thursday, June 6, 2024
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
6:00 AM - 6:15 AM	2	0	21	1	2	0	1	62	0	0	0	4	3	5	0	0	4	8	0	0
6:15 AM - 6:30 AM	0	2	33	3	0	0	2	47	1	0	0	3	5	6	0	0	4	4	0	0
6:30 AM - 6:45 AM	0	1	34	4	0	0	5	78	2	3	0	5	7	5	1	0	15	3	0	0
6:45 AM - 7:00 AM	1	0	39	3	1	0	7	106	2	2	0	1	12	5	0	0	8	6	0	0
7:00 AM - 7:15 AM	1	3	42	6	1	0	3	104	2	0	0	11	7	7	1	0	5	11	1	0
7:15 AM - 7:30 AM	1	0	60	8	0	0	10	110	5	2	0	20	15	6	1	0	20	8	0	0
7:30 AM - 7:45 AM	0	3	62	6	1	0	13	113	7	1	0	21	26	8	0	0	15	16	1	0
7:45 AM - 8:00 AM	0	7	64	6	3	0	23	183	5	6	0	25	37	9	1	0	25	16	1	0
TOTAL	**5**	**16**	**355**	**37**	**8**	**0**	**64**	**803**	**24**	**14**	**0**	**90**	**112**	**51**	**4**	**0**	**96**	**72**	**3**	**0**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	5	5	178	21	1	0	3	107	13	1	0	8	16	4	0	0	10	17	15	0
4:15 PM - 4:30 PM	6	6	143	21	2	0	11	160	10	1	0	10	8	3	0	0	9	14	10	0
4:30 PM - 4:45 PM	1	5	166	16	1	0	8	116	10	1	0	3	15	3	0	0	11	26	17	0
4:45 PM - 5:00 PM	3	4	207	15	3	0	9	150	11	1	0	8	16	7	0	0	12	13	15	0
5:00 PM - 5:15 PM	7	18	230	16	2	0	5	126	8	0	0	11	18	4	0	1	9	21	29	0
5:15 PM - 5:30 PM	1	7	183	24	0	1	6	139	7	1	0	6	17	7	0	0	8	21	11	0
5:30 PM - 5:45 PM	1	6	176	14	0	0	9	139	12	1	0	10	10	6	0	0	5	13	12	2
5:45 PM - 6:00 PM	1	5	152	10	0	1	11	115	7	0	0	11	21	4	0	0	15	17	18	0
TOTAL	**25**	**56**	**1435**	**137**	**9**	**2**	**62**	**1052**	**78**	**6**	**0**	**67**	**121**	**38**	**0**	**1**	**79**	**142**	**127**	**2**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 8:00 AM	2	13	228	26	5	0	49	510	19	9	0	77	85	30	3	0	65	51	3	0
4:45 PM - 5:45 PM	12	35	796	69	5	1	29	554	38	3	0	35	61	24	0	1	34	68	67	2

	PHF	Trucks
AM	0.722	1.5%
PM	0.907	0.5%



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Turning Movement Report

Prepared For:

Ruettgers & Schuler Civil Engineers
1800 30th St, Ste 260
Bakersfield, CA 93301

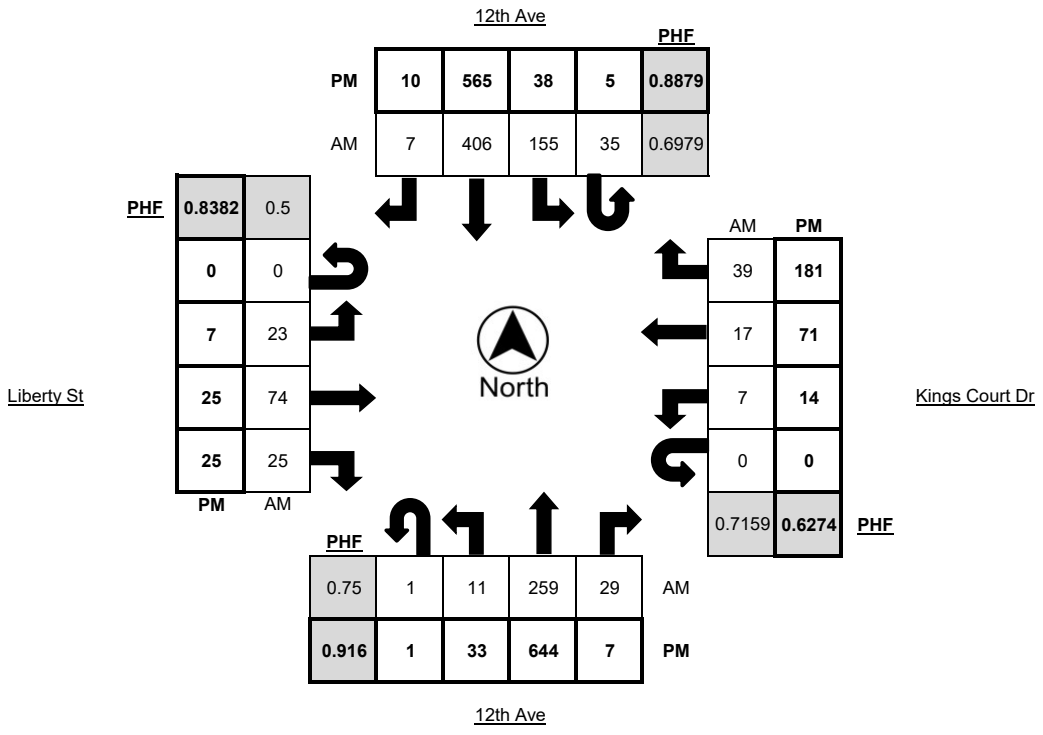
LOCATION Liberty St @ 12th Ave
LATITUDE 36.3328
COUNTY Kings
LONGITUDE -119.6729
COLLECTION DATE Thursday, June 6, 2024
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
6:00 AM - 6:15 AM	0	1	20	2	0	0	8	62	0	0	0	2	3	5	1	0	0	3	4	0
6:15 AM - 6:30 AM	0	0	35	1	0	0	9	52	0	0	0	0	6	3	0	0	0	0	4	0
6:30 AM - 6:45 AM	0	0	30	1	0	0	15	80	0	3	0	2	8	2	0	0	1	1	6	1
6:45 AM - 7:00 AM	0	1	40	0	1	0	29	94	1	3	0	0	10	1	0	0	0	0	5	0
7:00 AM - 7:15 AM	0	1	41	2	1	3	22	87	2	1	0	3	10	6	0	0	1	3	9	1
7:15 AM - 7:30 AM	1	3	58	2	0	2	32	106	0	2	0	1	15	8	0	0	0	3	9	0
7:30 AM - 7:45 AM	0	3	79	10	2	9	39	84	1	1	0	2	11	5	0	0	3	2	11	1
7:45 AM - 8:00 AM	0	4	81	15	2	21	62	129	4	5	0	17	38	6	0	0	3	9	10	0
TOTAL	**1**	**13**	**384**	**33**	**6**	**35**	**216**	**694**	**8**	**15**	**0**	**27**	**101**	**36**	**1**	**0**	**8**	**21**	**58**	**3**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	0	2	161	1	1	1	9	116	3	1	0	1	9	4	0	0	3	9	40	2
4:15 PM - 4:30 PM	0	9	127	3	1	0	19	150	1	0	0	3	2	5	0	0	1	14	24	0
4:30 PM - 4:45 PM	0	7	163	1	1	0	11	122	2	1	0	0	4	4	0	0	6	17	44	1
4:45 PM - 5:00 PM	0	6	158	4	0	2	10	159	3	2	0	2	6	9	0	0	3	9	42	1
5:00 PM - 5:15 PM	1	13	173	0	2	1	10	126	3	0	0	1	6	3	0	0	6	30	70	1
5:15 PM - 5:30 PM	0	4	162	1	0	2	6	139	3	1	0	1	5	7	0	0	2	17	31	0
5:30 PM - 5:45 PM	0	10	151	2	0	0	12	141	1	1	0	3	8	6	0	0	3	15	38	1
5:45 PM - 6:00 PM	0	4	153	0	0	0	6	124	1	0	0	1	6	8	0	0	1	9	20	0
TOTAL	**1**	**55**	**1248**	**12**	**5**	**6**	**83**	**1077**	**17**	**6**	**0**	**12**	**46**	**46**	**0**	**0**	**25**	**120**	**309**	**6**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 8:00 AM	1	11	259	29	5	35	155	406	7	9	0	23	74	25	0	0	7	17	39	2
4:45 PM - 5:45 PM	1	33	644	7	2	5	38	565	10	4	0	7	25	25	0	0	14	71	181	3

	PHF	Trucks
AM	0.682	1.5%
PM	0.918	0.6%



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

Ruettgers & Schuler Civil Engineers
1800 30th St, Ste 260
Bakersfield, CA 93301

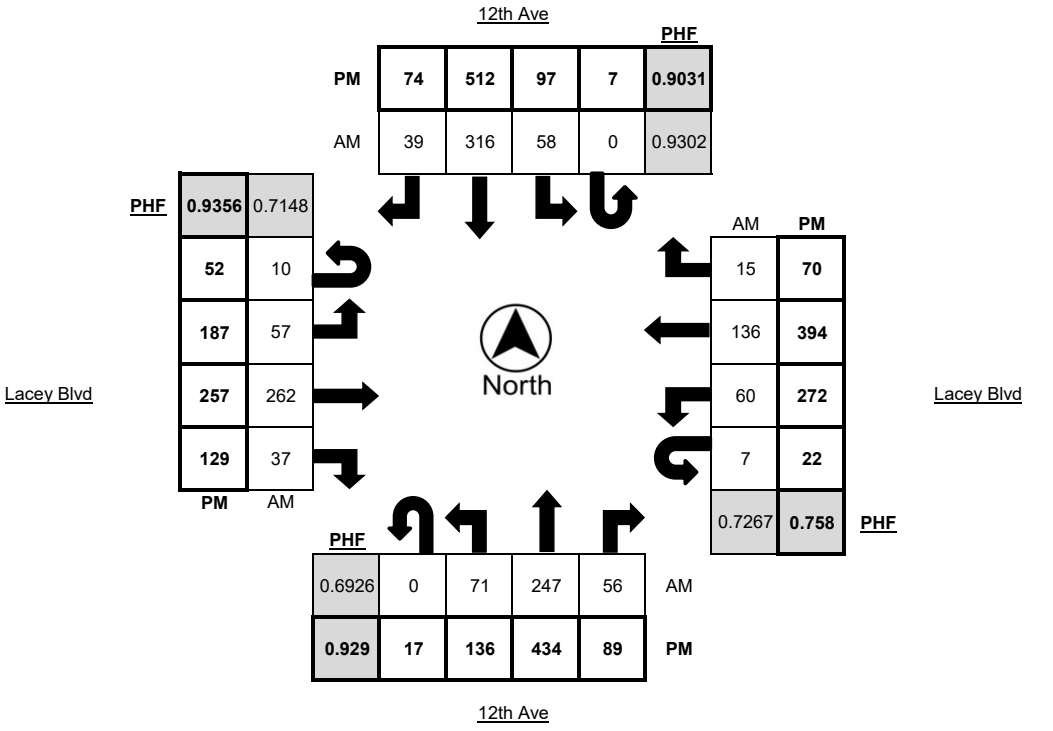
LOCATION Lacey Blvd @ 12th Ave
LATITUDE 36.3281
COUNTY Kings
LONGITUDE -119.6729
COLLECTION DATE Thursday, June 6, 2024
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
6:00 AM - 6:15 AM	0	6	17	1	2	0	6	54	2	1	0	12	15	4	2	0	5	24	1	2
6:15 AM - 6:30 AM	1	8	20	6	1	0	1	46	4	0	2	7	16	6	0	1	11	8	2	1
6:30 AM - 6:45 AM	0	6	32	2	0	0	9	65	3	1	3	7	24	11	0	2	5	14	1	0
6:45 AM - 7:00 AM	0	7	29	5	0	0	16	65	7	1	0	6	39	10	1	0	5	23	3	1
7:00 AM - 7:15 AM	0	9	38	6	2	0	14	77	9	1	1	8	25	5	0	4	10	22	1	0
7:15 AM - 7:30 AM	0	19	53	11	0	0	10	84	10	2	3	13	67	13	2	2	11	26	5	1
7:30 AM - 7:45 AM	0	15	74	14	4	0	15	75	8	2	3	15	74	11	2	0	18	40	4	3
7:45 AM - 8:00 AM	0	28	82	25	1	0	19	80	12	4	3	21	96	8	0	1	21	48	5	2
TOTAL	**1**	**98**	**345**	**70**	**10**	**0**	**90**	**546**	**55**	**12**	**15**	**89**	**356**	**68**	**7**	**10**	**86**	**205**	**22**	**10**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	2	29	82	25	2	2	24	104	6	2	15	55	53	38	1	5	48	88	17	0
4:15 PM - 4:30 PM	3	34	83	22	2	0	30	124	23	0	8	45	81	31	3	6	61	86	10	2
4:30 PM - 4:45 PM	5	32	114	31	1	0	24	125	27	2	14	44	53	37	2	2	67	107	13	1
4:45 PM - 5:00 PM	5	33	121	23	1	2	24	149	16	1	14	42	76	27	2	6	51	76	14	1
5:00 PM - 5:15 PM	3	39	106	15	0	2	20	115	16	1	15	47	61	28	0	6	95	126	23	0
5:15 PM - 5:30 PM	4	32	93	20	0	3	29	123	15	1	9	54	67	37	2	8	59	85	20	1
5:30 PM - 5:45 PM	3	52	108	27	0	1	22	148	16	1	11	50	57	48	2	4	52	73	8	0
5:45 PM - 6:00 PM	4	43	97	21	0	4	18	111	13	0	6	47	67	37	0	3	69	79	13	1
TOTAL	**29**	**294**	**804**	**184**	**6**	**14**	**191**	**999**	**132**	**8**	**92**	**384**	**515**	**283**	**12**	**40**	**502**	**720**	**118**	**6**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 8:00 AM	0	71	247	56	7	0	58	316	39	9	10	57	262	37	4	7	60	136	15	6
4:30 PM - 5:30 PM	17	136	434	89	2	7	97	512	74	5	52	187	257	129	6	22	272	394	70	3

	PHF	Trucks
AM	0.763	1.9%
PM	0.959	0.6%



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Turning Movement Report

Prepared For:

Ruettgers & Schuler Civil Engineers
1800 30th St, Ste 260
Bakersfield, CA 93301

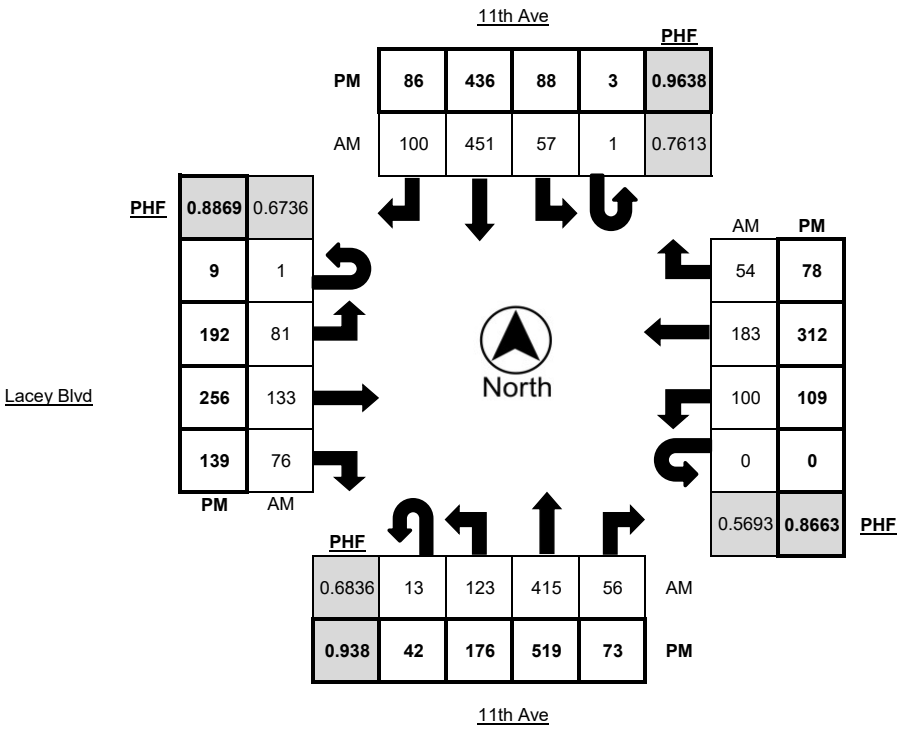
LOCATION Lacey Blvd @ 11th Ave
LATITUDE 36.3281
COUNTY Kings
LONGITUDE -119.6551
COLLECTION DATE Thursday, June 6, 2024
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
6:00 AM - 6:15 AM	1	17	50	6	2	0	2	49	9	1	0	7	9	12	2	0	4	11	2	0
6:15 AM - 6:30 AM	0	16	25	5	2	0	1	61	9	0	0	3	9	2	1	0	9	16	8	1
6:30 AM - 6:45 AM	0	6	41	6	1	0	7	73	9	2	0	5	13	9	1	0	7	12	3	0
6:45 AM - 7:00 AM	3	29	44	3	4	0	8	79	14	4	0	8	21	13	1	1	12	18	5	0
7:00 AM - 7:15 AM	2	27	40	9	2	0	11	86	14	2	0	11	16	13	1	0	16	17	11	0
7:15 AM - 7:30 AM	2	28	66	17	3	0	9	104	16	2	1	17	30	18	2	0	14	26	12	0
7:30 AM - 7:45 AM	3	26	150	15	5	1	16	127	25	1	0	21	34	22	4	0	28	52	13	0
7:45 AM - 8:00 AM	6	42	159	15	3	0	21	134	45	2	0	32	53	23	0	0	42	88	18	0
TOTAL	**17**	**191**	**575**	**76**	**22**	**1**	**75**	**713**	**141**	**14**	**1**	**104**	**185**	**112**	**12**	**1**	**132**	**240**	**72**	**1**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	10	33	143	17	1	1	23	115	19	0	3	49	70	46	2	0	36	86	22	0
4:15 PM - 4:30 PM	11	46	121	17	2	0	22	117	20	3	1	47	58	27	1	0	20	86	19	1
4:30 PM - 4:45 PM	7	46	140	23	3	2	24	112	18	2	2	47	60	32	1	0	21	67	22	0
4:45 PM - 5:00 PM	14	51	115	16	2	0	19	92	29	2	3	49	68	34	0	0	32	73	15	1
5:00 PM - 5:15 PM	14	52	133	13	1	0	16	110	31	0	3	67	64	44	1	0	25	76	18	0
5:15 PM - 5:30 PM	8	47	116	17	2	0	13	78	25	1	1	44	85	48	1	0	21	57	13	0
5:30 PM - 5:45 PM	12	55	122	11	1	2	24	120	41	0	3	43	50	32	1	0	22	44	22	0
5:45 PM - 6:00 PM	6	44	94	16	2	6	11	67	31	2	3	49	60	28	0	0	23	39	14	0
TOTAL	**82**	**374**	**984**	**130**	**14**	**11**	**152**	**811**	**214**	**10**	**19**	**395**	**515**	**291**	**7**	**0**	**200**	**528**	**145**	**2**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 8:00 AM	13	123	415	56	13	1	57	451	100	7	1	81	133	76	7	0	100	183	54	0
4:00 PM - 5:00 PM	42	176	519	73	8	3	88	436	86	7	9	192	256	139	4	0	109	312	78	2

	PHF	Trucks
AM	0.680	1.5%
PM	0.935	0.8%



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Turning Movement Report

Prepared For:

Ruettgers & Schuler Civil Engineers
1800 30th St, Ste 260
Bakersfield, CA 93301

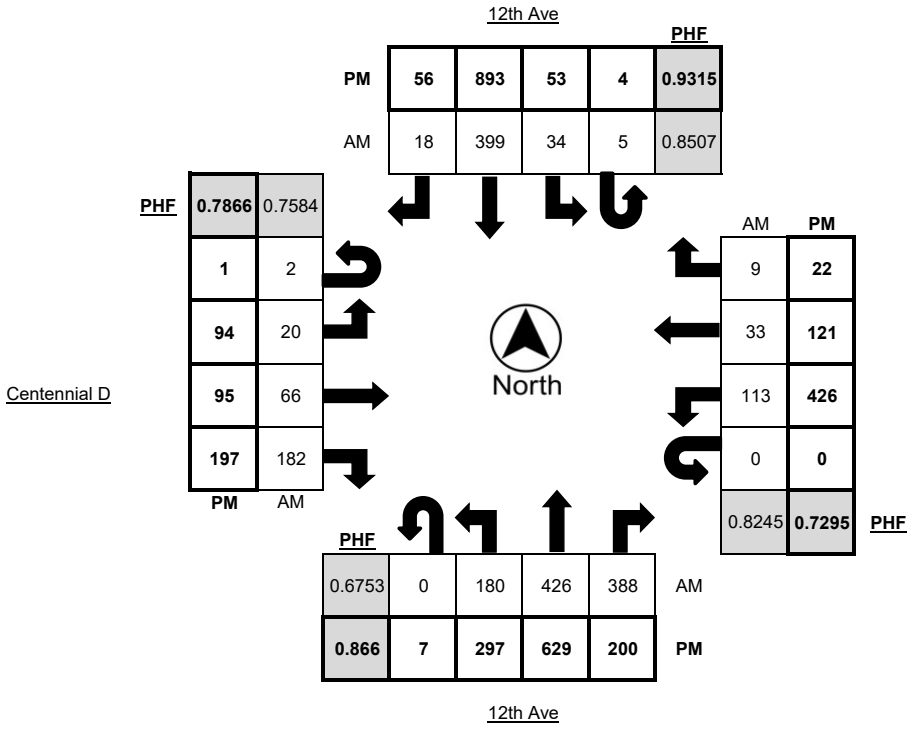
LOCATION Centennial Dr/Mall Dr @ 12th Ave
LATITUDE 36.3229
COUNTY Kings
LONGITUDE -119.6729
COLLECTION DATE Thursday, June 6, 2024
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
6:00 AM - 6:15 AM	0	18	35	23	1	0	4	60	3	1	0	3	2	20	1	0	11	2	1	0
6:15 AM - 6:30 AM	0	21	36	26	0	0	6	59	2	2	0	3	0	15	0	0	10	2	0	0
6:30 AM - 6:45 AM	2	18	47	45	0	0	2	67	10	1	0	2	9	34	0	0	19	1	0	0
6:45 AM - 7:00 AM	0	32	55	81	2	4	8	71	3	1	0	4	8	40	2	0	13	5	0	0
7:00 AM - 7:15 AM	0	36	67	52	2	1	8	87	3	0	0	3	5	31	0	0	20	12	5	1
7:15 AM - 7:30 AM	0	33	105	84	3	3	7	120	4	4	0	4	16	45	2	0	22	5	2	0
7:30 AM - 7:45 AM	0	52	100	97	6	1	10	104	5	0	0	4	17	56	4	0	38	8	1	0
7:45 AM - 8:00 AM	0	59	154	155	1	0	9	88	6	4	2	9	28	50	4	0	33	8	1	0
TOTAL	**2**	**269**	**599**	**563**	**15**	**9**	**54**	**656**	**36**	**13**	**2**	**32**	**85**	**291**	**13**	**0**	**166**	**43**	**10**	**1**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	1	70	108	64	4	2	16	176	8	0	0	27	25	44	2	0	95	29	5	0
4:15 PM - 4:30 PM	2	70	133	67	0	3	18	179	16	1	2	39	26	53	2	0	68	24	8	0
4:30 PM - 4:45 PM	1	54	125	54	2	1	16	194	11	1	2	23	28	39	1	0	115	34	9	0
4:45 PM - 5:00 PM	1	82	189	55	1	1	19	237	13	0	0	25	27	49	2	0	103	30	8	0
5:00 PM - 5:15 PM	3	64	143	58	3	1	9	219	11	0	1	15	18	36	1	0	152	37	6	0
5:15 PM - 5:30 PM	0	82	145	45	1	0	11	212	15	2	0	23	19	51	1	0	86	26	4	1
5:30 PM - 5:45 PM	3	69	152	42	0	2	14	225	17	1	0	31	31	61	3	0	85	28	4	0
5:45 PM - 6:00 PM	3	63	130	53	1	2	9	185	17	0	0	21	26	56	1	0	87	22	8	0
TOTAL	**14**	**554**	**1125**	**438**	**12**	**12**	**112**	**1627**	**108**	**5**	**5**	**204**	**200**	**389**	**13**	**0**	**791**	**230**	**52**	**1**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 8:00 AM	0	180	426	388	12	5	34	399	18	8	2	20	66	182	10	0	113	33	9	1
4:45 PM - 5:45 PM	7	297	629	200	5	4	53	893	56	3	1	94	95	197	7	0	426	121	22	1

	PHF	Trucks
AM	0.779	1.7%
PM	0.922	0.5%



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Turning Movement Report

Prepared For:

Ruettgers & Schuler Civil Engineers
1800 30th St, Ste 260
Bakersfield, CA 93301

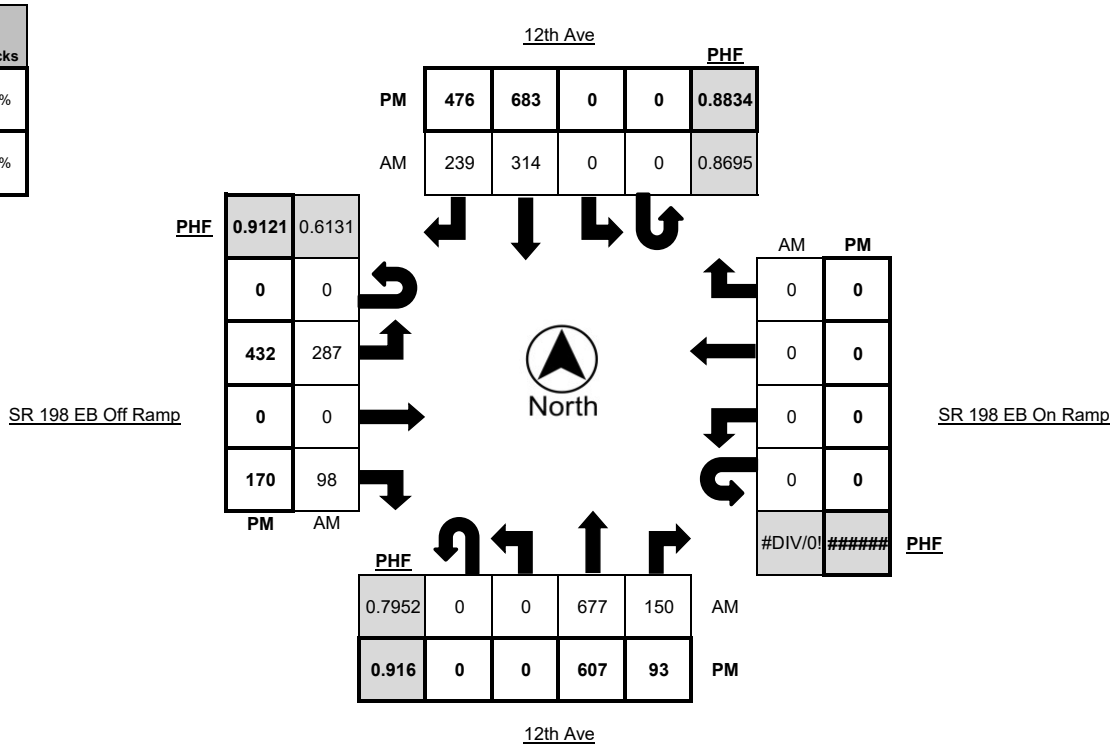
LOCATION SR 198 EB Ramps & 12th Ave
LATITUDE 36.3174
COUNTY Kings
LONGITUDE -119.6730
COLLECTION DATE Thursday, June 6, 2024
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
6:00 AM - 6:15 AM	0	0	76	16	0	0	2	33	22	2	0	20	0	8	1	0	0	0	0	0
6:15 AM - 6:30 AM	0	0	73	18	0	0	0	38	34	1	0	19	0	6	1	0	0	0	0	0
6:30 AM - 6:45 AM	0	0	83	22	0	0	0	45	41	4	0	39	0	11	0	0	0	0	0	0
6:45 AM - 7:00 AM	0	0	99	17	2	1	0	55	35	3	0	54	0	15	0	0	0	0	0	0
7:00 AM - 7:15 AM	0	0	127	27	1	0	0	58	50	1	0	28	0	12	1	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	145	36	1	0	0	76	64	2	0	67	0	22	1	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	185	47	7	0	0	100	59	5	0	74	0	25	2	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	220	40	4	0	0	80	66	5	0	118	0	39	0	0	0	0	0	0
TOTAL	**0**	**0**	**1008**	**223**	**15**	**1**	**2**	**485**	**371**	**23**	**0**	**419**	**0**	**138**	**6**	**0**	**0**	**0**	**0**	**0**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	0	0	137	19	3	0	0	163	115	2	0	98	0	39	1	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	155	18	3	0	0	149	90	3	0	101	0	36	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	148	28	3	0	0	164	116	1	0	105	0	43	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	169	22	1	0	0	164	108	0	0	127	0	34	1	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	149	17	1	0	0	193	135	0	0	110	0	55	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	141	26	0	0	0	162	117	2	0	90	0	38	1	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	151	22	0	0	0	147	112	2	0	94	0	31	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	127	23	0	0	0	151	100	0	0	104	0	37	1	0	0	0	0	0
TOTAL	**0**	**0**	**1177**	**175**	**11**	**0**	**0**	**1293**	**893**	**10**	**0**	**829**	**0**	**313**	**4**	**0**	**0**	**0**	**0**	**0**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 8:00 AM	0	0	677	150	13	0	0	314	239	13	0	287	0	98	4	0	0	0	0	0
4:30 PM - 5:30 PM	0	0	607	93	5	0	0	683	476	3	0	432	0	170	2	0	0	0	0	0

	PHF	Trucks
AM	0.784	1.7%
PM	0.934	0.4%



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Turning Movement Report

Prepared For:

Ruettgers & Schuler Civil Engineers
1800 30th St, Ste 260
Bakersfield, CA 93301

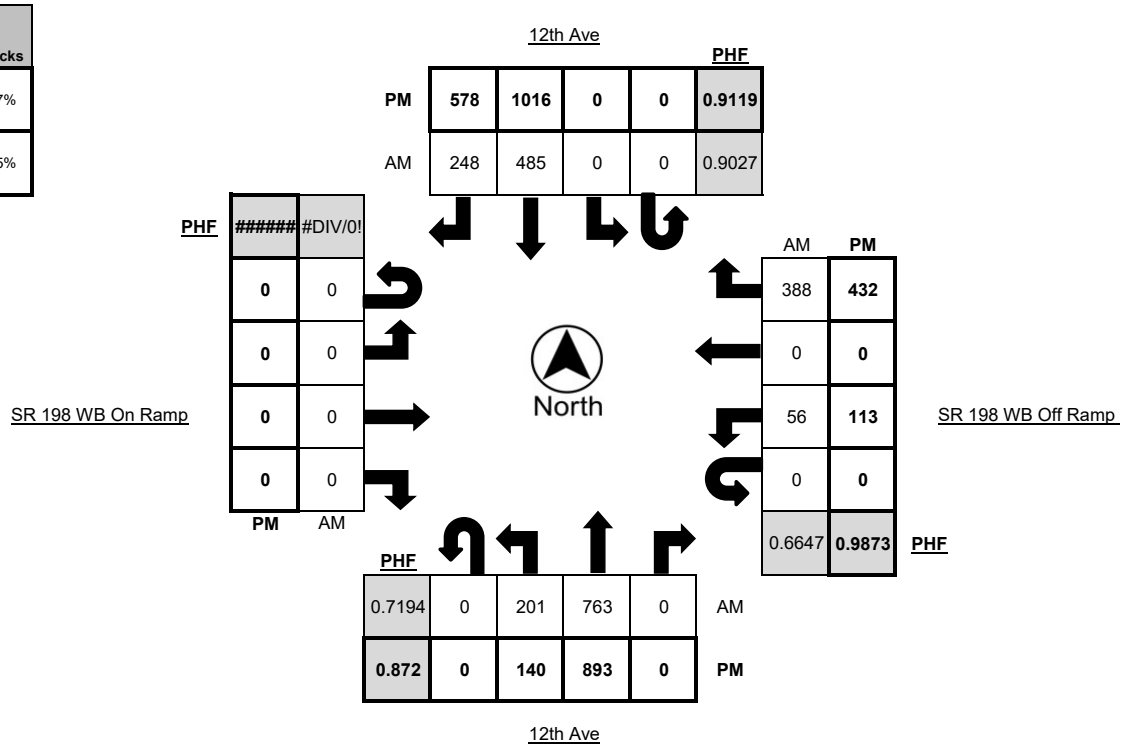
LOCATION SR 198 WB Ramps @ 12th Ave
LATITUDE 36.3194
COUNTY Kings
LONGITUDE -119.6730
COLLECTION DATE Thursday, June 6, 2024
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
6:00 AM - 6:15 AM	0	40	55	0	0	0	0	53	43	2	0	0	0	0	0	0	6	0	45	1
6:15 AM - 6:30 AM	0	31	63	0	1	0	0	60	43	3	0	0	0	0	0	0	9	0	48	2
6:30 AM - 6:45 AM	0	36	86	0	0	0	0	71	58	2	0	0	0	0	0	0	12	0	54	2
6:45 AM - 7:00 AM	0	37	114	0	1	0	0	81	46	2	0	0	0	0	0	0	9	0	89	2
7:00 AM - 7:15 AM	0	45	114	0	1	0	0	96	52	1	0	0	0	0	0	0	15	0	59	3
7:15 AM - 7:30 AM	0	43	170	0	1	0	0	128	75	4	0	0	0	0	0	0	11	0	86	4
7:30 AM - 7:45 AM	0	57	200	0	6	0	0	137	59	5	0	0	0	0	0	0	13	0	93	3
7:45 AM - 8:00 AM	0	56	279	0	3	0	0	124	62	5	0	0	0	0	0	0	17	0	150	1
TOTAL	**0**	**345**	**1081**	**0**	**13**	**0**	**0**	**750**	**438**	**24**	**0**	**0**	**0**	**0**	**0**	**0**	**92**	**0**	**624**	**18**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	0	32	203	0	2	0	0	237	127	2	0	0	0	0	0	0	35	0	114	2
4:15 PM - 4:30 PM	0	42	216	0	3	0	0	203	104	1	0	0	0	0	0	0	40	0	106	2
4:30 PM - 4:45 PM	0	37	211	0	1	0	0	247	126	1	0	0	0	0	0	0	25	0	113	2
4:45 PM - 5:00 PM	0	45	251	0	3	0	0	249	154	1	0	0	0	0	0	0	27	0	110	0
5:00 PM - 5:15 PM	0	30	230	0	1	0	0	275	162	0	0	0	0	0	0	0	34	0	98	2
5:15 PM - 5:30 PM	0	28	201	0	1	0	0	245	136	3	0	0	0	0	0	0	27	0	111	0
5:30 PM - 5:45 PM	0	41	209	0	0	0	0	232	141	2	0	0	0	0	0	0	20	0	108	0
5:45 PM - 6:00 PM	0	22	209	0	0	0	0	238	143	0	0	0	0	0	0	0	16	0	110	1
TOTAL	**0**	**277**	**1730**	**0**	**11**	**0**	**0**	**1926**	**1093**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**224**	**0**	**870**	**9**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 8:00 AM	0	201	763	0	11	0	0	485	248	15	0	0	0	0	0	0	56	0	388	11
4:30 PM - 5:30 PM	0	140	893	0	6	0	0	1016	578	5	0	0	0	0	0	0	113	0	432	4

	PHF	Trucks
AM	0.778	1.7%
PM	0.949	0.5%



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

Ruettgers & Schuler Civil Engineers
1800 30th St, Ste 260
Bakersfield, CA 93301

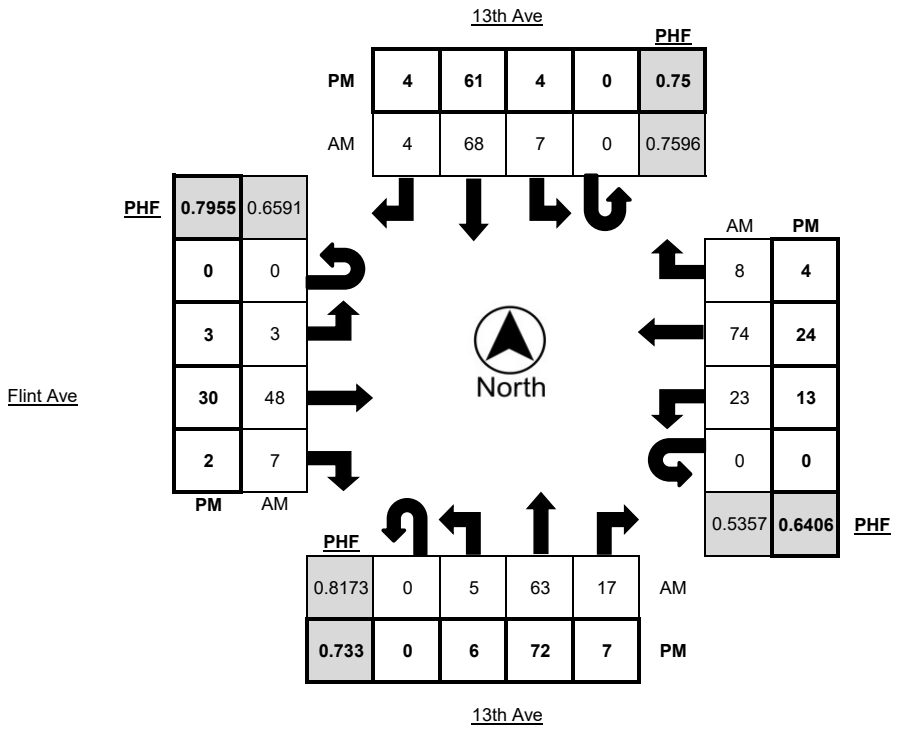
LOCATION 13th Ave @ Flint Ave
LATITUDE 36.3716
COUNTY Kings
LONGITUDE -119.6911
COLLECTION DATE Friday, June 7, 2024
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
6:00 AM - 6:15 AM	0	0	6	1	0	0	0	5	1	1	0	0	2	1	0	0	0	7	2	0
6:15 AM - 6:30 AM	0	0	7	0	0	0	0	4	1	1	0	1	2	1	0	0	3	5	0	0
6:30 AM - 6:45 AM	0	1	12	0	0	0	0	8	0	0	0	0	5	0	1	0	0	8	0	0
6:45 AM - 7:00 AM	0	0	5	2	0	0	1	9	0	0	0	1	3	0	0	0	2	12	1	2
7:00 AM - 7:15 AM	0	2	8	3	1	0	1	6	1	0	0	1	7	2	3	0	1	5	1	0
7:15 AM - 7:30 AM	0	1	24	1	3	0	1	19	1	0	0	1	7	1	0	0	7	11	3	0
7:30 AM - 7:45 AM	0	2	15	4	0	0	2	20	2	1	0	0	16	1	0	0	4	23	1	1
7:45 AM - 8:00 AM	0	0	16	9	0	0	3	23	0	2	0	1	18	3	0	0	11	35	3	1
TOTAL	**0**	**6**	**93**	**20**	**4**	**0**	**8**	**94**	**6**	**5**	**0**	**5**	**60**	**9**	**4**	**0**	**28**	**106**	**11**	**4**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	0	2	23	1	1	0	2	11	3	0	0	2	7	2	0	0	5	10	1	0
4:15 PM - 4:30 PM	0	2	13	1	0	0	1	12	1	0	0	0	11	0	0	0	1	2	1	0
4:30 PM - 4:45 PM	0	0	26	3	0	0	1	22	0	0	0	1	7	0	0	0	3	5	0	0
4:45 PM - 5:00 PM	0	2	10	2	0	0	0	16	0	0	0	0	5	0	0	0	4	7	2	0
5:00 PM - 5:15 PM	0	2	11	2	0	0	0	14	0	0	0	1	8	1	0	0	1	5	2	0
5:15 PM - 5:30 PM	0	2	11	0	0	0	0	18	0	0	0	1	19	2	0	0	2	9	0	0
5:30 PM - 5:45 PM	0	2	14	2	0	0	1	15	0	0	0	0	7	0	0	0	1	7	0	0
5:45 PM - 6:00 PM	0	2	15	3	0	0	3	19	1	0	0	0	4	2	0	0	0	3	1	0
TOTAL	**0**	**14**	**123**	**14**	**1**	**0**	**8**	**127**	**5**	**0**	**0**	**5**	**68**	**7**	**0**	**0**	**17**	**48**	**7**	**0**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 8:00 AM	0	5	63	17	4	0	7	68	4	3	0	3	48	7	3	0	23	74	8	2
4:00 PM - 5:00 PM	0	6	72	7	1	0	4	61	4	0	0	3	30	2	0	0	13	24	4	0

	PHF	Trucks
AM	0.670	3.7%
PM	0.833	0.4%



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Turning Movement Report

Prepared For:

Ruettgers & Schuler Civil Engineers
1800 30th St, Ste 260
Bakersfield, CA 93301

LOCATION 13th Ave @ Fargo Ave
COUNTY Kings
COLLECTION DATE Friday, June 7, 2024

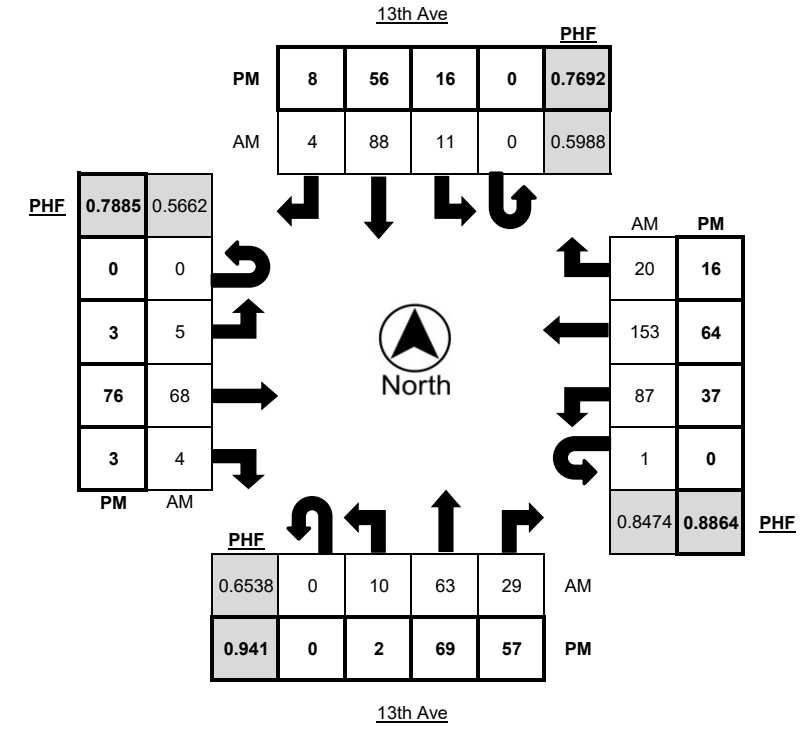
LATITUDE 36.3571
LONGITUDE -119.6911
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
6:00 AM - 6:15 AM	0	0	4	1	0	0	2	6	0	1	0	0	4	0	0	0	11	22	2	0
6:15 AM - 6:30 AM	0	1	5	2	0	0	1	8	0	1	0	0	6	0	0	0	12	17	4	1
6:30 AM - 6:45 AM	0	0	6	3	0	0	3	6	0	0	0	0	7	1	0	0	9	23	6	0
6:45 AM - 7:00 AM	0	0	6	4	0	0	3	8	2	2	0	0	6	0	0	0	9	19	3	0
7:00 AM - 7:15 AM	0	2	8	4	1	0	0	7	0	0	0	1	7	0	2	0	19	18	5	1
7:15 AM - 7:30 AM	0	2	15	4	3	0	2	21	2	0	0	0	7	1	1	0	23	38	6	2
7:30 AM - 7:45 AM	0	2	18	8	0	0	3	23	2	1	0	1	25	1	2	0	18	54	5	1
7:45 AM - 8:00 AM	0	4	22	13	0	0	6	37	0	2	0	3	29	2	0	1	27	43	4	0
TOTAL	**0**	**11**	**84**	**39**	**4**	**0**	**20**	**116**	**6**	**7**	**0**	**5**	**91**	**5**	**5**	**1**	**128**	**234**	**35**	**5**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	0	0	22	12	1	0	4	13	4	0	0	1	16	0	1	0	8	14	5	0
4:15 PM - 4:30 PM	0	1	13	15	0	0	4	8	2	0	0	2	24	0	0	0	10	18	3	0
4:30 PM - 4:45 PM	0	1	21	11	0	0	5	20	1	0	0	0	23	2	0	0	9	12	5	0
4:45 PM - 5:00 PM	0	0	13	19	0	0	3	15	1	0	0	0	13	1	0	0	10	20	3	0
5:00 PM - 5:15 PM	0	2	12	11	1	0	6	12	0	0	0	0	22	0	0	0	9	13	3	0
5:15 PM - 5:30 PM	0	1	8	12	0	0	3	18	0	1	0	0	26	1	0	0	6	12	5	0
5:30 PM - 5:45 PM	0	0	12	7	0	0	6	11	0	0	0	0	21	2	0	0	9	21	4	0
5:45 PM - 6:00 PM	0	0	14	13	0	0	7	12	1	0	0	1	18	2	0	0	15	11	5	0
TOTAL	**0**	**5**	**115**	**100**	**2**	**0**	**38**	**109**	**9**	**1**	**0**	**4**	**163**	**8**	**1**	**0**	**76**	**121**	**33**	**0**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 8:00 AM	0	10	63	29	4	0	11	88	4	3	0	5	68	4	5	1	87	153	20	4
4:00 PM - 5:00 PM	0	2	69	57	1	0	16	56	8	0	0	3	76	3	1	0	37	64	16	0

	PHF	Trucks
AM	0.711	2.9%
PM	0.925	0.5%



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

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Turning Movement Report

Prepared For:

Ruettgers & Schuler Civil Engineers
1800 30th St, Ste 260
Bakersfield, CA 93301

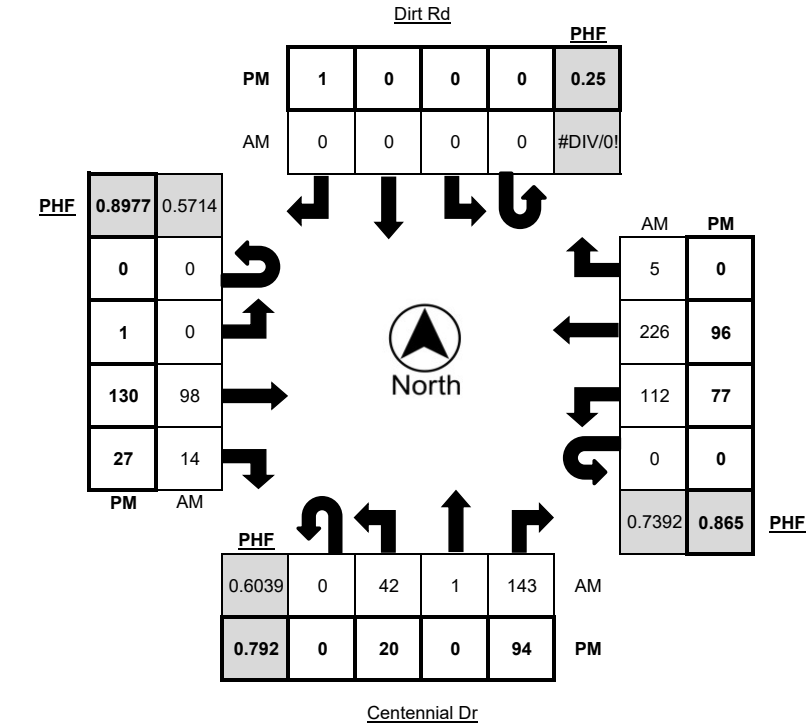
LOCATION Centennial Dr @ Fargo Ave
LATITUDE 36.3572
COUNTY Kings
LONGITUDE -119.6820
COLLECTION DATE Friday, June 7, 2024
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
6:00 AM - 6:15 AM	0	3	0	9	1	0	0	0	0	0	0	0	5	3	0	0	4	31	0	0
6:15 AM - 6:30 AM	0	6	0	5	1	0	0	0	0	0	0	0	4	3	0	0	6	29	0	0
6:30 AM - 6:45 AM	0	12	0	10	0	0	0	0	0	0	0	0	11	3	0	0	5	25	0	0
6:45 AM - 7:00 AM	0	4	0	7	0	0	0	0	0	0	0	0	12	2	0	0	8	23	0	0
7:00 AM - 7:15 AM	0	10	0	16	0	0	0	0	0	0	0	0	10	3	2	0	8	34	1	0
7:15 AM - 7:30 AM	0	8	0	29	0	0	0	0	0	0	0	0	12	2	1	0	16	58	4	0
7:30 AM - 7:45 AM	0	7	1	38	0	0	0	0	0	0	0	0	31	5	2	0	35	71	0	1
7:45 AM - 8:00 AM	0	17	0	60	2	0	0	0	0	0	0	0	45	4	0	0	53	63	0	0
TOTAL	**0**	**67**	**1**	**174**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**130**	**25**	**5**	**0**	**135**	**334**	**5**	**1**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	0	9	0	16	0	0	0	0	0	0	0	0	27	4	1	0	12	21	0	0
4:15 PM - 4:30 PM	0	4	0	23	1	0	0	0	0	0	0	0	40	4	0	0	13	30	0	0
4:30 PM - 4:45 PM	0	5	0	31	0	0	0	0	0	0	0	0	33	7	0	0	21	17	0	0
4:45 PM - 5:00 PM	0	5	0	21	0	0	0	0	0	0	0	0	29	6	0	0	23	27	0	0
5:00 PM - 5:15 PM	0	6	0	19	0	0	0	0	1	0	0	1	28	10	0	0	20	22	0	0
5:15 PM - 5:30 PM	0	4	0	27	0	0	0	0	0	0	0	0	34	9	0	0	20	20	0	1
5:30 PM - 5:45 PM	0	12	0	18	0	0	0	0	0	0	0	0	23	11	0	0	27	22	0	0
5:45 PM - 6:00 PM	0	4	0	13	0	0	0	0	0	0	0	0	31	7	0	0	20	23	0	0
TOTAL	**0**	**49**	**0**	**168**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**245**	**58**	**1**	**0**	**156**	**182**	**0**	**1**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 8:00 AM	0	42	1	143	2	0	0	0	0	0	0	0	98	14	5	0	112	226	5	1
4:15 PM - 5:15 PM	0	20	0	94	1	0	0	0	1	0	0	1	130	27	0	0	77	96	0	0

	PHF	Trucks
AM	0.662	1.2%
PM	0.978	0.2%



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Turning Movement Report

Prepared For:

Ruettgers & Schuler Civil Engineers
1800 30th St, Ste 260
Bakersfield, CA 93301

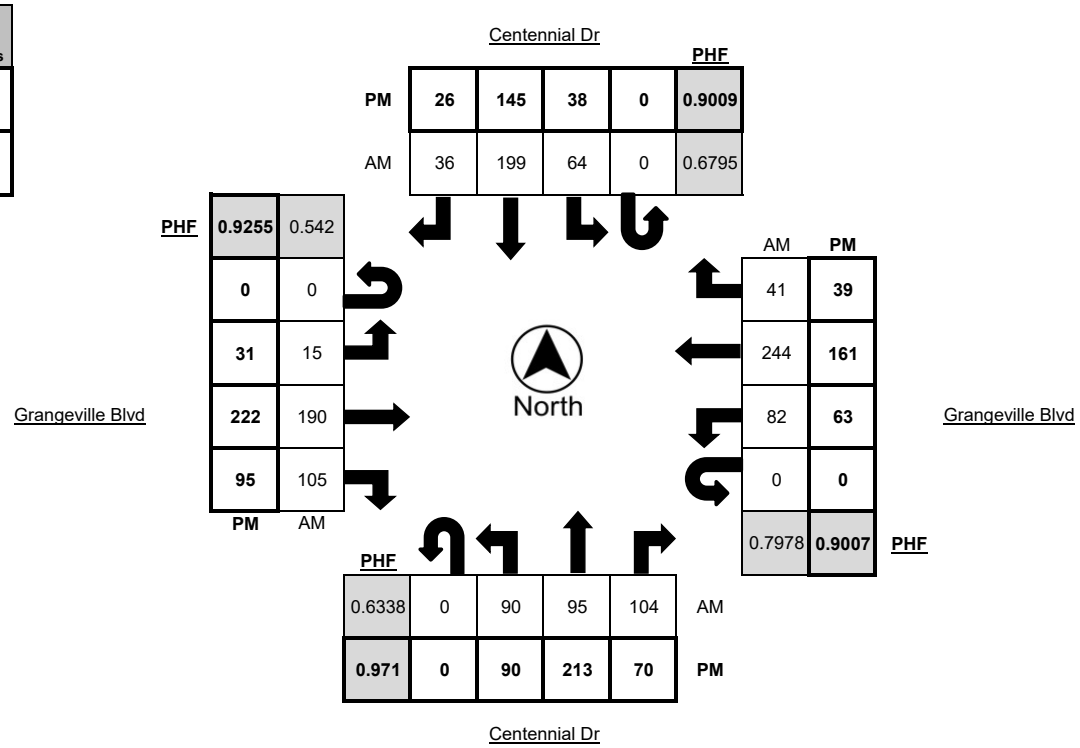
LOCATION Centennial Dr @ Grangeville Blvd
LATITUDE 36.3426
COUNTY Kings
LONGITUDE -119.6819
COLLECTION DATE Friday, June 7, 2024
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
6:00 AM - 6:15 AM	0	4	11	3	1	0	1	28	10	0	0	2	13	1	0	0	10	36	3	0
6:15 AM - 6:30 AM	0	8	15	6	2	0	3	18	9	0	0	0	15	3	0	0	7	43	3	0
6:30 AM - 6:45 AM	0	3	20	6	1	0	1	29	8	0	0	4	22	16	5	0	11	54	4	0
6:45 AM - 7:00 AM	0	9	18	6	1	0	8	27	11	1	0	1	18	9	2	0	16	27	5	1
7:00 AM - 7:15 AM	0	12	16	12	1	0	7	32	9	0	0	3	20	15	2	0	11	47	11	0
7:15 AM - 7:30 AM	0	17	27	15	0	0	13	40	7	1	0	1	35	11	2	0	14	54	3	2
7:30 AM - 7:45 AM	0	22	20	34	2	0	19	51	11	0	0	4	54	24	1	0	26	74	15	2
7:45 AM - 8:00 AM	0	39	32	43	4	0	25	76	9	3	0	7	81	55	3	0	31	69	12	3
TOTAL	**0**	**114**	**159**	**125**	**12**	**0**	**77**	**301**	**74**	**5**	**0**	**22**	**258**	**134**	**15**	**0**	**126**	**404**	**56**	**8**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	0	16	39	23	1	0	5	34	2	0	0	8	68	25	1	0	15	44	14	0
4:15 PM - 4:30 PM	0	12	51	19	0	0	12	28	5	0	0	8	43	15	0	0	19	35	12	1
4:30 PM - 4:45 PM	0	19	55	22	0	0	12	34	8	0	0	8	60	26	0	0	11	53	9	0
4:45 PM - 5:00 PM	0	22	50	13	0	0	10	40	8	0	0	7	53	21	1	0	21	43	9	1
5:00 PM - 5:15 PM	0	24	57	15	0	0	10	38	5	0	0	10	49	20	0	0	13	31	13	0
5:15 PM - 5:30 PM	0	25	51	20	0	0	6	33	5	1	0	6	60	28	3	0	18	34	8	1
5:30 PM - 5:45 PM	0	14	44	18	0	0	13	41	7	0	0	11	51	25	1	0	11	44	13	0
5:45 PM - 6:00 PM	0	14	49	18	0	0	14	46	7	0	0	6	52	29	2	0	9	30	8	1
TOTAL	**0**	**146**	**396**	**148**	**1**	**0**	**82**	**294**	**47**	**1**	**0**	**64**	**436**	**189**	**8**	**0**	**117**	**314**	**86**	**4**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 8:00 AM	0	90	95	104	7	0	64	199	36	4	0	15	190	105	8	0	82	244	41	7
4:30 PM - 5:30 PM	0	90	213	70	0	0	38	145	26	1	0	31	222	95	4	0	63	161	39	2

	PHF	Trucks
AM	0.660	2.1%
PM	0.941	0.6%



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

Ruettgers & Schuler Civil Engineers
1800 30th St, Ste 260
Bakersfield, CA 93301

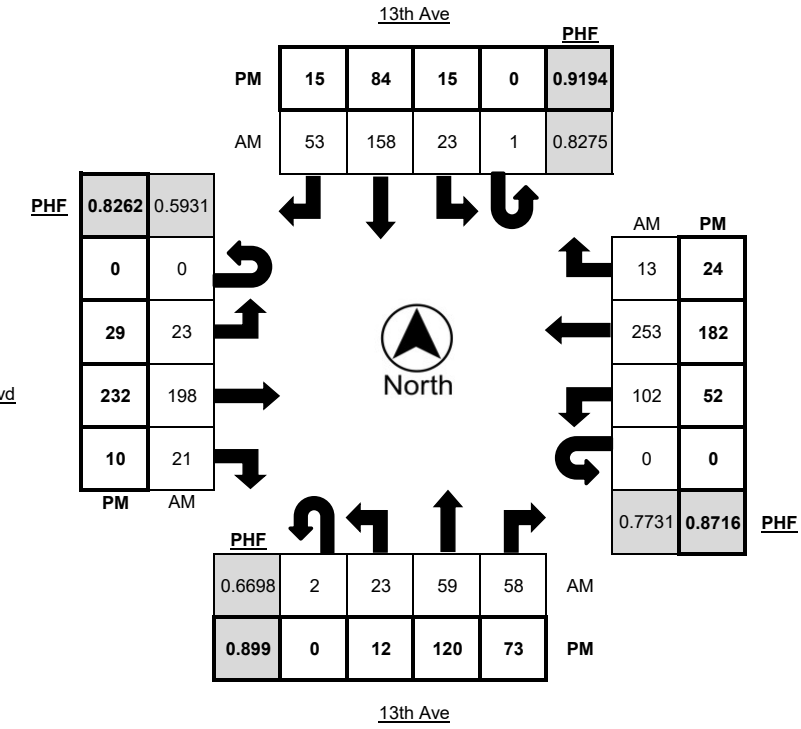
LOCATION 13th Ave @ Grangeville Blvd
LATITUDE 36.3426
COUNTY Kings
LONGITUDE -119.6910
COLLECTION DATE Friday, June 7, 2024
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
6:00 AM - 6:15 AM	0	1	5	2	0	0	0	15	9	2	0	0	15	0	0	0	10	46	0	0
6:15 AM - 6:30 AM	0	3	11	5	0	0	3	21	5	0	0	0	10	3	1	0	12	51	0	0
6:30 AM - 6:45 AM	0	2	7	7	1	0	2	22	7	1	0	2	22	3	2	0	18	48	0	1
6:45 AM - 7:00 AM	0	3	16	8	0	0	1	21	10	0	0	0	17	1	2	0	16	36	2	0
7:00 AM - 7:15 AM	0	6	8	7	3	0	3	36	11	0	0	2	23	3	1	0	17	48	3	0
7:15 AM - 7:30 AM	0	1	12	7	3	0	4	37	13	1	0	4	31	5	1	0	17	53	3	1
7:30 AM - 7:45 AM	0	9	21	18	1	0	8	51	12	2	0	6	63	3	1	0	29	74	5	2
7:45 AM - 8:00 AM	2	7	18	26	2	1	8	34	17	2	0	11	81	10	3	0	39	78	2	3
TOTAL	**2**	**32**	**98**	**80**	**10**	**1**	**29**	**237**	**84**	**8**	**0**	**25**	**262**	**28**	**11**	**0**	**158**	**434**	**15**	**7**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	0	7	47	25	1	0	1	16	5	0	0	4	66	2	0	0	12	46	3	0
4:15 PM - 4:30 PM	0	3	31	12	0	0	4	13	4	0	0	9	43	3	0	0	8	32	7	0
4:30 PM - 4:45 PM	0	4	28	20	1	0	3	24	4	0	0	11	61	4	0	0	13	56	5	0
4:45 PM - 5:00 PM	0	2	29	17	0	0	4	22	5	0	0	4	48	2	0	0	15	48	5	1
5:00 PM - 5:15 PM	0	4	34	19	1	0	3	17	3	0	0	2	56	1	0	0	13	46	2	0
5:15 PM - 5:30 PM	0	2	29	17	1	0	5	21	3	1	0	12	67	3	2	0	11	32	12	0
5:30 PM - 5:45 PM	0	5	22	20	1	0	3	8	3	0	0	11	53	2	0	0	18	34	5	0
5:45 PM - 6:00 PM	0	3	24	20	0	1	4	24	4	0	0	3	54	2	1	0	16	36	2	0
TOTAL	**0**	**30**	**244**	**150**	**5**	**1**	**27**	**145**	**31**	**1**	**0**	**56**	**448**	**19**	**3**	**0**	**106**	**330**	**41**	**1**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 8:00 AM	2	23	59	58	9	1	23	158	53	5	0	23	198	21	6	0	102	253	13	6
4:30 PM - 5:30 PM	0	12	120	73	3	0	15	84	15	1	0	29	232	10	2	0	52	182	24	1

	PHF	Trucks
AM	0.739	2.6%
PM	0.910	0.8%



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Turning Movement Report

Prepared For:

Ruettgers & Schuler Civil Engineers
1800 30th St, Ste 260
Bakersfield, CA 93301

LOCATION SR 43 @ Fargo Ave
LATITUDE 36.3573
COUNTY Kings
LONGITUDE -119.6205
COLLECTION DATE Friday, June 7, 2024
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
6:00 AM - 6:15 AM	0	4	27	0	4	0	0	39	1	5	0	1	1	24	0	0	0	2	0	0
6:15 AM - 6:30 AM	0	3	52	0	10	0	3	62	1	3	0	2	4	22	0	0	0	5	0	0
6:30 AM - 6:45 AM	0	10	38	0	7	0	1	62	2	8	0	2	4	29	0	0	0	0	1	0
6:45 AM - 7:00 AM	0	14	41	3	6	0	1	51	1	10	0	0	6	26	1	0	0	1	0	0
7:00 AM - 7:15 AM	0	21	42	0	11	0	1	53	1	5	0	2	6	29	0	0	0	6	1	1
7:15 AM - 7:30 AM	0	16	44	0	7	0	2	78	3	18	0	4	6	24	0	0	1	4	1	0
7:30 AM - 7:45 AM	0	20	58	0	5	0	0	63	3	15	0	9	7	48	0	0	0	9	2	0
7:45 AM - 8:00 AM	0	11	42	0	10	0	0	71	3	9	0	5	3	24	1	0	0	7	0	1
TOTAL	**0**	**99**	**344**	**3**	**60**	**0**	**8**	**479**	**15**	**73**	**0**	**25**	**37**	**226**	**2**	**0**	**1**	**34**	**5**	**2**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	0	31	63	0	8	0	0	51	2	6	0	3	4	19	0	0	0	11	1	2
4:15 PM - 4:30 PM	0	48	92	0	9	0	0	49	1	5	0	0	2	30	1	0	1	4	2	0
4:30 PM - 4:45 PM	0	40	73	0	4	0	0	58	1	4	0	2	5	14	0	0	0	10	3	1
4:45 PM - 5:00 PM	0	29	62	1	9	0	2	49	3	4	0	0	2	26	0	0	1	5	0	1
5:00 PM - 5:15 PM	0	29	60	0	4	0	0	54	1	2	0	0	3	24	0	0	0	6	0	0
5:15 PM - 5:30 PM	0	42	68	0	6	0	0	46	4	2	0	3	4	28	0	0	0	4	0	0
5:30 PM - 5:45 PM	0	27	55	0	1	0	0	42	4	1	0	2	5	28	0	0	1	8	0	0
5:45 PM - 6:00 PM	0	23	54	1	4	0	0	49	3	2	0	1	1	22	1	0	0	6	0	0
TOTAL	**0**	**269**	**527**	**2**	**45**	**0**	**2**	**398**	**19**	**26**	**0**	**11**	**26**	**191**	**2**	**0**	**3**	**54**	**6**	**4**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 8:00 AM	0	68	186	0	33	0	3	265	10	47	0	20	22	125	1	0	1	26	4	2
4:00 PM - 5:00 PM	0	148	290	1	30	0	2	207	7	19	0	5	13	89	1	0	2	30	6	4

	PHF	Trucks
AM	0.833	11.4%
PM	0.873	6.8%