TECHNICAL MEMORANDUM

Date: December 6, 2019

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Project No.: 092-057 Main Street and Center Avenue One-Way Circulation

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Jurisdiction: City of Visalia

Subject: ***Draft Traffic Operational Analysis for the Main Street and Center Avenue One-Way Circulation Study***

PROJECT OVERVIEW

The City of Visalia is considering to extend the existing Main Street/Center Avenue one-way couplet from Santa Fe Street to Ben Maddox Way. The City would like to evaluate key intersections that would be impacted by the possible conversion of Main Street and Center Avenue into a one-way couplet.

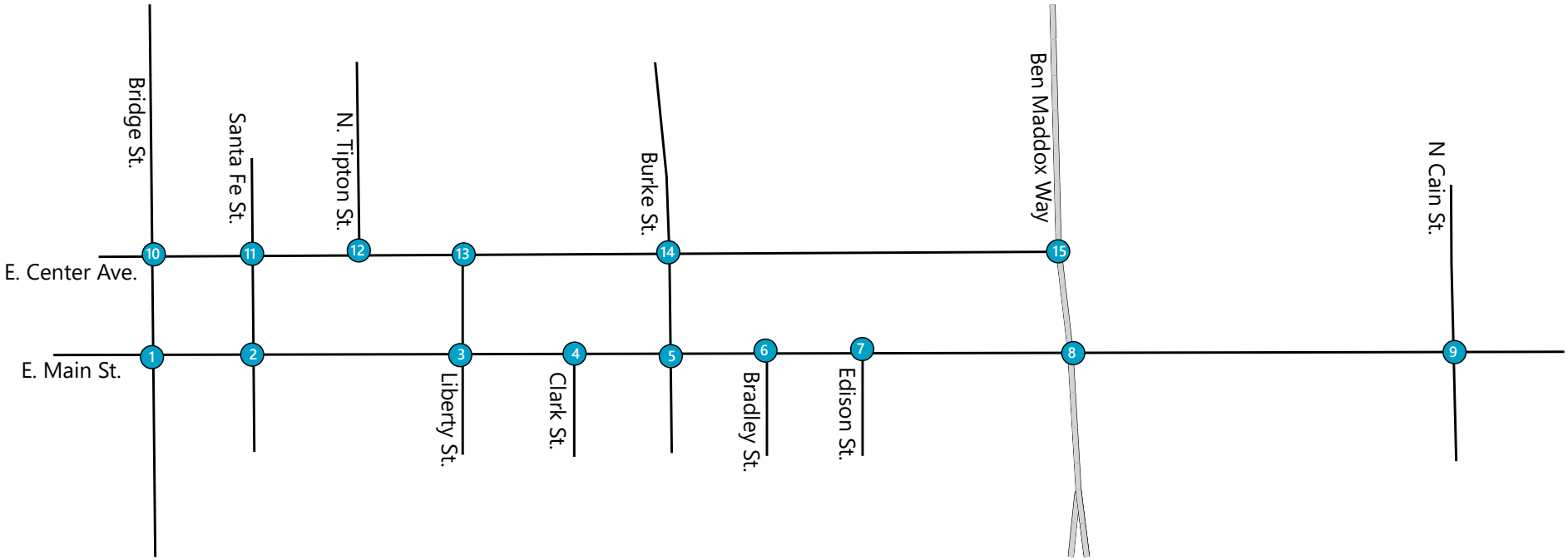
As part of the project, TJKM received intersection turning movement counts (TMC) at the study intersections that are listed below and illustrated in **Figure 1**. This technical memorandum summarizes the data collected, results of the conditions analysis, including LOS and delay, and 95th percentile queue lengths at each study intersection.

STUDY INTERSECTIONS

1. Main Street/Bridge Street
2. Main Street/Santa Fe Street
3. Main Street/Liberty Street
4. Main Street/Clark Street
5. Main Street/Burke Street
6. Main Street/Bradley Street
7. Main Street/Edison Street

8. Main Street/Ben Maddox Way
9. Main Street/Cain Street
10. Center Avenue/Bridge Street
11. Center Avenue/Santa Fe Street
12. Center Avenue/Tipton Street
13. Center Avenue/Liberty Street
14. Center Avenue/Burke Street
15. Center Avenue/Ben Maddox Way

Figure 1: Vicinity Map



LEGEND

X Study Intersection

STUDY METHODOLOGY

LEVEL OF SERVICE (LOS) ANALYSIS METHODOLOGY

LOS is a standard measure of traffic service along a roadway or at an intersection. It ranges from A to F, with LOS A being best and LOS F being worst. In very general terms, LOS A, B and C indicate conditions where traffic can move relatively freely. LOS D describes conditions where delay is more noticeable and average travel speeds are more unstable. LOS E indicates significant delays and average travel speeds vary greatly and are unpredictable; traffic volumes are generally at, or close to capacity. Finally, LOS F characterizes traffic flow at very slow speeds (stop-and-go) and significant delays with queuing at unsignalized intersections, which typically means traffic demand on the roadway exceeds the roadway's capacity.

The *Highway Capacity Manual (HCM), 2000 Edition* is the standard reference published by the Transportation Research Board, and contains the specific criteria and methods to be used in assessing LOS. There are several software packages that have been developed to implement HCM. In this study, Synchro Software was used to calculate the LOS at the study intersections.

Signalized intersection LOS and unsignalized all-way stop controlled LOS is based on the capacity of the intersection as a whole and average delay experienced by a driver. Unsignalized one-way and two-way stop controlled intersection LOS is defined by the average delay experienced by a driver for the minor approach worst movement or major approach critical movement. **Table 1** provides the relationship between LOS rating and delay for signalized and unsignalized intersections.

Table 1: Level of Service Thresholds Based on Intersection Delay

Level of Service	Signalized Intersection Delay (sec)	Unsignalized Intersection Delay (sec)
A	$0 \leq D \leq 10$	$0 \leq D \leq 10$
B	$10 < D \leq 20$	$10 < D \leq 15$
C	$20 < D \leq 35$	$15 < D \leq 25$
D	$35 < D \leq 55$	$25 < D \leq 35$
E	$55 < D \leq 80$	$35 < D \leq 50$
F	$80 < D$	$50 < D$

Source: Highway Capacity Manual (HCM), 2000 Edition

SIGNIFICANT IMPACT CRITERIA/LEVEL OF SERVICE STANDARDS

The City of Visalia General Plan indicates that the minimum acceptable LOS in the City is to maintain a LOS D or better for signalized and unsignalized intersections.

EXISTING CONDITIONS

EXISTING ROADWAY NETWORK

Center Avenue in the project vicinity is classified as an east-west collector street which extends from Bridge Street in the west and Ben Maddox Way in the east. Currently, Center Avenue is a two lane, two-way street between Santa Fe Street and Ben Maddox Way with a posted speed limit of 30 mph. Between Santa Fe Street and Hall Street, Center Avenue becomes a two-lane one-way street in the western direction.

Main Street in the project vicinity is classified as an east-west collector street which extends from Bridge Street in the west and Cain Street in the east. Currently, Main Street is a two-lane, two-way street between Santa Fe Street and Cain Street with a posted speed limit of 30 mph. Between Santa Fe Street and West Street, Main Street is a two-lane one-way street in the eastern direction.

Figure 2 illustrates the existing lane geometry and traffic controls at the study intersections.

EXISTING BICYCLE NETWORK

The 2017 City of Visalia Active Transportation Plan (ATP) describes the four bikeway classifications in the City of Visalia. The City of Visalia ATP also provides a list of existing and planned bicycles infrastructure improvements. These bicycle facilities are described below.

Class I Bikeways (Bike Paths or Shared Use Paths) provides a completely separated right-of-way for the exclusive use of bicycles and pedestrians with crossflow by motorists minimized. Most of the Class I bike paths in Visalia are eight to twelve feet wide and primarily run in an east-west orientation. There are currently 24.4 miles of Class I bicycle facilities in the City of Visalia, which include the Evans Ditch Trail, Goshen Trail, Mill Creek Trail, Modoc Ditch Trail, Packwood Creek Trail, St. Johns River Trail, Santa De Trail, Shannon Ranch, and Virmargo Trail.

Class II Bike Lanes provide a striped lane and signage for one-way bike travel on a street or highway and are designed for the exclusive use of bicyclists with certain exceptions. For instance, right-turning vehicles must merge into the lane before turning. Bike lanes in the City of Visalia are generally four to six feet wide and, where located adjacent to a parking lane, are striped with a line on both sides of the bike lane. There are currently 42.6 miles of Class II bicycle facilities in the City of Visalia.

Class III Bike Routes may be identified on a local or residential or collector street when the travel lane is wide enough and the traffic volume is low enough to allow both bicyclists and motor vehicles. Bike routes are designated by green and white "BIKE ROUTE" signs near intersections and yellow and black "SHARE THE ROAD" signs and sharrows. In general, sharrows are not installed on roadways that have speed limits above 35 mph. There are currently 10.8 miles of Class III bicycle facilities in the City of Visalia.

Class IV Separated Bikeways or Cycle Tracks are separated facility that may be located on the roadway that is for the exclusive use of bicycles. There may be separation from the vehicle travel lanes in the form of grade separation, flexible posts, inflexible posts, and inflexible barriers or on street parking. There are currently no Class IV separated bikeways or cycle tracks.

There are currently no existing bicycle facilities within the study area. However, a Class III bike route is proposed on Center Avenue from Santa Fe Street and Ben Maddox Way. **Appendix A** provides the existing peak hour bicycle counts.

EXISTING PEDESTRIAN NETWORK

Walkability is defined as the ability to travel easily and safely between various origins and destinations without having to rely on automobiles or other motorized travel. The ideal "walkable" community includes wide sidewalks, a mix of land uses such as residential, employment, and shopping opportunities, a limited number of conflict points with vehicle traffic, easy access to transit facilities and services and a network of pedestrian facilities.

Pedestrian facilities are comprised of crosswalks, sidewalks, pedestrian signals, and off-street paths, which provide safe and convenient routes for pedestrians to access the destinations such as institutions, businesses, public transportation, and recreation facilities.

In the project vicinity, all signalized intersections are equipped with pedestrian signal heads. Most of the study intersections have crosswalks with curb ramps. Sidewalks vary in size between six to ten feet, however, there are street furniture, lighting, and landscaping that occupy the pedestrian realm. Pedestrian facilities are shown in **Figure 3**. Existing peak hour pedestrian counts are provided in **Appendix A.**

EXISTING TRANSIT NETWORK

There are two transit stops located along Main Street that serve three different Visalia Transit routes. The transit routes are described below. **Figure 4** illustrates the existing transit facilities and bus routes.

- *Route 5A & 5B* serve transit riders from the transit center in downtown to Visalia Medical Center. Headways are approximately 30-45 minutes between 6:00 a.m. – 10:00 p.m. during weekdays.
- *Route 8A & 8B* connect users from the downtown transit center to the Target Shopping Center, Valley Oak School, and Golden West High School. Headways are approximately 45 minutes between 6:00 a.m. – 10:00 p.m. during the weekdays.
- *Route 9A & 9B* serves users from downtown transit center to Exeter. Headways are approximately 45 minutes between 6:00 a.m. – 9:00 p.m. during the weekdays.

COLLISION ANALYSIS

Collisions reported at the study intersections in the project vicinity were obtained from the Transportation Injury Mapping System (TIMS) database for a period of five years from January 2014 to December 2018. Collisions that occurred within 150 feet on the approach to an intersection were considered as occurring at the intersection. **Table 2** summarizes the number of collisions involving vehicles, pedestrians, and bicyclists that were reported at the study intersections during the five-year analysis period.

The collision rates at the intersections along study corridors were compared with the statewide mean collision rates for roadways and intersections with similar characteristics. **Appendix B** contains the collision analysis spreadsheet based on the collision reports received from the City.

Table 2: Intersection Collision Analysis

#	Study Intersections	Total	Intersection Collision Rate (RSE)	Statewide Average Collision Rate[1]	Intersection Collision Rate > Statewide Average Collision Rate?
1	Main Street/Bridge Street	0	0.00	0.13	No
2	Main Street/Santa Fe Street	5	0.55	0.24	**Yes**
3	Main Street/Liberty Street	1	0.30	0.13	**Yes**
4	Main Street/Clark Street	0	0.00	0.08	No
5	Main Street/Burke Street	0	0.00	0.19	No
6	Main Street/Bradley Street	0	0.00	0.08	No
7	Main Street/Edison Street	0	0.00	0.08	No
8	Main Street/Ben Maddox Way	1	0.05	0.24	No
9	Main Street/Cain Street	2	0.23	0.19	**Yes**
10	Center Avenue/Bridge Street	3	0.51	0.13	**Yes**
11	Center Avenue/Santa Fe Street	0	0.00	0.24	No
12	Center Avenue/Tipton Street	0	0.00	0.08	No
13	Center Avenue/Liberty Street	0	0.00	0.13	No
14	Center Avenue/Burke Street	1	0.18	0.19	No
15	Center Aveue/Ben Maddox Way	2	0.12	0.08	**Yes**

Source: TIMS

Notes: ICR = 1000000*A / (365*T*ADT)

ICR= Observed collision rate; Number of accidents/vehicles miles traveled

A = Number of collisions over study period

T = Total number of years over which intersection accidents were collected; January 2014 to December 2018 = 3 years

ADT = Average Daily Traffic

[1]Obtained from 2015 Collision Data on California State Highways, Basic Average Accident Rate Table for Intersections, Page 86 and 87

Figure 2: Existing Lane Geometry and Traffic Controls

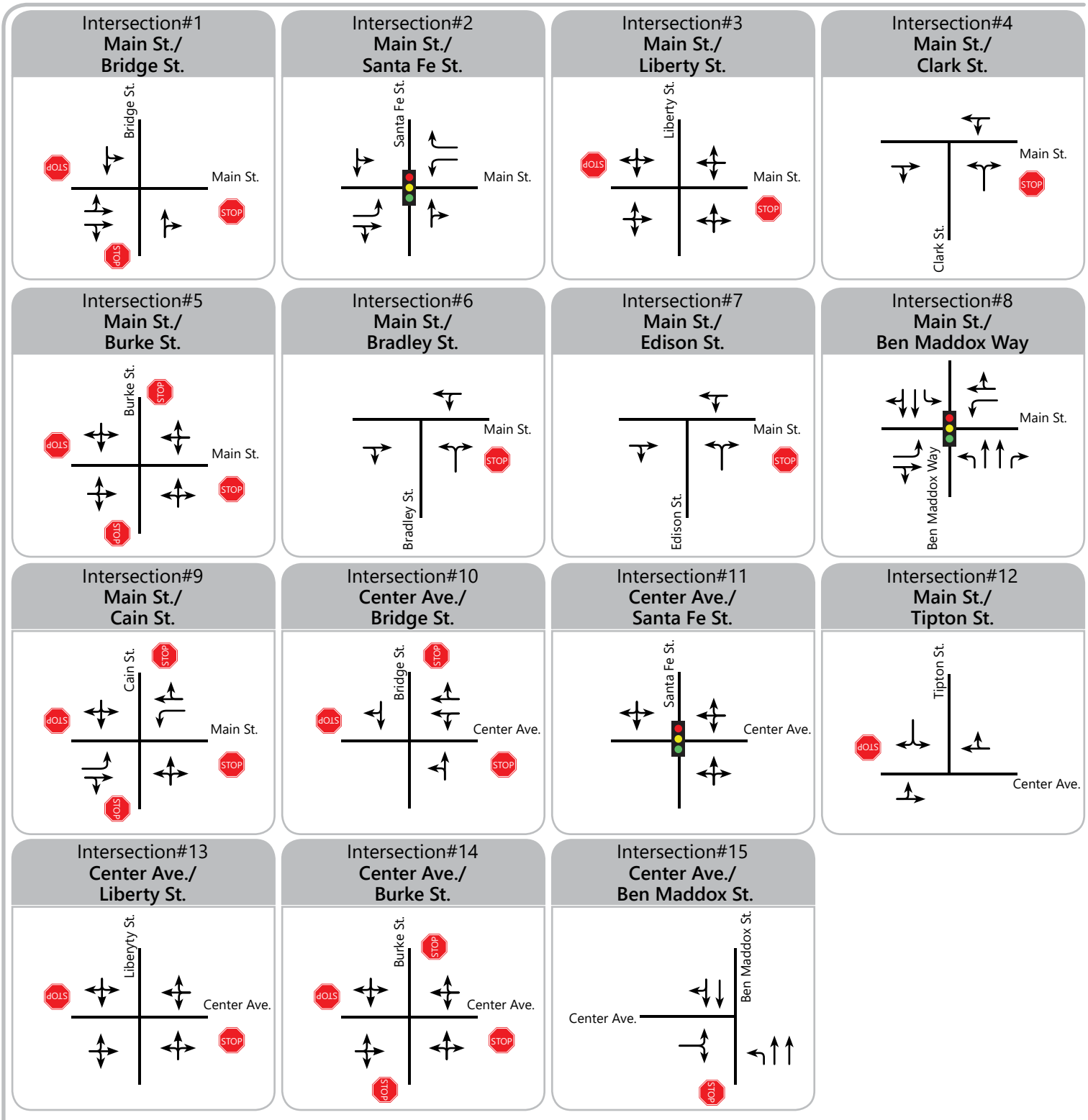
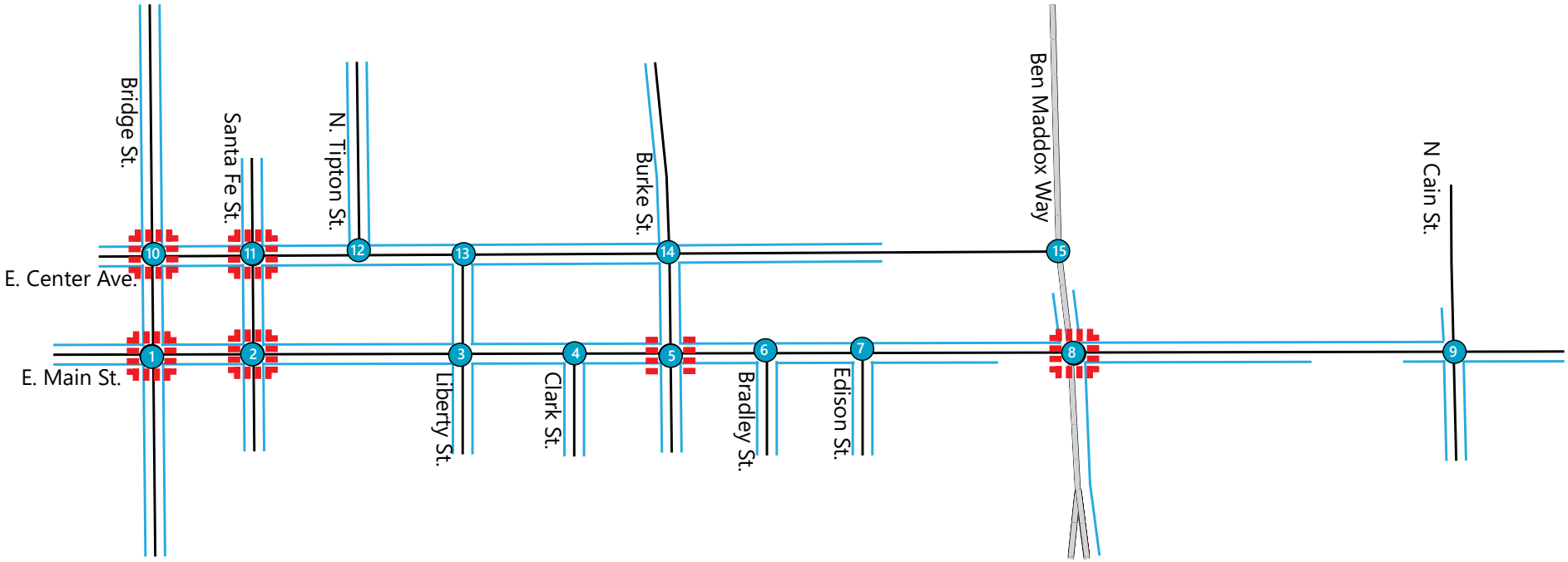


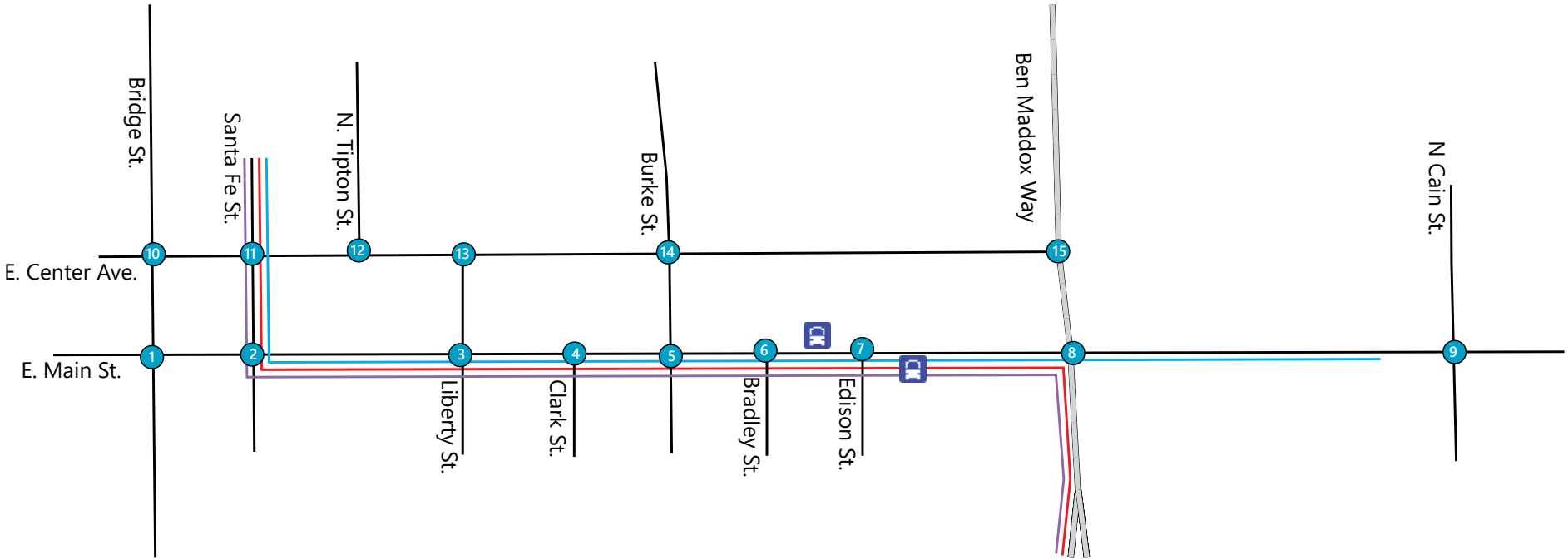
Figure 3: *Existing Pedestrian Facilities*



LEGEND

- Study Intersection
- Sidewalk
- Crosswalk

Figure 4: *Existing Transit Facilities*



LEGEND

- Study Intersection
- Route 8
- Route 5
- Route 9
- Bus Stop

EXISTING PEAK HOUR TRAFFIC VOLUMES

The existing operations of the study intersections were evaluated for the highest one-hour volumes during weekday morning and evening peak periods. Recent turning movement counts for vehicles, bicycles, and pedestrians were conducted during the weekday a.m. peak period (7:00 a.m. – 9:00 a.m.) and p.m. peak period (2:00 p.m. – 6:00 p.m.) at the study intersections in May 2019. **Appendix A** includes all data sheets for the collected vehicle, bicycle, and pedestrian counts. **Figure 5** illustrates the existing a.m. and p.m. peak hour vehicle turning movement counts at the study intersections. **Figure 6** illustrates the existing peak hour pedestrian and bicycle counts at the study intersections.

INTERSECTION LEVEL OF SERVICE – EXISTING CONDITIONS

Existing intersection lane configurations, signal timings, and turning movement volumes are used to calculate level of service for the study intersections during each peak hour. The results of the LOS analysis using the Synchro software program for Existing Conditions are summarized in **Table 3**.

Under the Existing Conditions, all of the study intersections operate with acceptable service levels under applicable jurisdictional standards (LOS D) during the a.m. and p.m. peak hours. LOS worksheets are provided in **Appendix C**.

Table 3: Intersection Level of Service Analysis – Existing Conditions

#	Study Intersection	Control	Peak Period	Existing Conditions	
				Delay	LOS
1	E Main Street/S Bridge Street	All-Way Stop Control	AM	10.0	B
			PM	10.8	B
2	E Main Street/S Santa Fe Street	Signalized	AM	15.9	B
			PM	20.5	C
3	E Main Street/S Liberty Street	Two-Way Stop Control	AM	10.5	B
			PM	11.2	B
4	E Main Street/S Clark Street	One-Way Stop Control	AM	9.1	A
			PM	10.3	B
5	E Main Street/S Burke Street	All-Way Stop Control	AM	9.7	A
			PM	12.6	B
6	E Main Street/S Bradley Street	One-Way Stop Control	AM	10.0	A
			PM	10.5	B
7	E Main Street/S Edison Street	One-Way Stop Control	AM	9.5	A
			PM	10.4	B
8	E Main Street/S Ben Maddox Way	Signalized	AM	22.0	C
			PM	26.0	C
9	E Main Street/N Cain Street	All-Way Stop Control	AM	10.6	B
			PM	11.7	B
10	E Center Avenue/N Bridge Street	All-Way Stop Control	AM	9.7	A
			PM	9.8	A

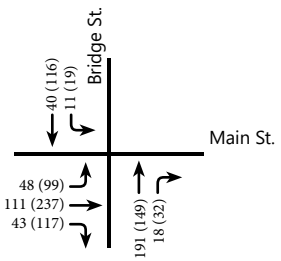
#	Study Intersection	Control	Peak Period	Existing Conditions	
				Delay	LOS
11	E Center Avenue/N Santa Fe Street	Signalized	AM	9.6	A
			PM	11.8	B
12	E Center Avenue/N Tipton Street	One-Way Stop Control	AM	9.4	A
			PM	10.1	B
13	E Center Avenue/N Liberty Street	Two-Way Stop Control	AM	9.4	A
			PM	11.3	B
14	E Center Avenue/N Burke Street	All-Way Stop Control	AM	9.0	A
			PM	9.7	A
15	E Center Avenue/N Ben Maddox Way	One-Way Stop Control	AM	12.0	B
			PM	13.4	B

Notes:

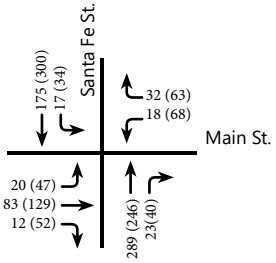
1. AM – morning peak hour, PM – evening peak hour
2. Delay – Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop controlled intersections. Total control delay for the worst movement is presented for side-street stop – controlled intersections. LOS – Level of Service

Figure 5: Existing Peak Hour Traffic Volumes

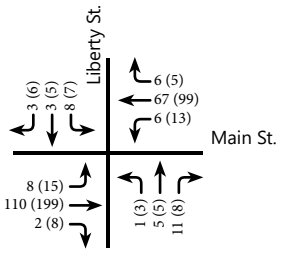
Intersection#1 Main St./ Bridge St.



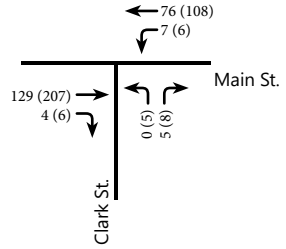
Intersection#2 Main St./ Santa Fe St.



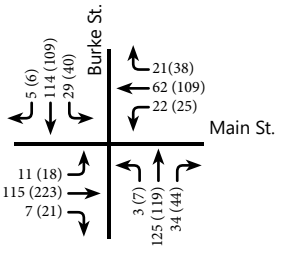
Intersection#3 Main St./ Liberty St.



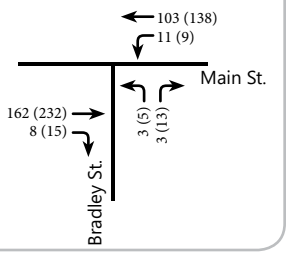
Intersection#4 Main St./ Clark St.



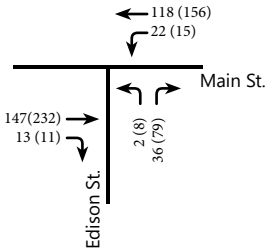
Intersection#5 Main St./ Burke St.



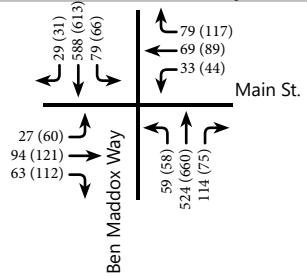
Intersection#6 Main St./ Bradley St.



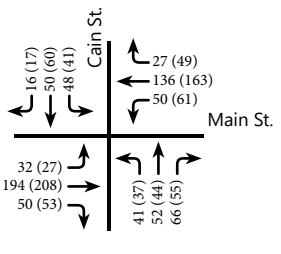
Intersection#7 Main St./ Edison St.



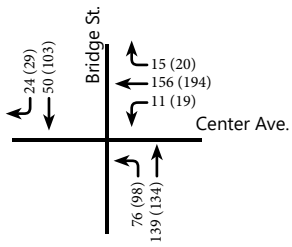
Intersection#8 Main St./ Ben Maddox Way



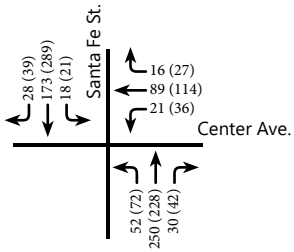
Intersection#9 Main St./ Cain St.



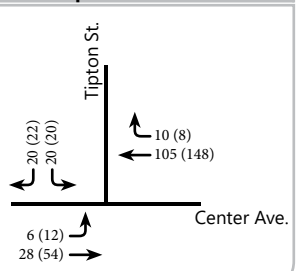
Intersection#10 Center Ave./ Bridge St.



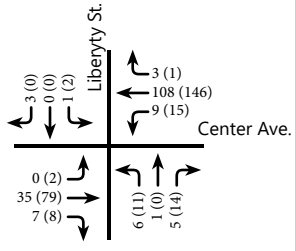
Intersection#11 Center Ave./ Santa Fe St.



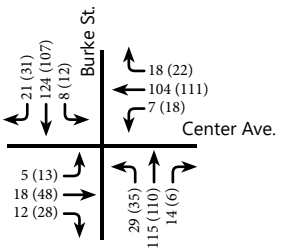
Intersection#12 Main St./ Tipton St.



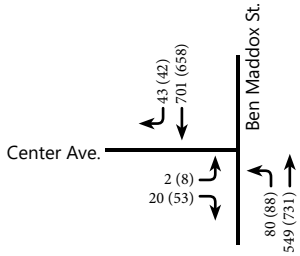
Intersection#13 Center Ave./ Liberty St.

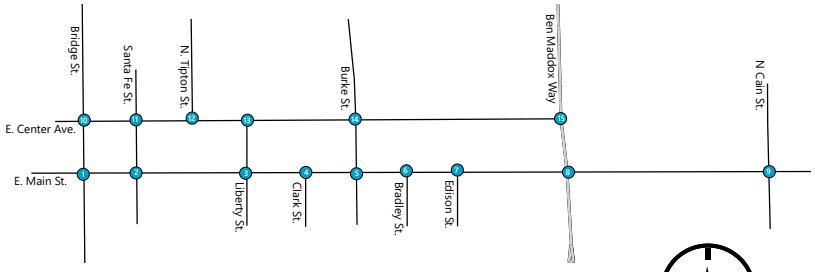


Intersection#14 Center Ave./ Burke St.



Intersection#15 Center Ave./ Ben Maddox St.

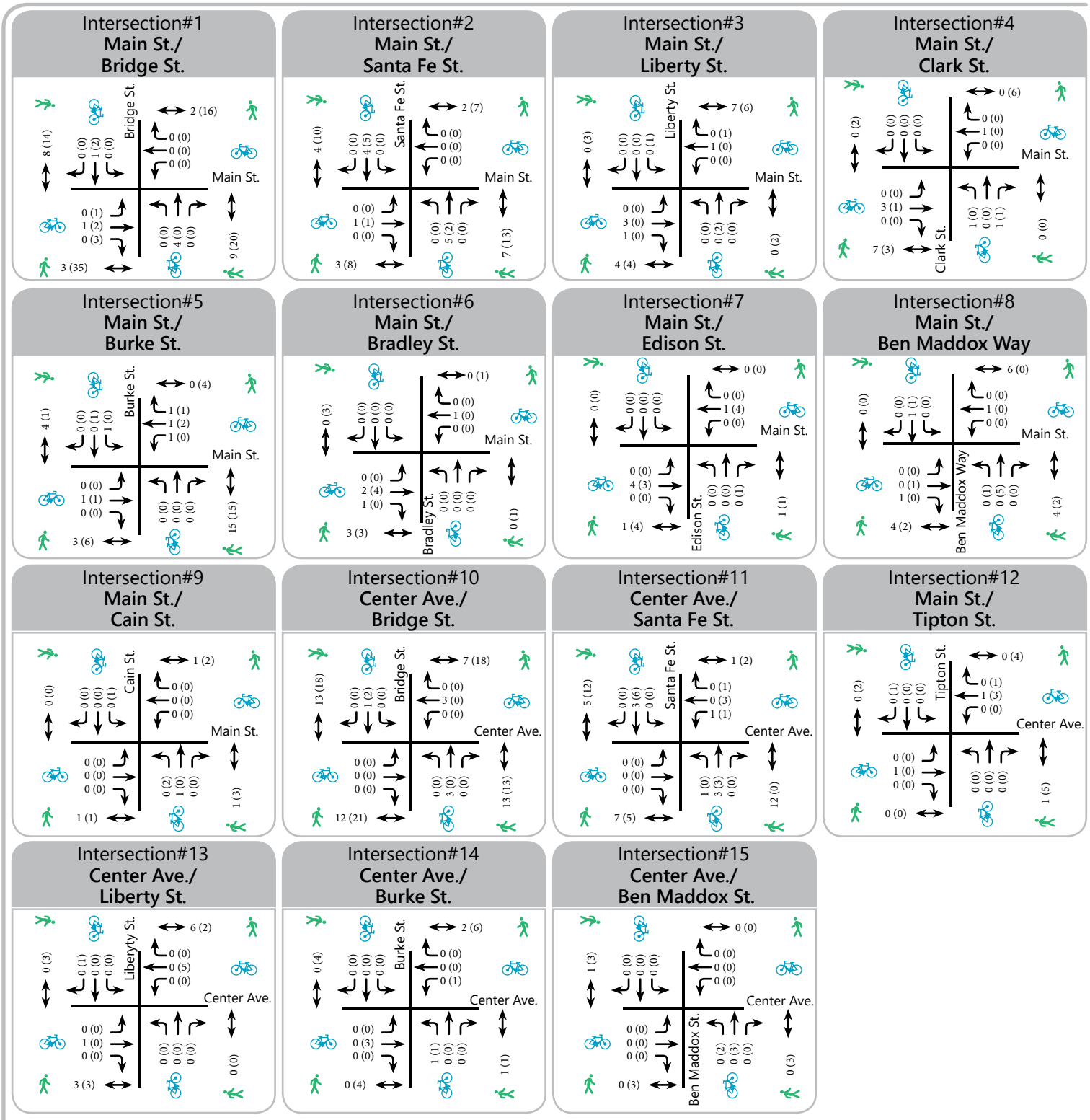




LEGEND

- X — Study Intersection
- XX — AM Peak Hour Project Trips
- (XX) — PM Peak Hour Project Trips

Figure 6: Existing Peak Hour Traffic Volumes



LEGEND

- (X) Study Intersection
- XX AM Peak Hour Project Trips
- (XX) PM Peak Hour Project Trips

EXISTING CONDITIONS QUEUEING ANALYSIS

TJKM conducted a vehicle queueing and storage analysis at all study intersections. The 95th percentile (maximum) queues were analyzed using the HCM 2000 Queue methodology contained in Synchro software. Detailed calculations are included in **Appendix C**. **Table 4** summarizes the 95th percentile queue lengths at the study intersections. Currently, the queues for the WBL (p.m. peak) and SBL (a.m. and p.m. peak) exceed storage lengths at the intersection of Main Street/Ben Maddox Way.

Table 4: Existing Conditions Queueing Analysis

#	Study Intersection	Lane Group	Storage Length per Lane (feet)	Existing Conditions	
				AM	PM
1	E Main St/Bridge St	EBLT	-	50	80
		EBTR	-	60	100
		NBTR	-	80	80
		SBLT	-	50	60
2	E Main St/Santa Fe St	EBL	-	40	70
		EBTR	-	120	170
		WBL	-	50	100
		WBR	75	50	60
		NBTR	-	130	160
		SBLT	-	90	180
3	E Main St/Liberty St	EBLTR	-	10	20
		WBLTR	-	10	10
		NBLTR	-	40	40
		SBLTR	-	40	40
4	E Main St/Clark St	EBTR	-	-	10
		WBLT	-	10	10
		NBLR	-	30	30
5	E Main St/Burke St	EBLTR	-	70	100
		WBLTR	-	60	70
		NBLTR	-	70	70
		SBLTR	-	60	60
6	E Main St/Bradley St	EBTR	-	-	10
		WBLT	-	20	20
		NBLR	-	20	40
7	E Main St/Edison St	WBLT	-	30	30
		NBLR	-	50	60
8	E Main St/Ben Maddox Way	EBL	90	50	90
		EBTR	-	120	160
		WBL	60	50	**70**
		WBTR	-	100	140

#	Study Intersection	Lane Group	Storage Length per Lane (feet)	Existing Conditions	
				AM	PM
		NBL	280	80	90
		NBT	-	210	270
		NBR	70	60	60
		SBL	95	**100**	**110**
		SBT	-	190	210
		SBTR	-	150	180
9	E Main St/Cain St	EBL	105	40	40
		EBTR	-	80	90
		WBL	100	50	50
		WBTR	-	70	70
		NBLTR	-	70	70
		SBLTR	-	60	60
10	E Center Ave/Bridge St	WBLT	-	50	60
		WBTR	-	60	70
		NBLTR	-	60	60
		SBTR	-	50	70
11	E Center Ave/Santa Fe St	WBLTR	-	130	160
		NBLTR	-	170	170
		SBLTR	-	100	130
12	E Center Ave/Tipton St	EBLT	-	10	20
		SBLR	-	50	50
13	E Center Ave/Liberty St	EBLTR	-	-	10
		WBLTR	-	10	10
		NBLTR	-	30	40
		SBLTR	-	20	20
14	E Center Ave/Burke St	EBLTR	-	40	60
		WBLTR	-	60	60
		NBLTR	-	50	50
		SBLTR	-	60	60
15	E Center Ave/Ben Maddox Way	EBLR	-	40	50
		NBL	60	60	60
		NBT	-	-	20
		SBT	-	10	10
		SBTR	-	10	10

Note: Storage length and 95th percentile queue expressed in feet per lane. Queues are rounded to the nearest 10.

AM – morning peak hour, PM – evening peak hour

Bold indicates queue lengths exceeding capacity

EXISTING PLUS CIRCULATION ALTERNATIVE

INTERSECTION LEVEL OF SERVICE AND QUEUEING ANALYSIS

The Existing Plus Circulation Alternative scenario evaluates all study intersections with the extension of the Main Street and Center Avenue couplet extended to Ben Maddox Way. **Figure 7** illustrates the circulation of the proposed alternative. Main Street will be converted into a two-lane eastbound roadway and Center Avenue will be converted into a two-lane westbound roadway. Southbound left-turns onto Center Avenue will be restricted from Tipton Street, Liberty Street, and Burke Street. Northbound left-turns will be restricted from Liberty Street, Clark Street, Burke Street, Bradley Street, Edison Street and Ben Maddox Way. Based on the study area and existing traffic patterns, traffic volumes for the restricted movements were rerouted. Signal timings were optimized based on the circulation alternatives. The results of the delay, LOS and 95th percentile queue length in feet analysis using Synchro software are summarized in **Table 5** and **Table 6**, respectively. **Appendix D** contains the LOS and queue analysis work sheets.

Under the Existing Plus Circulation Alternative scenario, all study intersections operate within applicable jurisdictional standards of the City of Visalia (LOS D or better) during the a.m. and p.m. peak hours.

Table 5: Intersection Level of Service Analysis – Existing Plus Circulation Alternative

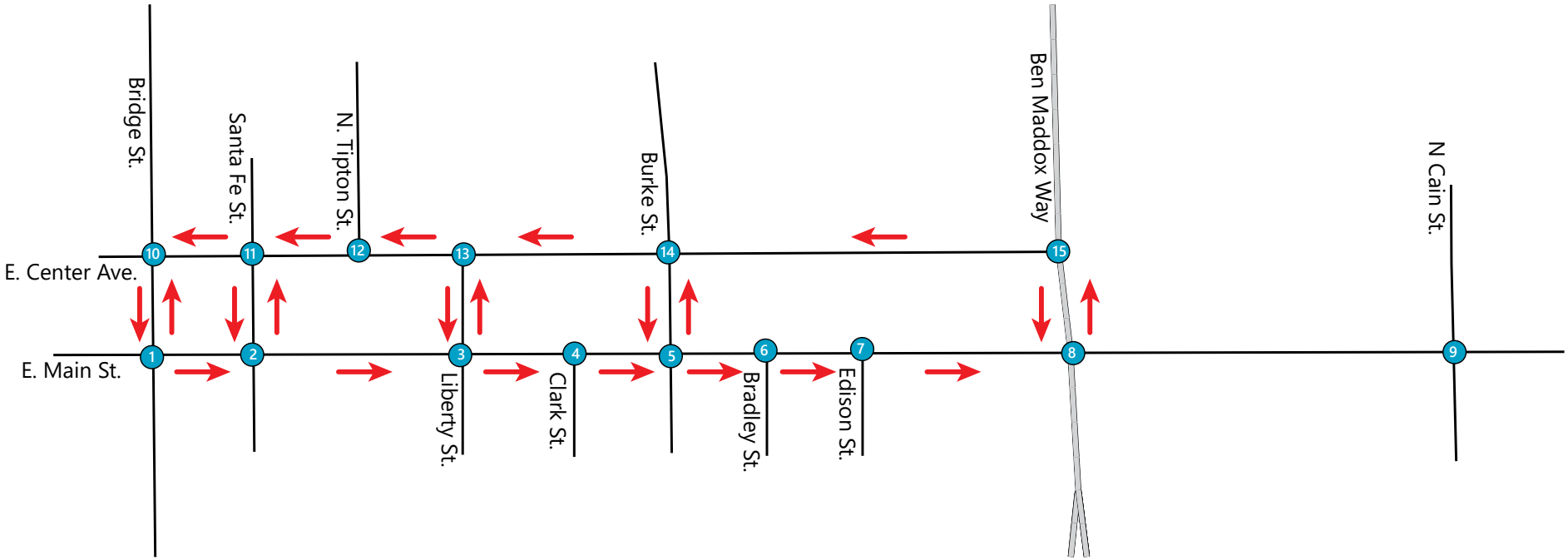
#	Study Intersection	Control	Peak Period	Existing Conditions		Existing Plus Circulation Alternative	
				Delay	LOS	Delay	LOS
1	E Main Street/S Bridge Street	All-Way Stop Control	AM	10.0	B	10.0	B
			PM	10.8	B	10.8	B
2	E Main Street/S Santa Fe Street	Signalized	AM	15.9	B	8.7	A
			PM	20.5	C	13.3	B
3	E Main Street/S Liberty Street	Two-Way Stop Control	AM	10.5	B	10.3	B
			PM	11.2	B	11.4	B
4	E Main Street/S Clark Street	One-Way Stop Control	AM	9.1	A	8.9	A
			PM	10.3	B	9.3	A
5	E Main Street/S Burke Street	All-Way Stop Control	AM	9.7	A	9.6	A
			PM	12.6	B	10.5	B
6	E Main Street/S Bradley Street	One-Way Stop Control	AM	10.0	A	9.0	A
			PM	10.5	B	9.4	A
7	E Main Street/S Edison Street	One-Way Stop Control	AM	9.5	A	9.1	A
			PM	10.4	B	9.9	A
8	E Main Street/S Ben Maddox Way	Signalized	AM	22.0	C	21.5	C
			PM	26.0	C	27.3	C
9	E Main Street/N Cain Street	All-Way Stop Control	AM	10.6	B	10.6	B
			PM	11.7	B	11.7	B
10	E Center Avenue/N Bridge Street	All-Way Stop Control	AM	9.7	A	10.1	B
			PM	9.8	A	10.1	B

#	Study Intersection	Control	Peak Period	Existing Conditions		Existing Plus Circulation Alternative	
				Delay	LOS	Delay	LOS
11	E Center Avenue/N Santa Fe Street	Signalized	AM	9.6	A	13.9	B
			PM	11.8	B	14.7	B
12	E Center Avenue/N Tipton Street	One-Way Stop Control	AM	9.4	A	9.2	A
			PM	10.1	B	9.5	A
13	E Center Avenue/N Liberty Street	Two-Way Stop Control	AM	9.4	A	10.2	B
			PM	11.3	B	11.3	B
14	E Center Avenue/N Burke Street	All-Way Stop Control	AM	9.0	A	9.5	A
			PM	9.7	A	9.3	A
15	E Center Avenue/N Ben Maddox Way	One-Way Stop Control	AM	12.0	B	11.8	B
			PM	13.4	B	11.5	B

Notes:

1. AM – morning peak hour, PM – evening peak hour
2. Delay – Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop controlled intersections. Total control delay for the worst movement is presented for side-street stop – controlled intersections. LOS – Level of Service

Figure 7: *Alternative Circulation*



LEGEND

X Study Intersection

The results of the Existing Plus Circulation Alternative queue length analysis resulted in slight increases of queues at certain locations. The following intersections experience increase in queues with the circulation alternative:

- Main Street/Ben Maddox Way – EBL (a.m. and p.m. peak period), WBL (a.m. and p.m. peak period), SBL (a.m. and p.m. peak period)
- Center Avenue/Ben Maddox Way – NBL (a.m. and p.m. peak period)

Table 6: Existing Plus Circulation Alternative Queueing Analysis

#	Study Intersection	Lane Group	Storage Length per Lane (feet)	Existing Conditions		Existing Plus Circulation Alternative	
				AM	PM	AM	PM
1	E Main St/Bridge St	EBLT	-	50	80	50	80
		EBTR	-	60	100	60	90
		NBTR	-	80	80	80	80
		SBLT	-	50	60	50	60
2	E Main St/Santa Fe St	EBL	-	40	70	50	70
		EBTR	-	120	170	100	160
		WBL	-	50	100	-	-
		WBR	75	50	60	-	-
		NBTR	-	130	160	100	110
		SBLT	-	90	180	100	170
3	E Main St/Liberty St	EBLTR	-	10	20	-	10
		WBLTR	-	10	10	-	-
		NBLTR	-	40	40	40	40
		SBLTR	-	40	40	40	40
4	E Main St/Clark St	EBTR	-	-	10	-	-
		WBLT	-	10	10	-	-
		NBLR	-	30	30	20	30
5	E Main St/Burke St	EBLTR	-	70	100	60	80
		WBLTR	-	60	70	-	-
		NBLTR	-	70	70	70	70
		SBLTR	-	60	60	60	60
6	E Main St/Bradley St	EBTR	-	-	10	-	-
		WBLT	-	20	20	-	-
		NBLR	-	20	40	30	40
7	E Main St/Edison St	WBLT	-	30	30	-	-
		NBLR	-	50	60	50	60
8	E Main St/Ben Maddox Way	EBL	90	50	90	**110**	**100**
		EBTR	-	120	160	140	220
		WBL	60	50	**70**	**70**	**80**
		WBTR	-	100	140	60	80

#	Study Intersection	Lane Group	Storage Length per Lane (feet)	Existing Conditions		Existing Plus Circulation Alternative	
				AM	PM	AM	PM
		NBL	280	80	90	-	-
		NBT	-	210	270	260	320
		NBR	70	60	60	60	70
		SBL	95	**100**	**110**	**110**	**120**
		SBT	-	190	210	190	200
		SBTR	-	150	180	150	170
9	E Main St/Cain St	EBL	105	40	40	50	50
		EBTR	-	80	90	80	90
		WBL	100	50	50	50	50
		WBTR	-	70	70	60	70
		NBLTR	-	70	70	70	70
		SBLTR	-	60	60	60	60
10	E Center Ave/Bridge St	WBLT	-	50	60	70	70
		WBTR	-	60	70	80	90
		NBLTR	-	60	60	60	80
		SBTR	-	50	70	60	70
11	E Center Ave/Santa Fe St	WBLTR	-	130	160	120	130
		NBLTR	-	170	170	140	140
		SBLTR	-	100	130	90	140
12	E Center Ave/Tipton St	EBLT	-	10	20	-	-
		SBLR	-	50	50	50	50
13	E Center Ave/Liberty St	EBLTR	-	-	10	-	-
		WBLTR	-	10	10	10	-
		NBLTR	-	30	40	40	40
		SBLTR	-	20	20	20	10
14	E Center Ave/Burke St	EBLTR	-	40	60	-	-
		WBLTR	-	60	60	70	60
		NBLTR	-	50	50	50	50
		SBLTR	-	60	60	70	70
15	E Center Ave/Ben Maddox Way	EBLR	-	40	50	-	-
		NBL	60	60	60	**110**	**100**
		NBT	-	-	20	50	30
		SBT	-	10	10	10	10
		SBTR	-	10	10	10	10

Note: Storage length and 95th percentile queue expressed in feet per lane. Queues are rounded to the nearest 10.

AM – morning peak hour, PM – evening peak hour

Bold indicates queue lengths exceeding capacity

NEAR-TERM (2024) CONDITIONS

This section details expected traffic conditions at the study intersections under Near-Term (no project) conditions. This analysis scenario is defined as baseline conditions without the proposed project in year 2024. Based on input from city staff, a growth rate of 2% was applied to existing traffic volumes.

INTERSECTION LEVEL OF SERVICE AND QUEUEING ANALYSIS

Signal timings were optimized for signalized intersections under this scenario. The results of the LOS and delay analysis and 95th percentile queue length in feet analysis using Synchro, are summarized in **Table 7** and **8**, respectively. **Appendix E** contains the Synchro reports for all study intersections. Under the Near-Term scenario, all intersections operate with acceptable levels of service during the a.m. and p.m. peak period.

Table 7: Intersection Level of Service Analysis – Near-Term Conditions

#	Study Intersection	Control	Peak Period	Near-Term Conditions	
				Delay	LOS
1	E Main Street/S Bridge Street	All-Way Stop Control	AM	10.8	B
			PM	11.7	B
2	E Main Street/S Santa Fe Street	Signalized	AM	16.5	B
			PM	21.5	C
3	E Main Street/S Liberty Street	Two-Way Stop Control	AM	10.8	B
			PM	11.6	B
4	E Main Street/S Clark Street	One-Way Stop Control	AM	9.1	A
			PM	10.3	B
5	E Main Street/S Burke Street	All-Way Stop Control	AM	10.3	B
			PM	14.7	B
6	E Main Street/S Bradley Street	One-Way Stop Control	AM	10.0	A
			PM	10.6	B
7	E Main Street/S Edison Street	One-Way Stop Control	AM	9.5	A
			PM	10.8	B
8	E Main Street/S Ben Maddox Way	Signalized	AM	22.9	C
			PM	28.0	C
9	E Main Street/N Cain Street	All-Way Stop Control	AM	11.6	B
			PM	13.2	B
10	E Center Avenue/N Bridge Street	All-Way Stop Control	AM	10.2	B
			PM	10.3	B
11		Signalized	AM	10.0	A

#	Study Intersection	Control	Peak Period	Near-Term Conditions	
				Delay	LOS
	E Center Avenue/N Santa Fe Street		PM	12.5	B
12	E Center Avenue/N Tipton Street	One-Way Stop Control	AM	9.6	A
			PM	10.3	B
13	E Center Avenue/N Liberty Street	Two-Way Stop Control	AM	9.5	A
			PM	11.7	B
14	E Center Avenue/N Burke Street	All-Way Stop Control	AM	9.4	A
			PM	10.3	B
15	E Center Avenue/N Ben Maddox Way	One-Way Stop Control	AM	12.6	B
			PM	14.4	B

Notes:

1. AM – morning peak hour, PM – evening peak hour
2. Delay – Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop controlled intersections. Total control delay for the worst movement is presented for side-street stop – controlled intersections. LOS – Level of Service

Similar to Existing Conditions, the following locations are where queue lengths exceed the existing storage lengths:

- Main St/Ben Maddox Way – WBL for the p.m. peak period, NBR for the p.m. peak period, and SBL for the a.m. and p.m. peak period
- Center Ave/Ben Maddox Way – NBL during the a.m. and p.m. peak period.

Table 8: Near-Term Conditions Queueing Analysis

#	Study Intersection	Lane Group	Storage Length per Lane (feet)	Near-Term Conditions	
				AM	PM
1	E Main St/Bridge St	EBLT	-	50	80
		EBTR	-	60	100
		NBTR	-	80	80
		SBLT	-	50	60
2	E Main St/Santa Fe St	EBL	-	50	60
		EBTR	-	110	180
		WBL	-	50	90
		WBR	75	50	70
		NBTR	-	140	180
		SBLT	-	100	230

#	Study Intersection	Lane Group	Storage Length per Lane (feet)	Near-Term Conditions	
				AM	PM
3	E Main St/Liberty St	EBLTR	-	10	20
		WBLTR	-	10	20
		NBLTR	-	40	40
		SBLTR	-	40	40
4	E Main St/Clark St	EBTR	-	-	-
		WBLT	-	10	10
		NBLR	-	20	40
5	E Main St/Burke St	EBLTR	-	80	120
		WBLTR	-	60	90
		NBLTR	-	70	70
		SBLTR	-	60	60
6	E Main St/Bradley St	EBTR	-	-	-
		WBLT	-	20	20
		NBLR	-	20	40
7	E Main St/Edison St	WBLT	-	30	30
		NBLR	-	50	60
8	E Main St/Ben Maddox Way	EBL	90	60	90
		EBTR	-	130	200
		WBL	60	50	**80**
		WBTR	-	110	150
		NBL	280	80	100
		NBT	-	230	290
		NBR	70	70	**80**
		SBL	95	**120**	**130**
		SBT	-	210	230
		SBTR	-	180	200
9	E Main St/Cain St	EBL	105	50	50
		EBTR	-	90	110
		WBL	100	50	50
		WBTR	-	70	80
		NBLTR	-	70	70

#	Study Intersection	Lane Group	Storage Length per Lane (feet)	Near-Term Conditions	
				AM	PM
		SBLTR	-	60	70
10	E Center Ave/Bridge St	WBLT	-	50	60
		WBTR	-	60	70
		NBLTR	-	70	80
		SBTR	-	60	70
11	E Center Ave/Santa Fe St	WBLTR	-	130	170
		NBLTR	-	180	190
		SBLTR	-	100	160
12	E Center Ave/Tipton St	EBLT	-	10	20
		SBLR	-	50	50
13	E Center Ave/Liberty St	EBLTR	-	-	10
		WBLTR	-	10	20
		NBLTR	-	40	40
		SBLTR	-	20	10
14	E Center Ave/Burke St	EBLTR	-	50	60
		WBLTR	-	60	70
		NBLTR	-	60	50
		SBLTR	-	70	70
15	E Center Ave/Ben Maddox Way	EBLR	-	40	60
		NBL	60	**70**	**80**
		NBT	-	20	30
		SBT	-	10	20
		SBTR	-	10	10

Note: Storage length and 95th percentile queue expressed in feet per lane. Queues are rounded to the nearest 10.
AM – morning peak hour, PM – evening peak hour
Bold indicates queue lengths exceeding capacity

NEAR-TERM (2024) PLUS CIRCULATION ALTERNATIVE

INTERSECTION LEVEL OF SERVICE AND QUEUEING ANALYSIS

The Near-term Plus Circulation Alternative scenario evaluates all study intersections with the extension of the Main Street and Center Avenue couplet extended to Ben Maddox Way. This scenario is identical to Existing Plus Circulation Alternative, except a 2% growth rate was applied to traffic volumes. Signal timings were optimized. The results of the delay, LOS and 95th percentile queue length in feet analysis

using Synchro software are summarized in **Table 9** and **Table 10**, respectively. **Appendix F** contains the LOS and queue analysis work sheets.

Under the Near-Term Plus Circulation Alternative scenario, all study intersections operate within applicable jurisdictional standards of the City of Visalia (LOS D or better) during the a.m. and p.m. peak hours.

Table 9: Intersection Level of Service Analysis – Near-Term Plus Circulation Alternative

#	Study Intersection	Control	Peak Period	Near-Term Conditions		Near-Term Plus Circulation Alternative	
				Delay	LOS	Delay	LOS
1	E Main Street/S Bridge Street	All-Way Stop Control	AM	10.8	B	10.8	B
			PM	11.7	B	11.7	B
2	E Main Street/S Santa Fe Street	Signalized	AM	16.5	B	9.0	A
			PM	21.5	C	13.9	B
3	E Main Street/S Liberty Street	Two-Way Stop Control	AM	10.8	B	10.9	B
			PM	11.6	B	11.8	B
4	E Main Street/S Clark Street	One-Way Stop Control	AM	9.1	A	9.0	A
			PM	10.3	B	9.4	A
5	E Main Street/S Burke Street	All-Way Stop Control	AM	10.3	B	10.1	B
			PM	14.7	B	11.3	B
6	E Main Street/S Bradley Street	One-Way Stop Control	AM	10.0	A	9.1	A
			PM	10.6	B	9.6	A
7	E Main Street/S Edison Street	One-Way Stop Control	AM	9.5	A	9.2	A
			PM	10.8	B	10.1	B
8	E Main Street/S Ben Maddox Way	Signalized	AM	22.9	C	22.8	C
			PM	28.0	C	29.8	C
9	E Main Street/N Cain Street	All-Way Stop Control	AM	11.6	B	11.6	B
			PM	13.2	B	13.2	B
10	E Center Avenue/N Bridge Street	All-Way Stop Control	AM	10.2	B	10.8	B
			PM	10.3	B	10.8	B
11	E Center Avenue/N Santa Fe Street	Signalized	AM	10.0	A	14.4	B
			PM	12.5	B	15.1	B
12	E Center Avenue/N Tipton Street	One-Way Stop Control	AM	9.6	A	9.3	A
			PM	10.3	B	9.6	A

#	Study Intersection	Control	Peak Period	Near-Term Conditions		Near-Term Plus Circulation Alternative	
				Delay	LOS	Delay	LOS
13	E Center Avenue/N Liberty Street	Two-Way Stop Control	AM	9.5	A	10.4	B
			PM	11.7	B	11.7	B
14	E Center Avenue/N Burke Street	All-Way Stop Control	AM	9.4	A	10.1	B
			PM	10.3	B	9.8	A
15	E Center Avenue/N Ben Maddox Way	One-Way Stop Control	AM	12.6	B	13.2	B
			PM	14.4	B	12.6	A

Notes:

1. AM – morning peak hour, PM – evening peak hour
2. Delay – Whole intersection weighted average control delay expressed in seconds per vehicle for signalized and all-way stop controlled intersections. Total control delay for the worst movement is presented for side-street stop – controlled intersections. LOS – Level of Service

The results of the Near-Term Plus Circulation Alternative queue length analysis resulted in slight increases of queues at certain locations. The following intersections experience increase in queues with the circulation alternative:

- Main Street/Ben Maddox Way – EBL (a.m. and p.m. peak period), WBL (a.m. and p.m. peak period), SBL (a.m. and p.m. peak period), and NBR (a.m. and p.m. peak period),
- Center Avenue/Ben Maddox Way – NBL (a.m. and p.m. peak period)

- **Table 10: Near-Term Plus Circulation Alternative Queueing Analysis**

#	Study Intersection	Lane Group	Storage Length per Lane (feet)	Near-Term Conditions		Near-Term Plus Circulation Alternative	
				AM	PM	AM	PM
1	E Main St/Bridge St	EBLT	-	50	80	50	80
		EBTR	-	60	100	70	100
		NBTR	-	80	80	80	80
		SBLT	-	50	60	50	70
2	E Main St/Santa Fe St	EBL	-	50	60	50	70
		EBTR	-	110	180	110	160
		WBL	-	50	90	-	-
		WBR	75	50	70	-	-
		NBTR	-	140	180	110	130

#	Study Intersection	Lane Group	Storage Length per Lane (feet)	Near-Term Conditions		Near-Term Plus Circulation Alternative	
				AM	PM	AM	PM
		SBLT	-	100	230	110	200
3	E Main St/Liberty St	EBLTR	-	10	20	10	10
		WBLTR	-	10	20	-	-
		NBLTR	-	40	40	40	40
		SBLTR	-	40	40	40	40
4	E Main St/Clark St	EBTR	-	-	-	-	-
		WBLT	-	10	10	-	-
		NBLR	-	20	40	30	40
5	E Main St/Burke St	EBLTR	-	80	120	60	90
		WBLTR	-	60	90	-	-
		NBLTR	-	70	70	70	70
		SBLTR	-	60	60	60	60
6	E Main St/Bradley St	EBTR	-	-	-	-	-
		WBLT	-	20	20	-	-
		NBLR	-	20	40	30	40
7	E Main St/Edison St	WBLT	-	30	30	-	-
		NBLR	-	50	60	50	60
8	E Main St/Ben Maddox Way	EBL	90	60	90	**110**	**110**
		EBTR	-	130	200	150	250
		WBL	60	50	**80**	**70**	**100**
		WBTR	-	110	150	50	100
		NBL	280	80	100	-	-
		NBT	-	230	290	290	360
		NBR	70	70	**80**	**80**	**110**
		SBL	95	**120**	**130**	**120**	**130**
		SBT	-	210	230	290	230
		SBTR	-	180	200	290	200
9	E Main St/Cain St	EBL	105	50	50	50	50
		EBTR	-	90	110	90	100
		WBL	100	50	50	50	50

#	Study Intersection	Lane Group	Storage Length per Lane (feet)	Near-Term Conditions		Near-Term Plus Circulation Alternative	
				AM	PM	AM	PM
		WBTR	-	70	80	70	80
		NBLTR	-	70	70	70	70
		SBLTR	-	60	70	60	70
10	E Center Ave/Bridge St	WBLT	-	50	60	70	80
		WBTR	-	60	70	90	90
		NBLTR	-	70	80	70	80
		SBTR	-	60	70	50	70
11	E Center Ave/Santa Fe St	WBLTR	-	130	170	120	130
		NBLTR	-	180	190	16	150
		SBLTR	-	100	160	100	160
12	E Center Ave/Tipton St	EBLT	-	10	20	-	-
		SBLR	-	50	50	50	50
13	E Center Ave/Liberty St	EBLTR	-	-	10	-	-
		WBLTR	-	10	20	-	10
		NBLTR	-	40	40	40	50
		SBLTR	-	20	10	20	20
14	E Center Ave/Burke St	EBLTR	-	50	60	-	-
		WBLTR	-	60	70	70	70
		NBLTR	-	60	50	60	50
		SBLTR	-	70	70	80	70
15	E Center Ave/Ben Maddox Way	EBLR	-	40	60	-	-
		NBL	60	**70**	**80**	**120**	**110**
		NBT	-	20	30	100	90
		SBT	-	10	20	10	20
		SBTR	-	10	10	10	10

- Note: Storage length and 95th percentile queue expressed in feet per lane. Queues are rounded to the nearest 10.
- AM – morning peak hour, PM – evening peak hour
- **Bold** indicates queue lengths exceeding capacity

SUMMARY

Based on the analysis, all study intersection operate under acceptable LOS in the a.m. and p.m. peak under all study scenarios. Some intersections under the Circulation Alternative scenario have queue

lengths that exceed existing storage lengths in both the a.m. and p.m. peak. TJKM recommends extending the storage length at the following locations:

- Main St/Ben Maddox Way for the EBL, WBL, NBR, and SBL
- Center Ave/Ben Maddox Way for the NBL

The conversion of Main Street and Center Street from two-way streets into a one-way couplet can have several effects for all modes of travel. For pedestrians, one-way streets can simplify crossing the street as pedestrians would have to be aware of conflicting traveling from one direction. The reduction in conflicting movements between vehicles and pedestrians can also reduce collisions involving the two. With the proposed one-way conversion and angled parking, the parking capacity will be increased due to more parking spaces available compared to the existing parallel parking spaces located along the study segments.

On the other hand, the conversion of two-way streets into one-way streets can sometimes increase the speeds of vehicles traveling through the corridor if the travel lanes are overly wide. This issue can be mitigated through traffic calming measures or narrower lane widths. One-way streets can also increase travel distances of motorists and can even cause some confusion for drivers if they are not local to the area. Bus stops would have to be relocated if the one-way street is implemented, which may increase the distance traveled for pedestrians and bicyclists between their destinations.

Appendix A – Traffic Counts

Prepared by National Data & Surveying Services

S Bridge St & E Main St

Peak Hour Turning Movement Count

ID: 19-02015-003
City: Visalia

Day: Wednesday
Date: 05/01/2019

PEAK HOURS

AM	07:45 AM - 08:45 AM
NOON	12:00 PM - 01:00 PM
PM	04:30 PM - 05:30 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	11:00 AM - 01:00 PM
PM	02:00 PM - 06:00 PM

S Bridge St — SOUTHBOUND

AM	0	40	11	0	239	AM
NOON	0	82	19	0	238	NOON
PM	0	116	19	0	248	PM

E Main St — EASTBOUND

AM	NOON	PM		
0	0	0		
0	0	0	0	
48	99	99	0.5	
111	205	237	1	
43	117	117	0.5	
AM	NOON	PM		

CONTROL

3-Way Stop(NB/SB/EB)

	AM	NOON	PM
TEV	462	685	769
PHF	0.70	0.91	0.85

E Main St — WESTBOUND

PM	NOON	AM	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
288	248	140	
PM	NOON	AM	

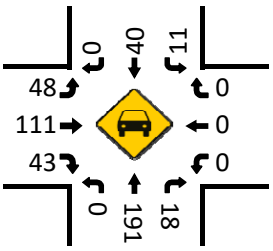
0 0.5 0.5 0

0 0 0.5 0.5

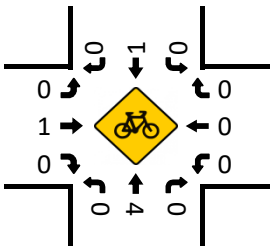
S Bridge St — NORTHBOUND

PM	233	0	0	149	32	PM
NOON	199	0	0	139	24	NOON
AM	83	0	0	191	18	AM

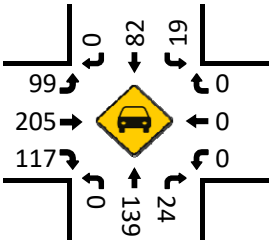
Total Vehicles (AM)



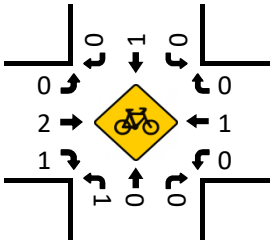
Bikes (AM)



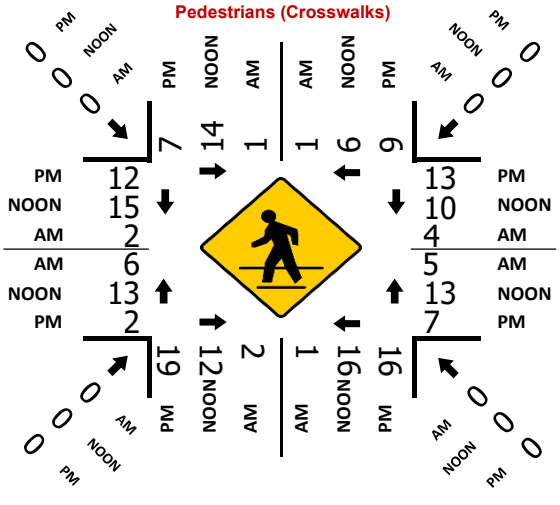
Total Vehicles (Noon)



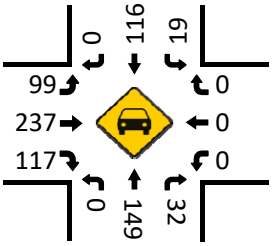
Bikes (NOON)



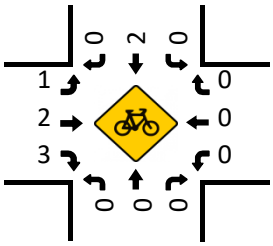
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

N Santa Fe St & E Main St

Peak Hour Turning Movement Count

ID: 19-02034-007
City: Visalia

Day: Thursday
Date: 05/30/2019

PEAK HOURS

AM	07:30 AM - 08:30 AM
NOON	12:00 PM - 01:00 PM
PM	04:30 PM - 05:30 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	11:00 AM - 01:00 PM
PM	02:00 PM - 06:00 PM

N Santa Fe St — SOUTHBOUND

AM	0	175	17	0	341	AM
NOON	0	230	36	1	306	NOON
PM	0	300	34	0	356	PM

E Main St — EASTBOUND

AM	NOON	PM		
0	0	0		
0	0	0	0	
20	50	47	1	
83	156	129	0.5	
12	38	52	0.5	
AM	NOON	PM		

E Main St — WESTBOUND

PM	NOON	AM	
63	59	32	1
0	0	0	0
68	69	18	1
0	0	0	0
203	226	123	
PM	NOON	AM	

CONTROL: Signalized

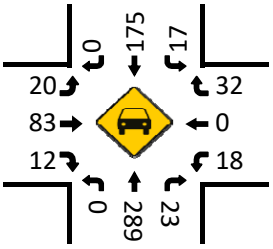
	AM	NOON	PM
TEV	669	869	979
PHF	0.83	0.91	0.92

0.5	0.5	0	0	
0	0	0.5	0.5	

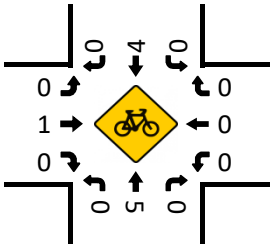
N Santa Fe St — NORTHBOUND

PM	420	0	0	246	40	PM
NOON	337	0	0	196	34	NOON
AM	205	0	0	289	23	AM

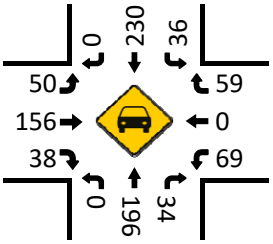
Total Vehicles (AM)



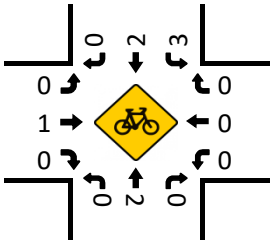
Bikes (AM)



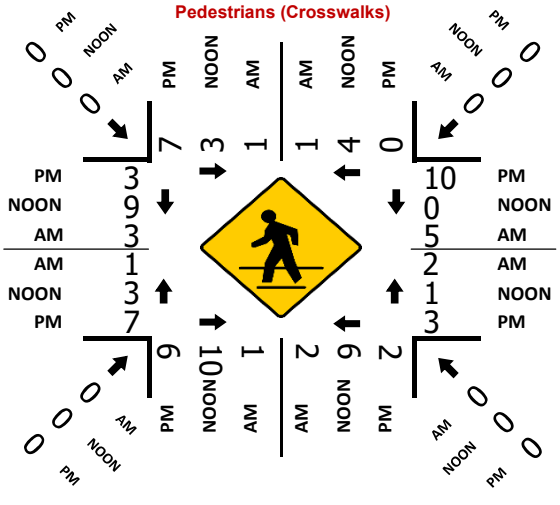
Total Vehicles (Noon)



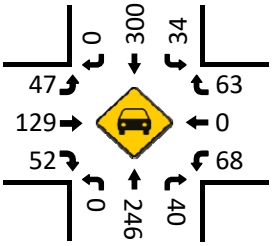
Bikes (NOON)



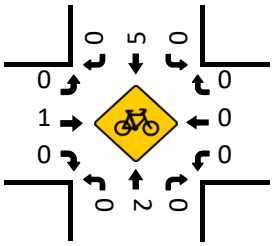
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

Liberty St & E Main St

Peak Hour Turning Movement Count

ID: 19-02034-003
City: Visalia

Day: Thursday
Date: 05/30/2019

PEAK HOURS

AM	08:00 AM - 09:00 AM
NOON	12:00 PM - 01:00 PM
PM	03:45 PM - 04:45 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	11:00 AM - 01:00 PM
PM	02:00 PM - 06:00 PM

CONTROL: 2-Way Stop (NB/SB)

	AM	NOON	PM
TEV	230	372	373
PHF	0.96	0.83	0.91

Liberty St — SOUTHBOUND

AM	3	3	8	0	18	AM
NOON	9	3	6	0	22	NOON
PM	6	5	7	0	19	PM

E Main St — EASTBOUND

AM	NOON	PM		
72	124	114	⇦	
1	1	6	↶	0
7	11	9	↱	0
110	190	199	→	1
2	15	8	↳	0
AM	NOON	PM		

WESTBOUND — E Main St

PM	NOON	AM		
5	8	6	↰	0
99	112	67	←	1
13	4	6	↰	0
0	1	0	↶	0
214	204	129	⇨	
PM	NOON	AM		

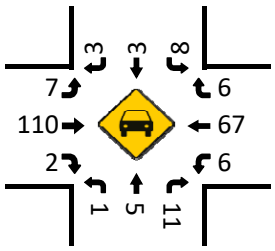
Liberty St — NORTHBOUND

PM	26	0	3	5	8	PM
NOON	22	0	2	3	7	NOON
AM	11	0	1	5	11	AM

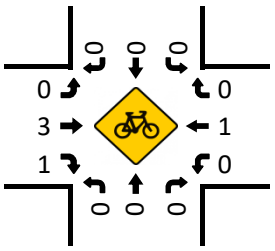
0 0 1 0 ↶ ↰ ↑ ↱ ⇩

0 1 0 0 ↳ ↓ ↱ ↶ ⇧

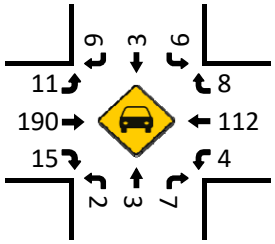
Total Vehicles (AM)



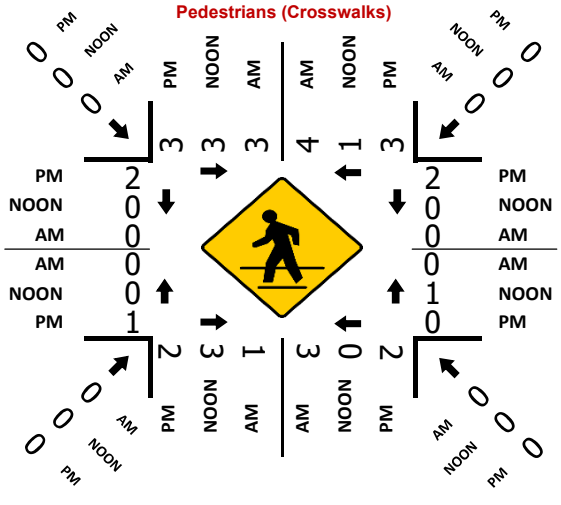
Bikes (AM)



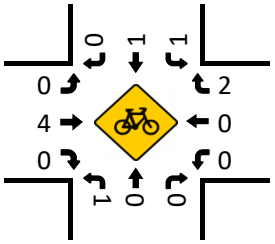
Total Vehicles (Noon)



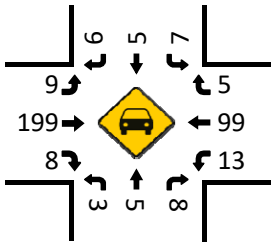
Pedestrians (Crosswalks)



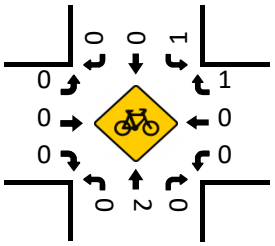
Bikes (NOON)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

S Clark St & Main St

Peak Hour Turning Movement Count

ID: 19-02068-001
City: Visalia

Day: Thursday
Date: 09/12/2019

PEAK HOURS

AM	07:45 AM - 08:45 AM
NOON	11:30 AM - 12:30 PM
PM	04:15 PM - 05:15 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	11:00 AM - 01:00 PM
PM	02:00 PM - 06:00 PM

S Clark St — SOUTHBOUND

	L	T	R	U	Total	
AM	0	0	0	0	0	AM
NOON	1	0	0	0	1	NOON
PM	0	0	0	0	0	PM

Main St — EASTBOUND

	L	T	R	U	Total	
AM	0	76	129	4	209	AM
NOON	0	110	211	5	326	NOON
PM	0	113	207	6	326	PM

Main St — WESTBOUND

	L	T	R	U	Total	
AM	0	76	134	0	210	AM
NOON	1	109	216	0	326	NOON
PM	0	108	215	0	323	PM

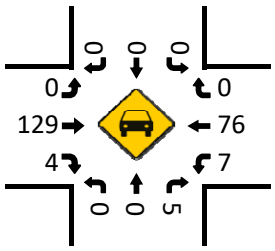
S Clark St — NORTHBOUND

	L	T	R	U	Total	
AM	0	11	0	5	16	AM
NOON	0	11	0	4	15	NOON
PM	0	12	0	8	20	PM

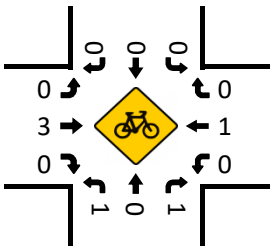
CONTROL: 1-Way Stop (NB)

	AM	NOON	PM
TEV	221	338	340
PHF	0.86	0.95	0.84

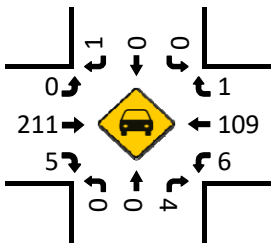
Total Vehicles (AM)



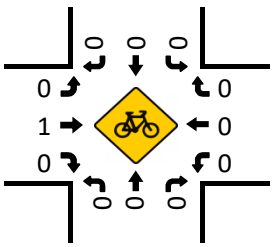
Bikes (AM)



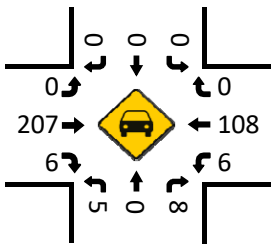
Total Vehicles (Noon)



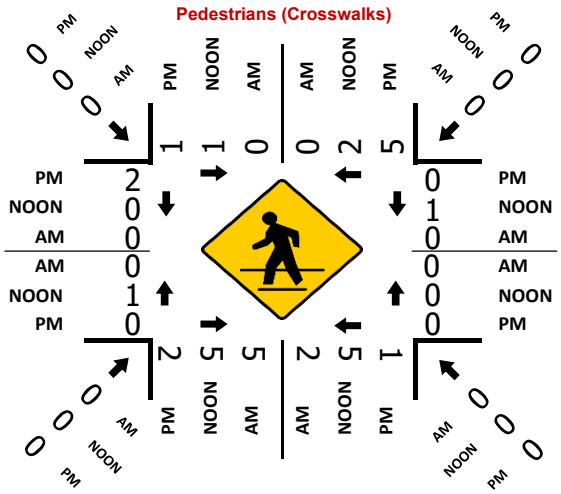
Bikes (NOON)



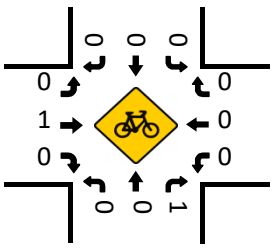
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



Prepared by National Data & Surveying Services

S Burke St & E Main St

Peak Hour Turning Movement Count

ID: 19-02015-009
City: Visalia

Day: Wednesday
Date: 05/01/2019

PEAK HOURS

AM	07:45 AM - 08:45 AM
NOON	11:30 AM - 12:30 PM
PM	04:15 PM - 05:15 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	11:00 AM - 01:00 PM
PM	02:00 PM - 06:00 PM

S Burke St — SOUTHBOUND

AM	5	114	29	0	157	AM
NOON	11	85	29	0	138	NOON
PM	6	109	40	0	175	PM

E Main St — EASTBOUND

AM	NOON	PM		
70	136	122	⇦	
0	0	0	↶	0
11	10	18	↱	0
115	200	223	→	1
7	14	21	↳	0
AM	NOON	PM		

CONTROL

4-Way Stop

	AM	NOON	PM
TEV	548	671	759
PHF	0.86	0.92	0.89

WESTBOUND — E Main St

PM	NOON	AM		
38	31	21	↰	0
109	119	62	←	1
25	31	22	↰	0
0	0	0	↶	0
307	267	178	⇨	
PM	NOON	AM		

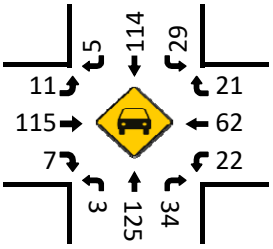
NORTHBOUND — S Burke St

PM	155	0	7	119	44	PM
NOON	130	0	6	97	38	NOON
AM	143	0	3	125	34	AM

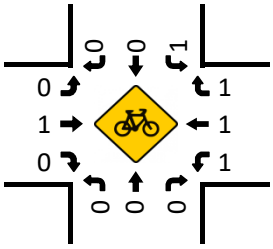
0 0 1 0 (↶ ↰ ↑ ↱)

0 1 0 0 (↶ ↱ → ↳)

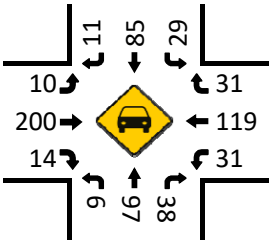
Total Vehicles (AM)



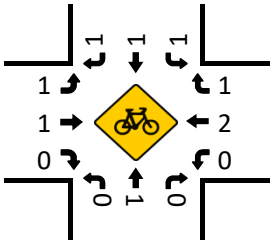
Bikes (AM)



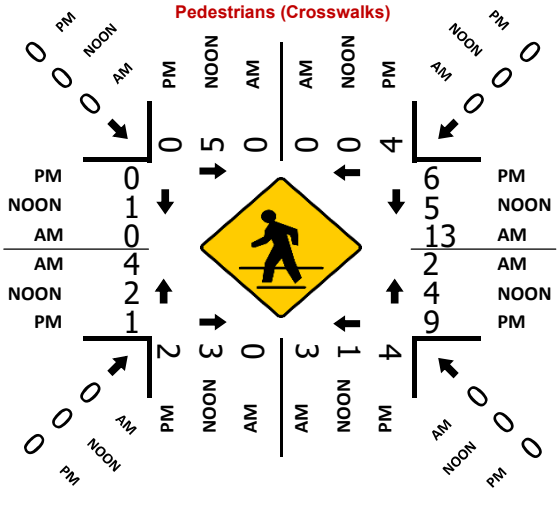
Total Vehicles (Noon)



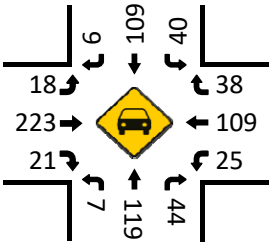
Bikes (NOON)



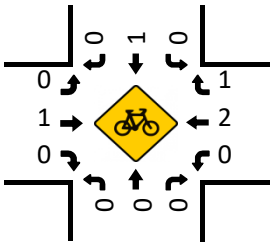
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

S Bradley St & Main St

Peak Hour Turning Movement Count

ID: 19-02068-002
City: Visalia

Day: Thursday
Date: 09/12/2019

PEAK HOURS

AM: 07:45 AM - 08:45 AM
NOON: 11:30 AM - 12:30 PM
PM: 02:30 PM - 03:30 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: 11:00 AM - 01:00 PM
PM: 02:00 PM - 06:00 PM

S Bradley St — SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	5	0	0	0	5	PM

Main St — EASTBOUND

AM	NOON	PM		
106	166	149	⇦	
0	0	1	↶	0
0	0	3	↱	0
162	245	232	→	1
8	6	15	↴	0
AM	NOON	PM		

Main St — WESTBOUND

PM	NOON	AM		
1	0	0	↰	0
138	163	103	←	1
9	4	11	↰	0
0	0	0	↰	0
245	254	165	⇨	
PM	NOON	AM		

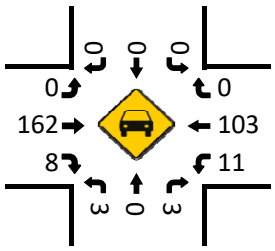
CONTROL: 1-Way Stop (NB)

TEV	291 AM	431 NOON	423 PM
PHF	0.87	0.92	0.87

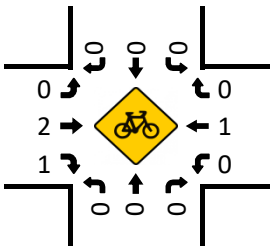
S Bradley St — NORTHBOUND

PM	24	0	5	1	13	PM
NOON	11	1	3	0	9	NOON
AM	20	1	3	0	3	AM

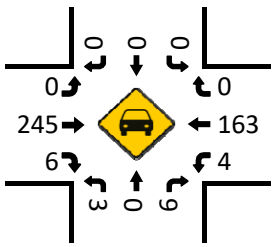
Total Vehicles (AM)



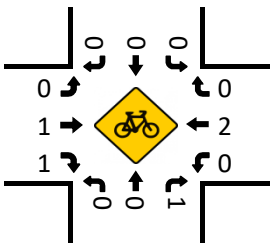
Bikes (AM)



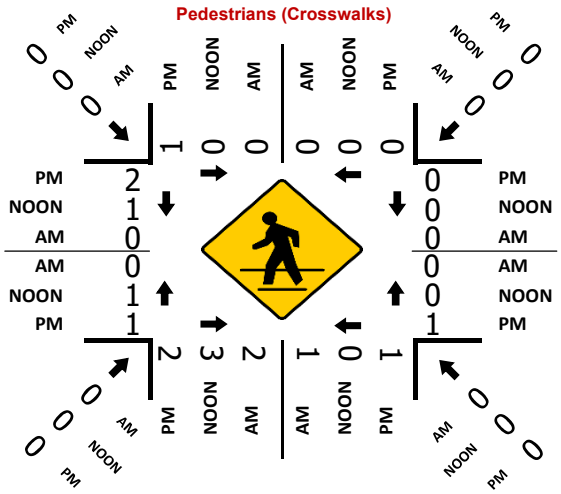
Total Vehicles (Noon)



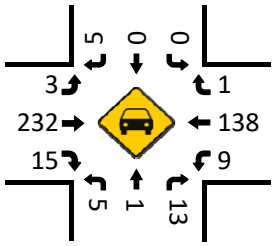
Bikes (NOON)



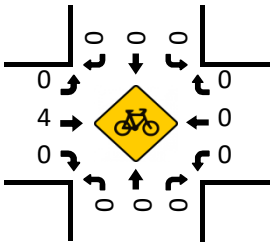
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

S Edison St & Main St

Peak Hour Turning Movement Count

ID: 19-02068-003
City: Visalia

Day: Thursday
Date: 09/12/2019

PEAK HOURS

AM	07:45 AM - 08:45 AM
NOON	11:30 AM - 12:30 PM
PM	03:45 PM - 04:45 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	11:00 AM - 01:00 PM
PM	02:00 PM - 06:00 PM

S Edison St — SOUTHBOUND

	U-Turn	Left	Thru	Right	Ped	
AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	0	PM

Main St — EASTBOUND

	AM	NOON	PM
Thru	121	172	164
U-Turn	1	0	0
Left	0	0	0
Right	147	239	232
Ped	13	7	11

Main St — WESTBOUND

	PM	NOON	AM
U-Turn	0	0	0
Left	156	166	118
Right	15	18	22
Ped	0	0	0
Thru	311	295	183

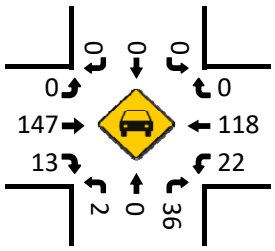
S Edison St — NORTHBOUND

	Ped	Right	Thru	Left	U-Turn	
PM	26	0	8	0	79	PM
NOON	25	0	6	0	56	NOON
AM	35	0	2	0	36	AM

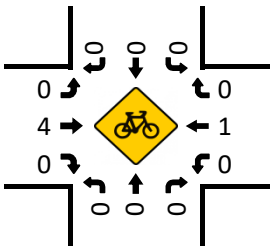
CONTROL: 1-Way Stop (NB)

	AM	NOON	PM
TEV	339	492	501
PHF	0.95	0.90	0.97

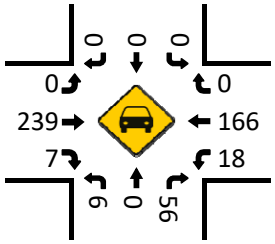
Total Vehicles (AM)



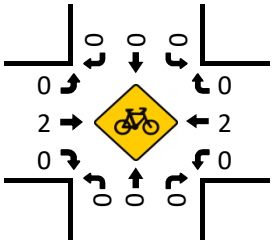
Bikes (AM)



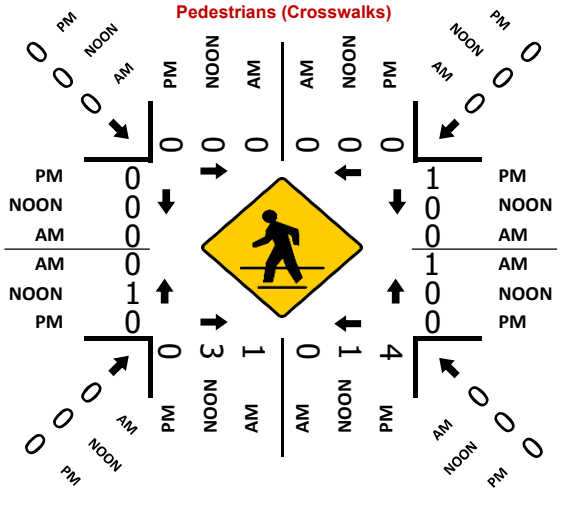
Total Vehicles (NOON)



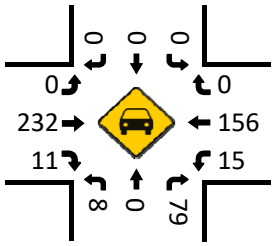
Bikes (NOON)



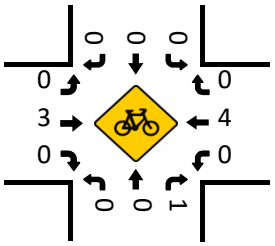
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

Ben Maddox Way & E Main St

Peak Hour Turning Movement Count

ID: 19-02034-005
City: Visalia

Day: Thursday
Date: 05/30/2019

Ben Maddox Way

SOUTHBOUND

PEAK HOURS								COUNT PERIODS
07:45 AM - 08:45 AM	AM	29	588	79	0	630	AM	07:00 AM - 09:00 AM
12:00 PM - 01:00 PM	NOON	39	469	76	0	716	NOON	11:00 AM - 01:00 PM
04:15 PM - 05:15 PM	PM	31	613	65	1	838	PM	02:00 PM - 06:00 PM

EASTBOUND

AM	NOON	PM		
156	184	171	⇦	
0	0	0	↶	0
27	45	60	↱	1
94	127	121	→	1
63	104	112	↳	0
AM	NOON	PM		

WESTBOUND

PM	NOON	AM		
117	104	79	↰	0
89	93	69	←	1
44	47	33	↰	1
0	0	0	↶	0
261	284	287	⇨	
PM	NOON	AM		

CONTROL: Signalized

TEV	1758 AM	1811 NOON	2046 PM
PHF	0.95	0.98	0.91

		0	2	1	0			
		0	1	2	1			
PM	776	7	51	660	75	PM		
NOON	627	7	52	567	81	NOON		
AM	685	1	58	524	114	AM		

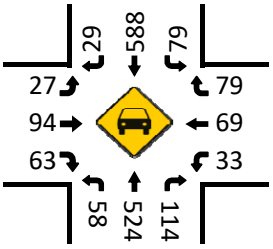
NORTHBOUND

Ben Maddox Way

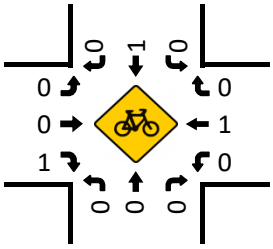
E Main St (left)

E Main St (right)

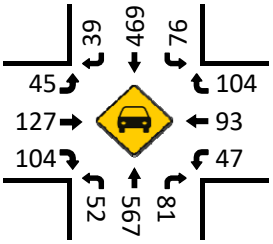
Total Vehicles (AM)



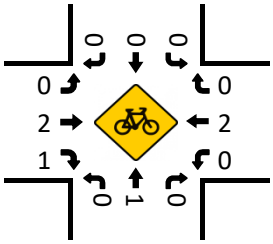
Bikes (AM)



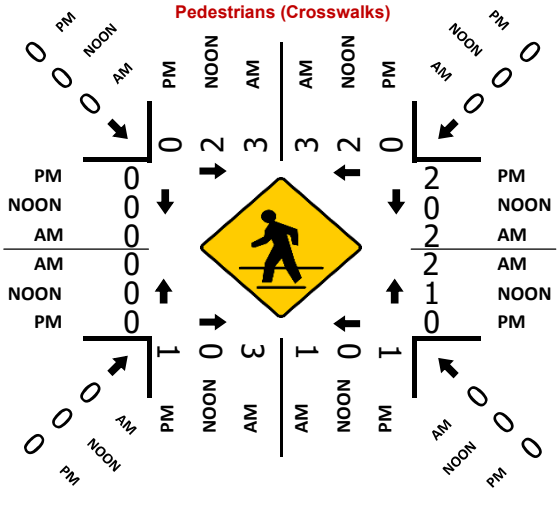
Total Vehicles (Noon)



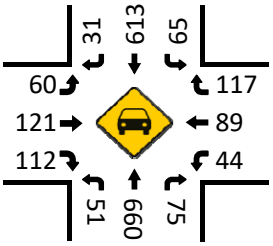
Bikes (NOON)



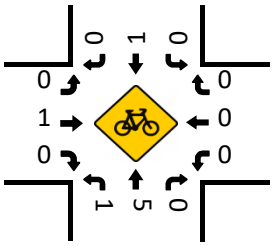
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

S Cain St & E Main St

Peak Hour Turning Movement Count

ID: 19-02015-012
City: Visalia

Day: Wednesday
Date: 05/01/2019

PEAK HOURS		COUNT PERIODS
08:00 AM - 09:00 AM	AM	07:00 AM - 09:00 AM
11:30 AM - 12:30 PM	NOON	11:00 AM - 01:00 PM
03:45 PM - 04:45 PM	PM	02:00 PM - 06:00 PM

S Cain St – SOUTHBOUND

	Right	Through	Left	U-Turn	Departing (NB)
AM	16	50	48	0	111
NOON	26	61	33	0	117
PM	17	60	41	0	120
Lanes	0	1	0	0	

E Main St – EASTBOUND

	AM	NOON	PM	Lanes
Departing (WB)	193	257	217	
U-Turn	0	0	0	0
Left	32	40	27	1
Through	194	214	208	1
Right	50	47	53	0

E Main St – WESTBOUND

	PM	NOON	AM	Lanes
Right	49	35	27	0
Through	163	187	136	1
Left	61	52	50	1
U-Turn	0	0	0	0
Departing (EB)	304	294	308	

S Cain St – NORTHBOUND

	Departing (SB)	U-Turn	Left	Through	Right
Lanes		0	0	1	0
PM	174	0	37	44	55
NOON	160	0	44	42	47
AM	150	0	41	52	66

CONTROL

4-Way Stop

	AM	NOON	PM
TEV	762	828	815
PHF	0.92	0.93	0.97

Total Vehicles (AM)

Approach	Right	Through	Left
Southbound	16	50	48
Eastbound	50	194	32
Westbound	27	136	50
Northbound	66	52	41

Total Vehicles (Noon)

Approach	Right	Through	Left
Southbound	26	61	33
Eastbound	47	214	40
Westbound	35	187	52
Northbound	47	42	44

Total Vehicles (PM)

Approach	Right	Through	Left
Southbound	17	60	41
Eastbound	53	208	27
Westbound	49	163	61
Northbound	55	44	37

Bikes (AM)

Approach	Right	Through	Left
Southbound	0	0	0
Eastbound	0	0	0
Westbound	0	0	0
Northbound	0	1	0

Bikes (NOON)

Approach	Right	Through	Left
Southbound	0	0	0
Eastbound	0	0	0
Westbound	0	1	0
Northbound	0	0	0

Bikes (PM)

Approach	Right	Through	Left
Southbound	0	0	1
Eastbound	0	0	0
Westbound	0	0	0
Northbound	0	0	2

Pedestrians (Crosswalks)

Crosswalk	Direction	AM	NOON	PM
North	Eastbound (→)	0	1	2
North	Westbound (←)	1	0	0
West	Southbound (↓)	0	0	0
West	Northbound (↑)	0	2	0
East	Southbound (↓)	1	0	2
East	Northbound (↑)	0	0	1
South	Eastbound (→)	1	1	0
South	Westbound (←)	0	0	1
Northwest diagonal		0	0	0
Northeast diagonal		0	0	0
Southwest diagonal		0	0	0
Southeast diagonal		0	0	0

Prepared by National Data & Surveying Services

N Bridge St & E Center Ave

Peak Hour Turning Movement Count

ID: 19-02015-005
City: Visalia

Day: Wednesday
Date: 05/01/2019

PEAK HOURS

AM	07:45 AM - 08:45 AM
NOON	11:30 AM - 12:30 PM
PM	04:45 PM - 05:45 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	11:00 AM - 01:00 PM
PM	02:00 PM - 06:00 PM

N Bridge St — SOUTHBOUND

	L	T	R	U	Total	
AM	24	50	0	0	154	AM
NOON	43	77	0	0	125	NOON
PM	29	103	0	0	154	PM

E Center Ave — EASTBOUND

	AM	NOON	PM
Through	256	371	321
Left	0	0	0
Right	0	0	0
Thru	0	0	0
U-turn	0	0	0

E Center Ave — WESTBOUND

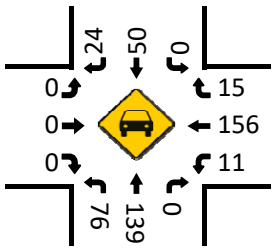
	PM	NOON	AM
Through	20	15	15
Left	194	206	156
Right	19	11	11
Thru	0	0	0
U-turn	0	0	0

N Bridge St — NORTHBOUND

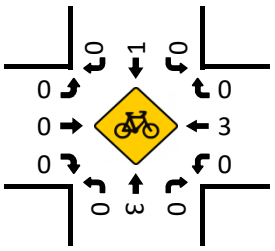
	L	T	R	U	Total	
PM	122	0	98	134	0	PM
NOON	88	0	122	110	0	NOON
AM	61	0	76	139	0	AM

CONTROL			
3-Way Stop(NB/SB/WB)			
TEV	471 AM	584 NOON	597 PM
PHF	0.78	0.91	0.83

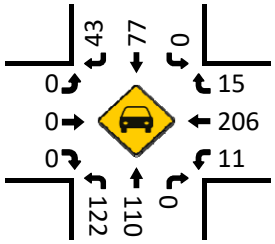
Total Vehicles (AM)



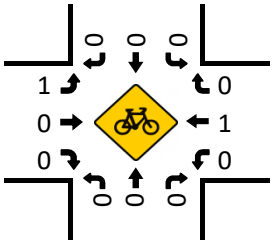
Bikes (AM)



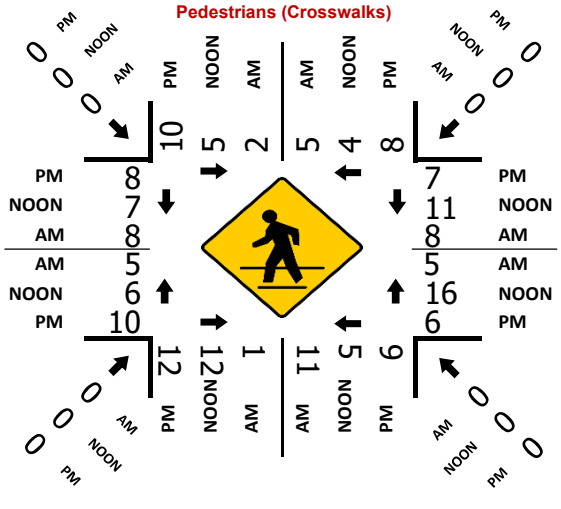
Total Vehicles (Noon)



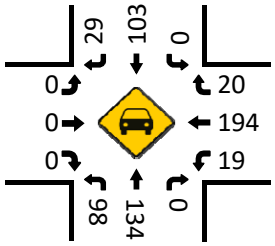
Bikes (NOON)



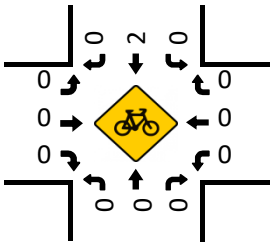
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

N Santa Fe St & E Center Ave

Peak Hour Turning Movement Count

ID: 19-02034-006
City: Visalia

Day: Thursday
Date: 05/30/2019

PEAK HOURS

AM	07:30 AM - 08:30 AM
NOON	11:45 AM - 12:45 PM
PM	04:30 PM - 05:30 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	11:00 AM - 01:00 PM
PM	02:00 PM - 06:00 PM

N Santa Fe St — SOUTHBOUND

AM	28	173	18	0	266	AM
NOON	48	231	32	0	218	NOON
PM	39	289	21	0	255	PM

E Center Ave — EASTBOUND

AM	NOON	PM		
169	236	225	⇦	
0	0	0	↶	0
0	0	0	↱	0
0	0	0	→	0
0	0	0	↴	0
AM	NOON	PM		

E Center Ave — WESTBOUND

PM	NOON	AM		
27	29	16	↰	0
114	114	89	←	1
36	29	21	↰	0
0	0	0	↰	0
63	74	48	⇨	
PM	NOON	AM		

N Santa Fe St — NORTHBOUND

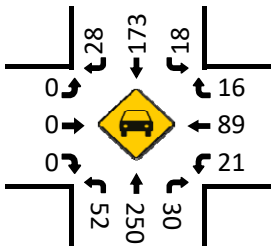
PM	325	0	72	228	42	PM
NOON	260	0	74	189	42	NOON
AM	194	0	52	250	30	AM

⇩	0	0	1	0
	↶	↰	↑	↱

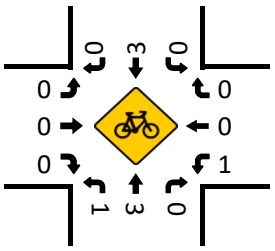
CONTROL: Signalized

TEV	677 AM	788 NOON	868 PM
PHF	0.83	0.91	0.98

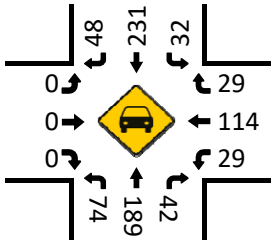
Total Vehicles (AM)



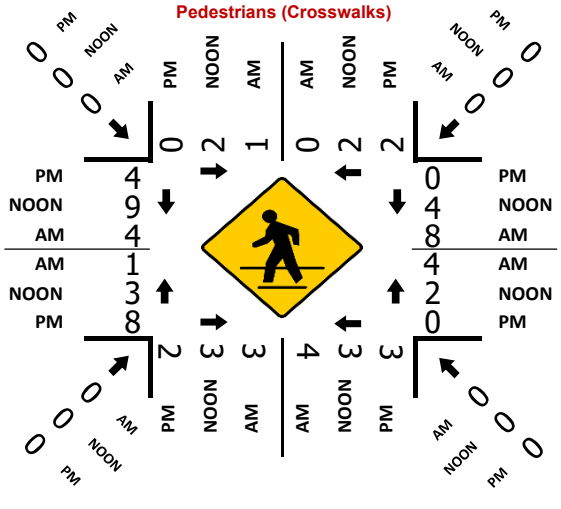
Bikes (AM)



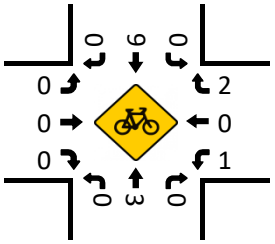
Total Vehicles (Noon)



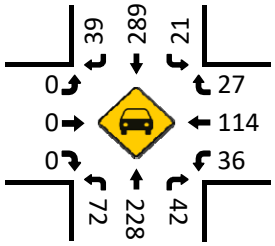
Pedestrians (Crosswalks)



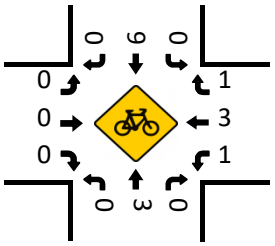
Bikes (NOON)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

Tipton St & Center Ave

Peak Hour Turning Movement Count

ID: 19-02034-004
City: Visalia

Day: Thursday
Date: 05/30/2019

PEAK HOURS

AM	08:00 AM - 09:00 AM
NOON	11:15 AM - 12:15 PM
PM	03:15 PM - 04:15 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	11:00 AM - 01:00 PM
PM	02:00 PM - 06:00 PM

Tipton St — SOUTHBOUND

	U-Turn	Left	Thru	Right	Peds	
AM	20	0	20	0	15	AM
NOON	10	0	31	0	36	NOON
PM	22	0	20	0	19	PM

Center Ave — EASTBOUND

AM	NOON	PM		
126	157	171	⇦	
1	1	1	↶	0
5	18	11	↱	0
28	46	54	→	1
0	0	0	↷	0
AM	NOON	PM		

WESTBOUND — Center Ave

PM	NOON	AM		
8	18	10	↶	0
148	146	105	←	1
0	0	0	↰	0
0	0	0	↷	0
74	77	48	⇨	
PM	NOON	AM		

NORTHBOUND — Tipton St

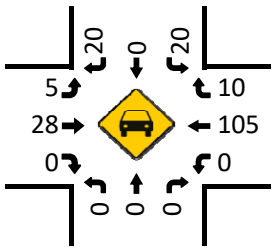
	U-Turn	Left	Thru	Right	Peds	
PM	0	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

CONTROL

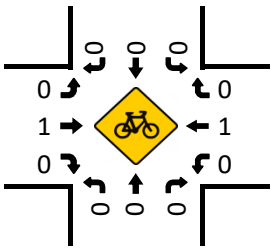
1-Way Stop (SB)

	AM	NOON	PM
TEV	189	270	264
PHF	0.95	0.91	0.86

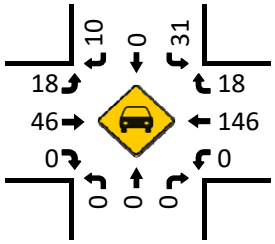
Total Vehicles (AM)



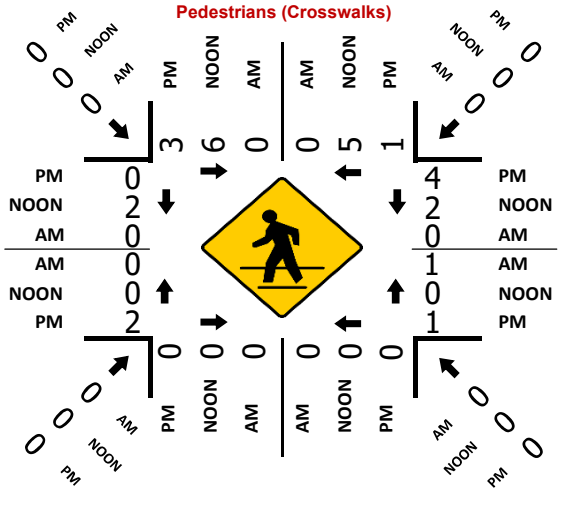
Bikes (AM)



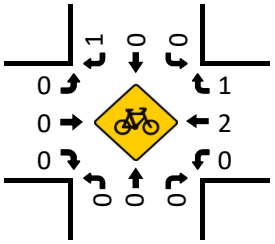
Total Vehicles (Noon)



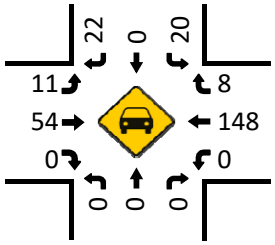
Pedestrians (Crosswalks)



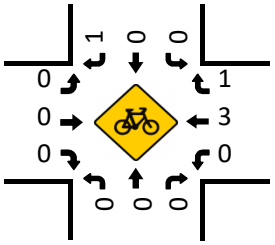
Bikes (NOON)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

N Liberty St & E Center Ave

Peak Hour Turning Movement Count

ID: 19-02034-002
City: Visalia

Day: Thursday
Date: 05/30/2019

PEAK HOURS

AM	08:00 AM - 09:00 AM
NOON	11:15 AM - 12:15 PM
PM	04:30 PM - 05:30 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	11:00 AM - 01:00 PM
PM	02:00 PM - 06:00 PM

N Liberty St — SOUTHBOUND

AM	3	0	1	0	4	AM
NOON	0	1	0	0	2	NOON
PM	0	0	2	0	3	PM
	0	1	0	0		

E Center Ave — EASTBOUND

AM	NOON	PM	
117	159	157	⇦
0	0	0	0
0	0	2	0
35	65	79	1
7	10	8	0
AM	NOON	PM	

CONTROL

1-Way Stop (NB)

	AM	NOON	PM
TEV	178	261	278
PHF	0.84	0.92	0.76

E Center Ave — WESTBOUND

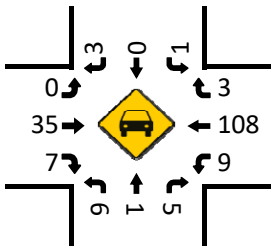
0	1	1	3	PM
1	146	142	108	NOON
0	13	9	9	AM
0	2	3	0	
	97	80	41	⇨
	PM	NOON	AM	

0 0 1 0

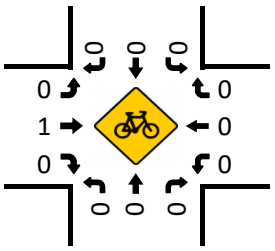
PM	21	0	11	0	14	PM
NOON	20	0	17	1	12	NOON
AM	16	0	6	1	5	AM

N Liberty St — NORTHBOUND

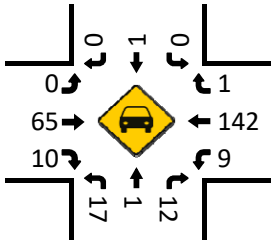
Total Vehicles (AM)



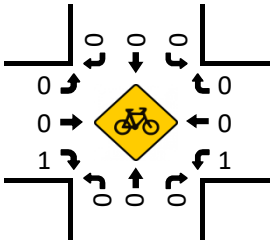
Bikes (AM)



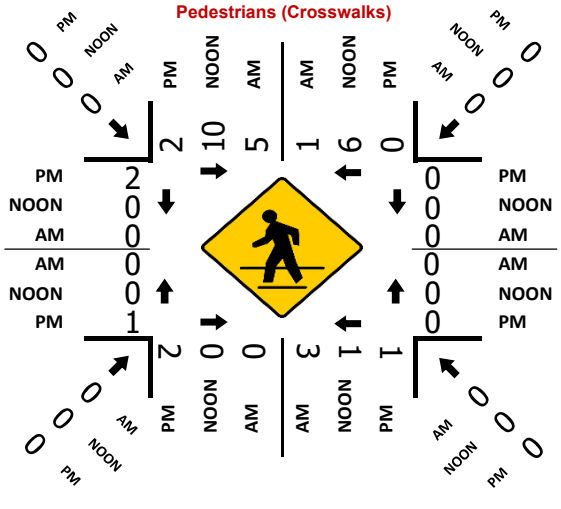
Total Vehicles (Noon)



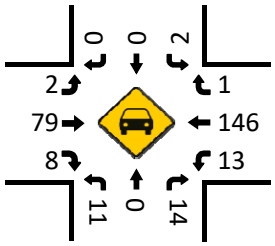
Bikes (NOON)



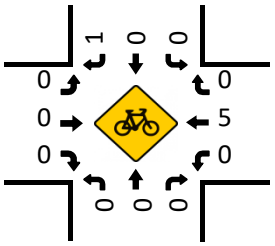
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

N Burke St & N Center Ave

Peak Hour Turning Movement Count

ID: 19-02015-053
City: Visalia

Day: Wednesday
Date: 05/01/2019

PEAK HOURS

AM	07:45 AM - 08:45 AM
NOON	11:30 AM - 12:30 PM
PM	04:30 PM - 05:30 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	11:00 AM - 01:00 PM
PM	02:00 PM - 06:00 PM

N Burke St — SOUTHBOUND

AM	21	124	8	0	136	AM
NOON	20	86	10	0	152	NOON
PM	31	107	12	0	145	PM

N Center Ave — EASTBOUND

AM	NOON	PM		
155	157	177	⇦	
2	0	0	↶	0
3	13	13	↱	0
18	50	48	→	1
12	25	28	↳	0
AM	NOON	PM		

CONTROL

4-Way Stop

	AM	NOON	PM
TEV	475	504	541
PHF	0.91	0.93	0.82

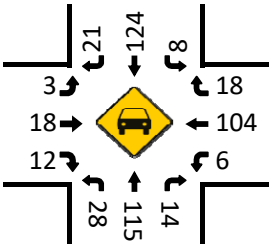
N Center Ave — WESTBOUND

PM	NOON	AM		
22	19	18	↰	0
111	112	104	←	1
17	16	6	↰	0
1	0	1	↰	0
67	68	41	⇨	
PM	NOON	AM		

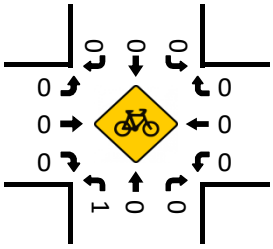
N Burke St — NORTHBOUND

PM	152	0	35	110	6	PM
NOON	127	0	25	120	8	NOON
AM	143	1	28	115	14	AM

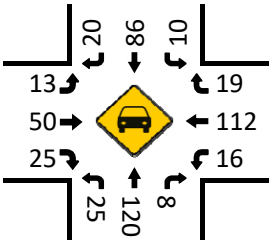
Total Vehicles (AM)



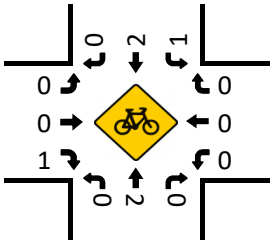
Bikes (AM)



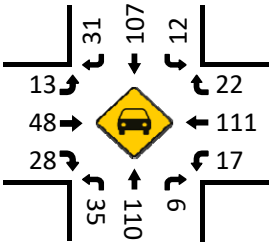
Total Vehicles (Noon)



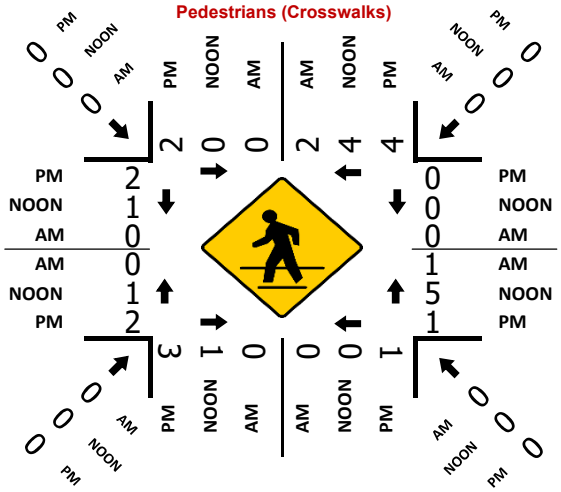
Bikes (NOON)



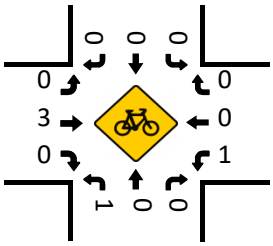
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



Prepared by National Data & Surveying Services

N Ben Maddox Way & E Center Ave

Peak Hour Turning Movement Count

ID: 19-02034-001
City: Visalia

Day: Thursday
Date: 05/30/2019

PEAK HOURS	COUNT PERIODS
07:30 AM - 08:30 AM	07:00 AM - 09:00 AM
12:00 PM - 01:00 PM	11:00 AM - 01:00 PM
04:30 PM - 05:30 PM	02:00 PM - 06:00 PM

N Ben Maddox Way – SOUTHBOUND

	Right	Through	Left	U-Turn	Departing
AM	43	701	0	0	551
NOON	47	526	0	0	630
PM	42	658	0	0	741
Bikes	0	2	0	0	

E Center Ave – EASTBOUND

	AM	NOON	PM	Bikes
Departing	123	147	130	
U-Turn	0	0	0	0
Left	2	7	8	0
Through	0	0	0	1
Right	20	57	53	0

E Center Ave – WESTBOUND

	PM	NOON	AM	Bikes
Right	2	0	0	0
Through	0	0	0	0
Left	0	0	0	0
U-Turn	0	0	0	0
Departing	0	0	2	

CONTROL

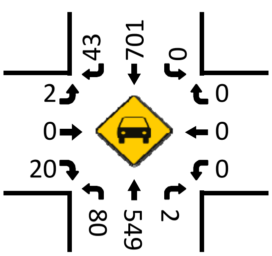
1-Way Stop (EB)

	AM	NOON	PM
TEV	1397	1360	1582
PHF	0.93	0.98	0.88

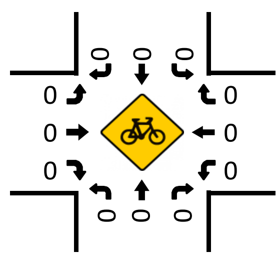
N Ben Maddox Way – NORTHBOUND

	Departing	U-Turn	Left	Through	Right
Bikes		0	1	2	0
PM	711	0	88	731	0
NOON	583	0	100	623	0
AM	721	0	80	549	2

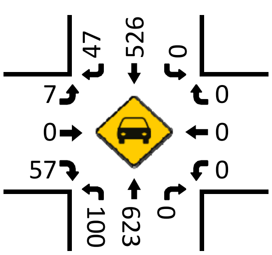
Total Vehicles (AM)



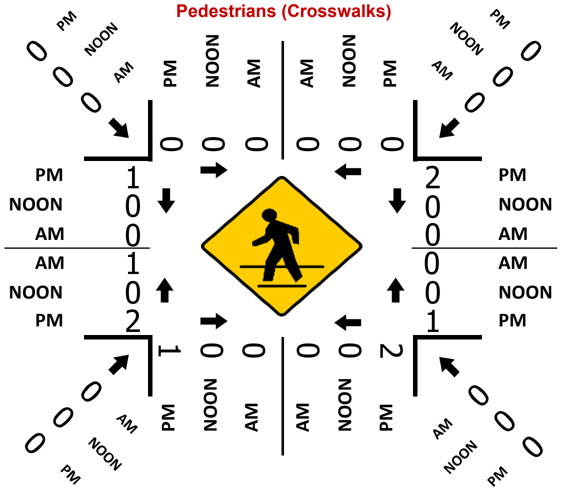
Bikes (AM)



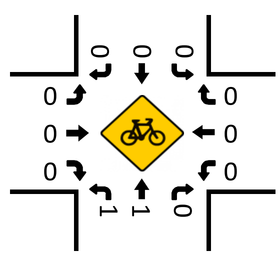
Total Vehicles (Noon)



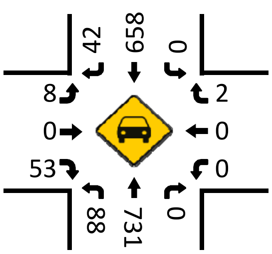
Pedestrians (Crosswalks)



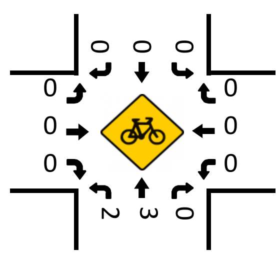
Bikes (NOON)



Total Vehicles (PM)



Bikes (PM)



Appendix B – Collision Analysis

City of Visalia
Collision Analysis

Study Intersections	Year 2014				Year 2015				Year 2016				Year 2017				Year 2018				Total				AM vol	PM vol	Daily Vol (ADT)	Intersection Collision Rate (RSE)	Statewide Average Collision Rate	Intersection Collision Rate > Statewide Average Collision Rate?
	Vehicles	Ped	Bic	All	Vehicles	Ped	Bic	All	Vehicles	Ped	Bic	All	Vehicles	Ped	Bic	All	Vehicles	Ped	Bic	All	Vehicles	Ped	Bic	All (A)						
Main Street/Bridge Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	462	769	6,155	0.00	0.13	No
Main Street/Santa Fe Street	0	0	0	0	0	1	0	1	0	1	0	1	2	0	0	2	1	0	0	1	3	2	0	5	669	979	8,240	0.55	0.24	Yes
Main Street/Liberty Street	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	230	373	3,015	0.30	0.13	Yes
Main Street/Clark Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	225	361	2,930	0.00	0.08	No
Main Street/Burke Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	548	759	6,535	0.00	0.19	No
Main Street/Bradley Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	295	497	3,960	0.00	0.08	No
Main Street/Edison Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	367	527	4,470	0.00	0.08	No
Main Street/Ben Maddox Way	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	1	1,758	2,046	19,020	0.05	0.24	No
Main Street/Cain Street	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	1	0	0	0	0	2	0	0	2	762	815	7,885	0.23	0.19	Yes
Center Avenue/Bridge Street	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	1	0	0	1	1	2	0	3	471	597	5,340	0.51	0.13	Yes
Center Avenue/Santa Fe Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	677	868	7,725	0.00	0.24	No
Center Avenue/Tipton Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	189	264	2,265	0.00	0.08	No
Center Avenue/Liberty Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	178	278	2,280	0.00	0.13	No
Center Avenue/Burke Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	1	475	541	5,080	0.18	0.19	No
Center Aveue/Ben Maddox Way	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	2	0	0	2	1,397	1,582	14,895	0.12	0.08	Yes
Totals	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**3**	**2**	**1**	**0**	**3**	**4**	**1**	**0**	**5**	**4**	**0**	**0**	**4**	**11**	**4**	**0**	**15**						

Where
R_{SE} = 1000000*A/(365*T*ADT)
R_{SE}= Observed collision rate; # of acc./mil. vehicle
A = Number of collisions over study period
T = Total number of years over which intersection accidents were collected; January 2014 to December 2018 = 5 years
ADT = Average Daily Intersection Traffic

Appendix C – Existing Conditions Synchro Level of Service and Queues Worksheets

Intersection: 1: Bridge St & Main St

Movement	EB	EB	NB	SB
Directions Served	LT	TR	TR	LT
Maximum Queue (ft)	61	74	90	52
Average Queue (ft)	33	39	48	27
95th Queue (ft)	54	62	76	49
Link Distance (ft)	275	275	267	288
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Santa Fe St & Main St

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	R	TR	LT
Maximum Queue (ft)	50	154	57	56	167	122
Average Queue (ft)	14	64	17	19	64	38
95th Queue (ft)	42	118	47	47	128	91
Link Distance (ft)	284	284	640		280	258
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				75		
Storage Blk Time (%)			0	0		
Queuing Penalty (veh)			0	0		

Intersection: 3: Liberty St & Main St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	12	14	32	34
Average Queue (ft)	1	0	14	11
95th Queue (ft)	7	7	39	36
Link Distance (ft)	640	309	276	276
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Clark St & Main St

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	25	31
Average Queue (ft)	1	6
95th Queue (ft)	11	25
Link Distance (ft)	280	286
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Burke St & Main St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	87	70	78	78
Average Queue (ft)	44	39	42	36
95th Queue (ft)	72	61	66	57
Link Distance (ft)	280	257	314	272
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: Bradley St & Main St

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	35	31
Average Queue (ft)	2	5
95th Queue (ft)	16	24
Link Distance (ft)	271	299
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Edison St & Main St

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	44	61
Average Queue (ft)	4	25
95th Queue (ft)	25	50
Link Distance (ft)	618	292
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Ben Maddox Way & Main St

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	59	134	67	136	108	244	196	77	150	228	198
Average Queue (ft)	20	61	18	46	41	125	65	30	46	112	84
95th Queue (ft)	49	116	51	98	84	207	157	61	104	186	152
Link Distance (ft)		618		1183		425	425			267	267
Upstream Blk Time (%)										0	0
Queuing Penalty (veh)										0	0
Storage Bay Dist (ft)	90		60		280			71	95		
Storage Blk Time (%)	0	4	1	7		0	3	0	1	11	
Queuing Penalty (veh)	0	1	2	2		0	4	1	2	8	

Intersection: 9: Cain St & Main St

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	44	93	51	78	85	70
Average Queue (ft)	20	49	25	40	44	37
95th Queue (ft)	44	80	46	66	72	60
Link Distance (ft)		1183		736	396	495
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	105		100			
Storage Blk Time (%)		0		0		
Queuing Penalty (veh)		0		0		

Intersection: 10: Bridge St & Center Ave

Movement	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR
Maximum Queue (ft)	59	64	76	59
Average Queue (ft)	34	35	41	33
95th Queue (ft)	51	58	64	53
Link Distance (ft)	287	287	288	253
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Santa Fe St & Center Ave

Movement	WB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	160	206	122
Average Queue (ft)	72	81	40
95th Queue (ft)	130	170	95
Link Distance (ft)	308	258	231
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 12: Center Ave & Tipton St

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	12	43
Average Queue (ft)	1	23
95th Queue (ft)	8	46
Link Distance (ft)	308	257
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Liberty St & Center Ave

Movement	WB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	9	33	31
Average Queue (ft)	0	10	4
95th Queue (ft)	6	34	22
Link Distance (ft)	637	276	197
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 14: Burke St & Center Ave

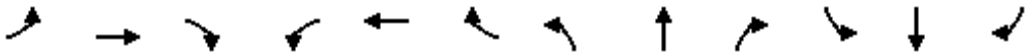
Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	33	70	62	75
Average Queue (ft)	21	38	34	40
95th Queue (ft)	44	59	50	64
Link Distance (ft)	637	1217	272	224
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 15: Ben Maddox Way & Center Ave

Movement	EB	NB	SB	SB
Directions Served	LR	L	T	TR
Maximum Queue (ft)	37	77	6	7
Average Queue (ft)	15	30	0	0
95th Queue (ft)	40	63	5	8
Link Distance (ft)	1217		526	526
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		60		
Storage Blk Time (%)		1		
Queuing Penalty (veh)		2		

Network Summary

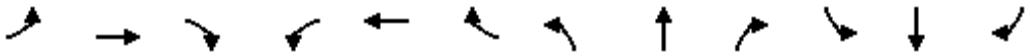
Network wide Queuing Penalty: 22



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	48	111	43	0	0	0	0	191	18	11	40	0
Future Volume (vph)	48	111	43	0	0	0	0	191	18	11	40	0
Peak Hour Factor	0.87	0.87	0.87	0.25	0.25	0.25	0.25	0.59	0.59	0.75	0.75	0.75
Hourly flow rate (vph)	55	128	49	0	0	0	0	324	31	15	53	0

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total (vph)	119	113	355	68
Volume Left (vph)	55	0	0	15
Volume Right (vph)	0	49	31	0
Hadj (s)	0.27	-0.27	-0.02	0.08
Departure Headway (s)	5.8	5.2	4.6	5.0
Degree Utilization, x	0.19	0.16	0.45	0.10
Capacity (veh/h)	584	644	760	669
Control Delay (s)	9.0	8.1	11.3	8.6
Approach Delay (s)	8.5		11.3	8.6
Approach LOS	A		B	A

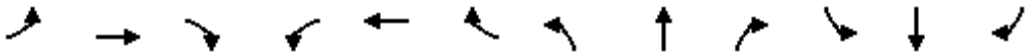
Intersection Summary				
Delay	10.0			
Level of Service	B			
Intersection Capacity Utilization	25.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	83	12	18	0	32	0	289	23	17	175	0
Future Volume (vph)	20	83	12	18	0	32	0	289	23	17	175	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0		5.0		5.0			5.0	
Lane Util. Factor	1.00	1.00		1.00		1.00		1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00		0.98		1.00			1.00	
Flpb, ped/bikes	1.00	1.00		1.00		1.00		1.00			1.00	
Frt	1.00	0.98		1.00		0.85		0.99			1.00	
Flt Protected	0.95	1.00		0.95		1.00		1.00			1.00	
Satd. Flow (prot)	1770	1822		1770		1546		1839			1853	
Flt Permitted	0.95	1.00		0.95		1.00		1.00			0.95	
Satd. Flow (perm)	1770	1822		1770		1546		1839			1771	
Peak-hour factor, PHF	0.90	0.90	0.90	0.54	0.25	0.54	0.72	0.72	0.72	0.87	0.87	0.87
Adj. Flow (vph)	22	92	13	33	0	59	0	401	32	20	201	0
RTOR Reduction (vph)	0	8	0	0	0	52	0	2	0	0	0	0
Lane Group Flow (vph)	22	97	0	33	0	7	0	431	0	0	221	0
Confl. Peds. (#/hr)			3			2	4		7	7		4
Confl. Bikes (#/hr)			1						5			4
Turn Type	Prot	NA		Prot		Perm		NA		Perm	NA	
Protected Phases	7	4		3				2			6	
Permitted Phases						3				6		
Actuated Green, G (s)	24.6	10.4		9.2		9.2		45.4			45.4	
Effective Green, g (s)	24.6	10.4		9.2		9.2		45.4			45.4	
Actuated g/C Ratio	0.31	0.13		0.11		0.11		0.57			0.57	
Clearance Time (s)	5.0	5.0		5.0		5.0		5.0			5.0	
Vehicle Extension (s)	3.5	3.5		3.5		3.5		3.5			3.5	
Lane Grp Cap (vph)	544	236		203		177		1043			1005	
v/s Ratio Prot	0.01	c0.05		c0.02				c0.23				
v/s Ratio Perm						0.00					0.12	
v/c Ratio	0.04	0.41		0.16		0.04		0.41			0.22	
Uniform Delay, d1	19.4	32.0		31.9		31.5		9.8			8.5	
Progression Factor	1.00	1.00		1.00		1.00		1.00			1.16	
Incremental Delay, d2	0.0	1.4		0.4		0.1		1.2			0.5	
Delay (s)	19.5	33.4		32.4		31.6		11.0			10.4	
Level of Service	B	C		C		C		B			B	
Approach Delay (s)		31.0			31.9			11.0			10.4	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	15.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	45.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	110	2	6	67	6	1	5	11	8	3	3
Future Volume (Veh/h)	8	110	2	6	67	6	1	5	11	8	3	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.79	0.79	0.79	0.71	0.71	0.71	0.44	0.44	0.44
Hourly flow rate (vph)	9	128	2	8	85	8	1	7	15	18	7	7
Pedestrians								4			7	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								3.5			3.5	
Percent Blockage								0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		693										
pX, platoon unblocked												
vC, conflicting volume	100			134			266	267	133	278	264	96
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	100			134			266	267	133	278	264	96
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			100	99	98	97	99	99
cM capacity (veh/h)	1483			1445			662	625	913	643	627	954

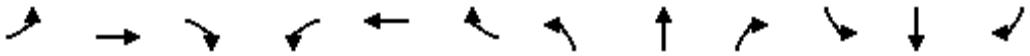
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	139	101	23	32
Volume Left	9	8	1	18
Volume Right	2	8	15	7
cSH	1483	1445	789	688
Volume to Capacity	0.01	0.01	0.03	0.05
Queue Length 95th (ft)	0	0	2	4
Control Delay (s)	0.5	0.6	9.7	10.5
Lane LOS	A	A	A	B
Approach Delay (s)	0.5	0.6	9.7	10.5
Approach LOS			A	B

Intersection Summary				
Average Delay	2.4			
Intersection Capacity Utilization	19.2%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	129	4	7	76	0	5
Future Volume (Veh/h)	129	4	7	76	0	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.80	0.80	0.42	0.42
Hourly flow rate (vph)	143	4	9	95	0	12
Pedestrians					7	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					1	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	1064					
pX, platoon unblocked						
vC, conflicting volume			154		265	152
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			154		265	152
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	99
cM capacity (veh/h)			1417		715	888

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	147	104	12
Volume Left	0	9	0
Volume Right	4	0	12
cSH	1700	1417	888
Volume to Capacity	0.09	0.01	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.7	9.1
Lane LOS		A	A
Approach Delay (s)	0.0	0.7	9.1
Approach LOS			A

Intersection Summary			
Average Delay		0.7	
Intersection Capacity Utilization		19.8%	ICU Level of Service
Analysis Period (min)		15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	11	115	7	22	62	21	3	125	34	29	114	5
Future Volume (vph)	11	115	7	22	62	21	3	125	34	29	114	5
Peak Hour Factor	0.81	0.81	0.81	0.88	0.88	0.88	0.74	0.74	0.74	0.77	0.77	0.77
Hourly flow rate (vph)	14	142	9	25	70	24	4	169	46	38	148	6

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	165	119	219	192
Volume Left (vph)	14	25	4	38
Volume Right (vph)	9	24	46	6
Hadj (s)	0.02	-0.04	-0.09	0.05
Departure Headway (s)	5.1	5.1	4.8	5.0
Degree Utilization, x	0.24	0.17	0.29	0.27
Capacity (veh/h)	641	632	699	668
Control Delay (s)	9.7	9.2	9.8	9.8
Approach Delay (s)	9.7	9.2	9.8	9.8
Approach LOS	A	A	A	A

Intersection Summary			
Delay	9.7		
Level of Service	A		
Intersection Capacity Utilization	40.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	162	8	11	103	3	3
Future Volume (Veh/h)	162	8	11	103	3	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.87	0.87	0.79	0.79	0.88	0.88
Hourly flow rate (vph)	186	9	14	130	3	3
Pedestrians					3	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				1023		
pX, platoon unblocked						
vC, conflicting volume			198		352	194
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			198		352	194
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	100
cM capacity (veh/h)			1371		638	846

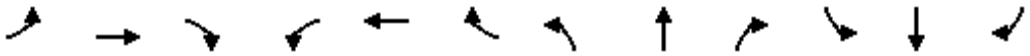
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	195	144	6
Volume Left	0	14	3
Volume Right	9	0	3
cSH	1700	1371	727
Volume to Capacity	0.11	0.01	0.01
Queue Length 95th (ft)	0	1	1
Control Delay (s)	0.0	0.8	10.0
Lane LOS		A	A
Approach Delay (s)	0.0	0.8	10.0
Approach LOS			A

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	24.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	147	13	22	118	2	36
Future Volume (Veh/h)	147	13	22	118	2	36
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.90	0.90	0.79	0.79
Hourly flow rate (vph)	165	15	24	131	3	46
Pedestrians				1	1	
Lane Width (ft)				12.0	12.0	
Walking Speed (ft/s)				3.5	3.5	
Percent Blockage				0	0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				695		
pX, platoon unblocked						
vC, conflicting volume			181		352	174
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			181		352	174
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		100	95
cM capacity (veh/h)			1393		633	867

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	180	155	49
Volume Left	0	24	3
Volume Right	15	0	46
cSH	1700	1393	848
Volume to Capacity	0.11	0.02	0.06
Queue Length 95th (ft)	0	1	5
Control Delay (s)	0.0	1.3	9.5
Lane LOS		A	A
Approach Delay (s)	0.0	1.3	9.5
Approach LOS			A

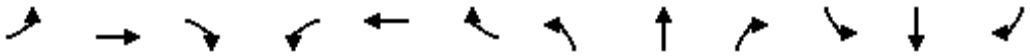
Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	29.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	94	63	33	69	79	59	524	114	79	588	29
Future Volume (vph)	27	94	63	33	69	79	59	524	114	79	588	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.5		4.0	5.5		4.0	5.5	5.5	4.0	5.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.94		1.00	0.92		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1740		1770	1698		1770	3539	1542	1770	3511	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1740		1770	1698		1770	3539	1542	1770	3511	
Peak-hour factor, PHF	0.84	0.84	0.84	0.73	0.73	0.73	0.91	0.91	0.91	0.94	0.94	0.94
Adj. Flow (vph)	32	112	75	45	95	108	65	576	125	84	626	31
RTOR Reduction (vph)	0	24	0	0	40	0	0	0	62	0	2	0
Lane Group Flow (vph)	32	163	0	45	163	0	65	576	63	84	655	0
Confl. Peds. (#/hr)			4			6			4			
Confl. Bikes (#/hr)						1						1
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	2.5	17.5		4.1	19.1		4.7	33.0	33.0	6.9	35.2	
Effective Green, g (s)	2.5	17.5		4.1	19.1		4.7	33.0	33.0	6.9	35.2	
Actuated g/C Ratio	0.03	0.22		0.05	0.24		0.06	0.41	0.41	0.09	0.44	
Clearance Time (s)	4.0	5.5		4.0	5.5		4.0	5.5	5.5	4.0	5.5	
Vehicle Extension (s)	2.0	5.5		2.0	5.5		2.0	5.5	5.5	2.0	5.5	
Lane Grp Cap (vph)	54	378		90	402		103	1450	632	151	1535	
v/s Ratio Prot	0.02	0.09		c0.03	c0.10		0.04	0.16		c0.05	c0.19	
v/s Ratio Perm									0.04			
v/c Ratio	0.59	0.43		0.50	0.41		0.63	0.40	0.10	0.56	0.43	
Uniform Delay, d1	38.5	27.2		37.2	25.9		37.1	16.7	14.6	35.3	15.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	11.1	1.9		1.6	1.6		8.9	0.8	0.3	2.5	0.9	
Delay (s)	49.6	29.1		38.8	27.6		46.0	17.6	14.9	37.8	16.5	
Level of Service	D	C		D	C		D	B	B	D	B	
Approach Delay (s)		32.1			29.6			19.5			19.0	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	22.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	80.5	Sum of lost time (s)	19.0
Intersection Capacity Utilization	60.7%	ICU Level of Service	B
Analysis Period (min)	15		

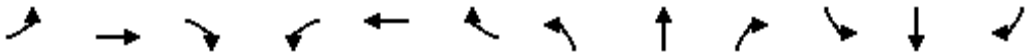
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	32	194	50	50	136	27	41	52	66	48	50	16
Future Volume (vph)	32	194	50	50	136	27	41	52	66	48	50	16
Peak Hour Factor	0.93	0.93	0.93	0.77	0.77	0.77	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	34	209	54	65	177	35	48	60	77	56	58	19

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	34	263	65	212	185	133
Volume Left (vph)	34	0	65	0	48	56
Volume Right (vph)	0	54	0	35	77	19
Hadj (s)	0.53	-0.11	0.53	-0.08	-0.16	0.03
Departure Headway (s)	6.4	5.7	6.4	5.8	5.5	5.8
Degree Utilization, x	0.06	0.42	0.12	0.34	0.28	0.21
Capacity (veh/h)	532	599	530	590	591	560
Control Delay (s)	8.6	11.6	9.0	10.5	10.6	10.3
Approach Delay (s)	11.2		10.2		10.6	10.3
Approach LOS	B		B		B	B

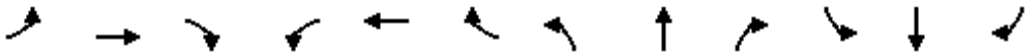
Intersection Summary				
Delay	10.6			
Level of Service	B			
Intersection Capacity Utilization	37.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	11	156	15	76	139	0	0	50	24
Future Volume (vph)	0	0	0	11	156	15	76	139	0	0	50	24
Peak Hour Factor	0.25	0.25	0.25	0.84	0.84	0.84	0.68	0.68	0.25	0.25	0.84	0.84
Hourly flow rate (vph)	0	0	0	13	186	18	112	204	0	0	60	29

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	106	111	316	89
Volume Left (vph)	13	0	112	0
Volume Right (vph)	0	18	0	29
Hadj (s)	0.10	-0.08	0.10	-0.16
Departure Headway (s)	5.6	5.4	4.7	4.7
Degree Utilization, x	0.16	0.17	0.41	0.12
Capacity (veh/h)	605	627	743	717
Control Delay (s)	8.5	8.3	10.9	8.3
Approach Delay (s)	8.4		10.9	8.3
Approach LOS	A		B	A

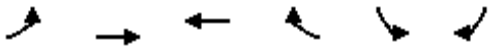
Intersection Summary				
Delay	9.7			
Level of Service	A			
Intersection Capacity Utilization	31.7%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	21	89	16	52	250	30	18	173	28
Future Volume (vph)	0	0	0	21	89	16	52	250	30	18	173	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					1.00			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			1.00	
Flpb, ped/bikes					1.00			1.00			1.00	
Frt					0.98			0.99			0.98	
Flt Protected					0.99			0.99			1.00	
Satd. Flow (prot)					1807			1818			1817	
Flt Permitted					0.99			0.91			0.96	
Satd. Flow (perm)					1807			1674			1743	
Peak-hour factor, PHF	0.25	0.25	0.25	0.85	0.85	0.85	0.76	0.76	0.76	0.82	0.82	0.82
Adj. Flow (vph)	0	0	0	25	105	19	68	329	39	22	211	34
RTOR Reduction (vph)	0	0	0	0	9	0	0	2	0	0	4	0
Lane Group Flow (vph)	0	0	0	0	140	0	0	434	0	0	263	0
Confl. Peds. (#/hr)				7		1	5		12	12		5
Confl. Bikes (#/hr)									3			3
Turn Type				Perm	NA		Perm	NA		Perm	NA	
Protected Phases					8			2			6	
Permitted Phases				8			2			6		
Actuated Green, G (s)					13.8			56.2			56.2	
Effective Green, g (s)					13.8			56.2			56.2	
Actuated g/C Ratio					0.17			0.70			0.70	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					3.5			3.5			3.5	
Lane Grp Cap (vph)					311			1175			1224	
v/s Ratio Prot												
v/s Ratio Perm					0.08			c0.26			0.15	
v/c Ratio					0.45			0.37			0.22	
Uniform Delay, d1					29.7			4.8			4.2	
Progression Factor					1.00			0.94			1.00	
Incremental Delay, d2					1.2			0.9			0.4	
Delay (s)					30.9			5.3			4.6	
Level of Service					C			A			A	
Approach Delay (s)		0.0			30.9			5.3			4.6	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	45.1%	ICU Level of Service	A
Analysis Period (min)	15		

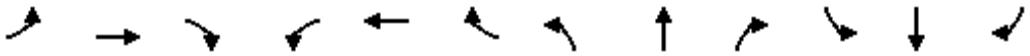
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	28	105	10	20	20
Future Volume (Veh/h)	6	28	105	10	20	20
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.83	0.83
Hourly flow rate (vph)	7	33	124	12	24	24
Pedestrians			1			
Lane Width (ft)			12.0			
Walking Speed (ft/s)			3.5			
Percent Blockage			0			
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		355				
pX, platoon unblocked						
vC, conflicting volume	136				178	130
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	136				178	130
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				97	97
cM capacity (veh/h)	1448				807	920

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	40	136	48
Volume Left	7	0	24
Volume Right	0	12	24
cSH	1448	1700	860
Volume to Capacity	0.00	0.08	0.06
Queue Length 95th (ft)	0	0	4
Control Delay (s)	1.3	0.0	9.4
Lane LOS	A		A
Approach Delay (s)	1.3	0.0	9.4
Approach LOS			A

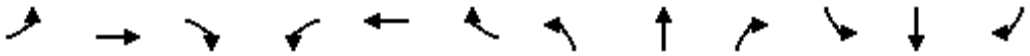
Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	16.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	35	7	9	108	3	6	1	5	1	0	3
Future Volume (Veh/h)	0	35	7	9	108	3	6	1	5	1	0	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.81	0.81	0.81	0.75	0.75	0.75	0.33	0.33	0.33
Hourly flow rate (vph)	0	40	8	11	133	4	8	1	7	3	0	9
Pedestrians								3			6	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								3.5			3.5	
Percent Blockage								0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		689										
pX, platoon unblocked												
vC, conflicting volume	143			51			213	212	47	214	214	141
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	143			51			213	212	47	214	214	141
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			99	100	99	100	100	99
cM capacity (veh/h)	1431			1551			726	675	1019	723	673	902

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	48	148	16	12
Volume Left	0	11	8	3
Volume Right	8	4	7	9
cSH	1431	1551	826	849
Volume to Capacity	0.00	0.01	0.02	0.01
Queue Length 95th (ft)	0	1	1	1
Control Delay (s)	0.0	0.6	9.4	9.3
Lane LOS		A	A	A
Approach Delay (s)	0.0	0.6	9.4	9.3
Approach LOS			A	A

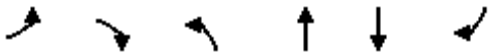
Intersection Summary				
Average Delay	1.6			
Intersection Capacity Utilization	23.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	5	18	12	7	104	18	29	115	14	8	124	21
Future Volume (vph)	5	18	12	7	104	18	29	115	14	8	124	21
Peak Hour Factor	0.88	0.88	0.88	0.87	0.87	0.87	0.81	0.81	0.81	0.80	0.80	0.80
Hourly flow rate (vph)	6	20	14	8	120	21	36	142	17	10	155	26

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	40	149	195	191
Volume Left (vph)	6	8	36	10
Volume Right (vph)	14	21	17	26
Hadj (s)	-0.15	-0.04	0.02	-0.04
Departure Headway (s)	4.9	4.8	4.6	4.6
Degree Utilization, x	0.05	0.20	0.25	0.24
Capacity (veh/h)	661	688	740	743
Control Delay (s)	8.2	9.0	9.2	9.0
Approach Delay (s)	8.2	9.0	9.2	9.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay	9.0			
Level of Service	A			
Intersection Capacity Utilization	32.6%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	20	80	549	701	43
Future Volume (Veh/h)	2	20	80	549	701	43
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.42	0.42	0.90	0.90	0.93	0.93
Hourly flow rate (vph)	5	48	89	610	754	46
Pedestrians	1					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	TWLTL	
Median storage veh)					2	
Upstream signal (ft)				331		
pX, platoon unblocked	0.90					
vC, conflicting volume	1261	401	801			
vC1, stage 1 conf vol	778					
vC2, stage 2 conf vol	483					
vCu, unblocked vol	1066	401	801			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	92	89			
cM capacity (veh/h)	370	598	817			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	53	89	305	305	503	297
Volume Left	5	89	0	0	0	0
Volume Right	48	0	0	0	0	46
cSH	565	817	1700	1700	1700	1700
Volume to Capacity	0.09	0.11	0.18	0.18	0.30	0.17
Queue Length 95th (ft)	8	9	0	0	0	0
Control Delay (s)	12.0	9.9	0.0	0.0	0.0	0.0
Lane LOS	B	A				
Approach Delay (s)	12.0	1.3			0.0	
Approach LOS	B					

Intersection Summary				
Average Delay	1.0			
Intersection Capacity Utilization	38.5%	ICU Level of Service		A
Analysis Period (min)	15			

Intersection: 1: Bridge St & Main St

Movement	EB	EB	NB	SB
Directions Served	LT	TR	TR	LT
Maximum Queue (ft)	91	126	92	71
Average Queue (ft)	46	60	48	39
95th Queue (ft)	75	99	76	59
Link Distance (ft)	275	275	267	288
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Santa Fe St & Main St

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	R	TR	LT
Maximum Queue (ft)	87	207	114	67	197	226
Average Queue (ft)	29	94	50	30	83	96
95th Queue (ft)	69	168	95	56	158	184
Link Distance (ft)	284	284	640		280	258
Upstream Blk Time (%)		0			0	0
Queuing Penalty (veh)		0			0	1
Storage Bay Dist (ft)				75		
Storage Blk Time (%)			5	0		
Queuing Penalty (veh)			3	0		

Intersection: 3: Liberty St & Main St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	36	32	34	40
Average Queue (ft)	2	2	13	15
95th Queue (ft)	17	14	38	41
Link Distance (ft)	640	309	276	276
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Clark St & Main St

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	3	28	33
Average Queue (ft)	0	1	10
95th Queue (ft)	3	11	34
Link Distance (ft)	309	280	286
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Burke St & Main St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	129	87	88	72
Average Queue (ft)	62	48	44	38
95th Queue (ft)	103	74	71	59
Link Distance (ft)	280	257	314	272
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: Bradley St & Main St

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	6	37	33
Average Queue (ft)	0	3	13
95th Queue (ft)	5	19	37
Link Distance (ft)	257	271	299
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: Edison St & Main St

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	45	63
Average Queue (ft)	4	35
95th Queue (ft)	25	55
Link Distance (ft)	618	292
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Ben Maddox Way & Main St

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	116	187	100	184	104	308	260	97	160	243	193
Average Queue (ft)	41	90	29	71	43	170	117	27	44	136	106
95th Queue (ft)	89	163	71	144	87	267	223	63	111	213	175
Link Distance (ft)		618		1183		425	425			267	267
Upstream Blk Time (%)										0	
Queuing Penalty (veh)										0	
Storage Bay Dist (ft)	90		60		280			71	95		
Storage Blk Time (%)	1	12	4	14		0	11	0	0	18	
Queuing Penalty (veh)	2	7	7	6		0	8	0	1	12	

Intersection: 9: Cain St & Main St

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	46	104	51	78	77	68
Average Queue (ft)	18	54	27	45	42	39
95th Queue (ft)	44	87	46	70	65	62
Link Distance (ft)		1183		736	396	495
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	105		100			
Storage Blk Time (%)		0		0		
Queuing Penalty (veh)		0		0		

Intersection: 10: Bridge St & Center Ave

Movement	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR
Maximum Queue (ft)	64	82	77	77
Average Queue (ft)	37	41	42	41
95th Queue (ft)	56	69	64	65
Link Distance (ft)	287	287	288	253
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Santa Fe St & Center Ave

Movement	WB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	178	206	167
Average Queue (ft)	93	82	62
95th Queue (ft)	155	169	133
Link Distance (ft)	308	258	231
Upstream Blk Time (%)		0	0
Queuing Penalty (veh)		0	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 12: Center Ave & Tipton St

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	26	45
Average Queue (ft)	3	24
95th Queue (ft)	18	48
Link Distance (ft)	308	257
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Liberty St & Center Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	8	27	36	31
Average Queue (ft)	0	2	18	2
95th Queue (ft)	5	13	43	15
Link Distance (ft)	272	637	276	197
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 14: Burke St & Center Ave

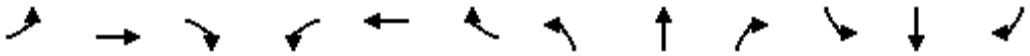
Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	70	73	68	78
Average Queue (ft)	33	42	36	41
95th Queue (ft)	55	64	54	64
Link Distance (ft)	637	1217	272	224
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 15: Ben Maddox Way & Center Ave

Movement	EB	NB	NB	NB	SB	SB
Directions Served	LR	L	T	T	T	TR
Maximum Queue (ft)	68	76	24	33	30	20
Average Queue (ft)	30	34	2	1	2	1
95th Queue (ft)	54	64	16	16	14	10
Link Distance (ft)	1217		267	267	526	526
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		60				
Storage Blk Time (%)		1	0			
Queuing Penalty (veh)		3	0			

Network Summary

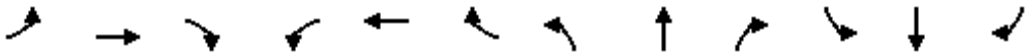
Network wide Queuing Penalty: 52



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	99	237	117	0	0	0	0	149	32	19	116	0
Future Volume (vph)	99	237	117	0	0	0	0	149	32	19	116	0
Peak Hour Factor	0.97	0.97	0.97	0.25	0.25	0.25	0.25	0.82	0.82	0.64	0.64	0.25
Hourly flow rate (vph)	102	244	121	0	0	0	0	182	39	30	181	0

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total (vph)	224	243	221	211
Volume Left (vph)	102	0	0	30
Volume Right (vph)	0	121	39	0
Hadj (s)	0.26	-0.31	-0.07	0.06
Departure Headway (s)	5.9	5.4	5.3	5.5
Degree Utilization, x	0.37	0.36	0.33	0.32
Capacity (veh/h)	581	645	643	623
Control Delay (s)	11.2	10.2	10.9	11.0
Approach Delay (s)	10.7		10.9	11.0
Approach LOS	B		B	B

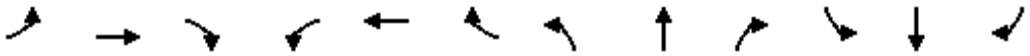
Intersection Summary				
Delay	10.8			
Level of Service	B			
Intersection Capacity Utilization	42.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	129	52	68	0	63	0	246	40	34	300	0
Future Volume (vph)	47	129	52	68	0	63	0	246	40	34	300	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0		5.0		5.0			5.0	
Lane Util. Factor	1.00	1.00		1.00		1.00		1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00		0.97		0.99			1.00	
Flpb, ped/bikes	1.00	1.00		1.00		1.00		1.00			1.00	
Frt	1.00	0.96		1.00		0.85		0.98			1.00	
Flt Protected	0.95	1.00		0.95		1.00		1.00			0.99	
Satd. Flow (prot)	1770	1764		1770		1532		1816			1850	
Flt Permitted	0.95	1.00		0.95		1.00		1.00			0.94	
Satd. Flow (perm)	1770	1764		1770		1532		1816			1756	
Peak-hour factor, PHF	0.86	0.86	0.86	0.82	0.25	0.82	0.25	0.97	0.97	0.86	0.86	0.25
Adj. Flow (vph)	55	150	60	83	0	77	0	254	41	40	349	0
RTOR Reduction (vph)	0	20	0	0	0	67	0	5	0	0	0	0
Lane Group Flow (vph)	55	190	0	83	0	10	0	290	0	0	389	0
Confl. Peds. (#/hr)			8			7	10		13	13		10
Confl. Bikes (#/hr)			1						2			5
Turn Type	Prot	NA		Prot		Perm		NA		Perm	NA	
Protected Phases	7	4		3				2			6	
Permitted Phases						3				6		
Actuated Green, G (s)	30.1	14.9		10.2		10.2		39.9			39.9	
Effective Green, g (s)	30.1	14.9		10.2		10.2		39.9			39.9	
Actuated g/C Ratio	0.38	0.19		0.13		0.13		0.50			0.50	
Clearance Time (s)	5.0	5.0		5.0		5.0		5.0			5.0	
Vehicle Extension (s)	3.5	3.5		3.5		3.5		3.5			3.5	
Lane Grp Cap (vph)	665	328		225		195		905			875	
v/s Ratio Prot	0.03	c0.11		c0.05				0.16				
v/s Ratio Perm						0.01					c0.22	
v/c Ratio	0.08	0.58		0.37		0.05		0.32			0.44	
Uniform Delay, d1	16.1	29.7		32.0		30.6		12.0			12.9	
Progression Factor	1.00	1.00		1.00		1.00		1.00			1.09	
Incremental Delay, d2	0.1	2.7		1.2		0.1		0.9			1.6	
Delay (s)	16.1	32.3		33.2		30.8		12.9			15.7	
Level of Service	B	C		C		C		B			B	
Approach Delay (s)		29.0			32.0			12.9			15.7	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	20.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	68.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	199	8	13	99	5	3	5	8	7	5	6
Future Volume (Veh/h)	15	199	8	13	99	5	3	5	8	7	5	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.89	0.89	0.89	0.80	0.80	0.80	0.75	0.75	0.75
Hourly flow rate (vph)	17	221	9	15	111	6	4	6	10	9	7	8
Pedestrians		3			2			4			6	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			0			0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		693										
pX, platoon unblocked				0.99			0.99	0.99	0.99	0.99	0.99	
vC, conflicting volume	123			234			422	416	232	424	418	123
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	123			215			406	400	213	409	402	123
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			99	99	99	98	99	99
cM capacity (veh/h)	1456			1330			520	513	811	517	512	920

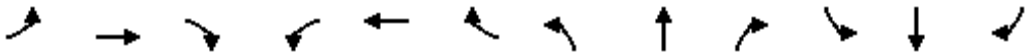
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	247	132	20	24
Volume Left	17	15	4	9
Volume Right	9	6	10	8
cSH	1456	1330	631	603
Volume to Capacity	0.01	0.01	0.03	0.04
Queue Length 95th (ft)	1	1	2	3
Control Delay (s)	0.6	1.0	10.9	11.2
Lane LOS	A	A	B	B
Approach Delay (s)	0.6	1.0	10.9	11.2
Approach LOS			B	B

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	25.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	207	6	6	108	5	8
Future Volume (Veh/h)	207	6	6	108	5	8
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.86	0.86	0.54	0.54
Hourly flow rate (vph)	252	7	7	126	9	15
Pedestrians	2				3	
Lane Width (ft)	12.0				12.0	
Walking Speed (ft/s)	3.5				3.5	
Percent Blockage	0				0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	1064					
pX, platoon unblocked						
vC, conflicting volume			262		400	258
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			262		400	258
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		98	98
cM capacity (veh/h)			1299		599	778

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	259	133	24
Volume Left	0	7	9
Volume Right	7	0	15
cSH	1700	1299	700
Volume to Capacity	0.15	0.01	0.03
Queue Length 95th (ft)	0	0	3
Control Delay (s)	0.0	0.5	10.3
Lane LOS		A	B
Approach Delay (s)	0.0	0.5	10.3
Approach LOS			B

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	21.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	18	223	21	25	109	38	7	119	44	40	109	6
Future Volume (vph)	18	223	21	25	109	38	7	119	44	40	109	6
Peak Hour Factor	0.87	0.87	0.87	0.72	0.72	0.72	0.75	0.75	0.75	0.72	0.72	0.72
Hourly flow rate (vph)	21	256	24	35	151	53	9	159	59	56	151	8

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	301	239	227	215
Volume Left (vph)	21	35	9	56
Volume Right (vph)	24	53	59	8
Hadj (s)	0.00	-0.07	-0.11	0.06
Departure Headway (s)	5.7	5.7	5.8	6.0
Degree Utilization, x	0.47	0.38	0.36	0.36
Capacity (veh/h)	589	571	556	540
Control Delay (s)	13.7	12.2	12.1	12.3
Approach Delay (s)	13.7	12.2	12.1	12.3
Approach LOS	B	B	B	B

Intersection Summary				
Delay	12.6			
Level of Service	B			
Intersection Capacity Utilization	45.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	232	15	9	138	5	13
Future Volume (Veh/h)	232	15	9	138	5	13
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.84	0.84	0.68	0.68
Hourly flow rate (vph)	273	18	11	164	7	19
Pedestrians	3			1	3	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				1023		
pX, platoon unblocked						
vC, conflicting volume			294		474	286
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			294		474	286
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	97
cM capacity (veh/h)			1264		541	750

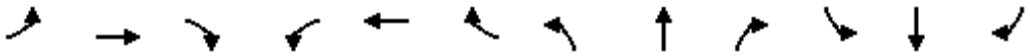
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	291	175	26
Volume Left	0	11	7
Volume Right	18	0	19
cSH	1700	1264	679
Volume to Capacity	0.17	0.01	0.04
Queue Length 95th (ft)	0	1	3
Control Delay (s)	0.0	0.6	10.5
Lane LOS		A	B
Approach Delay (s)	0.0	0.6	10.5
Approach LOS			B

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	25.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	232	11	15	156	8	79
Future Volume (Veh/h)	232	11	15	156	8	79
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.93	0.93	0.95	0.95
Hourly flow rate (vph)	244	12	16	168	8	83
Pedestrians				1	4	
Lane Width (ft)				12.0	12.0	
Walking Speed (ft/s)				3.5	3.5	
Percent Blockage				0	0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				695		
pX, platoon unblocked						
vC, conflicting volume			260		454	255
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			260		454	255
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	89
cM capacity (veh/h)			1300		555	780

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	256	184	91
Volume Left	0	16	8
Volume Right	12	0	83
cSH	1700	1300	753
Volume to Capacity	0.15	0.01	0.12
Queue Length 95th (ft)	0	1	10
Control Delay (s)	0.0	0.8	10.4
Lane LOS		A	B
Approach Delay (s)	0.0	0.8	10.4
Approach LOS			B

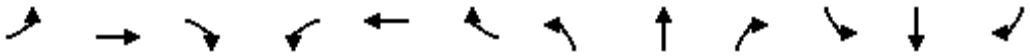
Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	33.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	121	112	44	89	117	58	660	75	66	613	31
Future Volume (vph)	60	121	112	44	89	117	58	660	75	66	613	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.5		4.0	5.5		4.0	5.5	5.5	4.0	5.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.93		1.00	0.91		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1717		1770	1704		1770	3539	1539	1770	3510	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1717		1770	1704		1770	3539	1539	1770	3510	
Peak-hour factor, PHF	0.83	0.83	0.83	0.74	0.74	0.74	0.93	0.93	0.93	0.86	0.86	0.86
Adj. Flow (vph)	72	146	135	59	120	158	62	710	81	77	713	36
RTOR Reduction (vph)	0	32	0	0	46	0	0	0	50	0	3	0
Lane Group Flow (vph)	72	249	0	59	232	0	62	710	31	77	746	0
Confl. Peds. (#/hr)			2						2			
Confl. Bikes (#/hr)			1						5			1
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	6.6	20.5		6.1	20.0		6.2	31.8	31.8	6.8	32.4	
Effective Green, g (s)	6.6	20.5		6.1	20.0		6.2	31.8	31.8	6.8	32.4	
Actuated g/C Ratio	0.08	0.24		0.07	0.24		0.07	0.38	0.38	0.08	0.38	
Clearance Time (s)	4.0	5.5		4.0	5.5		4.0	5.5	5.5	4.0	5.5	
Vehicle Extension (s)	2.0	5.5		2.0	5.5		2.0	5.5	5.5	2.0	5.5	
Lane Grp Cap (vph)	138	418		128	404		130	1336	581	142	1350	
v/s Ratio Prot	c0.04	c0.15		0.03	0.14		0.04	0.20		c0.04	c0.21	
v/s Ratio Perm									0.02			
v/c Ratio	0.52	0.60		0.46	0.57		0.48	0.53	0.05	0.54	0.55	
Uniform Delay, d1	37.3	28.2		37.5	28.3		37.4	20.4	16.6	37.2	20.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.6	3.8		1.0	3.5		1.0	1.5	0.2	2.3	1.6	
Delay (s)	38.9	32.0		38.4	31.9		38.4	21.9	16.8	39.5	21.9	
Level of Service	D	C		D	C		D	C	B	D	C	
Approach Delay (s)		33.4			33.0			22.6			23.5	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	26.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	84.2	Sum of lost time (s)	19.0
Intersection Capacity Utilization	62.7%	ICU Level of Service	B
Analysis Period (min)	15		

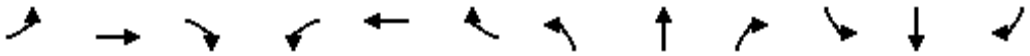
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	27	208	53	61	163	49	37	44	55	41	60	17
Future Volume (vph)	27	208	53	61	163	49	37	44	55	41	60	17
Peak Hour Factor	0.86	0.86	0.86	0.88	0.88	0.88	0.72	0.72	0.72	0.80	0.80	0.80
Hourly flow rate (vph)	31	242	62	69	185	56	51	61	76	51	75	21

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	31	304	69	241	188	147
Volume Left (vph)	31	0	69	0	51	51
Volume Right (vph)	0	62	0	56	76	21
Hadj (s)	0.53	-0.11	0.53	-0.13	-0.15	0.02
Departure Headway (s)	6.5	5.9	6.6	5.9	5.8	6.0
Degree Utilization, x	0.06	0.50	0.13	0.39	0.30	0.25
Capacity (veh/h)	518	584	516	578	558	532
Control Delay (s)	8.7	13.3	9.3	11.5	11.2	11.0
Approach Delay (s)	12.9		11.0		11.2	11.0
Approach LOS	B		B		B	B

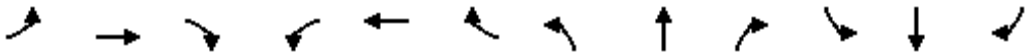
Intersection Summary				
Delay	11.7			
Level of Service	B			
Intersection Capacity Utilization	37.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	19	194	20	98	134	0	0	103	29
Future Volume (vph)	0	0	0	19	194	20	98	134	0	0	103	29
Peak Hour Factor	0.25	0.25	0.25	0.86	0.86	0.86	0.87	0.87	0.25	0.25	0.75	0.75
Hourly flow rate (vph)	0	0	0	22	226	23	113	154	0	0	137	39

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	135	136	267	176
Volume Left (vph)	22	0	113	0
Volume Right (vph)	0	23	0	39
Hadj (s)	0.12	-0.08	0.12	-0.10
Departure Headway (s)	5.7	5.5	5.0	4.9
Degree Utilization, x	0.21	0.21	0.37	0.24
Capacity (veh/h)	591	615	695	695
Control Delay (s)	9.1	8.8	10.8	9.4
Approach Delay (s)	8.9		10.8	9.4
Approach LOS	A		B	A

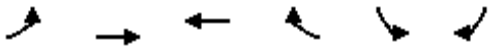
Intersection Summary				
Delay	9.8			
Level of Service	A			
Intersection Capacity Utilization	42.6%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	36	114	27	72	228	42	21	289	39
Future Volume (vph)	0	0	0	36	114	27	72	228	42	21	289	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					1.00			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			1.00	
Flpb, ped/bikes					1.00			1.00			1.00	
Frt					0.98			0.98			0.98	
Flt Protected					0.99			0.99			1.00	
Satd. Flow (prot)					1795			1805			1823	
Flt Permitted					0.99			0.85			0.97	
Satd. Flow (perm)					1795			1542			1769	
Peak-hour factor, PHF	0.25	0.25	0.25	0.76	0.76	0.76	0.90	0.90	0.90	0.82	0.82	0.82
Adj. Flow (vph)	0	0	0	47	150	36	80	253	47	26	352	48
RTOR Reduction (vph)	0	0	0	0	11	0	0	4	0	0	4	0
Lane Group Flow (vph)	0	0	0	0	222	0	0	376	0	0	422	0
Confl. Peds. (#/hr)				5		2	12					12
Confl. Bikes (#/hr)						3			3			9
Turn Type				Perm	NA		Perm	NA		Perm	NA	
Protected Phases					8			2			6	
Permitted Phases				8			2			6		
Actuated Green, G (s)					16.4			53.6			53.6	
Effective Green, g (s)					16.4			53.6			53.6	
Actuated g/C Ratio					0.20			0.67			0.67	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					3.5			3.5			3.5	
Lane Grp Cap (vph)					367			1033			1185	
v/s Ratio Prot												
v/s Ratio Perm					0.12			c0.24			0.24	
v/c Ratio					0.60			0.36			0.36	
Uniform Delay, d1					28.9			5.8			5.7	
Progression Factor					1.00			0.77			1.00	
Incremental Delay, d2					3.0			1.0			0.8	
Delay (s)					31.8			5.4			6.6	
Level of Service					C			A			A	
Approach Delay (s)		0.0			31.8			5.4			6.6	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		

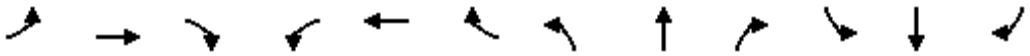
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	12	54	148	8	20	22
Future Volume (Veh/h)	12	54	148	8	20	22
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.77	0.77	0.88	0.88
Hourly flow rate (vph)	14	62	192	10	23	25
Pedestrians		2	5		4	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		355				
pX, platoon unblocked						
vC, conflicting volume	206				296	203
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	206				296	203
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				97	97
cM capacity (veh/h)	1360				682	833

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	76	202	48
Volume Left	14	0	23
Volume Right	0	10	25
cSH	1360	1700	753
Volume to Capacity	0.01	0.12	0.06
Queue Length 95th (ft)	1	0	5
Control Delay (s)	1.5	0.0	10.1
Lane LOS	A		B
Approach Delay (s)	1.5	0.0	10.1
Approach LOS			B

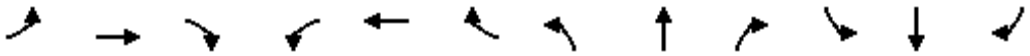
Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	23.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	79	8	15	146	1	11	0	14	2	0	0
Future Volume (Veh/h)	2	79	8	15	146	1	11	0	14	2	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.74	0.74	0.74	0.83	0.83	0.83	0.57	0.57	0.57	0.50	0.50	0.50
Hourly flow rate (vph)	3	107	11	18	176	1	19	0	25	4	0	0
Pedestrians		3						3			2	
Lane Width (ft)		12.0						12.0			12.0	
Walking Speed (ft/s)		3.5						3.5			3.5	
Percent Blockage		0						0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		689										
pX, platoon unblocked												
vC, conflicting volume	179			121			337	336	116	358	342	182
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	179			121			337	336	116	358	342	182
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			97	100	97	99	100	100
cM capacity (veh/h)	1394			1462			604	573	934	572	569	857

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	121	195	44	4
Volume Left	3	18	19	4
Volume Right	11	1	25	0
cSH	1394	1462	756	572
Volume to Capacity	0.00	0.01	0.06	0.01
Queue Length 95th (ft)	0	1	5	1
Control Delay (s)	0.2	0.8	10.1	11.3
Lane LOS	A	A	B	B
Approach Delay (s)	0.2	0.8	10.1	11.3
Approach LOS			B	B

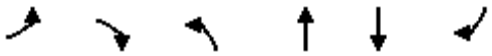
Intersection Summary				
Average Delay	1.8			
Intersection Capacity Utilization	26.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	13	48	28	18	111	22	35	110	6	12	107	31
Future Volume (vph)	13	48	28	18	111	22	35	110	6	12	107	31
Peak Hour Factor	0.62	0.62	0.62	0.84	0.84	0.84	0.77	0.77	0.77	0.80	0.80	0.80
Hourly flow rate (vph)	21	77	45	21	132	26	45	143	8	15	134	39

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	143	179	196	188
Volume Left (vph)	21	21	45	15
Volume Right (vph)	45	26	8	39
Hadj (s)	-0.13	-0.03	0.06	-0.07
Departure Headway (s)	5.0	5.1	5.1	4.9
Degree Utilization, x	0.20	0.25	0.28	0.26
Capacity (veh/h)	649	652	662	672
Control Delay (s)	9.3	9.8	10.0	9.7
Approach Delay (s)	9.3	9.8	10.0	9.7
Approach LOS	A	A	A	A

Intersection Summary				
Delay	9.7			
Level of Service	A			
Intersection Capacity Utilization	34.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	8	53	88	731	658	42
Future Volume (Veh/h)	8	53	88	731	658	42
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.64	0.64	0.95	0.95	0.83	0.83
Hourly flow rate (vph)	13	83	93	769	793	51
Pedestrians	3			3		
Lane Width (ft)	12.0			12.0		
Walking Speed (ft/s)	3.5			3.5		
Percent Blockage	0			0		
Right turn flare (veh)						
Median type				None	TWLTL	
Median storage veh)					2	
Upstream signal (ft)				331		
pX, platoon unblocked	0.86					
vC, conflicting volume	1392	428	847			
vC1, stage 1 conf vol	822					
vC2, stage 2 conf vol	570					
vCu, unblocked vol	1129	428	847			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	85	88			
cM capacity (veh/h)	349	572	784			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	96	93	384	384	529	315
Volume Left	13	93	0	0	0	0
Volume Right	83	0	0	0	0	51
cSH	526	784	1700	1700	1700	1700
Volume to Capacity	0.18	0.12	0.23	0.23	0.31	0.19
Queue Length 95th (ft)	17	10	0	0	0	0
Control Delay (s)	13.4	10.2	0.0	0.0	0.0	0.0
Lane LOS	B	B				
Approach Delay (s)	13.4	1.1			0.0	
Approach LOS	B					

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	39.3%	ICU Level of Service	A
Analysis Period (min)	15		

Appendix D – Existing Plus Alternative Conditions Synchro Level of Service and Queues Worksheets

Intersection: 1: Bridge St & Main St

Movement	EB	EB	NB	SB
Directions Served	LT	TR	TR	LT
Maximum Queue (ft)	57	64	89	51
Average Queue (ft)	33	37	48	27
95th Queue (ft)	53	57	76	49
Link Distance (ft)	275	275	267	288
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Santa Fe St & Main St

Movement	EB	EB	NB	SB
Directions Served	L	TR	TR	LT
Maximum Queue (ft)	59	122	131	124
Average Queue (ft)	16	57	46	44
95th Queue (ft)	46	103	103	97
Link Distance (ft)	284	284	266	284
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Liberty St & Main St

Movement	NB	SB
Directions Served	TR	LT
Maximum Queue (ft)	31	38
Average Queue (ft)	14	15
95th Queue (ft)	39	41
Link Distance (ft)	264	300
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Clark St & Main St

Movement	NB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	5
95th Queue (ft)	22
Link Distance (ft)	275
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: Burke St & Main St

Movement	EB	EB	NB	SB
Directions Served	LT	TR	TR	LT
Maximum Queue (ft)	68	72	75	73
Average Queue (ft)	33	37	42	38
95th Queue (ft)	54	59	66	59
Link Distance (ft)	274	274	302	296
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: Bradley St & Main St

Movement	NB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	6
95th Queue (ft)	25
Link Distance (ft)	288
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: Edison St & Main St

Movement	NB
Directions Served	R
Maximum Queue (ft)	48
Average Queue (ft)	22
95th Queue (ft)	47
Link Distance (ft)	280
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Ben Maddox Way & Main St

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	R	T	T	R	L	T	T
Maximum Queue (ft)	135	175	92	82	297	231	86	153	220	183
Average Queue (ft)	54	76	32	24	160	81	32	57	108	72
95th Queue (ft)	106	141	71	57	257	195	64	112	187	149
Link Distance (ft)	622	622		1183	425	425			288	288
Upstream Blk Time (%)									0	
Queuing Penalty (veh)									0	
Storage Bay Dist (ft)			60				71	95		
Storage Blk Time (%)			5	1		3	0	2	10	
Queuing Penalty (veh)			6	0		4	1	7	8	

Intersection: 9: Cain St & Main St

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	47	105	47	79	90	70
Average Queue (ft)	20	52	25	41	45	38
95th Queue (ft)	45	84	47	64	72	60
Link Distance (ft)		1183		736	396	495
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	105		100			
Storage Blk Time (%)		0	0	0		
Queuing Penalty (veh)		0	0	0		

Intersection: 10: Bridge St & Center Ave

Movement	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR
Maximum Queue (ft)	79	91	77	63
Average Queue (ft)	42	50	40	34
95th Queue (ft)	68	81	64	55
Link Distance (ft)	287	287	288	253
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Santa Fe St & Center Ave

Movement	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR
Maximum Queue (ft)	112	137	162	116
Average Queue (ft)	58	69	76	42
95th Queue (ft)	99	115	143	91
Link Distance (ft)	302	302	284	233
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 12: Center Ave & Tipton St

Movement	SB
Directions Served	R
Maximum Queue (ft)	59
Average Queue (ft)	25
95th Queue (ft)	53
Link Distance (ft)	245
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 13: Liberty St & Center Ave

Movement	WB	NB	SB
Directions Served	LT	LT	TR
Maximum Queue (ft)	3	33	31
Average Queue (ft)	0	11	5
95th Queue (ft)	3	35	23
Link Distance (ft)	637	300	185
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 14: Burke St & Center Ave

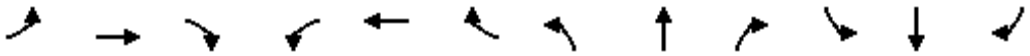
Movement	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR
Maximum Queue (ft)	64	78	68	78
Average Queue (ft)	39	41	36	43
95th Queue (ft)	58	65	54	68
Link Distance (ft)	1218	1218	296	212
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 15: Ben Maddox Way & Center Ave

Movement	NB	NB	NB	SB	SB
Directions Served	L	T	T	T	TR
Maximum Queue (ft)	115	115	15	5	13
Average Queue (ft)	62	5	0	0	0
95th Queue (ft)	106	53	14	4	7
Link Distance (ft)		288	288	520	520
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	60				
Storage Blk Time (%)	7				
Queuing Penalty (veh)	18				

Network Summary

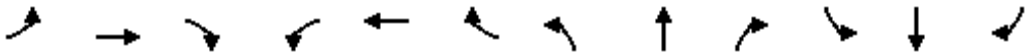
Network wide Queuing Penalty: 44



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	48	111	43	0	0	0	0	191	18	11	40	0
Future Volume (vph)	48	111	43	0	0	0	0	191	18	11	40	0
Peak Hour Factor	0.87	0.87	0.87	0.25	0.25	0.25	0.25	0.59	0.59	0.75	0.75	0.75
Hourly flow rate (vph)	55	128	49	0	0	0	0	324	31	15	53	0

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total (vph)	119	113	355	68
Volume Left (vph)	55	0	0	15
Volume Right (vph)	0	49	31	0
Hadj (s)	0.27	-0.27	-0.02	0.08
Departure Headway (s)	5.8	5.2	4.6	5.0
Degree Utilization, x	0.19	0.16	0.45	0.10
Capacity (veh/h)	584	644	760	669
Control Delay (s)	9.0	8.1	11.3	8.6
Approach Delay (s)	8.5		11.3	8.6
Approach LOS	A		B	A

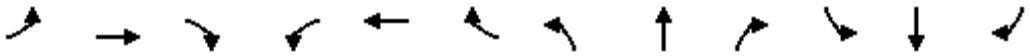
Intersection Summary				
Delay	10.0			
Level of Service	B			
Intersection Capacity Utilization	25.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	83	12	0	0	0	0	259	53	55	175	0
Future Volume (vph)	20	83	12	0	0	0	0	259	53	55	175	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0						5.0			5.0	
Lane Util. Factor	1.00	1.00						1.00			1.00	
Frpb, ped/bikes	1.00	1.00						1.00			1.00	
Flpb, ped/bikes	1.00	1.00						1.00			1.00	
Frt	1.00	0.98						0.98			1.00	
Flt Protected	0.95	1.00						1.00			0.99	
Satd. Flow (prot)	1770	1822						1813			1839	
Flt Permitted	0.95	1.00						1.00			0.84	
Satd. Flow (perm)	1770	1822						1813			1564	
Peak-hour factor, PHF	0.90	0.90	0.90	0.54	0.25	0.54	0.72	0.72	0.72	0.87	0.87	0.87
Adj. Flow (vph)	22	92	13	0	0	0	0	360	74	63	201	0
RTOR Reduction (vph)	0	8	0	0	0	0	0	5	0	0	0	0
Lane Group Flow (vph)	22	97	0	0	0	0	0	429	0	0	264	0
Confl. Peds. (#/hr)			3			2	4		7	7		4
Confl. Bikes (#/hr)			1						5			4
Turn Type	Prot	NA						NA		Perm	NA	
Protected Phases	7	4						2			6	
Permitted Phases										6		
Actuated Green, G (s)	10.7	10.7						59.3			59.3	
Effective Green, g (s)	10.7	10.7						59.3			59.3	
Actuated g/C Ratio	0.13	0.13						0.74			0.74	
Clearance Time (s)	5.0	5.0						5.0			5.0	
Vehicle Extension (s)	3.5	3.5						3.5			3.5	
Lane Grp Cap (vph)	236	243						1343			1159	
v/s Ratio Prot	0.01	c0.05						c0.24				
v/s Ratio Perm											0.17	
v/c Ratio	0.09	0.40						0.32			0.23	
Uniform Delay, d1	30.4	31.7						3.5			3.2	
Progression Factor	1.00	1.00						1.00			1.34	
Incremental Delay, d2	0.2	1.3						0.6			0.5	
Delay (s)	30.6	33.0						4.1			4.8	
Level of Service	C	C						A			A	
Approach Delay (s)		32.6			0.0			4.1			4.8	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	52.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	165	2	0	0	0	0	1	16	14	8	0
Future Volume (Veh/h)	21	165	2	0	0	0	0	1	16	14	8	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.79	0.79	0.79	0.71	0.71	0.71	0.44	0.44	0.44
Hourly flow rate (vph)	24	192	2	0	0	0	0	1	23	32	18	0
Pedestrians								4			7	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								3.5			3.5	
Percent Blockage								0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		693										
pX, platoon unblocked												
vC, conflicting volume	7			198			254	252	101	174	253	7
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	7			198			254	252	101	174	253	7
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	100	98	96	97	100
cM capacity (veh/h)	1601			1367			649	634	931	732	633	1066

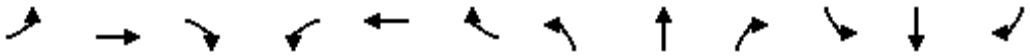
Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	120	98	24	50
Volume Left	24	0	0	32
Volume Right	0	2	23	0
cSH	1601	1700	913	693
Volume to Capacity	0.01	0.06	0.03	0.07
Queue Length 95th (ft)	1	0	2	6
Control Delay (s)	1.5	0.0	9.0	10.6
Lane LOS	A		A	B
Approach Delay (s)	0.9		9.0	10.6
Approach LOS			A	B

Intersection Summary				
Average Delay	3.2			
Intersection Capacity Utilization	23.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	189	10	0	0	0	5
Future Volume (Veh/h)	189	10	0	0	0	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	205	11	0	0	0	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	1064					
pX, platoon unblocked						
vC, conflicting volume			216		210	108
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			216		210	108
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	99
cM capacity (veh/h)			1351		759	925

Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	137	79	5
Volume Left	0	0	0
Volume Right	0	11	5
cSH	1700	1700	925
Volume to Capacity	0.08	0.05	0.01
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	8.9
Lane LOS			A
Approach Delay (s)	0.0		8.9
Approach LOS			A

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		15.5%	ICU Level of Service
Analysis Period (min)		15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	25	158	19	0	0	0	0	128	34	37	144	0
Future Volume (vph)	25	158	19	0	0	0	0	128	34	37	144	0
Peak Hour Factor	0.81	0.81	0.81	0.88	0.88	0.88	0.74	0.74	0.74	0.77	0.77	0.77
Hourly flow rate (vph)	31	195	23	0	0	0	0	173	46	48	187	0

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total (vph)	129	121	219	235
Volume Left (vph)	31	0	0	48
Volume Right (vph)	0	23	46	0
Hadj (s)	0.15	-0.10	-0.09	0.07
Departure Headway (s)	5.8	5.5	4.8	4.9
Degree Utilization, x	0.21	0.18	0.29	0.32
Capacity (veh/h)	585	613	716	695
Control Delay (s)	9.1	8.6	9.7	10.2
Approach Delay (s)	8.8		9.7	10.2
Approach LOS	A		A	B

Intersection Summary				
Delay	9.6			
Level of Service	A			
Intersection Capacity Utilization	37.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	213	8	0	0	0	6
Future Volume (Veh/h)	213	8	0	0	0	6
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	232	9	0	0	0	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				1023		
pX, platoon unblocked						
vC, conflicting volume			241		236	120
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			241		236	120
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	99
cM capacity (veh/h)			1323		731	908

Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	155	86	7
Volume Left	0	0	0
Volume Right	0	9	7
cSH	1700	1700	908
Volume to Capacity	0.09	0.05	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	9.0
Lane LOS			A
Approach Delay (s)	0.0		9.0
Approach LOS			A

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	16.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	201	13	0	0	0	38
Future Volume (Veh/h)	201	13	0	0	0	38
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	218	14	0	0	0	41
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				695		
pX, platoon unblocked						
vC, conflicting volume			232		225	116
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			232		225	116
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	96
cM capacity (veh/h)			1333		743	914

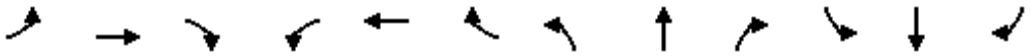
Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	145	87	41
Volume Left	0	0	0
Volume Right	0	14	41
cSH	1700	1700	914
Volume to Capacity	0.09	0.05	0.04
Queue Length 95th (ft)	0	0	4
Control Delay (s)	0.0	0.0	9.1
Lane LOS			A
Approach Delay (s)	0.0		9.1
Approach LOS			A

Intersection Summary			
Average Delay		1.4	
Intersection Capacity Utilization		16.0%	ICU Level of Service
Analysis Period (min)		15	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	94	63	53	0	128	0	583	114	79	617	0
Future Volume (vph)	83	94	63	53	0	128	0	583	114	79	617	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.5		4.0		5.5		5.5	5.5	4.0	5.5	
Lane Util. Factor	1.00	1.00		1.00		1.00		0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00		0.98		1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00		1.00		1.00	1.00	1.00	1.00	
Frt	1.00	0.94		1.00		0.85		1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1740		1770		1555		3539	1541	1770	3539	
Flt Permitted	0.95	1.00		0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1740		1770		1555		3539	1541	1770	3539	
Peak-hour factor, PHF	0.84	0.84	0.84	0.73	0.73	0.73	0.91	0.91	0.91	0.94	0.94	0.94
Adj. Flow (vph)	99	112	75	73	0	175	0	641	125	84	656	0
RTOR Reduction (vph)	0	26	0	0	0	142	0	0	59	0	0	0
Lane Group Flow (vph)	99	161	0	73	0	33	0	641	66	84	656	0
Confl. Peds. (#/hr)			4			6			4			
Confl. Bikes (#/hr)						1						1
Turn Type	Prot	NA		Prot		Perm		NA	Perm	Prot	NA	
Protected Phases	7	4		3				2		1	6	
Permitted Phases						8			2			
Actuated Green, G (s)	7.5	17.6		6.4		16.5		38.6	38.6	6.9	49.5	
Effective Green, g (s)	7.5	17.6		6.4		16.5		38.6	38.6	6.9	49.5	
Actuated g/C Ratio	0.08	0.20		0.07		0.19		0.44	0.44	0.08	0.56	
Clearance Time (s)	4.0	5.5		4.0		5.5		5.5	5.5	4.0	5.5	
Vehicle Extension (s)	2.0	5.5		2.0		5.5		5.5	5.5	2.0	5.5	
Lane Grp Cap (vph)	150	346		128		289		1543	672	138	1979	
v/s Ratio Prot	c0.06	c0.09		0.04				c0.18		c0.05	0.19	
v/s Ratio Perm						0.02			0.04			
v/c Ratio	0.66	0.46		0.57		0.11		0.42	0.10	0.61	0.33	
Uniform Delay, d1	39.3	31.3		39.7		29.9		17.2	14.7	39.5	10.5	
Progression Factor	1.00	1.00		1.00		1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	8.1	2.4		3.8		0.4		0.8	0.3	5.1	0.5	
Delay (s)	47.4	33.7		43.5		30.3		18.0	15.0	44.6	11.0	
Level of Service	D	C		D		C		B	B	D	B	
Approach Delay (s)		38.4			34.2			17.5			14.8	
Approach LOS		D			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	21.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	88.5	Sum of lost time (s)	19.0
Intersection Capacity Utilization	59.8%	ICU Level of Service	B
Analysis Period (min)	15		

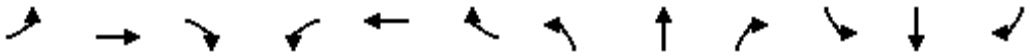
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	32	194	50	50	136	27	41	52	66	48	50	16
Future Volume (vph)	32	194	50	50	136	27	41	52	66	48	50	16
Peak Hour Factor	0.93	0.93	0.93	0.77	0.77	0.77	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	34	209	54	65	177	35	48	60	77	56	58	19

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	34	263	65	212	185	133
Volume Left (vph)	34	0	65	0	48	56
Volume Right (vph)	0	54	0	35	77	19
Hadj (s)	0.53	-0.11	0.53	-0.08	-0.16	0.03
Departure Headway (s)	6.4	5.7	6.4	5.8	5.5	5.8
Degree Utilization, x	0.06	0.42	0.12	0.34	0.28	0.21
Capacity (veh/h)	532	599	530	590	591	560
Control Delay (s)	8.6	11.6	9.0	10.5	10.6	10.3
Approach Delay (s)	11.2		10.2		10.6	10.3
Approach LOS	B		B		B	B

Intersection Summary				
Delay	10.6			
Level of Service	B			
Intersection Capacity Utilization	37.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	11	229	15	76	139	0	0	50	24
Future Volume (vph)	0	0	0	11	229	15	76	139	0	0	50	24
Peak Hour Factor	0.25	0.25	0.25	0.84	0.84	0.84	0.68	0.68	0.25	0.25	0.84	0.84
Hourly flow rate (vph)	0	0	0	13	273	18	112	204	0	0	60	29

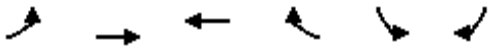
Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	150	155	316	89
Volume Left (vph)	13	0	112	0
Volume Right (vph)	0	18	0	29
Hadj (s)	0.08	-0.05	0.10	-0.16
Departure Headway (s)	5.6	5.5	4.9	5.0
Degree Utilization, x	0.23	0.23	0.43	0.12
Capacity (veh/h)	606	624	707	676
Control Delay (s)	9.1	8.9	11.6	8.6
Approach Delay (s)	9.0		11.6	8.6
Approach LOS	A		B	A

Intersection Summary				
Delay	10.1			
Level of Service	B			
Intersection Capacity Utilization	33.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	39	167	30	47	223	0	0	191	28
Future Volume (vph)	0	0	0	39	167	30	47	223	0	0	191	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			1.00	
Flpb, ped/bikes					1.00			1.00			1.00	
Frt					0.98			1.00			0.98	
Flt Protected					0.99			0.99			1.00	
Satd. Flow (prot)					3428			1845			1826	
Flt Permitted					0.99			0.91			1.00	
Satd. Flow (perm)					3428			1689			1826	
Peak-hour factor, PHF	0.25	0.25	0.25	0.85	0.85	0.85	0.76	0.76	0.76	0.82	0.82	0.82
Adj. Flow (vph)	0	0	0	46	196	35	62	293	0	0	233	34
RTOR Reduction (vph)	0	0	0	0	20	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	0	0	0	257	0	0	355	0	0	263	0
Confl. Peds. (#/hr)				7		1	5		12	12		5
Confl. Bikes (#/hr)									3			3
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8			2					
Actuated Green, G (s)					13.8			56.2			56.2	
Effective Green, g (s)					13.8			56.2			56.2	
Actuated g/C Ratio					0.17			0.70			0.70	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					3.5			3.5			3.5	
Lane Grp Cap (vph)					591			1186			1282	
v/s Ratio Prot											0.14	
v/s Ratio Perm					0.08			c0.21				
v/c Ratio					0.44			0.30			0.21	
Uniform Delay, d1					29.6			4.5			4.1	
Progression Factor					1.00			1.72			1.00	
Incremental Delay, d2					0.6			0.6			0.4	
Delay (s)					30.2			8.4			4.5	
Level of Service					C			A			A	
Approach Delay (s)		0.0			30.2			8.4			4.5	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	13.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	53.8%	ICU Level of Service	A
Analysis Period (min)	15		

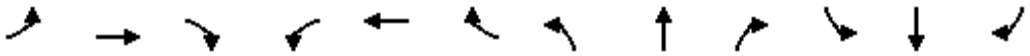
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	195	19	0	40
Future Volume (Veh/h)	0	0	195	19	0	40
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.83	0.83
Hourly flow rate (vph)	0	0	229	22	0	48
Pedestrians			1			
Lane Width (ft)			12.0			
Walking Speed (ft/s)			3.5			
Percent Blockage			0			
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		355				
pX, platoon unblocked						
vC, conflicting volume	251				241	126
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	251				241	126
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	95
cM capacity (veh/h)	1311				726	902

Direction, Lane #	WB 1	WB 2	SB 1
Volume Total	153	98	48
Volume Left	0	0	0
Volume Right	0	22	48
cSH	1700	1700	902
Volume to Capacity	0.09	0.06	0.05
Queue Length 95th (ft)	0	0	4
Control Delay (s)	0.0	0.0	9.2
Lane LOS			A
Approach Delay (s)	0.0		9.2
Approach LOS			A

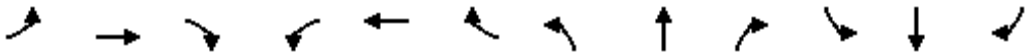
Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	16.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	17	200	11	13	2	0	0	1	3
Future Volume (Veh/h)	0	0	0	17	200	11	13	2	0	0	1	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.81	0.81	0.81	0.75	0.75	0.75	0.33	0.33	0.33
Hourly flow rate (vph)	0	0	0	21	247	14	17	3	0	0	3	9
Pedestrians								3			6	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								3.5			3.5	
Percent Blockage								0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		689										
pX, platoon unblocked												
vC, conflicting volume	267			3			179	312	3	304	305	136
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	267			3			179	312	3	304	305	136
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			98	99	100	100	99	99
cM capacity (veh/h)	1286			1613			741	589	1076	610	594	882

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	144	138	20	12
Volume Left	21	0	17	0
Volume Right	0	14	0	9
cSH	1613	1700	713	787
Volume to Capacity	0.01	0.08	0.03	0.02
Queue Length 95th (ft)	1	0	2	1
Control Delay (s)	1.1	0.0	10.2	9.6
Lane LOS	A		B	A
Approach Delay (s)	0.6		10.2	9.6
Approach LOS			B	A

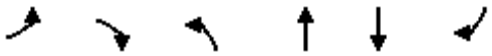
Intersection Summary				
Average Delay	1.5			
Intersection Capacity Utilization	24.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	41	202	50	40	114	0	0	135	21
Future Volume (vph)	0	0	0	41	202	50	40	114	0	0	135	21
Peak Hour Factor	0.88	0.88	0.88	0.87	0.87	0.87	0.81	0.81	0.81	0.80	0.80	0.80
Hourly flow rate (vph)	0	0	0	47	232	57	49	141	0	0	169	26

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	163	173	190	195
Volume Left (vph)	47	0	49	0
Volume Right (vph)	0	57	0	26
Hadj (s)	0.18	-0.20	0.09	-0.05
Departure Headway (s)	5.7	5.3	5.1	5.0
Degree Utilization, x	0.26	0.25	0.27	0.27
Capacity (veh/h)	603	648	669	683
Control Delay (s)	9.4	8.9	10.0	9.8
Approach Delay (s)	9.1		10.0	9.8
Approach LOS	A		A	A

Intersection Summary				
Delay	9.5			
Level of Service	A			
Intersection Capacity Utilization	35.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	244	549	701	73
Future Volume (Veh/h)	0	0	244	549	701	73
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.42	0.42	0.90	0.90	0.93	0.93
Hourly flow rate (vph)	0	0	271	610	754	78
Pedestrians	1					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	TWLTL	
Median storage veh)					2	
Upstream signal (ft)				331		
pX, platoon unblocked	0.91					
vC, conflicting volume	1641	417	833			
vC1, stage 1 conf vol	794					
vC2, stage 2 conf vol	847					
vCu, unblocked vol	1509	417	833			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	66			
cM capacity (veh/h)	240	585	796			

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	271	305	305	503	329
Volume Left	271	0	0	0	0
Volume Right	0	0	0	0	78
cSH	796	1700	1700	1700	1700
Volume to Capacity	0.34	0.18	0.18	0.30	0.19
Queue Length 95th (ft)	38	0	0	0	0
Control Delay (s)	11.8	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	3.6			0.0	
Approach LOS					

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	41.9%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection: 1: Bridge St & Main St

Movement	EB	EB	NB	SB
Directions Served	LT	TR	TR	LT
Maximum Queue (ft)	96	115	105	75
Average Queue (ft)	48	59	50	38
95th Queue (ft)	77	93	82	59
Link Distance (ft)	275	275	267	288
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Santa Fe St & Main St

Movement	EB	EB	NB	SB
Directions Served	L	TR	TR	LT
Maximum Queue (ft)	83	179	123	200
Average Queue (ft)	31	91	54	88
95th Queue (ft)	70	155	105	166
Link Distance (ft)	284	284	266	284
Upstream Blk Time (%)				0
Queuing Penalty (veh)				0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Liberty St & Main St

Movement	EB	NB	SB
Directions Served	LT	TR	LT
Maximum Queue (ft)	3	38	37
Average Queue (ft)	0	13	19
95th Queue (ft)	4	38	44
Link Distance (ft)	640	264	300
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Clark St & Main St

Movement	NB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	10
95th Queue (ft)	33
Link Distance (ft)	275
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: Burke St & Main St

Movement	EB	EB	NB	SB
Directions Served	LT	TR	TR	LT
Maximum Queue (ft)	74	94	84	74
Average Queue (ft)	38	52	44	37
95th Queue (ft)	60	81	70	58
Link Distance (ft)	274	274	302	296
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: Bradley St & Main St

Movement	NB
Directions Served	R
Maximum Queue (ft)	34
Average Queue (ft)	15
95th Queue (ft)	41
Link Distance (ft)	288
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: Edison St & Main St

Movement	NB
Directions Served	R
Maximum Queue (ft)	65
Average Queue (ft)	34
95th Queue (ft)	56
Link Distance (ft)	280
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Ben Maddox Way & Main St

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	R	T	T	R	L	T	T
Maximum Queue (ft)	111	253	90	107	351	292	110	166	214	187
Average Queue (ft)	50	134	41	36	213	134	27	57	133	92
95th Queue (ft)	99	222	80	78	320	260	71	121	202	173
Link Distance (ft)	622	622		1183	425	425			288	288
Upstream Blk Time (%)					0					
Queuing Penalty (veh)					0					
Storage Bay Dist (ft)			60				71	95		
Storage Blk Time (%)			9	2		10	0	3	17	
Queuing Penalty (veh)			16	2		8	0	9	11	

Intersection: 9: Cain St & Main St

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	49	100	50	87	84	69
Average Queue (ft)	19	56	26	45	43	39
95th Queue (ft)	45	90	48	71	69	61
Link Distance (ft)		1183		736	396	495
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	105		100			
Storage Blk Time (%)		0		0		
Queuing Penalty (veh)		0		0		

Intersection: 10: Bridge St & Center Ave

Movement	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR
Maximum Queue (ft)	88	102	89	80
Average Queue (ft)	44	51	46	43
95th Queue (ft)	71	86	75	68
Link Distance (ft)	287	287	288	253
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Santa Fe St & Center Ave

Movement	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR
Maximum Queue (ft)	135	149	169	170
Average Queue (ft)	70	75	75	70
95th Queue (ft)	116	132	140	142
Link Distance (ft)	302	302	284	233
Upstream Blk Time (%)				0
Queuing Penalty (veh)				0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 12: Center Ave & Tipton St

Movement	WB	SB
Directions Served	TR	R
Maximum Queue (ft)	6	62
Average Queue (ft)	0	25
95th Queue (ft)	4	52
Link Distance (ft)	278	245
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Liberty St & Center Ave

Movement	NB	SB
Directions Served	LT	TR
Maximum Queue (ft)	42	21
Average Queue (ft)	18	2
95th Queue (ft)	44	14
Link Distance (ft)	300	185
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 14: Burke St & Center Ave

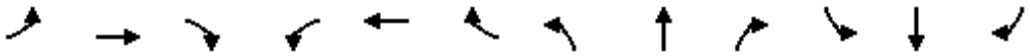
Movement	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR
Maximum Queue (ft)	75	75	63	82
Average Queue (ft)	41	41	34	43
95th Queue (ft)	63	63	50	69
Link Distance (ft)	1218	1218	296	212
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 15: Ben Maddox Way & Center Ave

Movement	NB	NB	NB	SB	SB
Directions Served	L	T	T	T	TR
Maximum Queue (ft)	114	103	52	21	6
Average Queue (ft)	59	5	2	1	0
95th Queue (ft)	102	53	33	11	4
Link Distance (ft)		288	288	520	520
Upstream Blk Time (%)		0			
Queuing Penalty (veh)		0			
Storage Bay Dist (ft)	60				
Storage Blk Time (%)	5	0			
Queuing Penalty (veh)	20	0			

Network Summary

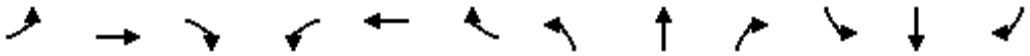
Network wide Queuing Penalty: 66



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	99	237	117	0	0	0	0	149	32	19	116	0
Future Volume (vph)	99	237	117	0	0	0	0	149	32	19	116	0
Peak Hour Factor	0.97	0.97	0.97	0.25	0.25	0.25	0.25	0.82	0.82	0.64	0.64	0.25
Hourly flow rate (vph)	102	244	121	0	0	0	0	182	39	30	181	0

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total (vph)	224	243	221	211
Volume Left (vph)	102	0	0	30
Volume Right (vph)	0	121	39	0
Hadj (s)	0.26	-0.31	-0.07	0.06
Departure Headway (s)	5.9	5.4	5.3	5.5
Degree Utilization, x	0.37	0.36	0.33	0.32
Capacity (veh/h)	581	645	643	623
Control Delay (s)	11.2	10.2	10.9	11.0
Approach Delay (s)	10.7		10.9	11.0
Approach LOS	B		B	B

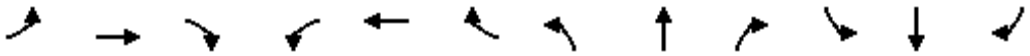
Intersection Summary				
Delay	10.8			
Level of Service	B			
Intersection Capacity Utilization	42.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	129	52	0	0	0	0	204	82	75	300	0
Future Volume (vph)	47	129	52	0	0	0	0	204	82	75	300	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0						5.0			5.0	
Lane Util. Factor	1.00	1.00						1.00			1.00	
Frpb, ped/bikes	1.00	0.99						0.99			1.00	
Flpb, ped/bikes	1.00	1.00						1.00			1.00	
Frt	1.00	0.96						0.96			1.00	
Flt Protected	0.95	1.00						1.00			0.99	
Satd. Flow (prot)	1770	1764						1776			1841	
Flt Permitted	0.95	1.00						1.00			0.88	
Satd. Flow (perm)	1770	1764						1776			1633	
Peak-hour factor, PHF	0.86	0.86	0.86	0.82	0.25	0.82	0.25	0.97	0.97	0.86	0.86	0.25
Adj. Flow (vph)	55	150	60	0	0	0	0	210	85	87	349	0
RTOR Reduction (vph)	0	21	0	0	0	0	0	13	0	0	0	0
Lane Group Flow (vph)	55	189	0	0	0	0	0	282	0	0	436	0
Confl. Peds. (#/hr)			8			7	10		13	13		10
Confl. Bikes (#/hr)			1						2			5
Turn Type	Prot	NA						NA		Perm	NA	
Protected Phases	7	4						2			6	
Permitted Phases										6		
Actuated Green, G (s)	14.9	14.9						55.1			55.1	
Effective Green, g (s)	14.9	14.9						55.1			55.1	
Actuated g/C Ratio	0.19	0.19						0.69			0.69	
Clearance Time (s)	5.0	5.0						5.0			5.0	
Vehicle Extension (s)	3.5	3.5						3.5			3.5	
Lane Grp Cap (vph)	329	328						1223			1124	
v/s Ratio Prot	0.03	c0.11						0.16				
v/s Ratio Perm											c0.27	
v/c Ratio	0.17	0.58						0.23			0.39	
Uniform Delay, d1	27.3	29.7						4.6			5.3	
Progression Factor	1.00	1.00						1.00			1.32	
Incremental Delay, d2	0.3	2.6						0.4			1.0	
Delay (s)	27.6	32.3						5.0			7.9	
Level of Service	C	C						A			A	
Approach Delay (s)		31.3			0.0			5.0			7.9	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	276	8	0	0	0	0	3	13	9	13	0
Future Volume (Veh/h)	21	276	8	0	0	0	0	3	13	9	13	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.89	0.89	0.89	0.80	0.80	0.80	0.75	0.75	0.75
Hourly flow rate (vph)	23	307	9	0	0	0	0	4	16	12	17	0
Pedestrians		3			2			4			6	
Lane Width (ft)		12.0			0.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			0			0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		693										
pX, platoon unblocked												
vC, conflicting volume	6			320			373	368	164	226	372	9
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	6			320			373	368	164	226	372	9
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	99	98	98	97	100
cM capacity (veh/h)	1604			1232			532	547	848	677	544	1061

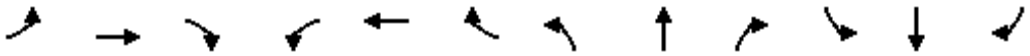
Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	176	162	20	29
Volume Left	23	0	0	12
Volume Right	0	9	16	0
cSH	1604	1700	764	592
Volume to Capacity	0.01	0.10	0.03	0.05
Queue Length 95th (ft)	1	0	2	4
Control Delay (s)	1.0	0.0	9.8	11.4
Lane LOS	A		A	B
Approach Delay (s)	0.5		9.8	11.4
Approach LOS			A	B

Intersection Summary				
Average Delay	1.8			
Intersection Capacity Utilization	27.1%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	291	6	0	0	0	13
Future Volume (Veh/h)	291	6	0	0	0	13
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	316	7	0	0	0	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	1064					
pX, platoon unblocked						
vC, conflicting volume			323		320	162
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			323		320	162
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	98
cM capacity (veh/h)			1234		649	855

Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	211	112	14
Volume Left	0	0	0
Volume Right	0	7	14
cSH	1700	1700	855
Volume to Capacity	0.12	0.07	0.02
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	9.3
Lane LOS			A
Approach Delay (s)	0.0		9.3
Approach LOS			A

Intersection Summary			
Average Delay		0.4	
Intersection Capacity Utilization		18.2%	ICU Level of Service
Analysis Period (min)		15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	24	299	28	0	0	0	0	126	44	50	109	0
Future Volume (vph)	24	299	28	0	0	0	0	126	44	50	109	0
Peak Hour Factor	0.87	0.87	0.87	0.72	0.72	0.72	0.75	0.75	0.75	0.72	0.72	0.72
Hourly flow rate (vph)	28	344	32	0	0	0	0	168	59	69	151	0

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total (vph)	200	204	227	220
Volume Left (vph)	28	0	0	69
Volume Right (vph)	0	32	59	0
Hadj (s)	0.10	-0.08	-0.12	0.10
Departure Headway (s)	5.8	5.6	5.1	5.4
Degree Utilization, x	0.32	0.32	0.32	0.33
Capacity (veh/h)	592	614	664	635
Control Delay (s)	10.3	10.0	10.6	10.9
Approach Delay (s)	10.1		10.6	10.9
Approach LOS	B		B	B

Intersection Summary				
Delay	10.5			
Level of Service	B			
Intersection Capacity Utilization	43.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	317	16	0	0	0	18
Future Volume (Veh/h)	317	16	0	0	0	18
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	345	17	0	0	0	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				1023		
pX, platoon unblocked						
vC, conflicting volume			362		354	181
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			362		354	181
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	98
cM capacity (veh/h)			1193		618	831

Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	230	132	20
Volume Left	0	0	0
Volume Right	0	17	20
cSH	1700	1700	831
Volume to Capacity	0.14	0.08	0.02
Queue Length 95th (ft)	0	0	2
Control Delay (s)	0.0	0.0	9.4
Lane LOS			A
Approach Delay (s)	0.0		9.4
Approach LOS			A

Intersection Summary			
Average Delay		0.5	
Intersection Capacity Utilization		19.3%	ICU Level of Service
Analysis Period (min)		15	

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	320	13	0	0	0	87
Future Volume (Veh/h)	320	13	0	0	0	87
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	348	14	0	0	0	95
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				695		
pX, platoon unblocked						
vC, conflicting volume			362		355	181
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			362		355	181
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	89
cM capacity (veh/h)			1193		617	831

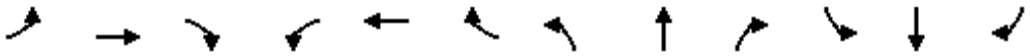
Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	232	130	95
Volume Left	0	0	0
Volume Right	0	14	95
cSH	1700	1700	831
Volume to Capacity	0.14	0.08	0.11
Queue Length 95th (ft)	0	0	10
Control Delay (s)	0.0	0.0	9.9
Lane LOS			A
Approach Delay (s)	0.0		9.9
Approach LOS			A

Intersection Summary			
Average Delay		2.1	
Intersection Capacity Utilization		21.3%	ICU Level of Service
Analysis Period (min)		15	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	121	196	68	0	182	0	718	75	66	644	0
Future Volume (vph)	72	121	196	68	0	182	0	718	75	66	644	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.5		4.0		5.5		5.5	5.5	4.0	5.5	
Lane Util. Factor	1.00	1.00		1.00		1.00		0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00		1.00		1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00		1.00		1.00	1.00	1.00	1.00	
Frt	1.00	0.91		1.00		0.85		1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1675		1770		1583		3539	1539	1770	3539	
Flt Permitted	0.95	1.00		0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1675		1770		1583		3539	1539	1770	3539	
Peak-hour factor, PHF	0.83	0.83	0.83	0.74	0.74	0.74	0.93	0.93	0.93	0.86	0.86	0.86
Adj. Flow (vph)	87	146	236	92	0	246	0	772	81	77	749	0
RTOR Reduction (vph)	0	58	0	0	0	180	0	0	49	0	0	0
Lane Group Flow (vph)	87	324	0	92	0	66	0	772	32	77	749	0
Confl. Peds. (#/hr)			2						2			
Confl. Bikes (#/hr)			1						5			1
Turn Type	Prot	NA		Prot		Perm		NA	Perm	Prot	NA	
Protected Phases	7	4		3				2		1	6	
Permitted Phases						8			2			
Actuated Green, G (s)	7.3	25.6		7.6		25.9		38.3	38.3	6.7	49.0	
Effective Green, g (s)	7.3	25.6		7.6		25.9		38.3	38.3	6.7	49.0	
Actuated g/C Ratio	0.08	0.26		0.08		0.27		0.39	0.39	0.07	0.50	
Clearance Time (s)	4.0	5.5		4.0		5.5		5.5	5.5	4.0	5.5	
Vehicle Extension (s)	2.0	5.5		2.0		5.5		5.5	5.5	2.0	5.5	
Lane Grp Cap (vph)	132	441		138		421		1394	606	122	1784	
v/s Ratio Prot	0.05	c0.19		c0.05				c0.22		c0.04	0.21	
v/s Ratio Perm						0.04			0.02			
v/c Ratio	0.66	0.73		0.67		0.16		0.55	0.05	0.63	0.42	
Uniform Delay, d1	43.7	32.7		43.6		27.3		22.8	18.2	44.0	15.2	
Progression Factor	1.00	1.00		1.00		1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	8.7	8.0		9.1		0.4		1.6	0.2	7.6	0.7	
Delay (s)	52.5	40.7		52.6		27.7		24.4	18.4	51.6	15.9	
Level of Service	D	D		D		C		C	B	D	B	
Approach Delay (s)		42.9			34.5			23.8			19.2	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	27.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	97.2	Sum of lost time (s)	19.0
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		

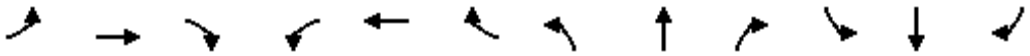
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	27	208	53	61	163	49	37	44	55	41	60	17
Future Volume (vph)	27	208	53	61	163	49	37	44	55	41	60	17
Peak Hour Factor	0.86	0.86	0.86	0.88	0.88	0.88	0.72	0.72	0.72	0.80	0.80	0.80
Hourly flow rate (vph)	31	242	62	69	185	56	51	61	76	51	75	21

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	31	304	69	241	188	147
Volume Left (vph)	31	0	69	0	51	51
Volume Right (vph)	0	62	0	56	76	21
Hadj (s)	0.53	-0.11	0.53	-0.13	-0.15	0.02
Departure Headway (s)	6.5	5.9	6.6	5.9	5.8	6.0
Degree Utilization, x	0.06	0.50	0.13	0.39	0.30	0.25
Capacity (veh/h)	518	584	516	578	558	532
Control Delay (s)	8.7	13.3	9.3	11.5	11.2	11.0
Approach Delay (s)	12.9		11.0		11.2	11.0
Approach LOS	B		B		B	B

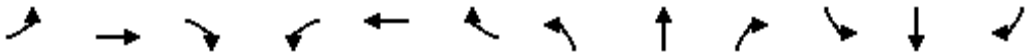
Intersection Summary				
Delay	11.7			
Level of Service	B			
Intersection Capacity Utilization	37.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	19	242	20	98	134	0	0	103	29
Future Volume (vph)	0	0	0	19	242	20	98	134	0	0	103	29
Peak Hour Factor	0.25	0.25	0.25	0.86	0.86	0.86	0.87	0.87	0.25	0.25	0.75	0.75
Hourly flow rate (vph)	0	0	0	22	281	23	113	154	0	0	137	39

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	163	164	267	176
Volume Left (vph)	22	0	113	0
Volume Right (vph)	0	23	0	39
Hadj (s)	0.10	-0.06	0.12	-0.10
Departure Headway (s)	5.7	5.6	5.1	5.0
Degree Utilization, x	0.26	0.25	0.38	0.25
Capacity (veh/h)	592	613	674	672
Control Delay (s)	9.5	9.2	11.2	9.7
Approach Delay (s)	9.4		11.2	9.7
Approach LOS	A		B	A

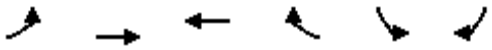
Intersection Summary				
Delay	10.1			
Level of Service	B			
Intersection Capacity Utilization	43.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	56	177	42	57	180	0	0	310	39
Future Volume (vph)	0	0	0	56	177	42	57	180	0	0	310	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			1.00	
Flpb, ped/bikes					1.00			1.00			1.00	
Frt					0.98			1.00			0.98	
Flt Protected					0.99			0.99			1.00	
Satd. Flow (prot)					3403			1838			1829	
Flt Permitted					0.99			0.84			1.00	
Satd. Flow (perm)					3403			1563			1829	
Peak-hour factor, PHF	0.25	0.25	0.25	0.76	0.76	0.76	0.90	0.90	0.90	0.82	0.82	0.82
Adj. Flow (vph)	0	0	0	74	233	55	63	200	0	0	378	48
RTOR Reduction (vph)	0	0	0	0	25	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	0	0	0	337	0	0	263	0	0	423	0
Confl. Peds. (#/hr)				5		2	12					12
Confl. Bikes (#/hr)						3			3			9
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8			2					
Actuated Green, G (s)					15.4			54.6			54.6	
Effective Green, g (s)					15.4			54.6			54.6	
Actuated g/C Ratio					0.19			0.68			0.68	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					3.5			3.5			3.5	
Lane Grp Cap (vph)					655			1066			1248	
v/s Ratio Prot											c0.23	
v/s Ratio Perm					0.10			0.17				
v/c Ratio					0.51			0.25			0.34	
Uniform Delay, d1					28.9			4.8			5.2	
Progression Factor					1.00			1.53			1.00	
Incremental Delay, d2					0.8			0.5			0.7	
Delay (s)					29.7			8.0			6.0	
Level of Service					C			A			A	
Approach Delay (s)		0.0			29.7			8.0			6.0	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	14.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	52.7%	ICU Level of Service	A
Analysis Period (min)	15		

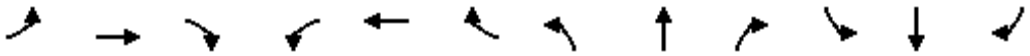
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	226	16	0	42
Future Volume (Veh/h)	0	0	226	16	0	42
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.77	0.77	0.88	0.88
Hourly flow rate (vph)	0	0	294	21	0	48
Pedestrians		2	5		4	
Lane Width (ft)		0.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		355				
pX, platoon unblocked						
vC, conflicting volume	319				314	164
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	319				314	164
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	94
cM capacity (veh/h)	1233				649	849

Direction, Lane #	WB 1	WB 2	SB 1
Volume Total	196	119	48
Volume Left	0	0	0
Volume Right	0	21	48
cSH	1700	1700	849
Volume to Capacity	0.12	0.07	0.06
Queue Length 95th (ft)	0	0	4
Control Delay (s)	0.0	0.0	9.5
Lane LOS			A
Approach Delay (s)	0.0		9.5
Approach LOS			A

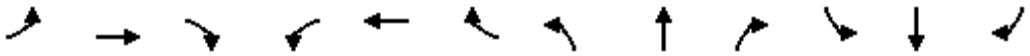
Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	18.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	25	220	5	23	1	0	0	2	0
Future Volume (Veh/h)	0	0	0	25	220	5	23	1	0	0	2	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.74	0.74	0.74	0.83	0.83	0.83	0.57	0.57	0.57	0.50	0.50	0.50
Hourly flow rate (vph)	0	0	0	30	265	6	40	2	0	0	4	0
Pedestrians		3						3			2	
Lane Width (ft)		0.0						12.0			12.0	
Walking Speed (ft/s)		3.5						3.5			3.5	
Percent Blockage		0						0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		689										
pX, platoon unblocked												
vC, conflicting volume	273			3			200	336	3	331	333	140
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	273			3			200	336	3	331	333	140
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			94	100	100	100	99	100
cM capacity (veh/h)	1285			1613			721	570	1076	585	572	880

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	162	138	42	4
Volume Left	30	0	40	0
Volume Right	0	6	0	0
cSH	1613	1700	712	572
Volume to Capacity	0.02	0.08	0.06	0.01
Queue Length 95th (ft)	1	0	5	1
Control Delay (s)	1.5	0.0	10.4	11.3
Lane LOS	A		B	B
Approach Delay (s)	0.8		10.4	11.3
Approach LOS			B	B

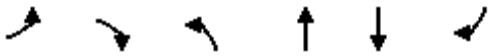
Intersection Summary				
Average Delay	2.1			
Intersection Capacity Utilization	25.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	38	197	52	37	89	0	0	119	31
Future Volume (vph)	0	0	0	38	197	52	37	89	0	0	119	31
Peak Hour Factor	0.62	0.62	0.62	0.84	0.84	0.84	0.77	0.77	0.77	0.80	0.80	0.80
Hourly flow rate (vph)	0	0	0	45	235	62	48	116	0	0	149	39

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	163	180	164	188
Volume Left (vph)	45	0	48	0
Volume Right (vph)	0	62	0	39
Hadj (s)	0.17	-0.21	0.09	-0.09
Departure Headway (s)	5.6	5.2	5.1	4.9
Degree Utilization, x	0.25	0.26	0.23	0.26
Capacity (veh/h)	614	662	668	694
Control Delay (s)	9.2	8.8	9.6	9.6
Approach Delay (s)	9.0		9.6	9.6
Approach LOS	A		A	A

Intersection Summary				
Delay	9.3			
Level of Service	A			
Intersection Capacity Utilization	37.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	223	731	658	42
Future Volume (Veh/h)	0	0	223	731	658	42
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.64	0.64	0.95	0.95	0.83	0.83
Hourly flow rate (vph)	0	0	235	769	793	51
Pedestrians	3			3		
Lane Width (ft)	0.0			12.0		
Walking Speed (ft/s)	3.5			3.5		
Percent Blockage	0			0		
Right turn flare (veh)						
Median type				None	TWLTL	
Median storage veh)					2	
Upstream signal (ft)				331		
pX, platoon unblocked	0.86					
vC, conflicting volume	1676	428	847			
vC1, stage 1 conf vol	822					
vC2, stage 2 conf vol	854					
vCu, unblocked vol	1458	428	847			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	70			
cM capacity (veh/h)	262	573	786			

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	235	384	384	529	315
Volume Left	235	0	0	0	0
Volume Right	0	0	0	0	51
cSH	786	1700	1700	1700	1700
Volume to Capacity	0.30	0.23	0.23	0.31	0.19
Queue Length 95th (ft)	31	0	0	0	0
Control Delay (s)	11.5	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	2.7			0.0	
Approach LOS					

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	46.2%	ICU Level of Service	A
Analysis Period (min)	15		

Appendix E – Near-Term Conditions Synchro Level of Service and Queues Worksheets

Intersection: 1: Bridge St & Main St

Movement	EB	EB	NB	SB
Directions Served	LT	TR	TR	LT
Maximum Queue (ft)	58	73	91	50
Average Queue (ft)	33	40	50	27
95th Queue (ft)	52	62	77	48
Link Distance (ft)	275	275	267	288
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Santa Fe St & Main St

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	R	TR	LT
Maximum Queue (ft)	56	134	63	55	201	128
Average Queue (ft)	16	65	18	21	70	42
95th Queue (ft)	47	114	50	48	144	95
Link Distance (ft)	284	284	640		280	258
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					0	
Storage Bay Dist (ft)				75		
Storage Blk Time (%)			0	0		
Queuing Penalty (veh)			0	0		

Intersection: 3: Liberty St & Main St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	17	20	38	38
Average Queue (ft)	1	1	16	12
95th Queue (ft)	10	9	42	37
Link Distance (ft)	640	309	276	276
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Clark St & Main St

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	25	31
Average Queue (ft)	1	5
95th Queue (ft)	11	24
Link Distance (ft)	280	286
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Burke St & Main St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	98	69	86	76
Average Queue (ft)	48	39	43	37
95th Queue (ft)	80	62	68	58
Link Distance (ft)	280	257	314	272
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: Bradley St & Main St

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	33	31
Average Queue (ft)	2	5
95th Queue (ft)	16	24
Link Distance (ft)	271	299
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Edison St & Main St

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	50	59
Average Queue (ft)	5	26
95th Queue (ft)	27	51
Link Distance (ft)	618	292
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Ben Maddox Way & Main St

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	71	173	61	128	99	258	207	87	157	238	221
Average Queue (ft)	22	70	20	50	42	146	81	35	56	131	97
95th Queue (ft)	57	132	49	106	83	232	171	68	121	212	179
Link Distance (ft)		618		1183		425	425			267	267
Upstream Blk Time (%)										0	0
Queuing Penalty (veh)										0	0
Storage Bay Dist (ft)	90		60		280			71	95		
Storage Blk Time (%)	0	6	1	9		0	5	0	2	15	
Queuing Penalty (veh)	0	2	1	3		0	7	1	5	13	

Intersection: 9: Cain St & Main St

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	49	107	48	86	81	75
Average Queue (ft)	23	56	27	43	47	40
95th Queue (ft)	47	88	45	69	74	64
Link Distance (ft)		1183		736	396	495
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	105		100			
Storage Blk Time (%)		0		0		
Queuing Penalty (veh)		0		0		

Intersection: 10: Bridge St & Center Ave

Movement	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR
Maximum Queue (ft)	65	64	82	68
Average Queue (ft)	35	38	41	33
95th Queue (ft)	53	61	65	56
Link Distance (ft)	287	287	288	253
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Santa Fe St & Center Ave

Movement	WB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	157	220	119
Average Queue (ft)	77	89	41
95th Queue (ft)	132	177	95
Link Distance (ft)	308	258	231
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 12: Center Ave & Tipton St

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	15	50
Average Queue (ft)	1	25
95th Queue (ft)	9	48
Link Distance (ft)	308	257
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Liberty St & Center Ave

Movement	WB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	11	31	31
Average Queue (ft)	0	11	4
95th Queue (ft)	7	35	20
Link Distance (ft)	637	276	197
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 14: Burke St & Center Ave

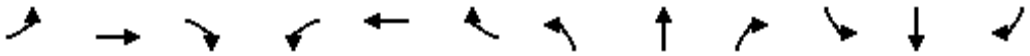
Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	45	72	75	72
Average Queue (ft)	21	40	36	42
95th Queue (ft)	46	64	56	66
Link Distance (ft)	637	1217	272	224
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 15: Ben Maddox Way & Center Ave

Movement	EB	NB	NB	SB	SB
Directions Served	LR	L	T	T	TR
Maximum Queue (ft)	38	84	12	17	10
Average Queue (ft)	16	34	1	1	0
95th Queue (ft)	41	68	15	13	5
Link Distance (ft)	1217		267	526	526
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		60			
Storage Blk Time (%)		1			
Queuing Penalty (veh)		4			

Network Summary

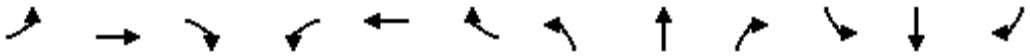
Network wide Queuing Penalty: 38



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	53	123	47	0	0	0	0	211	20	12	44	0
Future Volume (vph)	53	123	47	0	0	0	0	211	20	12	44	0
Peak Hour Factor	0.87	0.87	0.87	0.25	0.25	0.25	0.25	0.59	0.59	0.75	0.75	0.75
Hourly flow rate (vph)	61	141	54	0	0	0	0	358	34	16	59	0

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total (vph)	132	125	392	75
Volume Left (vph)	61	0	0	16
Volume Right (vph)	0	54	34	0
Hadj (s)	0.27	-0.27	-0.02	0.08
Departure Headway (s)	5.9	5.4	4.7	5.2
Degree Utilization, x	0.22	0.19	0.51	0.11
Capacity (veh/h)	571	629	748	650
Control Delay (s)	9.3	8.4	12.4	8.8
Approach Delay (s)	8.9		12.4	8.8
Approach LOS	A		B	A

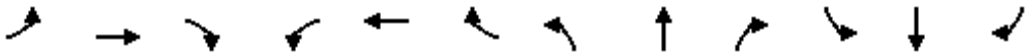
Intersection Summary				
Delay	10.8			
Level of Service	B			
Intersection Capacity Utilization	26.7%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	92	13	20	0	35	0	319	25	19	193	0
Future Volume (vph)	22	92	13	20	0	35	0	319	25	19	193	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0		5.0		5.0			5.0	
Lane Util. Factor	1.00	1.00		1.00		1.00		1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00		0.98		1.00			1.00	
Flpb, ped/bikes	1.00	1.00		1.00		1.00		1.00			1.00	
Frt	1.00	0.98		1.00		0.85		0.99			1.00	
Flt Protected	0.95	1.00		0.95		1.00		1.00			1.00	
Satd. Flow (prot)	1770	1823		1770		1546		1839			1853	
Flt Permitted	0.95	1.00		0.95		1.00		1.00			0.95	
Satd. Flow (perm)	1770	1823		1770		1546		1839			1761	
Peak-hour factor, PHF	0.90	0.90	0.90	0.54	0.25	0.54	0.72	0.72	0.72	0.87	0.87	0.87
Adj. Flow (vph)	24	102	14	37	0	65	0	443	35	22	222	0
RTOR Reduction (vph)	0	8	0	0	0	57	0	2	0	0	0	0
Lane Group Flow (vph)	24	108	0	37	0	8	0	476	0	0	244	0
Confl. Peds. (#/hr)			3			2	4		7	7		4
Confl. Bikes (#/hr)			1						5			4
Turn Type	Prot	NA		Prot		Perm		NA		Perm	NA	
Protected Phases	7	4		3				2			6	
Permitted Phases						3				6		
Actuated Green, G (s)	25.0	10.7		9.3		9.3		45.0			45.0	
Effective Green, g (s)	25.0	10.7		9.3		9.3		45.0			45.0	
Actuated g/C Ratio	0.31	0.13		0.12		0.12		0.56			0.56	
Clearance Time (s)	5.0	5.0		5.0		5.0		5.0			5.0	
Vehicle Extension (s)	3.5	3.5		3.5		3.5		3.5			3.5	
Lane Grp Cap (vph)	553	243		205		179		1034			990	
v/s Ratio Prot	0.01	c0.06		c0.02				c0.26				
v/s Ratio Perm						0.00					0.14	
v/c Ratio	0.04	0.45		0.18		0.04		0.46			0.25	
Uniform Delay, d1	19.2	31.9		31.9		31.4		10.3			8.9	
Progression Factor	1.00	1.00		1.00		1.00		1.00			1.17	
Incremental Delay, d2	0.0	1.5		0.5		0.1		1.5			0.6	
Delay (s)	19.2	33.5		32.4		31.5		11.8			11.0	
Level of Service	B	C		C		C		B			B	
Approach Delay (s)		31.0			31.8			11.8			11.0	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	16.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	121	2	7	74	7	1	6	12	9	3	3
Future Volume (Veh/h)	9	121	2	7	74	7	1	6	12	9	3	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.79	0.79	0.79	0.71	0.71	0.71	0.44	0.44	0.44
Hourly flow rate (vph)	10	141	2	9	94	9	1	8	17	20	7	7
Pedestrians								4			7	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								3.5			3.5	
Percent Blockage								0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		693										
pX, platoon unblocked												
vC, conflicting volume	110			147			293	294	146	306	290	106
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	110			147			293	294	146	306	290	106
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			100	99	98	97	99	99
cM capacity (veh/h)	1470			1429			635	603	898	612	605	943

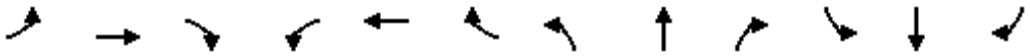
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	153	112	26	34
Volume Left	10	9	1	20
Volume Right	2	9	17	7
cSH	1470	1429	769	658
Volume to Capacity	0.01	0.01	0.03	0.05
Queue Length 95th (ft)	1	0	3	4
Control Delay (s)	0.5	0.7	9.8	10.8
Lane LOS	A	A	A	B
Approach Delay (s)	0.5	0.7	9.8	10.8
Approach LOS			A	B

Intersection Summary				
Average Delay	2.4			
Intersection Capacity Utilization	20.5%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	142	4	8	84	0	6
Future Volume (Veh/h)	142	4	8	84	0	6
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	154	4	9	91	0	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	1064					
pX, platoon unblocked						
vC, conflicting volume			158		265	156
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			158		265	156
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	99
cM capacity (veh/h)			1422		719	890

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	158	100	7
Volume Left	0	9	0
Volume Right	4	0	7
cSH	1700	1422	890
Volume to Capacity	0.09	0.01	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.7	9.1
Lane LOS		A	A
Approach Delay (s)	0.0	0.7	9.1
Approach LOS			A

Intersection Summary			
Average Delay		0.5	
Intersection Capacity Utilization		21.1%	ICU Level of Service
Analysis Period (min)		15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	12	127	8	24	68	23	3	138	38	32	126	6
Future Volume (vph)	12	127	8	24	68	23	3	138	38	32	126	6
Peak Hour Factor	0.81	0.81	0.81	0.88	0.88	0.88	0.74	0.74	0.74	0.77	0.77	0.77
Hourly flow rate (vph)	15	157	10	27	77	26	4	186	51	42	164	8

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	182	130	241	214
Volume Left (vph)	15	27	4	42
Volume Right (vph)	10	26	51	8
Hadj (s)	0.02	-0.04	-0.09	0.05
Departure Headway (s)	5.3	5.4	5.0	5.2
Degree Utilization, x	0.27	0.19	0.33	0.31
Capacity (veh/h)	618	605	675	648
Control Delay (s)	10.3	9.6	10.5	10.4
Approach Delay (s)	10.3	9.6	10.5	10.4
Approach LOS	B	A	B	B

Intersection Summary				
Delay	10.3			
Level of Service	B			
Intersection Capacity Utilization	42.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	179	9	12	114	3	3
Future Volume (Veh/h)	179	9	12	114	3	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	195	10	13	124	3	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				1023		
pX, platoon unblocked						
vC, conflicting volume			205		350	200
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			205		350	200
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	100
cM capacity (veh/h)			1366		641	841

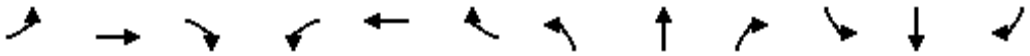
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	205	137	6
Volume Left	0	13	3
Volume Right	10	0	3
cSH	1700	1366	728
Volume to Capacity	0.12	0.01	0.01
Queue Length 95th (ft)	0	1	1
Control Delay (s)	0.0	0.8	10.0
Lane LOS		A	A
Approach Delay (s)	0.0	0.8	10.0
Approach LOS			A

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	26.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	162	14	24	130	2	40
Future Volume (Veh/h)	162	14	24	130	2	40
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	176	15	26	141	2	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				695		
pX, platoon unblocked						
vC, conflicting volume			191		376	184
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			191		376	184
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		100	95
cM capacity (veh/h)			1383		613	859

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	191	167	45
Volume Left	0	26	2
Volume Right	15	0	43
cSH	1700	1383	844
Volume to Capacity	0.11	0.02	0.05
Queue Length 95th (ft)	0	1	4
Control Delay (s)	0.0	1.3	9.5
Lane LOS		A	A
Approach Delay (s)	0.0	1.3	9.5
Approach LOS			A

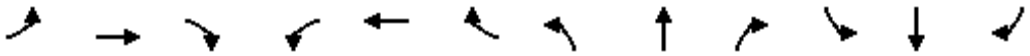
Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	30.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	104	70	36	76	87	65	579	126	87	649	32
Future Volume (vph)	30	104	70	36	76	87	65	579	126	87	649	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.5		4.0	5.5		4.0	5.5	5.5	4.0	5.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.94		1.00	0.92		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1740		1770	1698		1770	3539	1542	1770	3511	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1740		1770	1698		1770	3539	1542	1770	3511	
Peak-hour factor, PHF	0.84	0.84	0.84	0.73	0.73	0.73	0.91	0.91	0.91	0.94	0.94	0.94
Adj. Flow (vph)	36	124	83	49	104	119	71	636	138	93	690	34
RTOR Reduction (vph)	0	24	0	0	40	0	0	0	63	0	2	0
Lane Group Flow (vph)	36	183	0	49	183	0	71	636	75	93	722	0
Confl. Peds. (#/hr)			4			6			4			
Confl. Bikes (#/hr)						1						1
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	3.8	17.7		4.3	18.2		6.5	32.0	32.0	7.4	32.9	
Effective Green, g (s)	3.8	17.7		4.3	18.2		6.5	32.0	32.0	7.4	32.9	
Actuated g/C Ratio	0.05	0.22		0.05	0.23		0.08	0.40	0.40	0.09	0.41	
Clearance Time (s)	4.0	5.5		4.0	5.5		4.0	5.5	5.5	4.0	5.5	
Vehicle Extension (s)	2.0	5.5		2.0	5.5		2.0	5.5	5.5	2.0	5.5	
Lane Grp Cap (vph)	83	383		94	384		143	1408	613	162	1436	
v/s Ratio Prot	0.02	0.11		c0.03	c0.11		0.04	0.18		c0.05	c0.21	
v/s Ratio Perm									0.05			
v/c Ratio	0.43	0.48		0.52	0.48		0.50	0.45	0.12	0.57	0.50	
Uniform Delay, d1	37.3	27.3		37.0	27.0		35.4	17.8	15.3	35.0	17.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.3	2.3		2.4	2.3		1.0	1.0	0.4	3.0	1.3	
Delay (s)	38.6	29.6		39.4	29.2		36.4	18.8	15.7	38.0	18.9	
Level of Service	D	C		D	C		D	B	B	D	B	
Approach Delay (s)		30.9			31.1			19.8			21.1	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	22.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	80.4	Sum of lost time (s)	19.0
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		

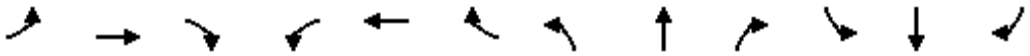
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	35	214	55	55	150	30	45	57	73	53	55	18
Future Volume (vph)	35	214	55	55	150	30	45	57	73	53	55	18
Peak Hour Factor	0.93	0.93	0.93	0.77	0.77	0.77	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	38	230	59	71	195	39	52	66	85	62	64	21

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	38	289	71	234	203	147
Volume Left (vph)	38	0	71	0	52	62
Volume Right (vph)	0	59	0	39	85	21
Hadj (s)	0.53	-0.11	0.53	-0.08	-0.17	0.03
Departure Headway (s)	6.6	5.9	6.6	6.0	5.7	6.0
Degree Utilization, x	0.07	0.48	0.13	0.39	0.32	0.25
Capacity (veh/h)	513	578	512	569	567	531
Control Delay (s)	8.9	13.0	9.4	11.5	11.4	11.0
Approach Delay (s)	12.5		11.0		11.4	11.0
Approach LOS	B		B		B	B

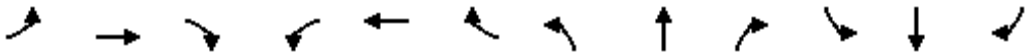
Intersection Summary				
Delay	11.6			
Level of Service	B			
Intersection Capacity Utilization	39.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	12	172	17	84	153	0	0	55	26
Future Volume (vph)	0	0	0	12	172	17	84	153	0	0	55	26
Peak Hour Factor	0.25	0.25	0.25	0.84	0.84	0.84	0.68	0.68	0.25	0.25	0.84	0.84
Hourly flow rate (vph)	0	0	0	14	205	20	124	225	0	0	65	31

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	117	123	349	96
Volume Left (vph)	14	0	124	0
Volume Right (vph)	0	20	0	31
Hadj (s)	0.09	-0.08	0.11	-0.16
Departure Headway (s)	5.7	5.5	4.8	4.8
Degree Utilization, x	0.18	0.19	0.46	0.13
Capacity (veh/h)	593	614	732	697
Control Delay (s)	8.8	8.6	11.8	8.5
Approach Delay (s)	8.7		11.8	8.5
Approach LOS	A		B	A

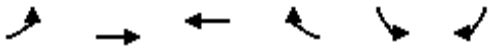
Intersection Summary				
Delay	10.2			
Level of Service	B			
Intersection Capacity Utilization	33.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	23	98	18	57	276	33	20	191	31
Future Volume (vph)	0	0	0	23	98	18	57	276	33	20	191	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					1.00			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			1.00	
Flpb, ped/bikes					1.00			1.00			1.00	
Frt					0.98			0.99			0.98	
Flt Protected					0.99			0.99			1.00	
Satd. Flow (prot)					1807			1818			1817	
Flt Permitted					0.99			0.91			0.95	
Satd. Flow (perm)					1807			1660			1735	
Peak-hour factor, PHF	0.25	0.25	0.25	0.85	0.85	0.85	0.76	0.76	0.76	0.82	0.82	0.82
Adj. Flow (vph)	0	0	0	27	115	21	75	363	43	24	233	38
RTOR Reduction (vph)	0	0	0	0	9	0	0	2	0	0	4	0
Lane Group Flow (vph)	0	0	0	0	154	0	0	479	0	0	291	0
Confl. Peds. (#/hr)				7		1	5		12	12		5
Confl. Bikes (#/hr)									3			3
Turn Type				Perm	NA		Perm	NA		Perm	NA	
Protected Phases					8			2			6	
Permitted Phases				8			2			6		
Actuated Green, G (s)					14.2			55.8			55.8	
Effective Green, g (s)					14.2			55.8			55.8	
Actuated g/C Ratio					0.18			0.70			0.70	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					3.5			3.5			3.5	
Lane Grp Cap (vph)					320			1157			1210	
v/s Ratio Prot												
v/s Ratio Perm					0.09			c0.29			0.17	
v/c Ratio					0.48			0.41			0.24	
Uniform Delay, d1					29.6			5.1			4.4	
Progression Factor					1.00			0.97			1.00	
Incremental Delay, d2					1.3			1.0			0.5	
Delay (s)					30.9			6.0			4.9	
Level of Service					C			A			A	
Approach Delay (s)		0.0			30.9			6.0			4.9	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	48.6%	ICU Level of Service	A
Analysis Period (min)	15		

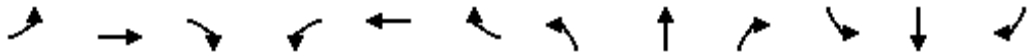
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	7	31	116	11	22	22
Future Volume (Veh/h)	7	31	116	11	22	22
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.83	0.83
Hourly flow rate (vph)	8	36	136	13	27	27
Pedestrians			1			
Lane Width (ft)			12.0			
Walking Speed (ft/s)			3.5			
Percent Blockage			0			
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		355				
pX, platoon unblocked						
vC, conflicting volume	149				196	142
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	149				196	142
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				97	97
cM capacity (veh/h)	1432				788	905

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	44	149	54
Volume Left	8	0	27
Volume Right	0	13	27
cSH	1432	1700	843
Volume to Capacity	0.01	0.09	0.06
Queue Length 95th (ft)	0	0	5
Control Delay (s)	1.4	0.0	9.6
Lane LOS	A		A
Approach Delay (s)	1.4	0.0	9.6
Approach LOS			A

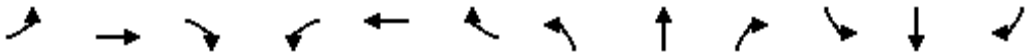
Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	17.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	39	8	10	119	3	7	1	6	1	0	3
Future Volume (Veh/h)	0	39	8	10	119	3	7	1	6	1	0	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.81	0.81	0.81	0.75	0.75	0.75	0.33	0.33	0.33
Hourly flow rate (vph)	0	44	9	12	147	4	9	1	8	3	0	9
Pedestrians								3			6	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								3.5			3.5	
Percent Blockage								0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		689										
pX, platoon unblocked												
vC, conflicting volume	157			56			234	232	52	236	235	155
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	157			56			234	232	52	236	235	155
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			99	100	99	100	100	99
cM capacity (veh/h)	1415			1544			703	657	1013	699	655	886

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	53	163	18	12
Volume Left	0	12	9	3
Volume Right	9	4	8	9
cSH	1415	1544	810	830
Volume to Capacity	0.00	0.01	0.02	0.01
Queue Length 95th (ft)	0	1	2	1
Control Delay (s)	0.0	0.6	9.5	9.4
Lane LOS		A	A	A
Approach Delay (s)	0.0	0.6	9.5	9.4
Approach LOS			A	A

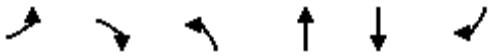
Intersection Summary				
Average Delay	1.6			
Intersection Capacity Utilization	23.7%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	6	20	13	8	115	20	32	127	15	9	137	23
Future Volume (vph)	6	20	13	8	115	20	32	127	15	9	137	23
Peak Hour Factor	0.88	0.88	0.88	0.87	0.87	0.87	0.81	0.81	0.81	0.80	0.80	0.80
Hourly flow rate (vph)	7	23	15	9	132	23	40	157	19	11	171	29

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	45	164	216	211
Volume Left (vph)	7	9	40	11
Volume Right (vph)	15	23	19	29
Hadj (s)	-0.13	-0.04	0.02	-0.04
Departure Headway (s)	5.0	5.0	4.7	4.7
Degree Utilization, x	0.06	0.23	0.28	0.27
Capacity (veh/h)	635	667	724	727
Control Delay (s)	8.4	9.4	9.6	9.4
Approach Delay (s)	8.4	9.4	9.6	9.4
Approach LOS	A	A	A	A

Intersection Summary				
Delay	9.4			
Level of Service	A			
Intersection Capacity Utilization	35.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	22	88	606	774	47
Future Volume (Veh/h)	2	22	88	606	774	47
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.42	0.42	0.90	0.90	0.93	0.93
Hourly flow rate (vph)	5	52	98	673	832	51
Pedestrians	1					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	TWLTL	
Median storage veh)					2	
Upstream signal (ft)				331		
pX, platoon unblocked	0.88					
vC, conflicting volume	1391	442	884			
vC1, stage 1 conf vol	858					
vC2, stage 2 conf vol	532					
vCu, unblocked vol	1175	442	884			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	91	87			
cM capacity (veh/h)	335	562	760			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	57	98	336	336	555	328
Volume Left	5	98	0	0	0	0
Volume Right	52	0	0	0	0	51
cSH	531	760	1700	1700	1700	1700
Volume to Capacity	0.11	0.13	0.20	0.20	0.33	0.19
Queue Length 95th (ft)	9	11	0	0	0	0
Control Delay (s)	12.6	10.4	0.0	0.0	0.0	0.0
Lane LOS	B	B				
Approach Delay (s)	12.6	1.3			0.0	
Approach LOS	B					

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	41.1%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection: 1: Bridge St & Main St

Movement	EB	EB	NB	SB
Directions Served	LT	TR	TR	LT
Maximum Queue (ft)	102	133	104	82
Average Queue (ft)	48	63	52	40
95th Queue (ft)	80	101	83	64
Link Distance (ft)	275	275	267	288
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Santa Fe St & Main St

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	R	TR	LT
Maximum Queue (ft)	88	196	116	95	222	264
Average Queue (ft)	27	104	50	34	99	123
95th Queue (ft)	64	178	91	66	182	225
Link Distance (ft)	284	284	640		280	258
Upstream Blk Time (%)					0	1
Queuing Penalty (veh)					0	4
Storage Bay Dist (ft)				75		
Storage Blk Time (%)			5	0		
Queuing Penalty (veh)			3	0		

Intersection: 3: Liberty St & Main St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	42	32	39	40
Average Queue (ft)	4	3	13	16
95th Queue (ft)	22	18	39	42
Link Distance (ft)	640	309	276	276
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Clark St & Main St

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	24	33
Average Queue (ft)	1	13
95th Queue (ft)	12	38
Link Distance (ft)	280	286
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Burke St & Main St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	157	108	80	71
Average Queue (ft)	68	53	45	40
95th Queue (ft)	122	85	70	62
Link Distance (ft)	280	257	314	272
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: Bradley St & Main St

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	37	35
Average Queue (ft)	3	15
95th Queue (ft)	20	40
Link Distance (ft)	271	299
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Edison St & Main St

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	42	72
Average Queue (ft)	6	37
95th Queue (ft)	28	61
Link Distance (ft)	618	292
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Ben Maddox Way & Main St

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	116	226	131	195	113	315	261	124	168	260	226
Average Queue (ft)	48	107	34	78	49	192	136	31	57	150	123
95th Queue (ft)	92	195	84	153	95	290	240	78	134	231	200
Link Distance (ft)		618		1183		425	425			267	267
Upstream Blk Time (%)										0	0
Queuing Penalty (veh)										1	0
Storage Bay Dist (ft)	90		60		280			71	95		
Storage Blk Time (%)	2	15	4	17		1	15	0	1	23	
Queuing Penalty (veh)	4	10	9	8		1	12	1	4	17	

Intersection: 9: Cain St & Main St

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	53	136	54	91	83	76
Average Queue (ft)	20	62	28	49	44	41
95th Queue (ft)	48	106	49	76	69	65
Link Distance (ft)		1183		736	396	495
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	105		100			
Storage Blk Time (%)		1		0		
Queuing Penalty (veh)		0		0		

Intersection: 10: Bridge St & Center Ave

Movement	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR
Maximum Queue (ft)	69	76	93	74
Average Queue (ft)	38	41	47	42
95th Queue (ft)	58	65	75	65
Link Distance (ft)	287	287	288	253
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Santa Fe St & Center Ave

Movement	WB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	211	230	198
Average Queue (ft)	103	99	75
95th Queue (ft)	174	194	160
Link Distance (ft)	308	258	231
Upstream Blk Time (%)		0	0
Queuing Penalty (veh)		0	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 12: Center Ave & Tipton St

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	33	7	54
Average Queue (ft)	4	0	24
95th Queue (ft)	20	4	48
Link Distance (ft)	308	272	257
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 13: Liberty St & Center Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	3	35	36	31
Average Queue (ft)	0	2	19	2
95th Queue (ft)	3	16	44	13
Link Distance (ft)	272	637	276	197
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 14: Burke St & Center Ave

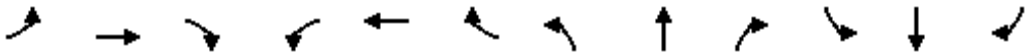
Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	70	77	67	84
Average Queue (ft)	34	44	36	42
95th Queue (ft)	55	67	53	69
Link Distance (ft)	637	1217	272	224
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 15: Ben Maddox Way & Center Ave

Movement	EB	NB	NB	NB	SB	SB
Directions Served	LR	L	T	T	T	TR
Maximum Queue (ft)	76	94	56	28	56	26
Average Queue (ft)	32	38	2	1	3	1
95th Queue (ft)	61	76	27	14	23	12
Link Distance (ft)	1217		267	267	526	526
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		60				
Storage Blk Time (%)		2	0			
Queuing Penalty (veh)		9	0			

Network Summary

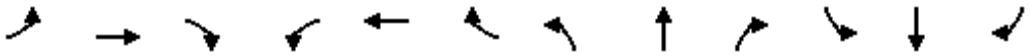
Network wide Queuing Penalty: 83



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	109	262	129	0	0	0	0	165	35	21	128	0
Future Volume (vph)	109	262	129	0	0	0	0	165	35	21	128	0
Peak Hour Factor	0.97	0.97	0.97	0.25	0.25	0.25	0.25	0.82	0.82	0.64	0.64	0.25
Hourly flow rate (vph)	112	270	133	0	0	0	0	201	43	33	200	0

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total (vph)	247	268	244	233
Volume Left (vph)	112	0	0	33
Volume Right (vph)	0	133	43	0
Hadj (s)	0.26	-0.31	-0.07	0.06
Departure Headway (s)	6.1	5.5	5.5	5.6
Degree Utilization, x	0.42	0.41	0.37	0.36
Capacity (veh/h)	568	629	625	606
Control Delay (s)	12.2	11.1	11.7	11.8
Approach Delay (s)	11.6		11.7	11.8
Approach LOS	B		B	B

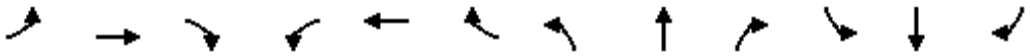
Intersection Summary				
Delay	11.7			
Level of Service	B			
Intersection Capacity Utilization	46.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	142	57	75	0	70	0	272	44	38	331	0
Future Volume (vph)	52	142	57	75	0	70	0	272	44	38	331	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0		5.0		5.0			5.0	
Lane Util. Factor	1.00	1.00		1.00		1.00		1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00		0.97		0.99			1.00	
Flpb, ped/bikes	1.00	1.00		1.00		1.00		1.00			1.00	
Frt	1.00	0.96		1.00		0.85		0.98			1.00	
Flt Protected	0.95	1.00		0.95		1.00		1.00			0.99	
Satd. Flow (prot)	1770	1765		1770		1532		1816			1851	
Flt Permitted	0.95	1.00		0.95		1.00		1.00			0.94	
Satd. Flow (perm)	1770	1765		1770		1532		1816			1747	
Peak-hour factor, PHF	0.86	0.86	0.86	0.82	0.25	0.82	0.25	0.97	0.97	0.86	0.86	0.25
Adj. Flow (vph)	60	165	66	91	0	85	0	280	45	44	385	0
RTOR Reduction (vph)	0	20	0	0	0	74	0	5	0	0	0	0
Lane Group Flow (vph)	60	211	0	91	0	11	0	320	0	0	429	0
Confl. Peds. (#/hr)			8			7	10		13	13		10
Confl. Bikes (#/hr)			1						2			5
Turn Type	Prot	NA		Prot		Perm		NA		Perm	NA	
Protected Phases	7	4		3				2			6	
Permitted Phases						3				6		
Actuated Green, G (s)	30.8	15.5		10.3		10.3		39.2			39.2	
Effective Green, g (s)	30.8	15.5		10.3		10.3		39.2			39.2	
Actuated g/C Ratio	0.39	0.19		0.13		0.13		0.49			0.49	
Clearance Time (s)	5.0	5.0		5.0		5.0		5.0			5.0	
Vehicle Extension (s)	3.5	3.5		3.5		3.5		3.5			3.5	
Lane Grp Cap (vph)	681	341		227		197		889			856	
v/s Ratio Prot	0.03	c0.12		c0.05				0.18				
v/s Ratio Perm						0.01					c0.25	
v/c Ratio	0.09	0.62		0.40		0.06		0.36			0.50	
Uniform Delay, d1	15.7	29.5		32.0		30.6		12.6			13.8	
Progression Factor	1.00	1.00		1.00		1.00		1.00			1.13	
Incremental Delay, d2	0.1	3.5		1.4		0.1		1.1			2.0	
Delay (s)	15.7	33.0		33.4		30.7		13.8			17.5	
Level of Service	B	C		C		C		B			B	
Approach Delay (s)		29.5			32.1			13.8			17.5	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	21.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	71.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	220	9	14	109	6	3	6	9	8	6	7
Future Volume (Veh/h)	17	220	9	14	109	6	3	6	9	8	6	7
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.89	0.89	0.89	0.80	0.80	0.80	0.75	0.75	0.75
Hourly flow rate (vph)	19	244	10	16	122	7	4	8	11	11	8	9
Pedestrians		3			2			4			6	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			0			0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		693										
pX, platoon unblocked				0.97			0.97	0.97	0.97	0.97	0.97	
vC, conflicting volume	135			258			464	458	255	468	460	134
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	135			221			434	427	218	437	429	134
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			99	98	99	98	98	99
cM capacity (veh/h)	1441			1304			489	487	793	484	486	907

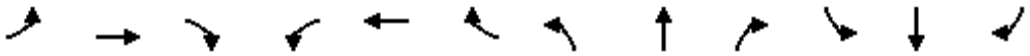
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	273	145	23	28
Volume Left	19	16	4	11
Volume Right	10	7	11	9
cSH	1441	1304	598	570
Volume to Capacity	0.01	0.01	0.04	0.05
Queue Length 95th (ft)	1	1	3	4
Control Delay (s)	0.6	1.0	11.3	11.6
Lane LOS	A	A	B	B
Approach Delay (s)	0.6	1.0	11.3	11.6
Approach LOS			B	B

Intersection Summary				
Average Delay	1.9			
Intersection Capacity Utilization	26.6%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	229	7	7	119	6	9
Future Volume (Veh/h)	229	7	7	119	6	9
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	249	8	8	129	7	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	1064					
pX, platoon unblocked						
vC, conflicting volume			257		398	253
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			257		398	253
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	99
cM capacity (veh/h)			1308		604	786

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	257	137	17
Volume Left	0	8	7
Volume Right	8	0	10
cSH	1700	1308	699
Volume to Capacity	0.15	0.01	0.02
Queue Length 95th (ft)	0	0	2
Control Delay (s)	0.0	0.5	10.3
Lane LOS		A	B
Approach Delay (s)	0.0	0.5	10.3
Approach LOS			B

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	22.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	20	246	23	28	120	42	8	131	49	44	120	7
Future Volume (vph)	20	246	23	28	120	42	8	131	49	44	120	7
Peak Hour Factor	0.87	0.87	0.87	0.72	0.72	0.72	0.75	0.75	0.75	0.72	0.72	0.72
Hourly flow rate (vph)	23	283	26	39	167	58	11	175	65	61	167	10

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	332	264	251	238
Volume Left (vph)	23	39	11	61
Volume Right (vph)	26	58	65	10
Hadj (s)	0.00	-0.07	-0.11	0.06
Departure Headway (s)	6.0	6.1	6.2	6.4
Degree Utilization, x	0.56	0.45	0.43	0.42
Capacity (veh/h)	555	526	522	498
Control Delay (s)	16.4	14.0	13.8	14.0
Approach Delay (s)	16.4	14.0	13.8	14.0
Approach LOS	C	B	B	B

Intersection Summary				
Delay	14.7			
Level of Service	B			
Intersection Capacity Utilization	48.8%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	256	17	10	152	6	14
Future Volume (Veh/h)	256	17	10	152	6	14
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	278	18	11	165	7	15
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				1023		
pX, platoon unblocked						
vC, conflicting volume			296		474	287
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			296		474	287
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	98
cM capacity (veh/h)			1265		544	752

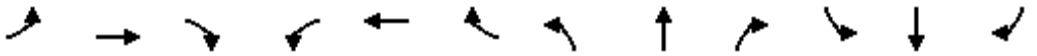
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	296	176	22
Volume Left	0	11	7
Volume Right	18	0	15
cSH	1700	1265	671
Volume to Capacity	0.17	0.01	0.03
Queue Length 95th (ft)	0	1	3
Control Delay (s)	0.0	0.6	10.6
Lane LOS		A	B
Approach Delay (s)	0.0	0.6	10.6
Approach LOS			B

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	26.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	256	12	17	172	9	87
Future Volume (Veh/h)	256	12	17	172	9	87
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	278	13	18	187	10	95
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				695		
pX, platoon unblocked						
vC, conflicting volume			291		508	284
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			291		508	284
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		98	87
cM capacity (veh/h)			1271		518	754

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	291	205	105
Volume Left	0	18	10
Volume Right	13	0	95
cSH	1700	1271	723
Volume to Capacity	0.17	0.01	0.15
Queue Length 95th (ft)	0	1	13
Control Delay (s)	0.0	0.8	10.8
Lane LOS		A	B
Approach Delay (s)	0.0	0.8	10.8
Approach LOS			B

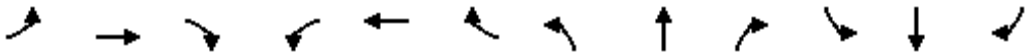
Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	35.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	66	134	124	49	98	129	64	729	83	73	677	34
Future Volume (vph)	66	134	124	49	98	129	64	729	83	73	677	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.5		4.0	5.5		4.0	5.5	5.5	4.0	5.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.93		1.00	0.91		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1717		1770	1704		1770	3539	1539	1770	3510	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1717		1770	1704		1770	3539	1539	1770	3510	
Peak-hour factor, PHF	0.83	0.83	0.83	0.74	0.74	0.74	0.93	0.93	0.93	0.86	0.86	0.86
Adj. Flow (vph)	80	161	149	66	132	174	69	784	89	85	787	40
RTOR Reduction (vph)	0	31	0	0	45	0	0	0	56	0	3	0
Lane Group Flow (vph)	80	279	0	66	261	0	69	784	33	85	824	0
Confl. Peds. (#/hr)			2						2			
Confl. Bikes (#/hr)			1						5			1
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	7.0	21.8		6.4	21.2		6.5	31.9	31.9	7.2	32.6	
Effective Green, g (s)	7.0	21.8		6.4	21.2		6.5	31.9	31.9	7.2	32.6	
Actuated g/C Ratio	0.08	0.25		0.07	0.25		0.08	0.37	0.37	0.08	0.38	
Clearance Time (s)	4.0	5.5		4.0	5.5		4.0	5.5	5.5	4.0	5.5	
Vehicle Extension (s)	2.0	5.5		2.0	5.5		2.0	5.5	5.5	2.0	5.5	
Lane Grp Cap (vph)	143	433		131	418		133	1308	568	147	1325	
v/s Ratio Prot	c0.05	c0.16		0.04	0.15		0.04	0.22		c0.05	c0.23	
v/s Ratio Perm									0.02			
v/c Ratio	0.56	0.64		0.50	0.62		0.52	0.60	0.06	0.58	0.62	
Uniform Delay, d1	38.2	28.8		38.4	29.0		38.4	22.0	17.5	38.1	21.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.7	4.9		1.1	4.5		1.4	2.0	0.2	3.4	2.2	
Delay (s)	40.8	33.6		39.5	33.5		39.8	24.1	17.7	41.5	24.0	
Level of Service	D	C		D	C		D	C	B	D	C	
Approach Delay (s)		35.1			34.6			24.6			25.7	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	28.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	86.3	Sum of lost time (s)	19.0
Intersection Capacity Utilization	64.0%	ICU Level of Service	C
Analysis Period (min)	15		

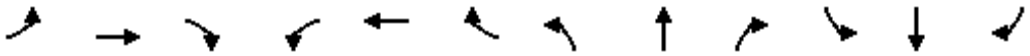
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	30	230	59	67	180	54	41	49	61	45	66	19
Future Volume (vph)	30	230	59	67	180	54	41	49	61	45	66	19
Peak Hour Factor	0.86	0.86	0.86	0.88	0.88	0.88	0.72	0.72	0.72	0.80	0.80	0.80
Hourly flow rate (vph)	35	267	69	76	205	61	57	68	85	56	83	24

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	35	336	76	266	210	163
Volume Left (vph)	35	0	76	0	57	56
Volume Right (vph)	0	69	0	61	85	24
Hadj (s)	0.53	-0.11	0.53	-0.13	-0.15	0.01
Departure Headway (s)	6.8	6.1	6.8	6.2	6.1	6.3
Degree Utilization, x	0.07	0.57	0.14	0.46	0.35	0.29
Capacity (veh/h)	497	551	494	551	530	501
Control Delay (s)	9.1	15.9	9.8	13.0	12.4	11.9
Approach Delay (s)	15.2		12.3		12.4	11.9
Approach LOS	C		B		B	B

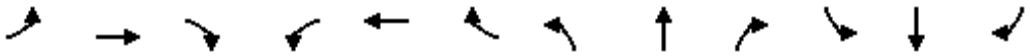
Intersection Summary				
Delay	13.2			
Level of Service	B			
Intersection Capacity Utilization	40.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	21	214	22	108	148	0	0	114	32
Future Volume (vph)	0	0	0	21	214	22	108	148	0	0	114	32
Peak Hour Factor	0.25	0.25	0.25	0.86	0.86	0.86	0.87	0.87	0.25	0.25	0.75	0.75
Hourly flow rate (vph)	0	0	0	24	249	26	124	170	0	0	152	43

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	149	151	294	195
Volume Left (vph)	24	0	124	0
Volume Right (vph)	0	26	0	43
Hadj (s)	0.11	-0.09	0.12	-0.10
Departure Headway (s)	5.9	5.6	5.1	5.0
Degree Utilization, x	0.24	0.24	0.42	0.27
Capacity (veh/h)	578	600	679	676
Control Delay (s)	9.5	9.2	11.7	9.9
Approach Delay (s)	9.3		11.7	9.9
Approach LOS	A		B	A

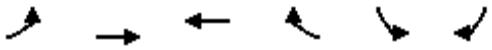
Intersection Summary				
Delay	10.3			
Level of Service	B			
Intersection Capacity Utilization	44.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	40	126	30	79	252	46	23	319	43
Future Volume (vph)	0	0	0	40	126	30	79	252	46	23	319	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					1.00			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			1.00	
Flpb, ped/bikes					1.00			1.00			1.00	
Frt					0.98			0.98			0.99	
Flt Protected					0.99			0.99			1.00	
Satd. Flow (prot)					1796			1806			1824	
Flt Permitted					0.99			0.83			0.96	
Satd. Flow (perm)					1796			1516			1764	
Peak-hour factor, PHF	0.25	0.25	0.25	0.76	0.76	0.76	0.90	0.90	0.90	0.82	0.82	0.82
Adj. Flow (vph)	0	0	0	53	166	39	88	280	51	28	389	52
RTOR Reduction (vph)	0	0	0	0	11	0	0	4	0	0	3	0
Lane Group Flow (vph)	0	0	0	0	247	0	0	415	0	0	466	0
Confl. Peds. (#/hr)				5		2	12					12
Confl. Bikes (#/hr)						3			3			9
Turn Type				Perm	NA		Perm	NA		Perm	NA	
Protected Phases					8			2			6	
Permitted Phases				8			2			6		
Actuated Green, G (s)					17.2			52.8			52.8	
Effective Green, g (s)					17.2			52.8			52.8	
Actuated g/C Ratio					0.21			0.66			0.66	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					3.5			3.5			3.5	
Lane Grp Cap (vph)					386			1000			1164	
v/s Ratio Prot												
v/s Ratio Perm					0.14			c0.27			0.26	
v/c Ratio					0.64			0.41			0.40	
Uniform Delay, d1					28.6			6.4			6.3	
Progression Factor					1.00			0.77			1.00	
Incremental Delay, d2					3.6			1.2			1.0	
Delay (s)					32.2			6.1			7.3	
Level of Service					C			A			A	
Approach Delay (s)		0.0			32.2			6.1			7.3	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	12.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		

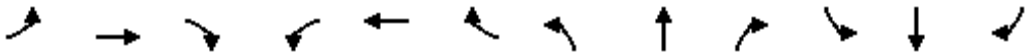
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	13	60	163	9	22	24
Future Volume (Veh/h)	13	60	163	9	22	24
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.77	0.77	0.88	0.88
Hourly flow rate (vph)	15	69	212	12	25	27
Pedestrians		2	5		4	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		355				
pX, platoon unblocked						
vC, conflicting volume	228				326	224
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	228				326	224
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				96	97
cM capacity (veh/h)	1335				655	811

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	84	224	52
Volume Left	15	0	25
Volume Right	0	12	27
cSH	1335	1700	728
Volume to Capacity	0.01	0.13	0.07
Queue Length 95th (ft)	1	0	6
Control Delay (s)	1.5	0.0	10.3
Lane LOS	A		B
Approach Delay (s)	1.5	0.0	10.3
Approach LOS			B

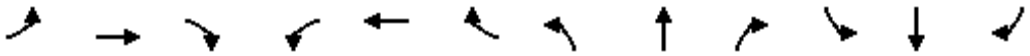
Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	25.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	87	9	17	161	1	12	0	15	2	0	0
Future Volume (Veh/h)	2	87	9	17	161	1	12	0	15	2	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.74	0.74	0.74	0.83	0.83	0.83	0.57	0.57	0.57	0.50	0.50	0.50
Hourly flow rate (vph)	3	118	12	20	194	1	21	0	26	4	0	0
Pedestrians		3						3			2	
Lane Width (ft)		12.0						12.0			12.0	
Walking Speed (ft/s)		3.5						3.5			3.5	
Percent Blockage		0						0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		689										
pX, platoon unblocked												
vC, conflicting volume	197			133			370	370	127	392	376	200
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	197			133			370	370	127	392	376	200
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			96	100	97	99	100	100
cM capacity (veh/h)	1373			1448			574	548	921	541	544	837

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	133	215	47	4
Volume Left	3	20	21	4
Volume Right	12	1	26	0
cSH	1373	1448	725	541
Volume to Capacity	0.00	0.01	0.06	0.01
Queue Length 95th (ft)	0	1	5	1
Control Delay (s)	0.2	0.8	10.3	11.7
Lane LOS	A	A	B	B
Approach Delay (s)	0.2	0.8	10.3	11.7
Approach LOS			B	B

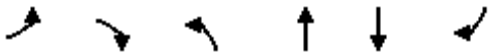
Intersection Summary				
Average Delay	1.8			
Intersection Capacity Utilization	27.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	14	53	31	20	123	24	39	121	7	13	118	34
Future Volume (vph)	14	53	31	20	123	24	39	121	7	13	118	34
Peak Hour Factor	0.62	0.62	0.62	0.84	0.84	0.84	0.77	0.77	0.77	0.80	0.80	0.80
Hourly flow rate (vph)	23	85	50	24	146	29	51	157	9	16	148	43

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	158	199	217	207
Volume Left (vph)	23	24	51	16
Volume Right (vph)	50	29	9	43
Hadj (s)	-0.13	-0.03	0.06	-0.08
Departure Headway (s)	5.2	5.3	5.2	5.1
Degree Utilization, x	0.23	0.29	0.32	0.30
Capacity (veh/h)	623	628	638	647
Control Delay (s)	9.8	10.4	10.7	10.3
Approach Delay (s)	9.8	10.4	10.7	10.3
Approach LOS	A	B	B	B

Intersection Summary				
Delay	10.3			
Level of Service	B			
Intersection Capacity Utilization	37.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	9	59	97	807	726	46
Future Volume (Veh/h)	9	59	97	807	726	46
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.64	0.64	0.95	0.95	0.83	0.83
Hourly flow rate (vph)	14	92	102	849	875	55
Pedestrians	3			3		
Lane Width (ft)	12.0			12.0		
Walking Speed (ft/s)	3.5			3.5		
Percent Blockage	0			0		
Right turn flare (veh)						
Median type				None	TWLTL	
Median storage veh)					2	
Upstream signal (ft)				331		
pX, platoon unblocked	0.84					
vC, conflicting volume	1534	471	933			
vC1, stage 1 conf vol	906					
vC2, stage 2 conf vol	628					
vCu, unblocked vol	1245	471	933			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	83	86			
cM capacity (veh/h)	315	536	727			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	106	102	424	424	583	347
Volume Left	14	102	0	0	0	0
Volume Right	92	0	0	0	0	55
cSH	491	727	1700	1700	1700	1700
Volume to Capacity	0.22	0.14	0.25	0.25	0.34	0.20
Queue Length 95th (ft)	20	12	0	0	0	0
Control Delay (s)	14.4	10.8	0.0	0.0	0.0	0.0
Lane LOS	B	B				
Approach Delay (s)	14.4	1.2			0.0	
Approach LOS	B					

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	42.2%	ICU Level of Service	A
Analysis Period (min)	15		

Appendix F - Near-Term Plus Alternative Conditions Synchro Level of Service and Queues Worksheets

Intersection: 1: Bridge St & Main St

Movement	EB	EB	NB	SB
Directions Served	LT	TR	TR	LT
Maximum Queue (ft)	58	87	95	51
Average Queue (ft)	34	41	50	27
95th Queue (ft)	52	68	77	48
Link Distance (ft)	275	275	267	288
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Santa Fe St & Main St

Movement	EB	EB	NB	SB
Directions Served	L	TR	TR	LT
Maximum Queue (ft)	55	135	149	132
Average Queue (ft)	17	62	53	50
95th Queue (ft)	47	111	111	105
Link Distance (ft)	284	284	266	284
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Liberty St & Main St

Movement	EB	NB	SB
Directions Served	LT	TR	LT
Maximum Queue (ft)	12	38	36
Average Queue (ft)	0	17	16
95th Queue (ft)	6	43	42
Link Distance (ft)	640	264	300
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Clark St & Main St

Movement	NB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	6
95th Queue (ft)	27
Link Distance (ft)	275
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: Burke St & Main St

Movement	EB	EB	NB	SB
Directions Served	LT	TR	TR	LT
Maximum Queue (ft)	68	77	76	71
Average Queue (ft)	35	39	43	39
95th Queue (ft)	56	62	67	61
Link Distance (ft)	274	274	302	296
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: Bradley St & Main St

Movement	NB
Directions Served	R
Maximum Queue (ft)	34
Average Queue (ft)	6
95th Queue (ft)	27
Link Distance (ft)	288
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: Edison St & Main St

Movement	NB
Directions Served	R
Maximum Queue (ft)	58
Average Queue (ft)	25
95th Queue (ft)	51
Link Distance (ft)	280
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Ben Maddox Way & Main St

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	R	T	T	R	L	T	T
Maximum Queue (ft)	131	177	83	71	321	268	121	153	230	174
Average Queue (ft)	59	83	35	24	183	103	36	59	115	79
95th Queue (ft)	107	146	73	53	285	225	77	117	193	153
Link Distance (ft)	622	622		1183	425	425			288	288
Upstream Blk Time (%)									0	
Queuing Penalty (veh)									0	
Storage Bay Dist (ft)			60				71	95		
Storage Blk Time (%)			5	1		5	0	3	12	
Queuing Penalty (veh)			7	0		6	1	10	11	

Intersection: 9: Cain St & Main St

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	48	112	52	88	83	75
Average Queue (ft)	22	55	26	44	46	40
95th Queue (ft)	47	89	47	71	71	63
Link Distance (ft)		1183		736	396	495
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	105		100			
Storage Blk Time (%)		0	0	0		
Queuing Penalty (veh)		0	0	0		

Intersection: 10: Bridge St & Center Ave

Movement	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR
Maximum Queue (ft)	82	100	79	67
Average Queue (ft)	45	56	42	34
95th Queue (ft)	72	88	65	54
Link Distance (ft)	287	287	288	253
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Santa Fe St & Center Ave

Movement	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR
Maximum Queue (ft)	127	141	192	118
Average Queue (ft)	65	75	89	46
95th Queue (ft)	110	123	162	97
Link Distance (ft)	302	302	284	233
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 12: Center Ave & Tipton St

Movement	SB
Directions Served	R
Maximum Queue (ft)	53
Average Queue (ft)	26
95th Queue (ft)	51
Link Distance (ft)	245
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 13: Liberty St & Center Ave

Movement	NB	SB
Directions Served	LT	TR
Maximum Queue (ft)	31	31
Average Queue (ft)	13	4
95th Queue (ft)	37	21
Link Distance (ft)	300	185
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 14: Burke St & Center Ave

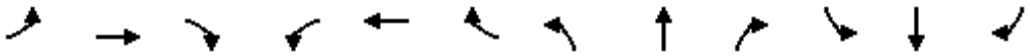
Movement	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR
Maximum Queue (ft)	66	80	70	98
Average Queue (ft)	40	43	38	46
95th Queue (ft)	60	68	57	78
Link Distance (ft)	1218	1218	296	212
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 15: Ben Maddox Way & Center Ave

Movement	NB	NB	NB	SB	SB
Directions Served	L	T	T	T	TR
Maximum Queue (ft)	117	177	78	6	20
Average Queue (ft)	73	16	3	0	1
95th Queue (ft)	119	102	46	5	10
Link Distance (ft)		288	288	520	520
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	60				
Storage Blk Time (%)	11				
Queuing Penalty (veh)	33				

Network Summary

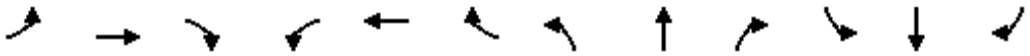
Network wide Queuing Penalty: 69



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	53	123	47	0	0	0	0	211	20	12	44	0
Future Volume (vph)	53	123	47	0	0	0	0	211	20	12	44	0
Peak Hour Factor	0.87	0.87	0.87	0.25	0.25	0.25	0.25	0.59	0.59	0.75	0.75	0.75
Hourly flow rate (vph)	61	141	54	0	0	0	0	358	34	16	59	0

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total (vph)	132	125	392	75
Volume Left (vph)	61	0	0	16
Volume Right (vph)	0	54	34	0
Hadj (s)	0.27	-0.27	-0.02	0.08
Departure Headway (s)	5.9	5.4	4.7	5.2
Degree Utilization, x	0.22	0.19	0.51	0.11
Capacity (veh/h)	571	629	748	650
Control Delay (s)	9.3	8.4	12.4	8.8
Approach Delay (s)	8.9		12.4	8.8
Approach LOS	A		B	A

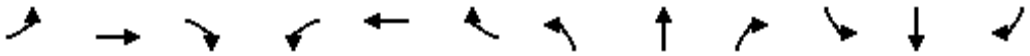
Intersection Summary				
Delay	10.8			
Level of Service	B			
Intersection Capacity Utilization	26.7%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	92	13	0	0	0	0	286	59	61	193	0
Future Volume (vph)	22	92	13	0	0	0	0	286	59	61	193	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0						5.0			5.0	
Lane Util. Factor	1.00	1.00						1.00			1.00	
Frpb, ped/bikes	1.00	1.00						1.00			1.00	
Flpb, ped/bikes	1.00	1.00						1.00			1.00	
Frt	1.00	0.98						0.98			1.00	
Flt Protected	0.95	1.00						1.00			0.99	
Satd. Flow (prot)	1770	1823						1813			1839	
Flt Permitted	0.95	1.00						1.00			0.82	
Satd. Flow (perm)	1770	1823						1813			1533	
Peak-hour factor, PHF	0.90	0.90	0.90	0.54	0.25	0.54	0.72	0.72	0.72	0.87	0.87	0.87
Adj. Flow (vph)	24	102	14	0	0	0	0	397	82	70	222	0
RTOR Reduction (vph)	0	8	0	0	0	0	0	5	0	0	0	0
Lane Group Flow (vph)	24	108	0	0	0	0	0	474	0	0	292	0
Confl. Peds. (#/hr)			3			2	4		7	7		4
Confl. Bikes (#/hr)			1						5			4
Turn Type	Prot	NA						NA		Perm	NA	
Protected Phases	7	4						2			6	
Permitted Phases										6		
Actuated Green, G (s)	10.9	10.9						59.1			59.1	
Effective Green, g (s)	10.9	10.9						59.1			59.1	
Actuated g/C Ratio	0.14	0.14						0.74			0.74	
Clearance Time (s)	5.0	5.0						5.0			5.0	
Vehicle Extension (s)	3.5	3.5						3.5			3.5	
Lane Grp Cap (vph)	241	248						1339			1132	
v/s Ratio Prot	0.01	c0.06						c0.26				
v/s Ratio Perm											0.19	
v/c Ratio	0.10	0.44						0.35			0.26	
Uniform Delay, d1	30.3	31.7						3.7			3.4	
Progression Factor	1.00	1.00						1.00			1.35	
Incremental Delay, d2	0.2	1.5						0.7			0.5	
Delay (s)	30.5	33.2						4.4			5.1	
Level of Service	C	C						A			A	
Approach Delay (s)		32.7			0.0			4.4			5.1	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	53.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	182	2	0	0	0	0	1	18	15	9	0
Future Volume (Veh/h)	23	182	2	0	0	0	0	1	18	15	9	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.79	0.79	0.79	0.71	0.71	0.71	0.44	0.44	0.44
Hourly flow rate (vph)	27	212	2	0	0	0	0	1	25	34	20	0
Pedestrians								4			7	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								3.5			3.5	
Percent Blockage								0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		693										
pX, platoon unblocked												
vC, conflicting volume	7			218			281	278	111	192	279	7
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	7			218			281	278	111	192	279	7
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			100	100	97	95	97	100
cM capacity (veh/h)	1601			1344			618	612	918	709	611	1066

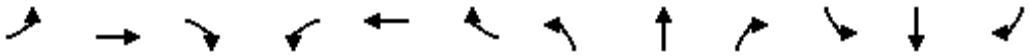
Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	133	108	26	54
Volume Left	27	0	0	34
Volume Right	0	2	25	0
cSH	1601	1700	900	669
Volume to Capacity	0.02	0.06	0.03	0.08
Queue Length 95th (ft)	1	0	2	7
Control Delay (s)	1.6	0.0	9.1	10.9
Lane LOS	A		A	B
Approach Delay (s)	0.9		9.1	10.9
Approach LOS			A	B

Intersection Summary				
Average Delay	3.2			
Intersection Capacity Utilization	24.2%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	209	11	0	0	0	6
Future Volume (Veh/h)	209	11	0	0	0	6
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	227	12	0	0	0	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	1064					
pX, platoon unblocked						
vC, conflicting volume			239		233	120
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			239		233	120
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	99
cM capacity (veh/h)			1325		735	910

Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	151	88	7
Volume Left	0	0	0
Volume Right	0	12	7
cSH	1700	1700	910
Volume to Capacity	0.09	0.05	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	9.0
Lane LOS			A
Approach Delay (s)	0.0		9.0
Approach LOS			A

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	16.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	28	174	21	0	0	0	0	141	38	41	159	0
Future Volume (vph)	28	174	21	0	0	0	0	141	38	41	159	0
Peak Hour Factor	0.81	0.81	0.81	0.88	0.88	0.88	0.74	0.74	0.74	0.77	0.77	0.77
Hourly flow rate (vph)	35	215	26	0	0	0	0	191	51	53	206	0

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total (vph)	143	134	242	259
Volume Left (vph)	35	0	0	53
Volume Right (vph)	0	26	51	0
Hadj (s)	0.16	-0.10	-0.09	0.07
Departure Headway (s)	5.9	5.6	4.9	5.0
Degree Utilization, x	0.23	0.21	0.33	0.36
Capacity (veh/h)	572	599	698	679
Control Delay (s)	9.5	8.9	10.3	10.9
Approach Delay (s)	9.2		10.3	10.9
Approach LOS	A		B	B

Intersection Summary				
Delay	10.1			
Level of Service	B			
Intersection Capacity Utilization	39.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	235	9	0	0	0	7
Future Volume (Veh/h)	235	9	0	0	0	7
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	255	10	0	0	0	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				1023		
pX, platoon unblocked						
vC, conflicting volume			265		260	132
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			265		260	132
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	99
cM capacity (veh/h)			1296		707	892

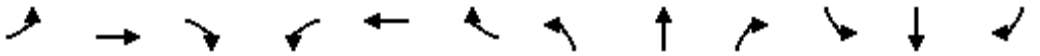
Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	170	95	8
Volume Left	0	0	0
Volume Right	0	10	8
cSH	1700	1700	892
Volume to Capacity	0.10	0.06	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	9.1
Lane LOS			A
Approach Delay (s)	0.0		9.1
Approach LOS			A

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	16.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	222	14	0	0	0	42
Future Volume (Veh/h)	222	14	0	0	0	42
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	241	15	0	0	0	46
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				695		
pX, platoon unblocked						
vC, conflicting volume			256		248	128
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			256		248	128
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	95
cM capacity (veh/h)			1306		718	898

Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	161	95	46
Volume Left	0	0	0
Volume Right	0	15	46
cSH	1700	1700	898
Volume to Capacity	0.09	0.06	0.05
Queue Length 95th (ft)	0	0	4
Control Delay (s)	0.0	0.0	9.2
Lane LOS			A
Approach Delay (s)	0.0		9.2
Approach LOS			A

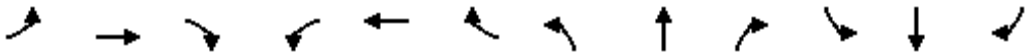
Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	16.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	104	70	59	0	141	0	644	126	87	681	0
Future Volume (vph)	92	104	70	59	0	141	0	644	126	87	681	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.5		4.0		5.5		5.5	5.5	4.0	5.5	
Lane Util. Factor	1.00	1.00		1.00		1.00		0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00		0.98		1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00		1.00		1.00	1.00	1.00	1.00	
Frt	1.00	0.94		1.00		0.85		1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1740		1770		1555		3539	1541	1770	3539	
Flt Permitted	0.95	1.00		0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1740		1770		1555		3539	1541	1770	3539	
Peak-hour factor, PHF	0.84	0.84	0.84	0.73	0.73	0.73	0.91	0.91	0.91	0.94	0.94	0.94
Adj. Flow (vph)	110	124	83	81	0	193	0	708	138	93	724	0
RTOR Reduction (vph)	0	26	0	0	0	156	0	0	60	0	0	0
Lane Group Flow (vph)	110	181	0	81	0	37	0	708	78	93	724	0
Confl. Peds. (#/hr)			4			6			4			
Confl. Bikes (#/hr)						1						1
Turn Type	Prot	NA		Prot		Perm		NA	Perm	Prot	NA	
Protected Phases	7	4		3				2		1	6	
Permitted Phases						8			2			
Actuated Green, G (s)	7.8	18.4		6.7		17.3		38.3	38.3	7.2	49.5	
Effective Green, g (s)	7.8	18.4		6.7		17.3		38.3	38.3	7.2	49.5	
Actuated g/C Ratio	0.09	0.21		0.07		0.19		0.43	0.43	0.08	0.55	
Clearance Time (s)	4.0	5.5		4.0		5.5		5.5	5.5	4.0	5.5	
Vehicle Extension (s)	2.0	5.5		2.0		5.5		5.5	5.5	2.0	5.5	
Lane Grp Cap (vph)	154	357		132		300		1512	658	142	1955	
v/s Ratio Prot	c0.06	c0.10		0.05				c0.20		c0.05	0.20	
v/s Ratio Perm						0.02			0.05			
v/c Ratio	0.71	0.51		0.61		0.12		0.47	0.12	0.65	0.37	
Uniform Delay, d1	39.8	31.6		40.2		29.9		18.4	15.5	40.0	11.3	
Progression Factor	1.00	1.00		1.00		1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	12.3	2.8		5.8		0.5		1.0	0.4	8.0	0.5	
Delay (s)	52.1	34.3		46.0		30.3		19.4	15.8	48.0	11.8	
Level of Service	D	C		D		C		B	B	D	B	
Approach Delay (s)		40.5			35.0			18.8			15.9	
Approach LOS		D			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	22.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	89.6	Sum of lost time (s)	19.0
Intersection Capacity Utilization	60.7%	ICU Level of Service	B
Analysis Period (min)	15		

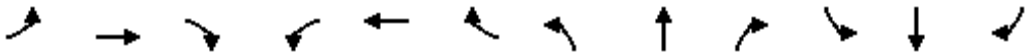
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	35	214	55	55	150	30	45	57	73	53	55	18
Future Volume (vph)	35	214	55	55	150	30	45	57	73	53	55	18
Peak Hour Factor	0.93	0.93	0.93	0.77	0.77	0.77	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	38	230	59	71	195	39	52	66	85	62	64	21

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	38	289	71	234	203	147
Volume Left (vph)	38	0	71	0	52	62
Volume Right (vph)	0	59	0	39	85	21
Hadj (s)	0.53	-0.11	0.53	-0.08	-0.17	0.03
Departure Headway (s)	6.6	5.9	6.6	6.0	5.7	6.0
Degree Utilization, x	0.07	0.48	0.13	0.39	0.32	0.25
Capacity (veh/h)	513	578	512	569	567	531
Control Delay (s)	8.9	13.0	9.4	11.5	11.4	11.0
Approach Delay (s)	12.5		11.0		11.4	11.0
Approach LOS	B		B		B	B

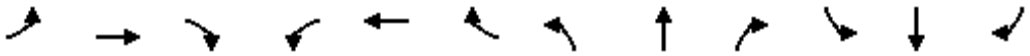
Intersection Summary				
Delay	11.6			
Level of Service	B			
Intersection Capacity Utilization	39.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	12	253	17	84	153	0	0	55	26
Future Volume (vph)	0	0	0	12	253	17	84	153	0	0	55	26
Peak Hour Factor	0.25	0.25	0.25	0.84	0.84	0.84	0.68	0.68	0.25	0.25	0.84	0.84
Hourly flow rate (vph)	0	0	0	14	301	20	124	225	0	0	65	31

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	165	171	349	96
Volume Left (vph)	14	0	124	0
Volume Right (vph)	0	20	0	31
Hadj (s)	0.08	-0.05	0.11	-0.16
Departure Headway (s)	5.7	5.6	5.0	5.1
Degree Utilization, x	0.26	0.26	0.49	0.14
Capacity (veh/h)	594	610	694	655
Control Delay (s)	9.5	9.4	12.6	8.9
Approach Delay (s)	9.5		12.6	8.9
Approach LOS	A		B	A

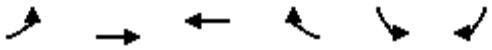
Intersection Summary				
Delay	10.8			
Level of Service	B			
Intersection Capacity Utilization	35.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	43	184	33	52	246	0	0	211	31
Future Volume (vph)	0	0	0	43	184	33	52	246	0	0	211	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			1.00	
Flpb, ped/bikes					1.00			1.00			1.00	
Frt					0.98			1.00			0.98	
Flt Protected					0.99			0.99			1.00	
Satd. Flow (prot)					3427			1846			1826	
Flt Permitted					0.99			0.90			1.00	
Satd. Flow (perm)					3427			1675			1826	
Peak-hour factor, PHF	0.25	0.25	0.25	0.85	0.85	0.85	0.76	0.76	0.76	0.82	0.82	0.82
Adj. Flow (vph)	0	0	0	51	216	39	68	324	0	0	257	38
RTOR Reduction (vph)	0	0	0	0	20	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	0	0	0	286	0	0	392	0	0	291	0
Confl. Peds. (#/hr)				7		1	5		12	12		5
Confl. Bikes (#/hr)									3			3
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8			2					
Actuated Green, G (s)					14.3			55.7			55.7	
Effective Green, g (s)					14.3			55.7			55.7	
Actuated g/C Ratio					0.18			0.70			0.70	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					3.5			3.5			3.5	
Lane Grp Cap (vph)					612			1166			1271	
v/s Ratio Prot											0.16	
v/s Ratio Perm					0.08			c0.23				
v/c Ratio					0.47			0.34			0.23	
Uniform Delay, d1					29.4			4.8			4.4	
Progression Factor					1.00			1.80			1.00	
Incremental Delay, d2					0.7			0.7			0.4	
Delay (s)					30.1			9.4			4.8	
Level of Service					C			A			A	
Approach Delay (s)		0.0			30.1			9.4			4.8	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	54.5%	ICU Level of Service	A
Analysis Period (min)	15		

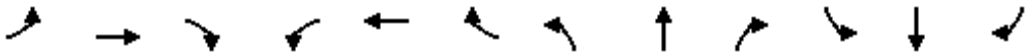
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	215	21	0	44
Future Volume (Veh/h)	0	0	215	21	0	44
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.83	0.83
Hourly flow rate (vph)	0	0	253	25	0	53
Pedestrians			1			
Lane Width (ft)			12.0			
Walking Speed (ft/s)			3.5			
Percent Blockage			0			
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		355				
pX, platoon unblocked						
vC, conflicting volume	278				266	139
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	278				266	139
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	94
cM capacity (veh/h)	1282				700	884

Direction, Lane #	WB 1	WB 2	SB 1
Volume Total	169	109	53
Volume Left	0	0	0
Volume Right	0	25	53
cSH	1700	1700	884
Volume to Capacity	0.10	0.06	0.06
Queue Length 95th (ft)	0	0	5
Control Delay (s)	0.0	0.0	9.3
Lane LOS			A
Approach Delay (s)	0.0		9.3
Approach LOS			A

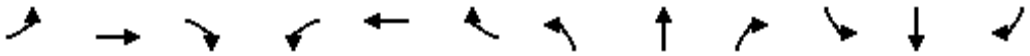
Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	16.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	19	221	12	14	2	0	0	1	3
Future Volume (Veh/h)	0	0	0	19	221	12	14	2	0	0	1	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.81	0.81	0.81	0.75	0.75	0.75	0.33	0.33	0.33
Hourly flow rate (vph)	0	0	0	23	273	15	19	3	0	0	3	9
Pedestrians								3			6	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								3.5			3.5	
Percent Blockage								0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		689										
pX, platoon unblocked												
vC, conflicting volume	294			3			196	343	3	334	336	150
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	294			3			196	343	3	334	336	150
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			97	99	100	100	99	99
cM capacity (veh/h)	1257			1613			720	565	1076	580	570	865

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	160	152	22	12
Volume Left	23	0	19	0
Volume Right	0	15	0	9
cSH	1613	1700	694	766
Volume to Capacity	0.01	0.09	0.03	0.02
Queue Length 95th (ft)	1	0	2	1
Control Delay (s)	1.1	0.0	10.4	9.8
Lane LOS	A		B	A
Approach Delay (s)	0.6		10.4	9.8
Approach LOS			B	A

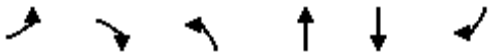
Intersection Summary				
Average Delay	1.5			
Intersection Capacity Utilization	25.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	45	223	55	44	126	0	0	149	23
Future Volume (vph)	0	0	0	45	223	55	44	126	0	0	149	23
Peak Hour Factor	0.88	0.88	0.88	0.87	0.87	0.87	0.81	0.81	0.81	0.80	0.80	0.80
Hourly flow rate (vph)	0	0	0	52	256	63	54	156	0	0	186	29

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	180	191	210	215
Volume Left (vph)	52	0	54	0
Volume Right (vph)	0	63	0	29
Hadj (s)	0.18	-0.20	0.09	-0.05
Departure Headway (s)	5.8	5.4	5.2	5.1
Degree Utilization, x	0.29	0.29	0.31	0.30
Capacity (veh/h)	591	634	652	666
Control Delay (s)	9.9	9.4	10.5	10.3
Approach Delay (s)	9.6		10.5	10.3
Approach LOS	A		B	B

Intersection Summary				
Delay	10.1			
Level of Service	B			
Intersection Capacity Utilization	38.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	269	606	774	81
Future Volume (Veh/h)	0	0	269	606	774	81
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.42	0.42	0.90	0.90	0.93	0.93
Hourly flow rate (vph)	0	0	299	673	832	87
Pedestrians	1					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	TWLTL	
Median storage veh)					2	
Upstream signal (ft)				331		
pX, platoon unblocked	0.89					
vC, conflicting volume	1811	460	920			
vC1, stage 1 conf vol	876					
vC2, stage 2 conf vol	934					
vCu, unblocked vol	1668	460	920			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	59			
cM capacity (veh/h)	202	548	738			

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	299	336	336	555	364
Volume Left	299	0	0	0	0
Volume Right	0	0	0	0	87
cSH	738	1700	1700	1700	1700
Volume to Capacity	0.41	0.20	0.20	0.33	0.21
Queue Length 95th (ft)	49	0	0	0	0
Control Delay (s)	13.2	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	4.1			0.0	
Approach LOS					

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	45.6%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection: 1: Bridge St & Main St

Movement	EB	EB	NB	SB
Directions Served	LT	TR	TR	LT
Maximum Queue (ft)	90	124	95	85
Average Queue (ft)	48	62	50	42
95th Queue (ft)	75	100	80	67
Link Distance (ft)	275	275	267	288
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Santa Fe St & Main St

Movement	EB	EB	NB	SB
Directions Served	L	TR	TR	LT
Maximum Queue (ft)	89	202	168	239
Average Queue (ft)	31	95	60	102
95th Queue (ft)	71	163	125	197
Link Distance (ft)	284	284	266	284
Upstream Blk Time (%)				0
Queuing Penalty (veh)				0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Liberty St & Main St

Movement	EB	EB	NB	SB
Directions Served	LT	TR	TR	LT
Maximum Queue (ft)	6	11	38	42
Average Queue (ft)	0	0	13	18
95th Queue (ft)	5	6	38	44
Link Distance (ft)	640	640	264	300
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Clark St & Main St

Movement	NB
Directions Served	R
Maximum Queue (ft)	34
Average Queue (ft)	11
95th Queue (ft)	35
Link Distance (ft)	275
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: Burke St & Main St

Movement	EB	EB	NB	SB
Directions Served	LT	TR	TR	LT
Maximum Queue (ft)	72	98	82	84
Average Queue (ft)	40	54	44	38
95th Queue (ft)	64	85	70	64
Link Distance (ft)	274	274	302	296
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: Bradley St & Main St

Movement	NB
Directions Served	R
Maximum Queue (ft)	40
Average Queue (ft)	13
95th Queue (ft)	39
Link Distance (ft)	288
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: Edison St & Main St

Movement	NB
Directions Served	R
Maximum Queue (ft)	78
Average Queue (ft)	36
95th Queue (ft)	60
Link Distance (ft)	280
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Ben Maddox Way & Main St

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	R	T	T	R	L	T	T
Maximum Queue (ft)	136	305	118	151	400	328	161	161	256	229
Average Queue (ft)	55	146	46	47	242	168	38	63	154	112
95th Queue (ft)	111	250	95	100	357	295	106	134	234	198
Link Distance (ft)	622	622		1183	425	425			288	288
Upstream Blk Time (%)					0				0	0
Queuing Penalty (veh)					0				0	0
Storage Bay Dist (ft)			60				71	95		
Storage Blk Time (%)			10	5		15	0	2	22	
Queuing Penalty (veh)			20	4		12	1	9	16	

Intersection: 9: Cain St & Main St

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	41	131	53	97	78	73
Average Queue (ft)	20	59	28	49	45	41
95th Queue (ft)	45	101	48	80	69	65
Link Distance (ft)		1183		736	396	495
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	105		100			
Storage Blk Time (%)		1		0		
Queuing Penalty (veh)		0		0		

Intersection: 10: Bridge St & Center Ave

Movement	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR
Maximum Queue (ft)	92	108	97	84
Average Queue (ft)	47	55	46	44
95th Queue (ft)	76	89	76	68
Link Distance (ft)	287	287	288	253
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Santa Fe St & Center Ave

Movement	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR
Maximum Queue (ft)	137	152	171	204
Average Queue (ft)	75	79	81	79
95th Queue (ft)	121	129	150	164
Link Distance (ft)	302	302	284	233
Upstream Blk Time (%)				0
Queuing Penalty (veh)				0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 12: Center Ave & Tipton St

Movement	WB	WB	SB
Directions Served	T	TR	R
Maximum Queue (ft)	3	5	55
Average Queue (ft)	0	0	27
95th Queue (ft)	4	4	49
Link Distance (ft)	278	278	245
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 13: Liberty St & Center Ave

Movement	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR
Maximum Queue (ft)	3	5	46	31
Average Queue (ft)	0	0	17	2
95th Queue (ft)	3	5	45	15
Link Distance (ft)	637	637	300	185
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 14: Burke St & Center Ave

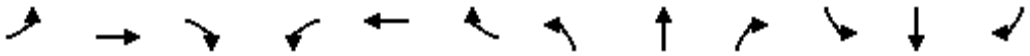
Movement	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR
Maximum Queue (ft)	74	80	55	86
Average Queue (ft)	41	41	33	44
95th Queue (ft)	63	66	47	71
Link Distance (ft)	1218	1218	296	212
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 15: Ben Maddox Way & Center Ave

Movement	NB	NB	NB	SB	SB
Directions Served	L	T	T	T	TR
Maximum Queue (ft)	118	167	98	34	20
Average Queue (ft)	66	14	6	2	1
95th Queue (ft)	113	90	52	18	9
Link Distance (ft)		288	288	520	520
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	60				
Storage Blk Time (%)	10	0			
Queuing Penalty (veh)	39	0			

Network Summary

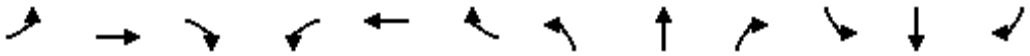
Network wide Queuing Penalty: 101



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	109	262	129	0	0	0	0	165	35	21	128	0
Future Volume (vph)	109	262	129	0	0	0	0	165	35	21	128	0
Peak Hour Factor	0.97	0.97	0.97	0.25	0.25	0.25	0.25	0.82	0.82	0.64	0.64	0.25
Hourly flow rate (vph)	112	270	133	0	0	0	0	201	43	33	200	0

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total (vph)	247	268	244	233
Volume Left (vph)	112	0	0	33
Volume Right (vph)	0	133	43	0
Hadj (s)	0.26	-0.31	-0.07	0.06
Departure Headway (s)	6.1	5.5	5.5	5.6
Degree Utilization, x	0.42	0.41	0.37	0.36
Capacity (veh/h)	568	629	625	606
Control Delay (s)	12.2	11.1	11.7	11.8
Approach Delay (s)	11.6		11.7	11.8
Approach LOS	B		B	B

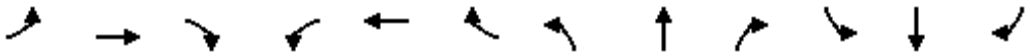
Intersection Summary				
Delay	11.7			
Level of Service	B			
Intersection Capacity Utilization	46.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	142	57	0	0	0	0	225	91	83	331	0
Future Volume (vph)	52	142	57	0	0	0	0	225	91	83	331	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0						5.0			5.0	
Lane Util. Factor	1.00	1.00						1.00			1.00	
Frpb, ped/bikes	1.00	0.99						0.99			1.00	
Flpb, ped/bikes	1.00	1.00						1.00			1.00	
Frt	1.00	0.96						0.96			1.00	
Flt Protected	0.95	1.00						1.00			0.99	
Satd. Flow (prot)	1770	1765						1776			1841	
Flt Permitted	0.95	1.00						1.00			0.87	
Satd. Flow (perm)	1770	1765						1776			1612	
Peak-hour factor, PHF	0.86	0.86	0.86	0.82	0.25	0.82	0.25	0.97	0.97	0.86	0.86	0.25
Adj. Flow (vph)	60	165	66	0	0	0	0	232	94	97	385	0
RTOR Reduction (vph)	0	21	0	0	0	0	0	13	0	0	0	0
Lane Group Flow (vph)	60	210	0	0	0	0	0	313	0	0	482	0
Confl. Peds. (#/hr)			8			7	10		13	13		10
Confl. Bikes (#/hr)			1						2			5
Turn Type	Prot	NA						NA		Perm	NA	
Protected Phases	7	4						2			6	
Permitted Phases										6		
Actuated Green, G (s)	15.5	15.5						54.5			54.5	
Effective Green, g (s)	15.5	15.5						54.5			54.5	
Actuated g/C Ratio	0.19	0.19						0.68			0.68	
Clearance Time (s)	5.0	5.0						5.0			5.0	
Vehicle Extension (s)	3.5	3.5						3.5			3.5	
Lane Grp Cap (vph)	342	341						1209			1098	
v/s Ratio Prot	0.03	c0.12						0.18				
v/s Ratio Perm											c0.30	
v/c Ratio	0.18	0.62						0.26			0.44	
Uniform Delay, d1	26.9	29.5						4.9			5.8	
Progression Factor	1.00	1.00						1.00			1.29	
Incremental Delay, d2	0.3	3.5						0.5			1.2	
Delay (s)	27.2	33.0						5.5			8.7	
Level of Service	C	C						A			A	
Approach Delay (s)		31.8			0.0			5.5			8.7	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	13.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	305	9	0	0	0	0	3	14	10	14	0
Future Volume (Veh/h)	23	305	9	0	0	0	0	3	14	10	14	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.89	0.89	0.89	0.80	0.80	0.80	0.75	0.75	0.75
Hourly flow rate (vph)	26	339	10	0	0	0	0	4	18	13	19	0
Pedestrians		3			2			4			6	
Lane Width (ft)		12.0			0.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			0			0			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		693										
pX, platoon unblocked												
vC, conflicting volume	6			353			412	406	180	250	411	9
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	6			353			412	406	180	250	411	9
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			100	99	98	98	96	100
cM capacity (veh/h)	1604			1198			496	519	828	648	516	1061

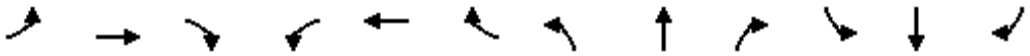
Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	196	180	22	32
Volume Left	26	0	0	13
Volume Right	0	10	18	0
cSH	1604	1700	747	562
Volume to Capacity	0.02	0.11	0.03	0.06
Queue Length 95th (ft)	1	0	2	5
Control Delay (s)	1.1	0.0	10.0	11.8
Lane LOS	A		A	B
Approach Delay (s)	0.6		10.0	11.8
Approach LOS			A	B

Intersection Summary				
Average Delay	1.9			
Intersection Capacity Utilization	27.9%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	321	7	0	0	0	14
Future Volume (Veh/h)	321	7	0	0	0	14
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	349	8	0	0	0	15
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	1064					
pX, platoon unblocked						
vC, conflicting volume			357		353	178
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			357		353	178
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	98
cM capacity (veh/h)			1198		618	834

Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	233	124	15
Volume Left	0	0	0
Volume Right	0	8	15
cSH	1700	1700	834
Volume to Capacity	0.14	0.07	0.02
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	9.4
Lane LOS			A
Approach Delay (s)	0.0		9.4
Approach LOS			A

Intersection Summary			
Average Delay		0.4	
Intersection Capacity Utilization		19.1%	ICU Level of Service
Analysis Period (min)		15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	26	330	31	0	0	0	0	139	49	55	120	0
Future Volume (vph)	26	330	31	0	0	0	0	139	49	55	120	0
Peak Hour Factor	0.87	0.87	0.87	0.72	0.72	0.72	0.75	0.75	0.75	0.72	0.72	0.72
Hourly flow rate (vph)	30	379	36	0	0	0	0	185	65	76	167	0

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total (vph)	220	226	250	243
Volume Left (vph)	30	0	0	76
Volume Right (vph)	0	36	65	0
Hadj (s)	0.10	-0.08	-0.12	0.10
Departure Headway (s)	5.9	5.8	5.3	5.5
Degree Utilization, x	0.36	0.36	0.37	0.37
Capacity (veh/h)	579	599	645	618
Control Delay (s)	11.1	10.8	11.4	11.8
Approach Delay (s)	10.9		11.4	11.8
Approach LOS	B		B	B

Intersection Summary				
Delay	11.3			
Level of Service	B			
Intersection Capacity Utilization	45.5%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	350	18	0	0	0	20
Future Volume (Veh/h)	350	18	0	0	0	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	380	20	0	0	0	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				1023		
pX, platoon unblocked						
vC, conflicting volume			400		390	200
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			400		390	200
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	97
cM capacity (veh/h)			1155		586	808

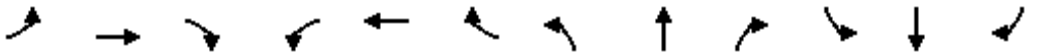
Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	253	147	22
Volume Left	0	0	0
Volume Right	0	20	22
cSH	1700	1700	808
Volume to Capacity	0.15	0.09	0.03
Queue Length 95th (ft)	0	0	2
Control Delay (s)	0.0	0.0	9.6
Lane LOS			A
Approach Delay (s)	0.0		9.6
Approach LOS			A

Intersection Summary			
Average Delay		0.5	
Intersection Capacity Utilization		20.2%	ICU Level of Service
Analysis Period (min)		15	

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	353	14	0	0	0	96
Future Volume (Veh/h)	353	14	0	0	0	96
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	384	15	0	0	0	104
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				695		
pX, platoon unblocked						
vC, conflicting volume			399		392	200
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			399		392	200
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	87
cM capacity (veh/h)			1156		585	808

Direction, Lane #	EB 1	EB 2	NB 1
Volume Total	256	143	104
Volume Left	0	0	0
Volume Right	0	15	104
cSH	1700	1700	808
Volume to Capacity	0.15	0.08	0.13
Queue Length 95th (ft)	0	0	11
Control Delay (s)	0.0	0.0	10.1
Lane LOS			B
Approach Delay (s)	0.0		10.1
Approach LOS			B

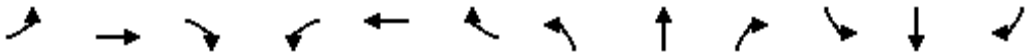
Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	22.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	134	216	75	0	201	0	793	83	73	711	0
Future Volume (vph)	79	134	216	75	0	201	0	793	83	73	711	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.5		4.0		5.5		5.5	5.5	4.0	5.5	
Lane Util. Factor	1.00	1.00		1.00		1.00		0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00		1.00		1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00		1.00		1.00	1.00	1.00	1.00	
Frt	1.00	0.91		1.00		0.85		1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1675		1770		1583		3539	1538	1770	3539	
Flt Permitted	0.95	1.00		0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1675		1770		1583		3539	1538	1770	3539	
Peak-hour factor, PHF	0.83	0.83	0.83	0.74	0.74	0.74	0.93	0.93	0.93	0.86	0.86	0.86
Adj. Flow (vph)	95	161	260	101	0	272	0	853	89	85	827	0
RTOR Reduction (vph)	0	57	0	0	0	195	0	0	55	0	0	0
Lane Group Flow (vph)	95	364	0	101	0	77	0	853	34	85	827	0
Confl. Peds. (#/hr)			2						2			
Confl. Bikes (#/hr)			1						5			1
Turn Type	Prot	NA		Prot		Perm		NA	Perm	Prot	NA	
Protected Phases	7	4		3				2		1	6	
Permitted Phases						8			2			
Actuated Green, G (s)	7.5	27.9		8.0		28.4		37.9	37.9	6.9	48.8	
Effective Green, g (s)	7.5	27.9		8.0		28.4		37.9	37.9	6.9	48.8	
Actuated g/C Ratio	0.08	0.28		0.08		0.28		0.38	0.38	0.07	0.49	
Clearance Time (s)	4.0	5.5		4.0		5.5		5.5	5.5	4.0	5.5	
Vehicle Extension (s)	2.0	5.5		2.0		5.5		5.5	5.5	2.0	5.5	
Lane Grp Cap (vph)	133	468		142		450		1345	584	122	1732	
v/s Ratio Prot	0.05	c0.22		c0.06				c0.24		c0.05	0.23	
v/s Ratio Perm						0.05			0.02			
v/c Ratio	0.71	0.78		0.71		0.17		0.63	0.06	0.70	0.48	
Uniform Delay, d1	45.1	33.0		44.7		26.8		25.2	19.6	45.4	17.0	
Progression Factor	1.00	1.00		1.00		1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	14.0	9.6		13.1		0.4		2.3	0.2	13.1	0.9	
Delay (s)	59.1	42.7		57.8		27.3		27.5	19.8	58.4	17.9	
Level of Service	E	D		E		C		C	B	E	B	
Approach Delay (s)		45.7			35.5			26.8			21.7	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	29.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	99.7	Sum of lost time (s)	19.0
Intersection Capacity Utilization	68.5%	ICU Level of Service	C
Analysis Period (min)	15		

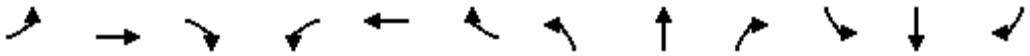
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	30	230	59	67	180	54	41	49	61	45	66	19
Future Volume (vph)	30	230	59	67	180	54	41	49	61	45	66	19
Peak Hour Factor	0.86	0.86	0.86	0.88	0.88	0.88	0.72	0.72	0.72	0.80	0.80	0.80
Hourly flow rate (vph)	35	267	69	76	205	61	57	68	85	56	83	24

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	35	336	76	266	210	163
Volume Left (vph)	35	0	76	0	57	56
Volume Right (vph)	0	69	0	61	85	24
Hadj (s)	0.53	-0.11	0.53	-0.13	-0.15	0.01
Departure Headway (s)	6.8	6.1	6.8	6.2	6.1	6.3
Degree Utilization, x	0.07	0.57	0.14	0.46	0.35	0.29
Capacity (veh/h)	497	551	494	551	530	501
Control Delay (s)	9.1	15.9	9.8	13.0	12.4	11.9
Approach Delay (s)	15.2		12.3		12.4	11.9
Approach LOS	C		B		B	B

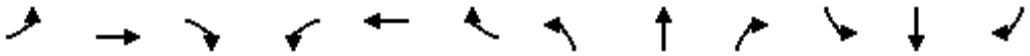
Intersection Summary				
Delay	13.2			
Level of Service	B			
Intersection Capacity Utilization	40.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	21	267	22	108	148	0	0	114	32
Future Volume (vph)	0	0	0	21	267	22	108	148	0	0	114	32
Peak Hour Factor	0.25	0.25	0.25	0.86	0.86	0.86	0.87	0.87	0.25	0.25	0.75	0.75
Hourly flow rate (vph)	0	0	0	24	310	26	124	170	0	0	152	43

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	179	181	294	195
Volume Left (vph)	24	0	124	0
Volume Right (vph)	0	26	0	43
Hadj (s)	0.10	-0.07	0.12	-0.10
Departure Headway (s)	5.9	5.7	5.3	5.2
Degree Utilization, x	0.29	0.29	0.43	0.28
Capacity (veh/h)	579	598	658	653
Control Delay (s)	10.1	9.8	12.2	10.2
Approach Delay (s)	10.0		12.2	10.2
Approach LOS	A		B	B

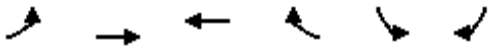
Intersection Summary				
Delay	10.8			
Level of Service	B			
Intersection Capacity Utilization	45.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	62	195	46	63	199	0	0	342	43
Future Volume (vph)	0	0	0	62	195	46	63	199	0	0	342	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					0.95			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			1.00	
Flpb, ped/bikes					1.00			1.00			1.00	
Frt					0.98			1.00			0.99	
Flt Protected					0.99			0.99			1.00	
Satd. Flow (prot)					3403			1838			1829	
Flt Permitted					0.99			0.82			1.00	
Satd. Flow (perm)					3403			1532			1829	
Peak-hour factor, PHF	0.25	0.25	0.25	0.76	0.76	0.76	0.90	0.90	0.90	0.82	0.82	0.82
Adj. Flow (vph)	0	0	0	82	257	61	70	221	0	0	417	52
RTOR Reduction (vph)	0	0	0	0	25	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	0	0	0	375	0	0	291	0	0	466	0
Confl. Peds. (#/hr)				5		2	12					12
Confl. Bikes (#/hr)						3			3			9
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8			2					
Actuated Green, G (s)					16.0			54.0			54.0	
Effective Green, g (s)					16.0			54.0			54.0	
Actuated g/C Ratio					0.20			0.68			0.68	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					3.5			3.5			3.5	
Lane Grp Cap (vph)					680			1034			1234	
v/s Ratio Prot											c0.25	
v/s Ratio Perm					0.11			0.19				
v/c Ratio					0.55			0.28			0.38	
Uniform Delay, d1					28.8			5.2			5.7	
Progression Factor					1.00			1.54			1.00	
Incremental Delay, d2					1.1			0.7			0.9	
Delay (s)					29.8			8.7			6.6	
Level of Service					C			A			A	
Approach Delay (s)		0.0			29.8			8.7			6.6	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	15.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		

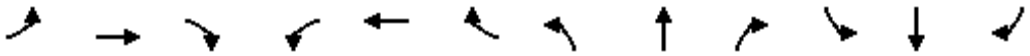
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	250	18	0	46
Future Volume (Veh/h)	0	0	250	18	0	46
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.77	0.77	0.88	0.88
Hourly flow rate (vph)	0	0	325	23	0	52
Pedestrians		2	5		4	
Lane Width (ft)		0.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		355				
pX, platoon unblocked						
vC, conflicting volume	352				346	180
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	352				346	180
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	94
cM capacity (veh/h)	1199				620	829

Direction, Lane #	WB 1	WB 2	SB 1
Volume Total	217	131	52
Volume Left	0	0	0
Volume Right	0	23	52
cSH	1700	1700	829
Volume to Capacity	0.13	0.08	0.06
Queue Length 95th (ft)	0	0	5
Control Delay (s)	0.0	0.0	9.6
Lane LOS			A
Approach Delay (s)	0.0		9.6
Approach LOS			A

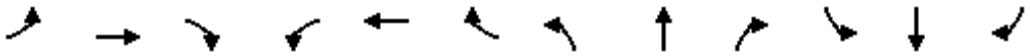
Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	18.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	28	243	6	25	1	0	0	2	0
Future Volume (Veh/h)	0	0	0	28	243	6	25	1	0	0	2	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.74	0.74	0.74	0.83	0.83	0.83	0.57	0.57	0.57	0.50	0.50	0.50
Hourly flow rate (vph)	0	0	0	34	293	7	44	2	0	0	4	0
Pedestrians		3						3			2	
Lane Width (ft)		0.0						12.0			12.0	
Walking Speed (ft/s)		3.5						3.5			3.5	
Percent Blockage		0						0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		689										
pX, platoon unblocked												
vC, conflicting volume	302			3			222	373	3	368	370	155
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	302			3			222	373	3	368	370	155
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			94	100	100	100	99	100
cM capacity (veh/h)	1253			1613			694	542	1076	550	544	861

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	180	154	46	4
Volume Left	34	0	44	0
Volume Right	0	7	0	0
cSH	1613	1700	686	544
Volume to Capacity	0.02	0.09	0.07	0.01
Queue Length 95th (ft)	2	0	5	1
Control Delay (s)	1.5	0.0	10.6	11.7
Lane LOS	A		B	B
Approach Delay (s)	0.8		10.6	11.7
Approach LOS			B	B

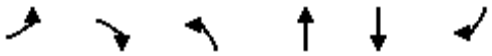
Intersection Summary				
Average Delay	2.1			
Intersection Capacity Utilization	26.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	42	218	57	41	98	0	0	131	34
Future Volume (vph)	0	0	0	42	218	57	41	98	0	0	131	34
Peak Hour Factor	0.62	0.62	0.62	0.84	0.84	0.84	0.77	0.77	0.77	0.80	0.80	0.80
Hourly flow rate (vph)	0	0	0	50	260	68	53	127	0	0	164	43

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	180	198	180	207
Volume Left (vph)	50	0	53	0
Volume Right (vph)	0	68	0	43
Hadj (s)	0.17	-0.21	0.09	-0.09
Departure Headway (s)	5.7	5.3	5.2	5.0
Degree Utilization, x	0.28	0.29	0.26	0.29
Capacity (veh/h)	603	649	652	677
Control Delay (s)	9.7	9.2	10.1	10.0
Approach Delay (s)	9.5		10.1	10.0
Approach LOS	A		B	B

Intersection Summary				
Delay	9.8			
Level of Service	A			
Intersection Capacity Utilization	39.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	246	807	726	46
Future Volume (Veh/h)	0	0	246	807	726	46
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.64	0.64	0.95	0.95	0.83	0.83
Hourly flow rate (vph)	0	0	259	849	875	55
Pedestrians	3			3		
Lane Width (ft)	0.0			12.0		
Walking Speed (ft/s)	3.5			3.5		
Percent Blockage	0			0		
Right turn flare (veh)						
Median type				None	TWLTL	
Median storage veh)					2	
Upstream signal (ft)				331		
pX, platoon unblocked	0.83					
vC, conflicting volume	1848	471	933			
vC1, stage 1 conf vol	906					
vC2, stage 2 conf vol	942					
vCu, unblocked vol	1612	471	933			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	64			
cM capacity (veh/h)	227	538	729			

Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	259	424	424	583	347
Volume Left	259	0	0	0	0
Volume Right	0	0	0	0	55
cSH	729	1700	1700	1700	1700
Volume to Capacity	0.36	0.25	0.25	0.34	0.20
Queue Length 95th (ft)	40	0	0	0	0
Control Delay (s)	12.6	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	3.0			0.0	
Approach LOS					

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	49.5%	ICU Level of Service	A
Analysis Period (min)	15		