MEMO

TO: Sai Sarepalli, PE

FROM: Jennifer Conley, PE, PTOE

SUBJECT: Shelburne Street Signal Timing Optimization and Coordination

DATE: June 30, 2018

INTRODUCTION

WSP USA has been assigned to evaluate current traffic signal operations along the Shelburne Street corridor in Burlington and provide recommendations for signal operations improvements. The improvements will be realized through timing optimization and coordination of five signalized intersections.

PROJECT LIMITS STUDY AREA

The project study area limits involve the area along Shelburne Street from its intersection with the I-189 westbound off ramp to the south up to Prospect Parkway to the north.

The study area includes the following intersections:

1. Shelburne Street at the I-189 westbound off ramp
2. Shelburne Street at the Shopping Center Plazas
3. Shelburne Street at Home Avenue and Farrell Street
4. Shelburne Street at Flynn Avenue
5. Shelburne Street at Prospect Parkway

The numbered study area intersections are shown on Figure 1.

WSP USA
349 Lakewood Drive
Killington, VT 05751

Tel.: +1 802 345-2321
wsp.com

FIGURE 1: PROJECT LOCUS MAP

EXISTING CONDITIONS

WSP conducted a field inventory of the study area intersections. The intersection geometry (lane usage and width), traffic control devices, and pedestrian accommodations were noted for use in the intersection analysis. In addition, any conditions that may limit efficiency or affect safety were noted during the field visits.

Traffic signal timing and phasing information were field collected and provided by the City of Burlington. Traffic count data were collected and analyzed to determine the existing operating conditions.

TRAFFIC SIGNAL TIMING INFORMATION

Traffic signal timing and phasing information was obtained during multiple field visits. In addition, data from the traffic signal controllers was provided by the Traffic Signal Engineer at the Burlington Public Works Department. Finally, the traffic progression through the corridor was observed over multiple site visits.

EXISTING TRAFFIC VOLUMES

WSP collected turning movement counts (TMCs) from the Vermont Agency of Transportation (VTrans) Data Management System. For locations that count data was not available or older than 2016, intersection turning movement count data was collected during a typical weekday AM (7:00 to 9:00 AM) and PM peak period (4:00 to 6:00 PM). In order to ensure that the peak time of year was being captured, counts were conducted in April when both the City of Burlington school system and local colleges were in session. Because there were imbalances in the network between the current count data and count data from previous years, traffic count data was spot checked at the imbalance locations and the traffic count data was adjusted accordingly.

The peak hour volumes collected were evaluated to determine if they were representative of the Design Hourly Volume (DHV). The DHV typically represents the 30th highest hour of the year on any given roadway and is the conservative standard by which VTrans determines intersection operations. WSP researched VTrans' Red Book which provides information on variations in traffic volumes at each of VTrans' permanent count stations in addition to providing summary factors and equations.

Based on the 2013 AADT of 31,700 vehicles per day on Shelburne Street just south of its intersection with the Interstate I-189 westbound ramps, the DHV is 3,600 vehicles. Based on the 2011 AADT of 24,100 vehicles per day on Shelburne Street just south of its intersection with Flynn Avenue, the DHV is 2,500 vehicles. WSP confirmed that the traffic volume networks were consistent with this volume. No further adjustment was required.

The 2018 Existing peak hour traffic volumes are also provided in the Appendix.

FUTURE CONDITIONS

Future conditions traffic volumes were developed to account for the anticipated effect of the introduction of the Champlain Parkway into the roadway network. Because the original permitting used a projected year of 2028 and the CCRPC traffic forecasting model is for year 2025, WSP adjusted the existing traffic volume network to represent a

2025 condition. Based on VTrans data, traffic volumes are expected to grow by three percent over the seven year period.

Traffic volume networks were obtained from the original permitting documents for the Champlain Parkway and the net traffic volume differences between the 2025 condition without and with the Champlain Parkway were determined for the study area intersections. The permitting documents expected a reduction of almost 1000 trips on Shelburne Street just north of the ramps during the peak hours. Approximately 400 of those reduced trips would have been oriented to and from Home Avenue and another 300 oriented to and from Flynn Avenue.

In addition, CCRPC was contacted and the year 2015 and 2025 traffic models were provided for conditions with and without the Champlain Parkway in place. The traffic model is predicting a less significant impact than the permitting documents and that the impact will be felt only as far north as Flynn Avenue. The traffic model is showing a reduction of 450 trips during the AM peak hour and 650 trips during the PM peak hour on Shelburne Street north of the ramps. Of those the traffic model had predicted that 200 of the reduced trips would be oriented to and from Home Avenue during the AM peak hour and close to 400 during the PM peak hour. The traffic model assigned 250 of the reduced trips during the AM peak hour and 300 of the reduced trips during the PM peak hour to and from Flynn Avenue. Because the traffic model resulted in higher levels of traffic remaining on Shelburne Street, those adjustments were included in our analysis. The traffic volumes for the resulting condition with the Champlain Parkway in place are provided in the Appendix.

INTERSECTON SIGNAL TIMING

The City of Burlington Traffic Signal Engineer provided WSP with the vehicular clearances (yellow and all red time). Based on discussion with the Traffic Signal Engineer, the City prefers to use a consistent four seconds of yellow time and one second of all red time except at the off ramp from I-189 which during off peak times can be traveled at high speeds. WSP included these preferred clearances in all analysis.

The City of Burlington also provided WSP with preferred pedestrian timing. The City provides a leading pedestrian interval with concurrent pedestrian phasing at most locations. The leading pedestrian interval timing was not consistent along the study corridor. The City of Burlington Traffic Signal Engineer indicated a preference for a seven second leading pedestrian interval and the length of minimum pedestrian timing in the corridor which were implemented into the final timing plans. Finally, the City has expressed an interest in maintaining a plan with two equal phases at the intersection of Shelburne Street at the I-189 off ramp in order to meter the traffic entering the corridor and ensure acceptable corridor operations.

WSP developed a traffic model with current traffic volumes, geometrics and existing traffic signal timings with modifications to reflect the clearances and pedestrian timings using Synchro 10 software. Once entered, WSP evaluated different cycle

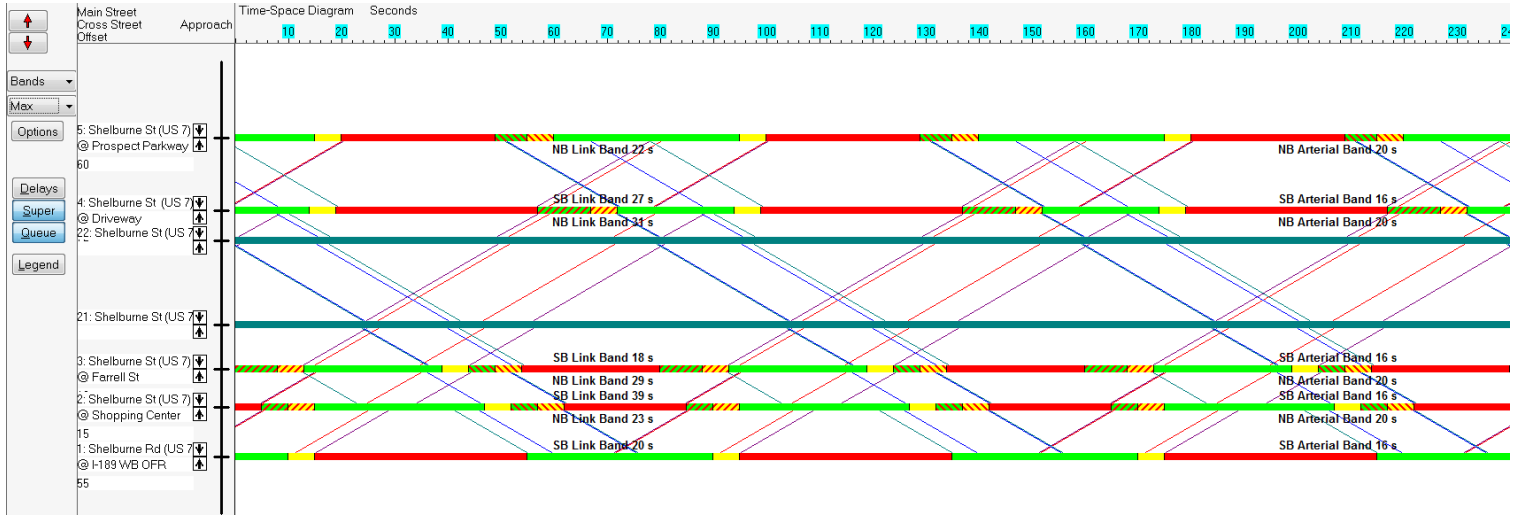
lengths from 80 to 100 seconds for the corridor optimizing the operations at each intersection (with the exception of the intersection of Shelburne Street at the I-189 off ramp). The offsets and splits were optimized using the software and then manually manipulated in order to ensure the best progression through the corridor in both the north and south directions. When reviewing the time space diagrams, locations where modifying the main street left turn phase from leading to lagging would result in better progression were modified.

SimTraffic microsimulation was used to observe the operations of the corridor and identify any areas of concern. Based on the analysis and simulation results, the time allocated to some Shelburne Street left turn movements were increased to better manage queuing with little impact to the operation of the thru movements and no impact to the progression band.

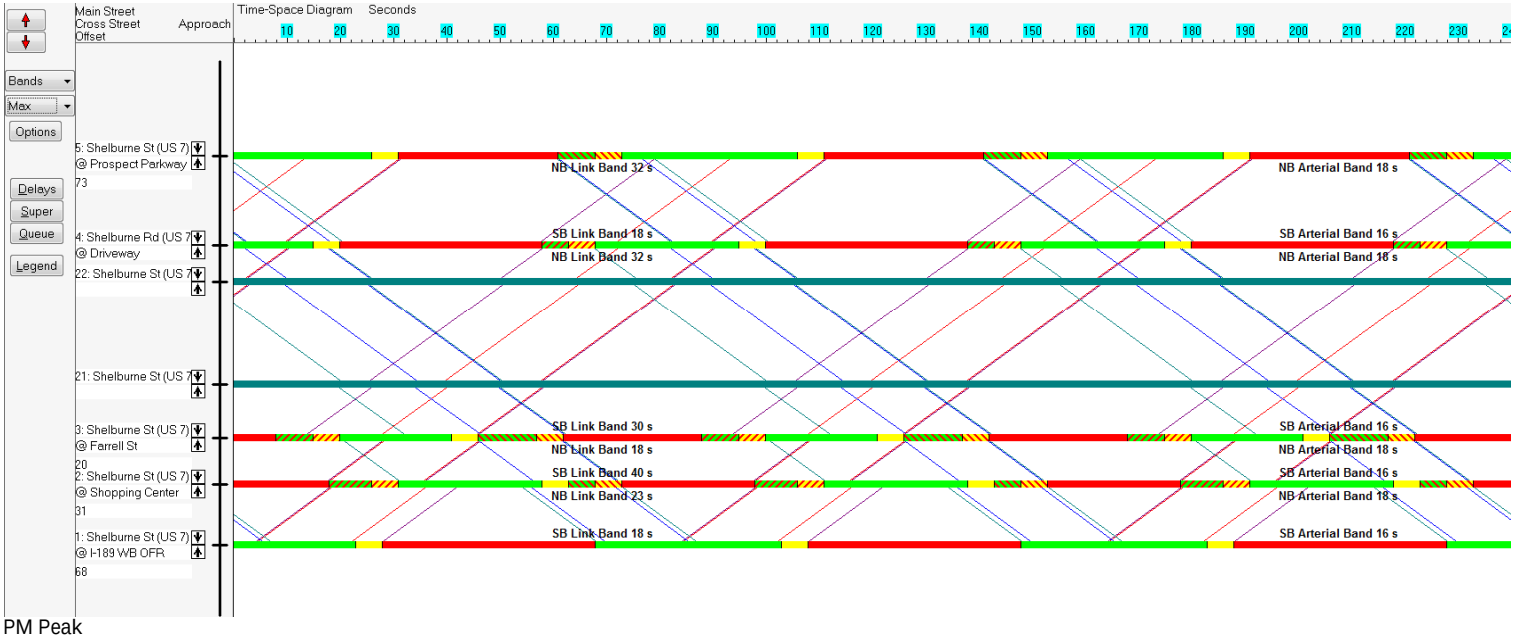
RECOMMENDED TIMING PLANS

CURRENT CONDITIONS

WSP determined that with the proper offsets, the 80 second cycle length provided efficient progression bands in both the northbound and southbound directions while keeping the delays and queues low. During the AM peak hour, there will be a 20 second northbound arterial band and a 16 second southbound arterial band. During the PM peak hour, there will be an 18 second northbound arterial band and a 16 second southbound arterial band. An illustration of the time space diagrams is provided below on Figure 2.



AM Peak



PM Peak

FIGURE 2: TIME SPACE DIAGRAMS FOR RECOMMENDED TIMING PLAN

The most significant changes occurred at the intersection of Shelburne Street at the Shopping Center Plazas and Shelburne Street at Home Avenue and Farrell Street. At both of these closely spaced intersections, modifying the left turn phasing to reflect a northbound lead and a southbound lag significantly improved the progression through the corridor. At the intersection with Flynn Avenue and with Prospect Parkway, the phase sequence remains the same as existing with some minor modifications to split times. At Flynn Avenue, based on calculations, the exclusive pedestrian phase was reduced to 25 seconds. At the intersection Prospect Parkway, the side street splits are reduced slightly while still maintaining the minimums required for pedestrian crossing.

As indicated above, at all locations, the optimal offsets were developed in order to maximize progression. After the time space diagrams were used to maximize that progression, some minor tweaks that would not affect that progression band were made to provide time to minor movements that were experiencing queuing.

The Signal Timing Intersection Operations Summary table found in the Appendix illustrates the levels of service, delay and queuing by lane group based on the Synchro output. As noted, the Synchro projected vehicle queues do not represent the benefits of optimal offsets as illustrated in the simulation. Based on the simulation, the queues will be well managed.

FUTURE CONDITIONS WITH THE CHAMPLAIN PARKWAY

The construction of the Champlain Parkway will reduce volumes within the Shelburne Street corridor, with the largest benefit being the reduction of thru volumes at the Shopping Center Plazas and thru volumes and turns on and off of Home and Flynn Avenues. As a result of the reductions of the turning traffic at Home and Flynn Avenues, the delays are decreased for those movements, but little time can be changed as these phases are currently operating at or near their minimums. The reduction of thru volumes does allow slightly more time to be allocated to the side streets with little impact to the operation of the thru movements. The resulting timing plan provides a northbound progression band of 17 seconds and southbound of 16 seconds during the AM peak hour. During the PM peak hour, a northbound progression band of 15 seconds and a southbound progression band of 16 seconds will be provided. In the event that the construction of the Champlain Parkway reduces traffic enough for the City to contemplate changing the timing splits at the I-189 off ramp intersection, WSP verified that an additional three to five seconds of time can be provided to the ramp (with a corresponding shift to the offset) and still provide the progression bands outlined above.

OTHER FACTORS AND RECOMMENDATIONS

Although commenting on traffic signal equipment, geometrics and other infrastructure was beyond the scope of this assignment, WSP made a number of observations while

visiting the corridor and has shared many of these concerns to the City during coordination meetings. In summary, they appear below:

I-189 Off Ramp and Shelburne Street Intersection

At the intersection of the I-189 ramp and Shelburne Street, the current approach is to use the ramp for metering traffic entering the corridor. With the construction of the Champlain Parkway, the ramp volume is expected to be reduced by 150 to 200 vehicles during the peak hours which may reduce some of the queues, however, if the queues are to extend back onto the I-189 mainline connection to the Champlain Parkway, the queue management will become more of a concern in a way it is not now (vehicles can currently queue to I-89 without impacting other through traffic). It is recommended that advanced queue discharge detection be installed on the ramp that can override the signal to ensure that a stopped queue does not become a hazard to the interstate highway systems operation. There are physical and advanced technological improvements that can aid in this effort as well. The designers for the Champlain Parkway are likely aware of the standing queue and are designing physical improvements to account for this condition.

Shelburne Street and Shopping Center Plazas Intersection

Pedestrians crossing at the intersection of Shelburne Street and the Shopping Center Plazas must cross uncontrolled movements on each corner as none of the right turn lanes are under signal control. In fact, a crosswalk is only provided on the southeast corner. On the southwest corner, there are sidewalks to connect to, but no crosswalk pavement markings. A sidewalk is provided along Shelburne Street to the north of this intersection but there is no connection to or from it without either walking across Shelburne Street or the shopping center, neither of which have a crosswalk. Because this sidewalk to nowhere provides access to the bus stop, it is likely that people are using it.

The City should consider pedestrian improvements at this location. Based on discussions with the City's Traffic Signal Engineer, the traffic signal controller at this intersection has been struck numerous times and should be relocated. WSP would recommend that if changes are contemplated to the controller, islands, etc, that pedestrian accommodation is considered at this intersection.

Shelburne Street and Home Avenue/Farrell Street Intersection

The location of the bus stop on the southwest corner of Shelburne Street at Home Avenue and Farrell Street causes problems to the operation of that intersection by causing queuing through the intersection. The problem is most significant when two busses are simultaneously at the stop (which may be good for transfers but causes challenges to Shelburne Street traffic operation). It is recommended that the routes and schedules be reviewed. In addition, if improvements are contemplated along Shelburne Street, a pull out area for the bus stop should be considered. Based on the

short distance to the adjoining intersections and the southbound turn lane into the shopping center to the south, a safe and efficient pull out design may not be possible, but it should be investigated to provide for less southbound vehicular delay.

The radii on the corners of Shelburne Street at Home Avenue and Farrell Street result in significant crossing distances. A review of the truck turning paths may result in the ability to tighten up the crossing distances. WSP did note some conflicts with the southbound right turn traffic and the concurrent pedestrian movement across the west leg. These conflicts may occur because the sidewalk and crosswalk are not located alongside the edge of the travel way so pedestrians may be not be as visible to drivers. That in combination with large turning radii that allow higher speed turns may result in some drivers not yielding to pedestrians.

Another concern at the intersection of Shelburne Street at Home Avenue and Farrell Street is the confluence of many large curb cuts on the Walgreens property. These result in vehicles entering and exiting that parcel almost as a part of this intersection which leads to confusion regarding the rights of way for motorists and pedestrians. Ideally, an access management plan that takes into account the circulation needs of the Walgreens (truck deliveries) should be conducted. Opportunities to reduce or eliminate driveways should be a goal to improve safety on this leg of the intersection.

Shelburne Street and Flynn Avenue Intersection

The double stop bar on the driveway that forms the east leg of the intersection of Shelburne Street and Flynn Avenue should be eliminated. The stop bar should be provided behind the crosswalk. Ultimately a design of this intersection may be to construct a crosswalk closer to the edge of pavement to provide additional on site queuing for this commercial property.

Ultimately, concurrent pedestrian phasing should be implemented at the intersection of Shelburne Street and Flynn Avenue, in order for it to be consistent with the remainder of the corridor. At this point, the City is hesitant to provide concurrent pedestrian crossing on the west leg of the intersection due to the heavy volume of northbound left turns that would conflict with them. The City Traffic Signal Engineer has indicated that he the City has plans to replace the existing “dog house” signal with a more up to date configuration with flashing yellow and red arrows to control that movement. With the construction of the Champlain Parkway, the northbound left turn volumes from Shelburne Street onto Flynn Avenue will reduce significantly which will make a concurrent pedestrian plan more feasible even without new equipment.

Another challenge for concurrent pedestrians would be the large radii on the southwest corner of the intersection. The radii was likely provided to serve the heavy volumes of trucks oriented to and from Flynn Avenue, however, because those trucks exiting Flynn Avenue have two receiving lanes on Shelburne Street, it is likely that this corner can be tightened up significantly in order to provide shorter crossing distances

as well as calm eastbound turning vehicles, that in the future may be conflicting with concurrent pedestrians crossing Shelburne Street.

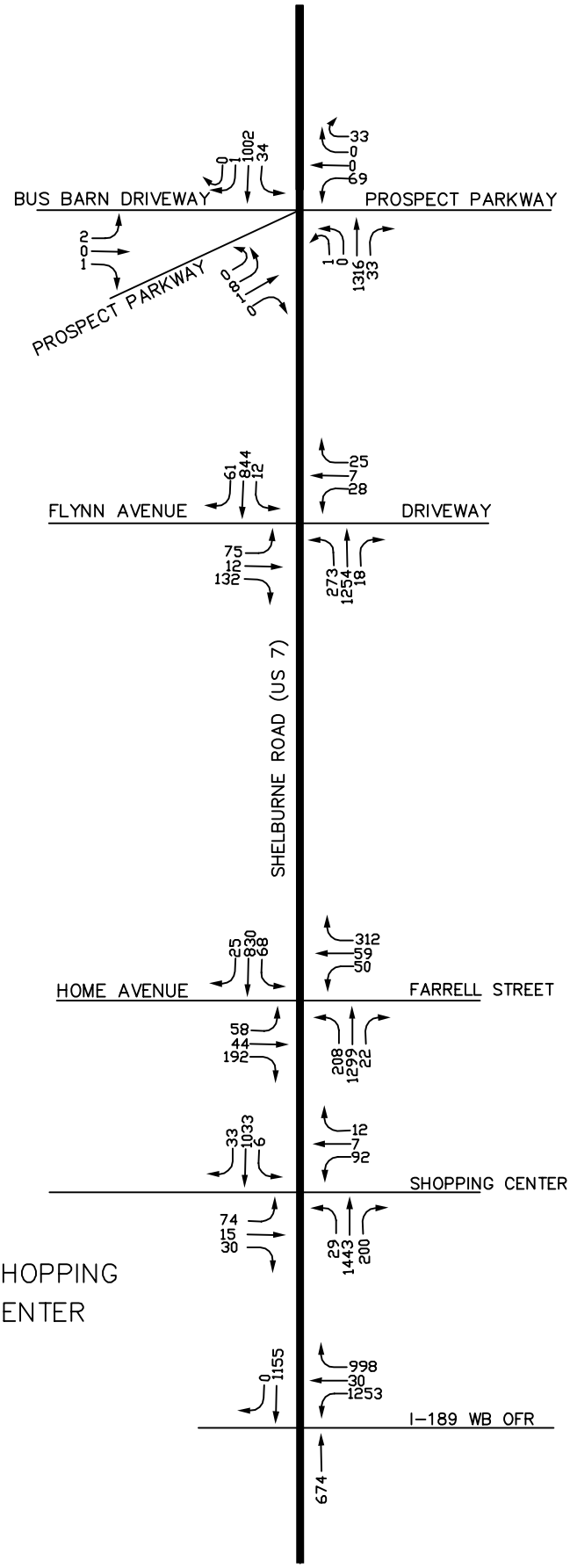
Shelburne Street and Prospect Parkway Intersection

At the intersection of Shelburne Street and Prospect Parkway, and at other locations along the corridor, consideration should be given to relocating bus stops to the far side of the intersection. At Prospect Parkway in particular, there were times that a stopped bus and a southbound vehicle waiting to turn left blocked the entire southbound approach even though there was a green indication. Far side bus stops are not appropriate at all locations, but should be evaluated.

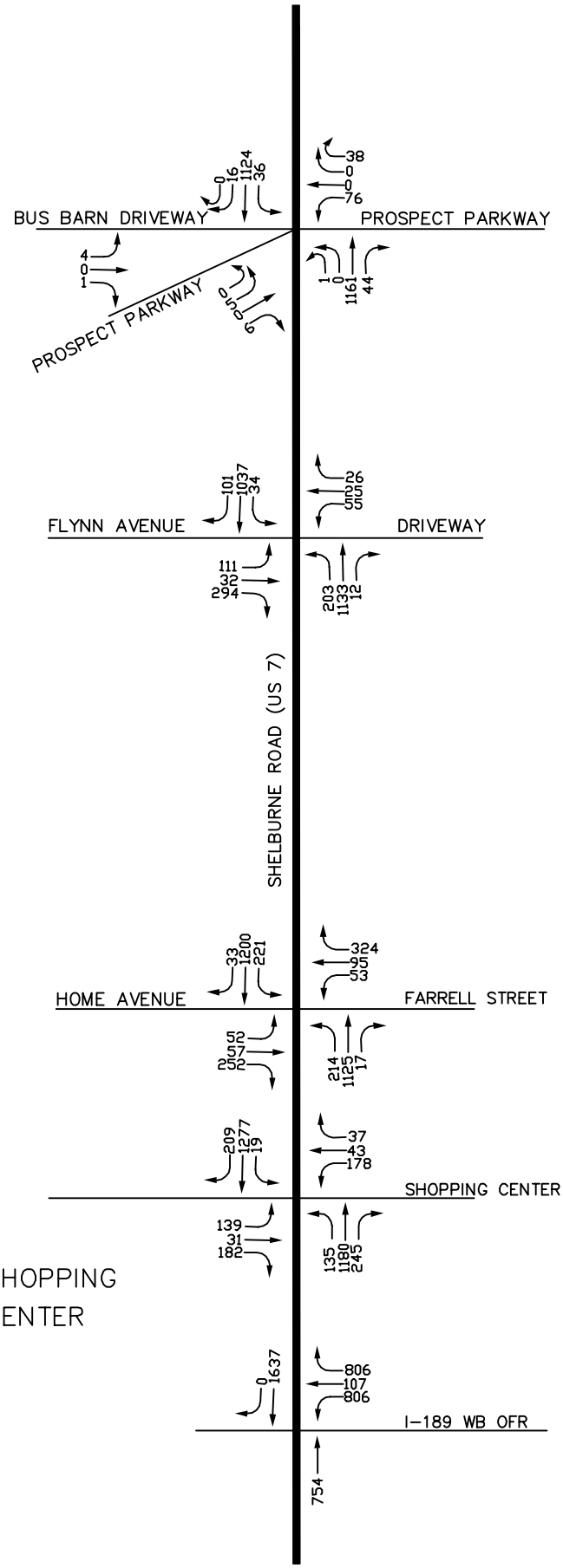
RECOMMENDATIONS AND CONCLUSIONS

WSP reviewed the traffic signal operations along Shelburne Street and has developed a timing plan for optimal operations during the weekday AM and PM peak periods. The 80 second cycle timing plan provided good progression while keeping cycle lengths and therefore delays and queues as short as possible on side streets and minor movements.

The signal phasing, timing splits, and offsets are illustrated on the graphics provided in the appendix. The phase numbers are in numerical order only to illustrate all movements that are processed during a phase and are not intended to be phase numbers for individual movements. All Synchro outputs are also provided in the Appendix.



AM PEAK



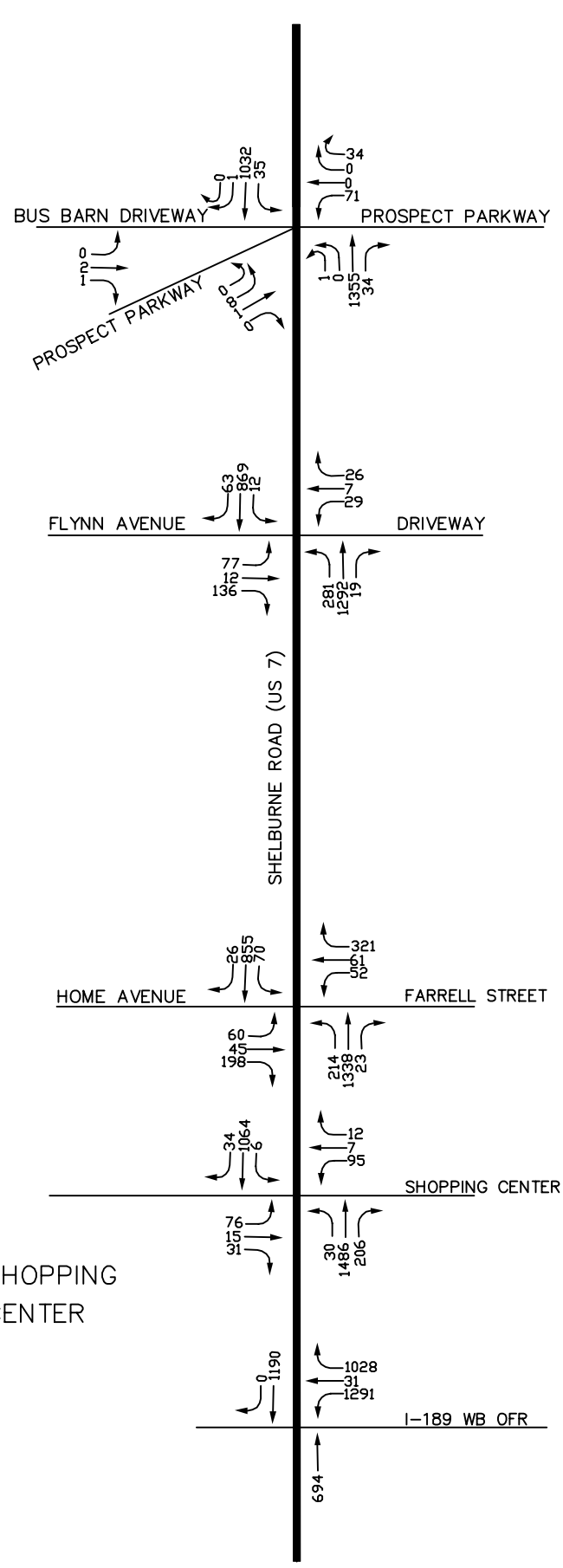
PM PEAK

75 Arlington Street
Boston, MA 02116

EXISTING CONDITIONS

NOT TO SCALE

SHELBURNE STREET TRAFFIC ANALYSIS
BURLINGTON, VT
WSP JOB NO.: 189645CP DATE: 06/18/2018



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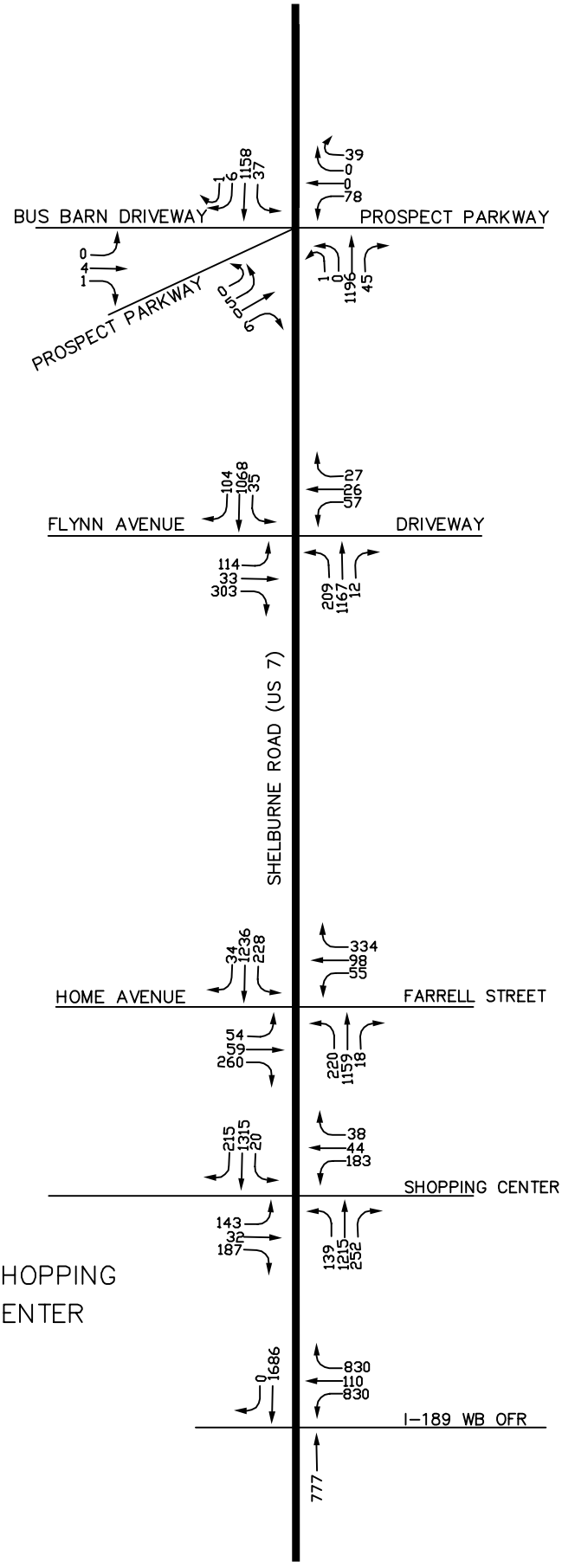

PM PEAK

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75 Arlington Street
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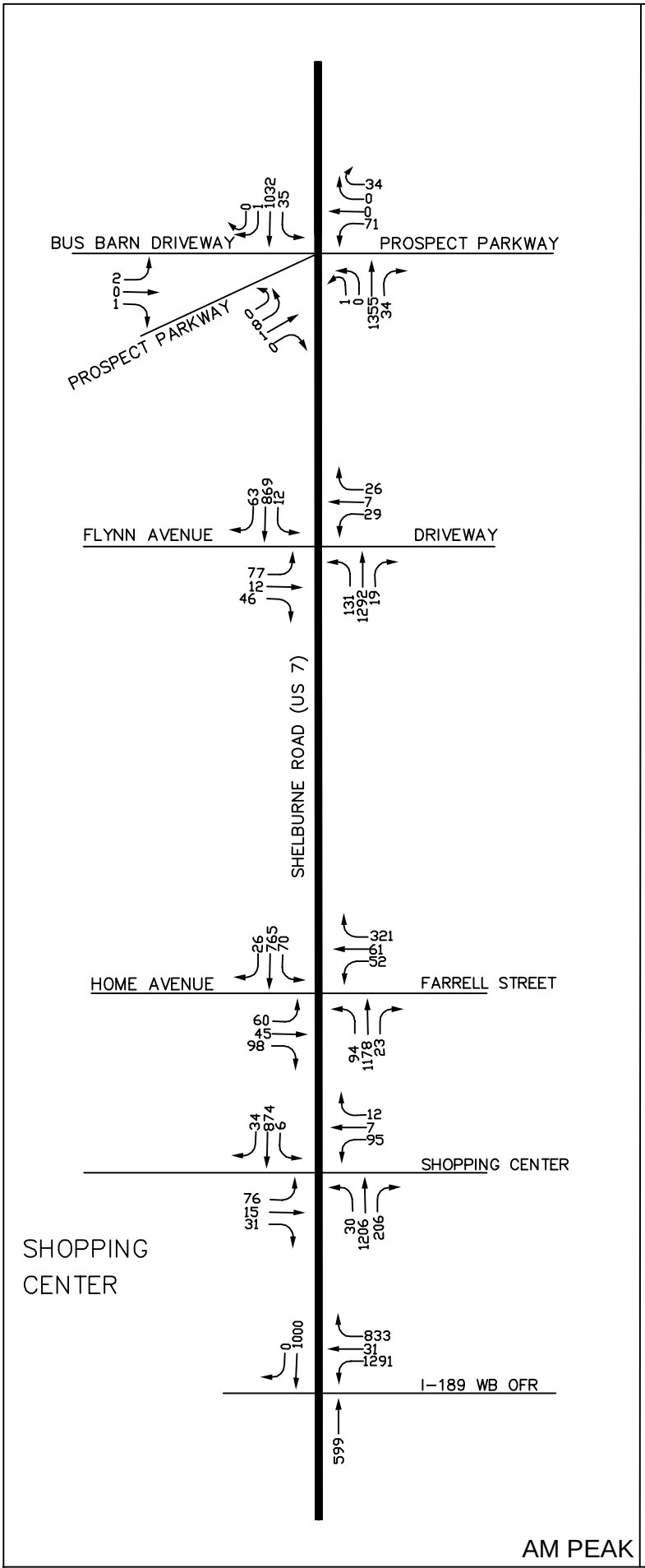
FUTURE YEAR CONDITIONS

NOT TO SCALE

SHELBURNE STREET TRAFFIC ANALYSIS
BURLINGTON, VT
WSP JOB NO.: 189645CP DATE: 06/18/2018



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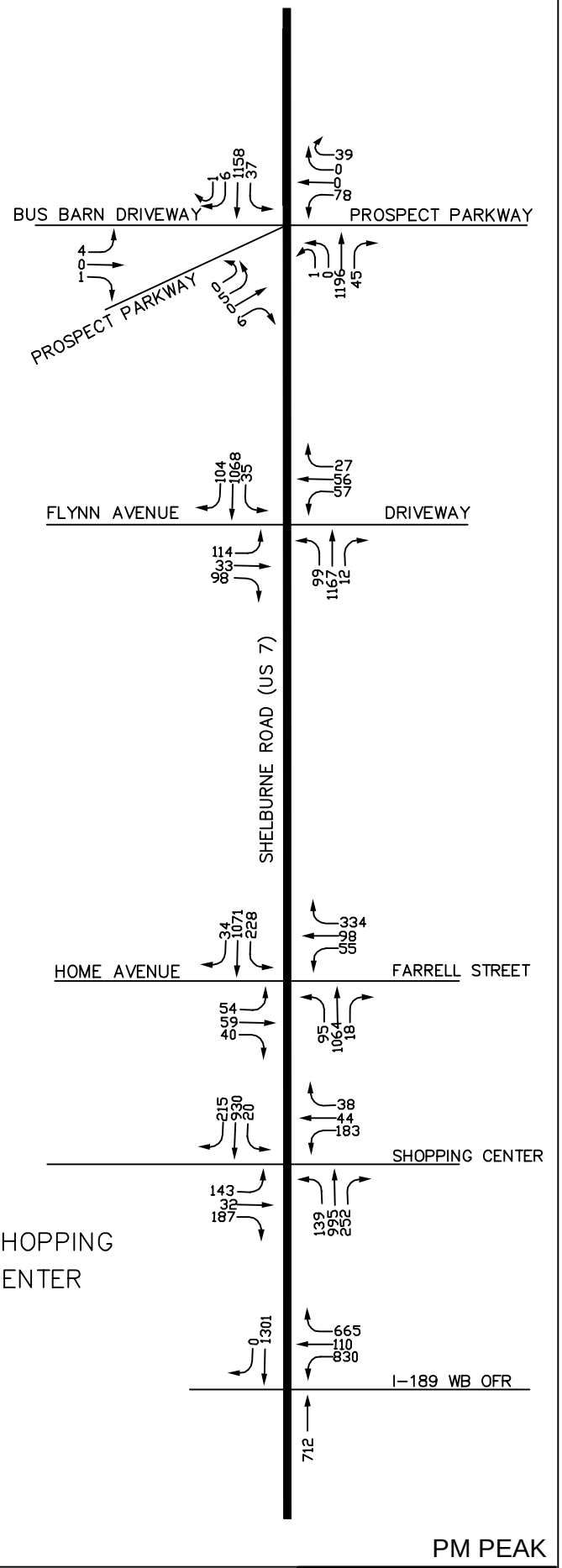

PM PEAK

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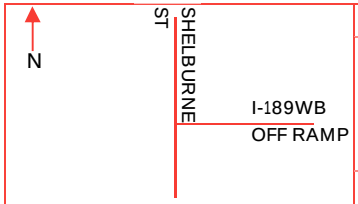
75 Arlington Street
Boston, MA 02116

FUTURE YEAR CONDITION WITH CHAMPLAIN PARKWAY

NOT TO SCALE

SHELBURNE STREET TRAFFIC ANALYSIS
BURLINGTON, VT
WSP JOB NO.: 189645CP DATE: 06/18/2018

TABLE 1: PROPOSED SIGNAL TIMING – SHELBURNE STREET AT I-189WB OFF RAMP



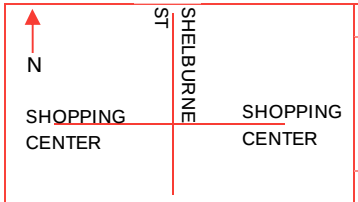
	PREFERENTIAL PHASE SEQUENCE					
	Ø2			Ø4		
STREET/DIRECTIONS/FACE	GR	CL	CL	GR	CL	CL
SHELBURNE ST NB	G	Y	R	R	R	R
SHELBURNE ST SB	G	Y	R	R	R	R
I-189 OFF RAMP WB	R	R	R	G	Y	R

			PROGRAM/COORDINATION	
CYCLE NO.	CYCLE LENGTH	OFFSET (SEC)	PHASE SPLITS IN SECONDS	
			Ø2	Ø4
AM	80	55	40	40
PM	80	68	40	40

WSP USA
9th Floor
75 Arlington Street
Boston, MA 02116

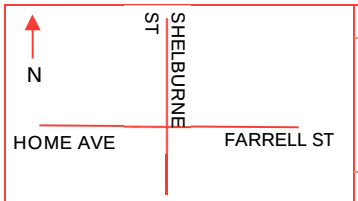
Tel.: +1 617 426-7330
Fax: +1 617 482-8487
wsp.com

TABLE 2: PROPOSED SIGNAL TIMING – SHELBURNE STREET AT SHOPPING CENTER PLAZAS



			PREFERENTIAL PHASE SEQUENCE															
			Ø2 & Ø5			Ø2 & Ø6			Ø1 & Ø6			Ø7			Ø8		
STREET/DIRECTIONS/FACE			GR	CL	CL	GR	CL	CL	GR	CL	CL	GR	CL	CL	GR	CL	CL
SHELBURNE ST NBL			~~G~~	~~Y~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
SHELBURNE ST NB			G	G	G	G	Y	R	R	R	R	R	R	R	R	R	R
SHELBURNE ST SBL			~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~G~~	~~Y~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
SHELBURNE ST SB			R	R	R	G	G	G	G	Y	R	R	R	R	R	R	R
SHOPPING CENTER EB			R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R
SHOPPING CENTER WB			R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R
PEDS			DW	DW	DW	DW	DW	DW	DW	DW	DW	W	W	W	FDW	FDW	DW
			PROGRAM/COORDINATION														
CYCLE NO.	CYCLE LENGTH	OFFSET (SEC)	PHASE SPLITS IN SECONDS														
			Ø2 & Ø5			Ø2 & Ø6			Ø1 & Ø6			Ø7			Ø8		
AM	80	15	10			37			10			7			16		
PM	80	31	13			32			10			7			18		

TABLE 3: PROPOSED SIGNAL TIMING – SHELBURNE STREET AT HOME AVENUE AND FARRELL STREET



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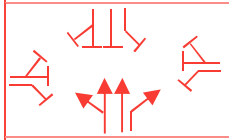
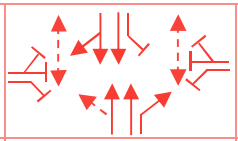
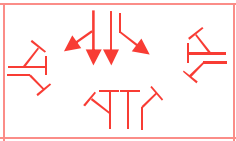
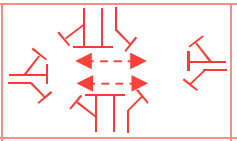
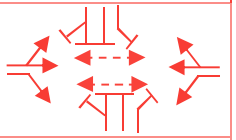
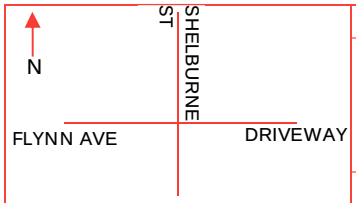
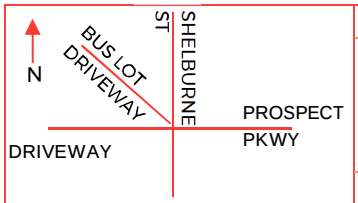
																	
			Ø2 & Ø5			Ø2 & Ø6			Ø1 & Ø6			Ø8			Ø4		
STREET/DIRECTIONS/FACE			GR	CL	CL	GR	CL	CL	GR	CL	CL	GR	CL	CL	GR	CL	CL
SHELBURNE ST NB/NBL			G/~~G~~	G/~~Y~~	G	G	Y	R	R	R	R	R	R	R	R	R	R
SHELBURNE ST SBL			~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~G~~	~~Y~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
SHELBURNE ST SB			R	R	R	G	G	G	G	Y	R	R	R	R	R	R	R
HOME AVE EB			R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R
FARRELL ST WB			R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R
PEDS E-W			DW	DW	DW	DW	DW	DW	DW	DW	DW	W	W	W	W	FDW	DW
PEDS N-S			DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
			PROGRAM/COORDINATION														
CYCLE NO.	CYCLE LENGTH	OFFSET (SEC)	PHASE SPLITS IN SECONDS														
			Ø2 & Ø5			Ø2 & Ø6			Ø1 & Ø6			Ø8			Ø4		
AM	80	13	13			31			10			7			19		
PM	80	20	12			26			16			7			19		

TABLE 4: PROPOSED SIGNAL TIMING – SHELBURNE STREET AT FLYNN AVENUE



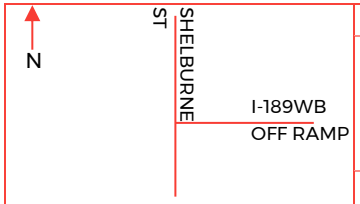
PREFERENTIAL PHASE SEQUENCE													
				Ø1 & Ø6			Ø2 & Ø6			Ø3			Ø4 & Ø8		
STREET/DIRECTIONS/FACE				GR	CL	CL	GR	CL	CL	GR	CL	CL	GR	CL	CL
SHELBURNE NB/NBL				G/~~G~~	G/~~Y~~	G	G	Y	R	R	R	R	R	R	R
SHELBURNE SB				R	R	R	G	Y	R	R	R	R	R	R	R
FLYNN AVE EB/EBR				R/~~G~~	R/~~Y~~	R	R	R	R	R	R	R	G	Y	R
DRIVEWAY WB/WBL				R	R	R	R	R	R	R	R	R	G	Y	R
PEDS				DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW
				PROGRAM/COORDINATION											
CYCLE NO.	CYCLE LENGT	OFFSET (SEC)		PHASE SPLITS IN SECONDS											
				Ø2 & Ø5			Ø2 & Ø6			Ø1 & Ø6			Ø8		
AM	80	72		15			27			25			13		
PM	80	68		10			32			25			13		

TABLE 5: PROPOSED SIGNAL TIMING – SHELBURNE STREET AT PROSPECT PARKWAY



			PREFERENTIAL PHASE SEQUENCE															
			Ø2 & Ø5			Ø2 & Ø6			Ø3			Ø7			Ø4		
STREET/DIRECTIONS/FACE			GR	CL	CL	GR	CL	CL	GR	CL	CL	GR	CL	CL	GR	CL	CL
SHELBURNE ST SB/SBL			G/~~G~~	G/~~Y~~	G	G	Y	R	R	R	R	R	R	R	R	R	R
SHELBURNE ST NB			R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R
DRIVEWAY EB			R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R
BUS DRIVEWAY SEB			R	R	R	R	R	R	G	Y	R	R	R	R	R	R	R
PROSPECT PKWY WB			R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R
PEDS E-W			DW	DW	DW	DW	DW	DW	DW	DW	DW	W	W	W	FDW	FDW	DW
PEDS N-S			DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
			PROGRAM/COORDINATION														
CYCLE NO.	CYCLE LENGTH	OFFSET (SEC)	PHASE SPLITS IN SECONDS														
			Ø2 & Ø5			Ø2 & Ø6			Ø3			Ø7			Ø4		
AM	80	60	11			40			9			7			13		
PM	80	73	12			38			10			7			13		

TABLE 1: PROPOSED SIGNAL TIMING – SHELBURNE STREET AT I-189WB OFF RAMP WITH CHAMPLAIN PARKWAY



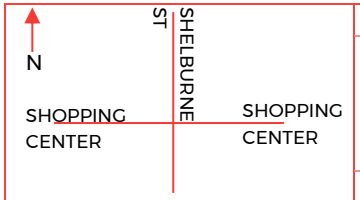
	PREFERENTIAL PHASE SEQUENCE					
	Ø2			Ø4		
STREET/DIRECTIONS/FACE	GR	CL	CL	GR	CL	CL
SHELBURNE ST NB	G	Y	R	R	R	R
SHELBURNE ST SB	G	Y	R	R	R	R
I-189 OFF RAMP WB	R	R	R	G	Y	R

			PROGRAM/COORDINATION	
			PHASE SPLITS IN SECONDS	
CYCLE NO.	CYCLE LENGTH	OFFSET (SEC)	Ø2	Ø4
AM	80	55	40	40
PM	80	63	37	43

WSP USA
9th Floor
75 Arlington Street
Boston, MA 02116

Tel.: +1 617 426-7330
Fax: +1 617 482-8487
wsp.com

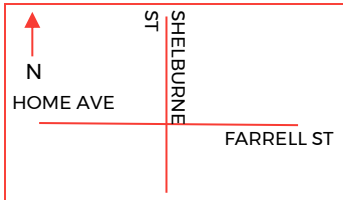
TABLE 2: PROPOSED SIGNAL TIMING – SHELBURNE STREET AT SHOPPING CENTER PLAZAS WITH CHAMPLAIN PARKWAY



	PREFERENTIAL PHASE SEQUENCE														
	Ø2 & Ø5			Ø2 & Ø6			Ø1 & Ø6			Ø7			Ø8		
STREET/DIRECTIONS/FACE	GR	CL	CL	GR	CL	CL	GR	CL	CL	GR	CL	CL	GR	CL	CL
SHELBURNE ST NBL	~~G~~	~~Y~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
SHELBURNE ST NB	G	G	G	G	Y	R	R	R	R	R	R	R	R	R	R
SHELBURNE ST SBL	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~G~~	~~Y~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
SHELBURNE ST SB	R	R	R	G	G	G	G	Y	R	R	R	R	R	R	R
SHOPPING CENTER EB	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R
SHOPPING CENTER WB	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R
PEDS	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	W	W	FDW	FDW	DW

			PROGRAM/COORDINATION				
CYCLE NO.	CYCLE LENGTH	OFFSET (SEC)	PHASE SPLITS IN SECONDS				
			Ø2 & Ø5	Ø2 & Ø6	Ø1 & Ø6	Ø7	Ø8
AM	80	15	10	37	10	7	16
PM	80	30	15	26	10	7	22

TABLE 3: PROPOSED SIGNAL TIMING – SHELBURNE STREET AT HOME AVENUE AND FARRELL STREET WITH CHAMPLAIN PARKWAY



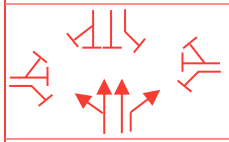
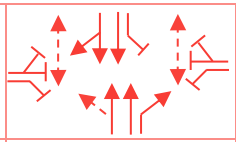
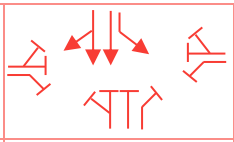
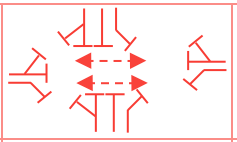
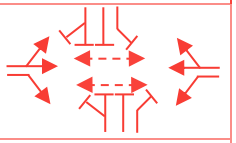
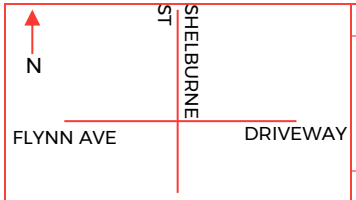
			PREFERENTIAL PHASE SEQUENCE														
																	
			Ø2 & Ø5			Ø2 & Ø6			Ø1 & Ø6			Ø8			Ø4		
STREET/DIRECTIONS/FACE			GR	CL	CL	GR	CL	CL	GR	CL	CL	GR	CL	CL	GR	CL	CL
SHELBURNE ST NB/NBL			~~G~~/~~G~~	G/~~Y~~	G	G	Y	R	R	R	R	R	R	R	R	R	R
SHELBURNE ST SBL			~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~G~~	~~Y~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
SHELBURNE ST SB			R	R	R	G	G	G	G	Y	R	R	R	R	R	R	R
HOME AVE EB			R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R
FARRELL ST WB			R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R
PEDS E-W			DW	DW	DW	DW	DW	DW	DW	DW	DW	W	W	W	W	FDW	DW
PEDS N-S			DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
			PROGRAM/COORDINATION														
CYCLE NO.	CYCLE LENGTH	OFFSET (SEC)	PHASE SPLITS IN SECONDS														
			Ø2 & Ø5			Ø2 & Ø6			Ø1 & Ø6			Ø8			Ø4		
AM	80	13	13			31			10			7			19		
PM	80	19	10			24			15			7			24		

TABLE 4: PROPOSED SIGNAL TIMING – SHELBURNE STREET AT FLYNN AVENUE WITH CHAMPLAIN PARKWAY



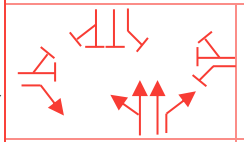
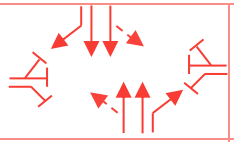
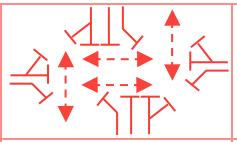
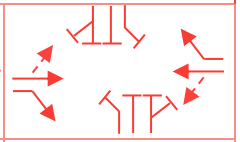
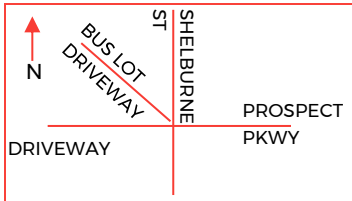
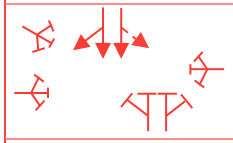
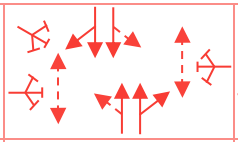
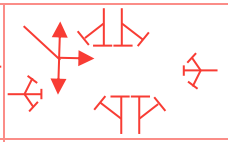
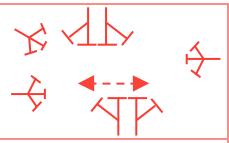
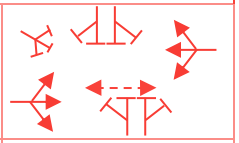
			PREFERENTIAL PHASE SEQUENCE											
														
			Ø1 & Ø6			Ø2 & Ø6			Ø3			Ø4 & Ø8		
STREET/DIRECTIONS/FACE			GR	CL	CL	GR	CL	CL	GR	CL	CL	GR	CL	CL
SHELBURNE NB/NBL			G/~~G~~	G/~~Y~~	G	G	Y	R	R	R	R	R	R	R
SHELBURNE SB			R	R	R	G	Y	R	R	R	R	R	R	R
FLYNN AVE EB/EBR			R/~~G~~	R/~~Y~~	R	R	R	R	R	R	R	G	Y	R
DRIVEWAY WB/WBL			R	R	R	R	R	R	R	R	R	G	Y	R
PEDS			DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW
			PROGRAM/COORDINATION											
CYCLE NO.	CYCLE LENGT	OFFSET (SEC)	PHASE SPLITS IN SECONDS											
			Ø2 & Ø5			Ø2 & Ø6			Ø1 & Ø6			Ø8		
AM	80	72	15			27			25			13		
PM	80	60	10			32			25			13		

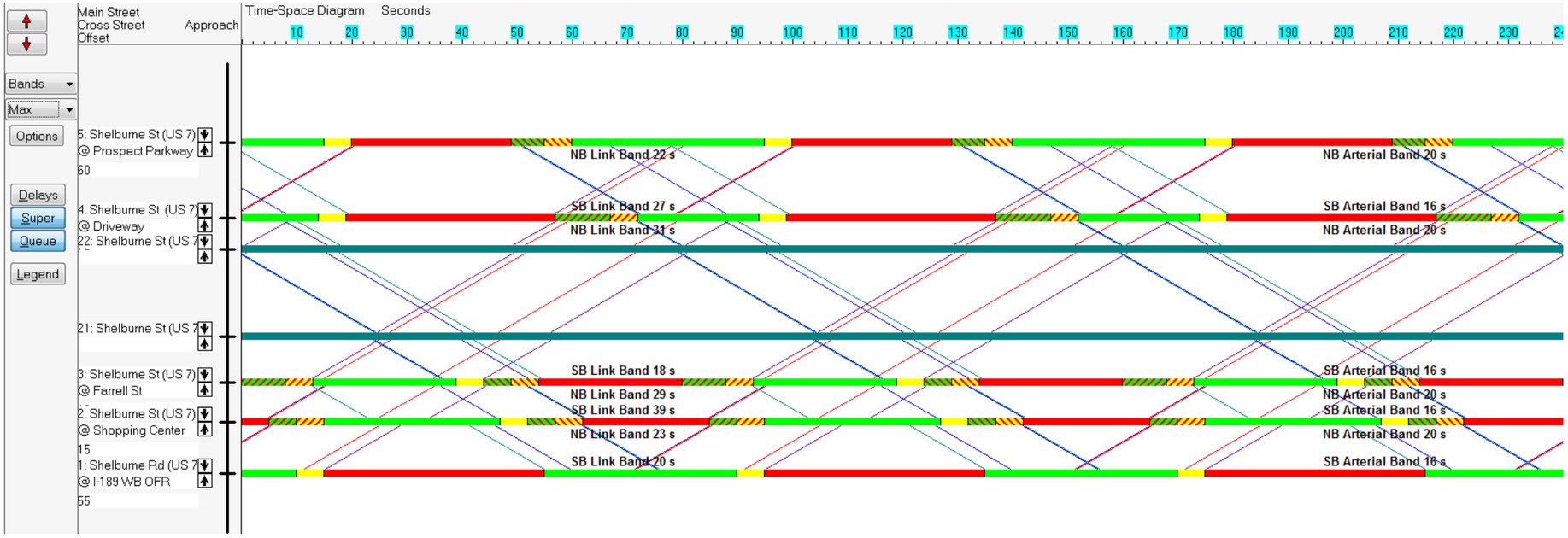
TABLE 5: PROPOSED SIGNAL TIMING – SHELBURNE STREET AT PROSPECT PARKWAY WITH CHAMPLAIN PARKWAY

			PREFERENTIAL PHASE SEQUENCE													
																	
			Ø2 & Ø5			Ø2 & Ø6			Ø3			Ø7			Ø4		
STREET/DIRECTIONS/FACE			GR	CL	CL	GR	CL	CL	GR	CL	CL	GR	CL	CL	GR	CL	CL
SHELBURNE ST SB/SBL			G/~~G~~	G/~~Y~~	G	G	Y	R	R	R	R	R	R	R	R	R	R
SHELBURNE ST NB			R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R
DRIVEWAY EB			R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R
BUS DRIVEWAY SEB			R	R	R	R	R	R	G	Y	R	R	R	R	R	R	R
PROSPECT PKWY WB			R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R
PEDS E-W			DW	DW	DW	DW	DW	DW	DW	DW	DW	W	W	W	FDW	FDW	DW
PEDS N-S			DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
			PROGRAM/COORDINATION														
CYCLE NO.	CYCLE LENGTH	OFFSET (SEC)	PHASE SPLITS IN SECONDS														
			Ø2 & Ø5			Ø2 & Ø6			Ø3			Ø7			Ø4		
AM	80	60	11			40			9			7			13		
PM	80	67	12			38			10			7			13		

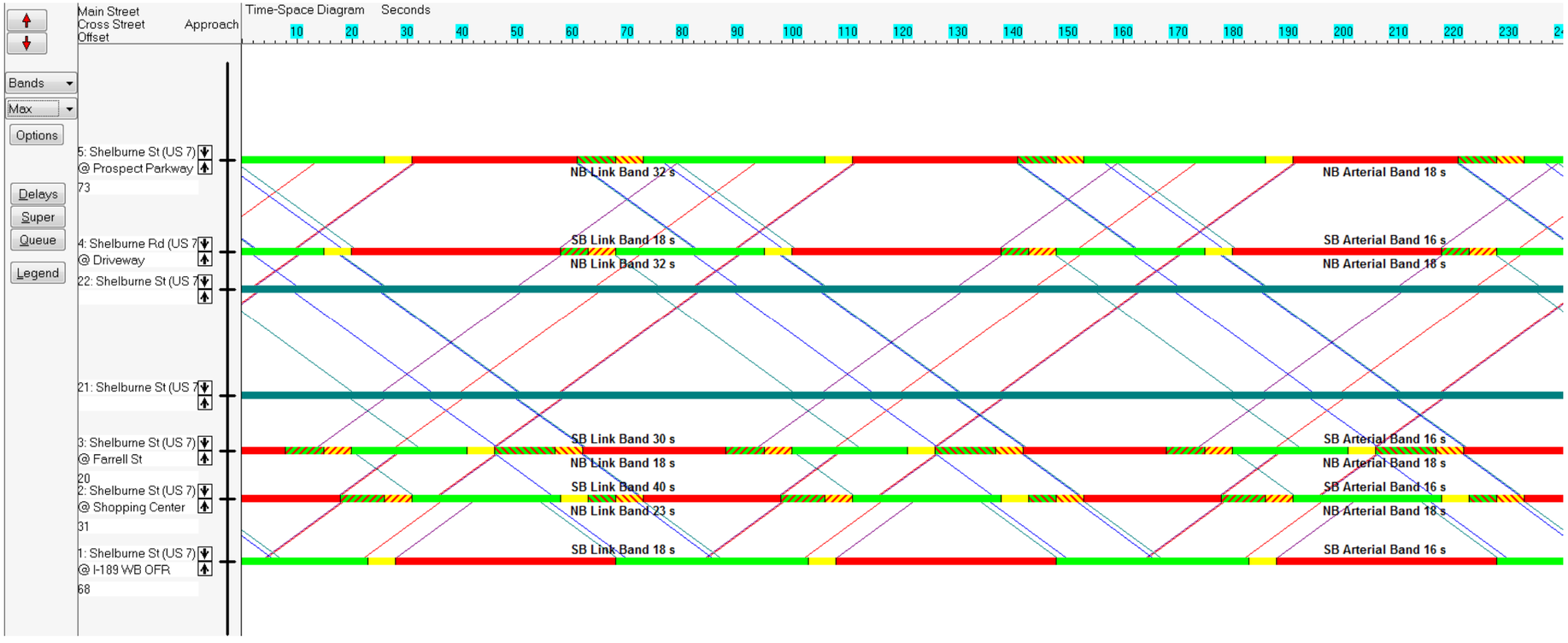
Signal Timing Intersection Operations Summary

		AM Peak Hour									PM Peak Hour								
		Existing			Proposed			w/Champlain Pkwy			Existing			Proposed			w/Champlain Pkwy		
	storage	LOS	Delay	Queue	LOS	Delay	Queue				LOS	Delay	Queue				LOS	Delay	Queue
I-189 WB Off Ramp at Shelburne St		**F**	**93.9**		**E**	**78.8**		**D**	**53.4**		**E**	**59.7**		**E**	**55.5**		**C**	**29.2**	
Shelburne Street NBT	820	B	19.6	182	B	17.3	162	C	21.7	183	B	18.3	208	B	19.2	214	C	21.5	215
Shelburne Street SBT/R	440	B	18.9	264	B	16.9	243	B	16.7	416	C	27.8	m366	C	23.9	m356	B	12.9	287
I-189 WB Off Ramp WBL	1100	E	57.8	#540	F	96.0	#654	D	49.2	#602	C	31.6	#389	C	29.2	#378	C	24.6	332
I-189 WB Off Ramp	1100	E	58.0	#544	F	96.9	#657	D	49.5	#605	C	31.8	#396	C	29.5	#386	C	24.9	340
I-189 WB Off Ramp WBR	1100	F	277.2	#891	F	169.3	#771	F	126.6	#891	F	194.9	#784	F	183.1	#780	E	63.1	#579
Shopping Center at Shelburne St		**B**	**16.1**		**B**	**10.5**		**B**	**11.4**		**D**	**40.8**		**C**	**25.1**		**B**	**14.6**	
Shelburne Street NBL	90	C	26.2	m12	D	35.9	m23	C	32.9	m19	D	41.3	m93	E	55.4	m#70	D	45.1	m#117
Shelburne Street NBT	390	B	14.3	m197	B	12.3	m319	A	9.9	m256	C	31.6	m251	B	17.7	m274	B	15.1	m276
Shelburne Street NBR		A	3.0	m19	A	3.6	m37	A	3.1	m28	A	6.5	m35	A	5.6	m39	A	5.3	m63
Shelburne Street SBL	120	C	33.2	m6	C	26.2	m5	C	34.2	m6	D	39.1	m14	C	26.4	m2	C	22.8	m11
Shelburne Street SBT	300	B	18.2	m314	A	3.8	85	A	8.6	188	E	66.3	m313	D	36.4	M64	A	7.1	m40
Shelburne Street SBR		A	2.0	m0	A	0.1	m0	A	1.0	m1	B	13.0	m57	A	0.8	m1	A	0.7	m0
Shopping Center EBL	120	C	34.4	65	D	40.1	74	D	40.1	76	D	38.6	#130	D	37.4	124	D	36.9	#118
Shopping Center EBT	120	C	24.0	20	C	28.1	22	C	27.9	22	C	25.9	37	C	23.9	35	C	22.8	33
Shopping Center EBR		A	0.4	0	A	0.5	0	A	0.5	0	A	7.6	52	A	6.4	46	A	6.6	45
Shopping Center WBL	165	D	39.7	79	D	46.6	89	D	46.6	92	D	48.6	#191	D	40.9	#171	D	45.5	152
Shopping Center WBT	165	C	23.3	13	C	27.3	14	C	27.1	14	C	26.4	47	C	24.3	45	C	23.4	42
Shopping Center WBR		A	0.2	0	A	0.2	0	A	0.2	0	A	0.4	0	A	0.4	0	A	0.4	0
Home Ave/Farrell St at Shelburne St		**D**	**45.5**		**C**	**25.3**		**C**	**21.4**		**E**	**64.4**		**E**	**55.9**		**D**	**49.5**	
Shelburne Street NBL	80	C	26.0	m#91	D	53.2	m#170	B	18.1	m27	D	49.0	m#175	F	105.2	m#189	C	33.3	m68
Shelburne Street NBT/R	270	E	75.5	#564	C	29.1	#495	C	32.2	#476	E	76.7	#475	D	51.5	#449	E	69.8	#454
Shelburne Street SBL	200	D	40.7	67	E	70.9	m#69	D	40.7	m#75	F	120.1	m#184	F	116.4	m#176	F	184.3	m#247
Shelburne Street SBT/R	200	C	33.4	#306	B	14.1	182	A	9.1	24	D	53.9	m#495	E	56.9	127	B	18.7	#426
Home Avenue EBL/T	70	C	23.9	81	D	50.5	#129	C	33.1	101	D	50.3	#137	F	81.3	#154	C	30.0	104
Home Avenue EBR	70	A	5.6	43	A	6.2	50	A	0.9	3	E	69.5	55	A	6.4	56	A	0.2	0
Farrell Street WBL	180	B	19.1	42	C	24.8	50	C	22.3	49	F	131.0	52	C	25.1	53	C	20.8	52
Farrell Street WBT/R	500	A	8.0	91	B	16.6	161	B	12.0	136	C	32.0	#297	D	35.3	#304	C	23.3	#297
Flynn Ave at Shelburne Street		**C**	**21.1**		**B**	**14.9**		**A**	**9.9**		**C**	**26.4**		**C**	**25.5**		**B**	**14.9**	
Shelburne Street NBL	80	C	22.3	#316	C	22.0	m#154	A	6.7	m18	C	20.3	m#125	C	20.5	#192	C	22.0	m#154
Shelburne Street NBT/R	80	B	12.7	#543	A	6.8	m446	A	4.7	m255	B	18.2	m#426	A	6.0	$289	A	6.7	m446
Shelburne Street SBL	130	C	31.1	m14	B	14.8	m7	B	11.2	m6	C	32.4	m37	C	21.0	66	B	14.8	m7
Shelburne Street SBT/R	680	C	31.0	#455	B	19.4	#406	B	12.5	#374	D	35.8	#612	D	45.6	45	B	19.4	#406
Flynn Avenue EBL/T	80	D	40.8	86	D	48.2	#124	D	48.3	#126	D	37.6	131	D	38.9	m#86	D	48.2	#124
Flynn Avenue EBR	80	B	16.4	95	B	19.5	105	C	22.2	47	C	21.1	213	C	21.9	m296	B	19.5	105
Driveway WBL	50	C	30.8	35	C	34.2	40	C	34.3	42	C	29.5	59	C	30.9	m20	C	34.2	40
Driveway WBT/R	50	B	15.0	27	B	17.3	30	B	17.0	31	B	16.3	40	B	17.8	#480	B	17.3	30
Prospect Parkway at Shelburne St		**B**	**16.4**		**B**	**11.1**		**B**	**16.5**		**C**	**20.2**		**A**	**10.0**		**B**	**11.1**	
Shelburne Street NBL/T/R	680	C	26.0	#648	B	16.4	#528	C	26.4	#553	D	35.9	#554	B	15.0	#463	B	16.4	#528
Shelburne Street SBL/T/R	380	A	5.0	190	A	4.6	171	A	4.8	178	A	5.5	229	A	5.2	214	A	4.6	171
Driveway EBL/T/R	40	C	34.3	19	C	34.3	19	C	34.3	19	A	0.3	0	A	0.3	0	C	34.4	63
Bus Barn Driveway SEL/T/R	350	C	35.0	10	D	37.3	10	D	37.3	10	C	35.0	13	D	36.4	13	D	37.3	344
Prospect Parkway WBL/T/R	930	A	3.6	6	A	3.6	6	A	3.9	8	A	5.0	15	A	5.0	15	A	3.6	6

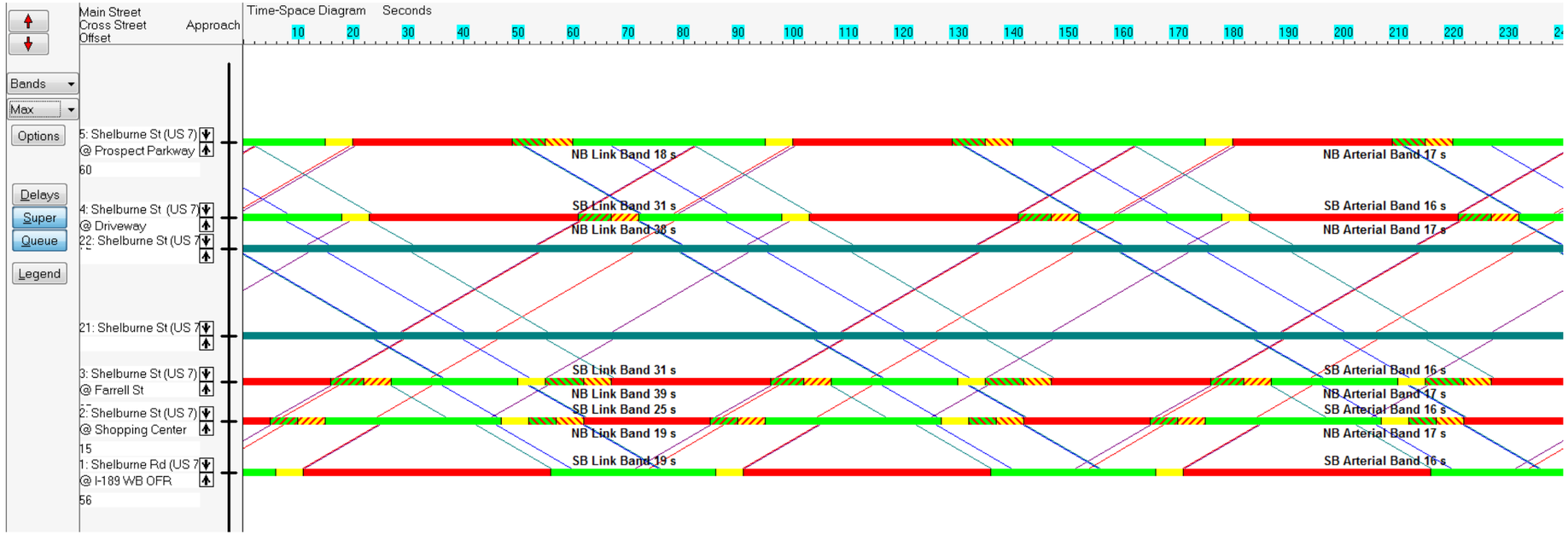
AM Peak



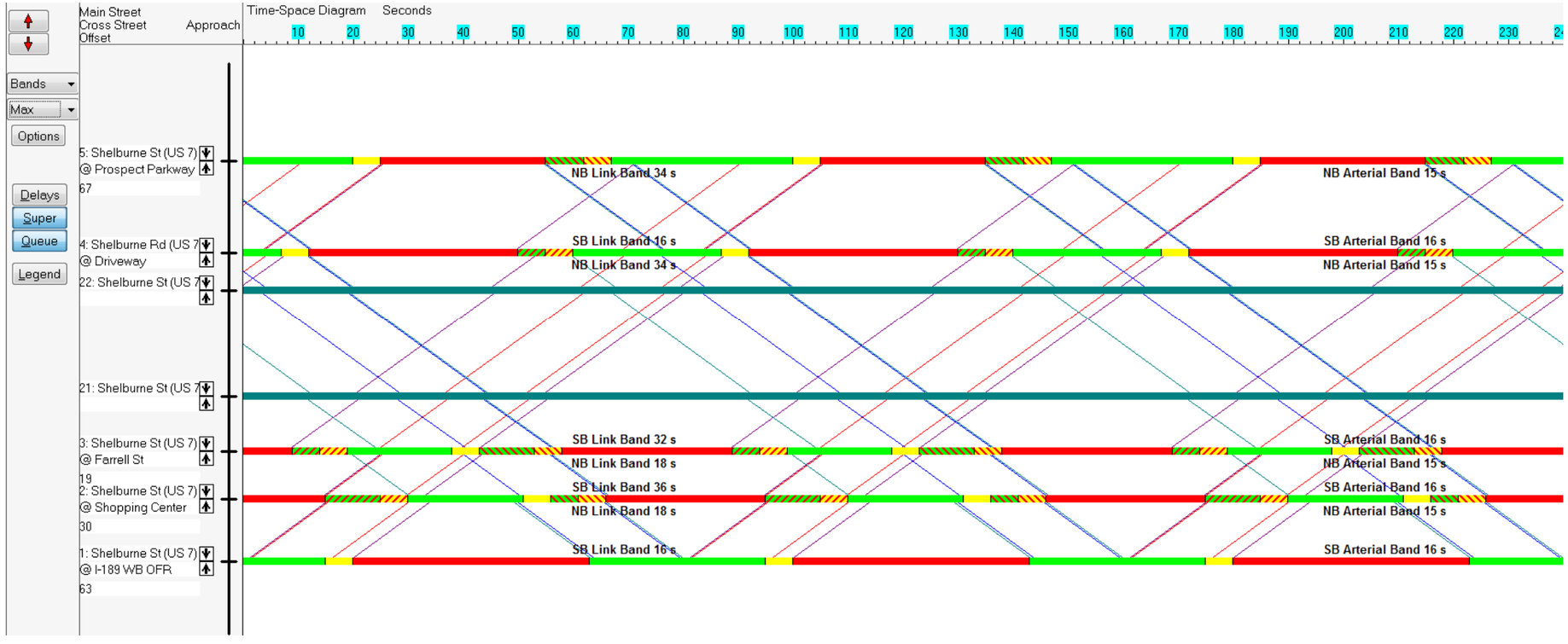
PM Peak



With Champlain Parkway – AM Peak Hour



With Champlain Parkway – PM Peak Hour



Turning Movement Count Report - Cars + Trucks

INT ID	ROAD 1	ROAD 2	ROAD 3	ROAD 4	COMMUNITY	TMC DATE
30403906	US-7	I-189 WB OFF	US-7	SHOPPING CENTER ENTR	BURLINGTON	6/28/2016

	NB					SB					WB								
Start Time	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Interval Total			
6:00 AM	0	21	0	0	21	0	40	0	0	40	84	4	51	0	139	200			
6:15 AM	0	41	0	0	41	0	90	0	0	90	142	0	69	0	211	342			
6:30 AM	0	63	0	2	63	0	99	0	0	99	173	7	101	0	281	443			
6:45 AM	0	91	0	0	91	0	142	0	0	142	250	8	141	0	399	632	1617		
7:00 AM	0	80	0	1	80	0	128	0	0	128	214	5	111	0	330	538	1955		
7:15 AM	0	128	0	1	128	0	172	0	0	172	271	7	195	0	473	773	2386		
7:30 AM	0	154	0	0	154	0	239	1	0	240	293	13	234	0	540	934	2877		
7:45 AM	0	140	0	1	140	0	270	0	0	270	329	7	240	0	576	986	3231		
8:00 AM	0	194	0	1	194	0	241	0	0	241	298	3	242	0	543	978	3671		
8:15 AM	0	155	0	0	155	0	273	0	0	273	277	7	236	0	520	948	3846		7:30 to 8:30 PEAK HOUR
8:30 AM	0	189	0	0	189	0	227	0	0	227	253	1	194	0	448	864	3776	23359	
8:45 AM	0	178	0	0	178	0	228	0	0	228	243	5	221	0	469	875	3665	25407	
9:00 AM	0	170	0	2	170	0	231	0	0	231	235	7	192	0	434	835	3522	26974	1177
9:15 AM	0	156	0	2	156	0	195	0	0	195	210	6	133	0	349	700	3274	27862	
9:30 AM	0	170	0	0	170	0	223	0	0	223	215	12	136	0	363	756	3166	28151	7:30 to 9:30 PEAK PERIOD
9:45 AM	0	187	0	0	187	0	253	0	0	253	166	5	146	0	317	757	3048	27968	
10:00 AM	0	126	0	1	126	0	199	0	0	199	213	9	127	0	349	674	2887	27184	
10:15 AM	0	139	0	4	139	0	255	0	0	255	191	6	132	0	329	723	2910	26248	
10:30 AM	0	156	0	2	156	0	212	0	0	212	191	8	128	0	327	695	2849	25321	
10:45 AM	0	148	0	0	148	0	179	0	0	179	192	15	132	0	339	666	2758	24414	
11:00 AM	0	153	0	0	153	0	238	1	0	239	181	17	126	0	324	716	2800	23692	
11:15 AM	0	165	0	0	165	0	279	0	0	279	214	16	154	0	384	828	2905	23323	
11:30 AM	0	183	0	2	183	0	304	0	0	304	200	19	131	0	350	837	3047	23204	
11:45 AM	7	195	0	6	202	0	353	0	0	353	205	21	141	0	367	922	3303	23459	
Total	7	3382	0	25	3389	0	5070	2	0	5072	5240	208	3713	0	9161	17622			
App %	0.2	99.8	0			0	100	0			57.2	2.3	40.5						
Total %	0	19.2	0		19.2	0	28.8	0		28.8	29.7	1.2	21.1		52				
HV %	14	3	0			0	7	0			12	6	3						

PEAK HOUR 7:30 to 8:30 AM

	NB					SB					WB					
Start Time	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	
7:30 AM	0	154	0	0	154	0	239	0	0	240	293	13	234	0	540	934
7:45 AM	0	140	0	1	140	0	270	0	0	270	329	7	240	0	576	986
8:00 AM	0	194	0	1	194	0	241	0	0	241	298	3	242	0	543	978
8:15 AM	0	155	0	0	155	0	273	0	0	273	277	7	236	0	520	948
TOTAL	0	643	0	2	643	0	1023	0	0	1024	1197	30	952	0	2179	
PHF		0.83					0.94				0.91	0.58	0.98			
HV%		3%			3%		7%			7%	9%	20%	2%		10%	

2016 -> 2018 Factor Upwards for Growth

PEAK HOUR 7:30 to 8:30 AM

	NB					SB					WB					
Start Time	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	
7:30 AM	0	156	0	0	156	0	241	0	0	241	296	13	236	0	545	
7:45 AM	0	141	0	1	141	0	273	0	0	273	332	7	242	0	581	
8:00 AM	0	196	0	1	196	0	243	0	0	243	301	3	244	0	548	
8:15 AM	0	157	0	0	157	0	276	0	0	276	280	7	238	0	525	
TOTAL	0	650	0	2	650	0	1033	0	0	1033	1209	30	960	0	2199	
App %																
Total %																
HV %																
PHF		0.83					0.94				0.91	0.58	0.98			
HV%		0%			0%		0%			0%	0%	0%	0%		0%	

Turning Movement Count Report - Cars + Trucks

INT ID	ROAD 1	ROAD 2	ROAD 3	ROAD 4	COMMUNITY	TMC DATE
30403906	US-7	I-189 WB OFF	US-7	SHOPPING CENTER ENTR	BURLINGTON	6/27/2016

	NB					SB					WB								
Start Time	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Interval Total			
12:00 PM	0	190	0	0	190	0	298	0	0	298	222	19	160	0	401	889			
12:15 PM	0	176	0	6	176	0	343	0	0	343	199	27	146	0	372	891			
12:30 PM	0	193	0	0	193	0	291	0	0	291	229	15	150	0	394	878			
12:45 PM	0	181	0	2	181	0	286	0	0	286	201	21	140	0	362	829	3487		
1:00 PM	0	181	0	0	181	0	294	0	0	294	222	17	141	0	380	855	3453		
1:15 PM	0	170	0	0	170	0	330	0	0	330	181	16	131	0	328	828	3390		
1:30 PM	0	185	0	0	185	0	298	0	0	298	207	18	142	0	367	850	3362		
1:45 PM	0	173	0	2	173	0	333	0	0	333	184	13	129	0	326	832	3365		
2:00 PM	0	185	0	1	185	0	281	0	0	281	172	19	154	0	345	811	3321		
2:15 PM	0	165	0	0	165	0	270	0	0	270	192	23	141	0	356	791	3284		
2:30 PM	0	165	0	2	165	0	336	1	0	337	217	14	139	0	370	872	3306	26968	
2:45 PM	0	183	0	0	183	0	304	0	0	304	213	26	111	0	350	837	3311	26792	
3:00 PM	0	208	0	2	208	0	336	0	0	336	191	15	154	0	360	904	3404	26743	
3:15 PM	0	198	0	0	198	0	328	0	0	328	187	21	137	0	345	871	3484	26837	
3:30 PM	0	222	0	0	222	0	356	0	0	356	218	24	162	0	404	982	3594	27069	
3:45 PM	0	234	0	0	234	0	349	0	0	349	243	17	172	0	432	1015	3772	27476	
4:00 PM	0	157	0	0	157	0	380	0	0	380	193	16	154	0	363	900	3768	27923	
4:15 PM	0	265	0	0	265	0	388	0	0	388	261	26	199	0	486	1139	4036	28675	
4:30 PM	0	205	0	1	205	0	408	0	0	408	216	16	119	0	351	964	4018	29387	
4:45 PM	0	232	0	0	232	0	390	0	0	390	210	24	192	0	426	1048	4051	30127	
5:00 PM	0	243	0	1	243	0	407	0	0	407	208	30	198	0	436	1086	4237	30960	
5:15 PM	0	179	0	0	179	0	419	0	0	419	250	24	255	0	529	1127	4225	31701	
5:30 PM	0	170	0	1	170	0	457	0	0	457	213	31	236	0	480	1107	4368	32475	4:45 to 5:45 PEAK HOUR
5:45 PM	0	215	0	1	215	0	399	0	0	399	196	23	201	0	420	1034	4354	33057	4 to 6 PEAK PERIOD
Total	0	4675	0	19	4675	0	8281	1	0	8282	5025	495	3863	0	9383	22340			
App %	0	100	0			0	100	0			53.6	5.3	41.2						
Total %	0	20.9	0		20.9	0	37.1	0		37.1	22.5	2.2	17.3		42				
HV %	0	4	0			0	2	0			7	0	5						

PEAK HOUR 4:45 - 5:45 PM

	NB					SB					WB								
Start Time	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Interval Total			
4:45 PM	0	232	0	0	232	0	390	0	0	390	210	24	192	0	426	1048	1048		
5:00 PM	0	243	0	1	243	0	407	0	0	407	208	30	198	0	436	1086	2134		
5:15 PM	0	179	0	0	179	0	419	0	0	419	250	24	255	0	529	1127	3261		
5:30 PM	0	170	0	1	170	0	457	0	0	457	213	31	236	0	480	1107	4368		
TOTAL	0	824	0	2	824	0	1673	0	0	1673	881	109	881	0	1871				
PHF		0.85					0.92				0.88	0.88	0.86						
HV%		2%			2%		1%			1%	6%	0%	3%		4%				

2016 -> 2018 Factor Upwards for Growth

PEAK HOUR 4:45 - 5:45 PM

	NB					SB					WB								
Start Time	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Interval Total			
4:45 PM	0	234	0	0	234	0	394	0	0	394	212	24	194	0	430				
5:00 PM	0	245	0	1	245	0	411	0	0	411	210	30	200	0	440				
5:15 PM	0	181	0	0	181	0	423	0	0	423	253	24	258	0	535				
5:30 PM	0	172	0	1	172	0	462	0	0	462	215	31	238	0	484				
TOTAL	0	832	0	2	832	0	1690	0	0	1690	890	109	890	0	1889				
App %																			
Total %																			
HV %																			
PHF		0.85					0.91				0.88	0.88	0.86						
HV%		0%			0%		0%			0%	0%	0%	0%		0%				

Turning Movement Count Report - Cars + Trucks

INT ID	ROAD 1	ROAD 2	ROAD 3	ROAD 4	COMMUNITY	TMC DATE
	SHELBURNE ROAD PLAZA	SHELBURNE STREET	THE GATEWAY SHOPPING CENTER	SHELBURNE STREET	BURLINGTON	4/12/2018

	EB					SB					WB					NB						
Start Time	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Interval Total	15 MINUTE
7:00 AM	6	0	4		10	1	138	8		147	13	0	5		18	8	215	23		246	421	
7:15 AM	9	1	4		14	4	214	2		220	19	4	3		26	9	309	41		359	619	
7:30 AM	17	0	6		23	3	232	5		240	25	4	4		33	7	375	40		422	718	
7:45 AM	42	6	14		62	2	302	1		305	22	2	1		25	5	358	35		398	790	2548
8:00 AM	10	4	3		17	1	254	7		262	28	0	2		30	8	393	47		448	757	2884
8:15 AM	11	2	5		18	1	263	12		276	23	1	3		27	5	367	56		428	749	3014
8:30 AM	11	3	8		22	2	214	13		229	19	4	6		29	11	375	62		448	728	3024
8:45 AM	15	3	3		21	3	215	9		227	29	4	5		38	21	330	50		401	687	2921
Total	121	19	47	0	187	17	1832	57	0	1906	178	19	29	0	226	74	2722	354	0	3150	5469	
App %																						
Total %																						
HV %																						

PEAK HOUR 7:45 AM to 8:45 AM

	EB					SB					WB					NB						
Start Time	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Interval Total	
7:45 AM	42	6	14		62	2	302	1		305	22	2	1		25	5	358	35		398	790	
8:00 AM	10	4	3		17	1	254	7		262	28	0	2		30	8	393	47		448	757	
8:15 AM	11	2	5		18	1	263	12		276	23	1	3		27	5	367	56		428	749	
8:30 AM	11	3	8		22	2	214	13		229	19	4	6		29	11	375	62		448	728	
TOTAL	74	15	30	0	119	6	1033	33	0	1072	92	7	12	0	111	29	1493	200	0	1722	3024	
PHF	0.440	0.625	0.536			0.750	0.855	0.635			0.821	0.438	0.500			0.659	0.950	0.806				
HV %	1%	7%	17%		6%	33%	3%	3%		3%	2%	14%	0%		3%	7%	2%	1%		2%		

TRUCKS

	EB					SB					WB					NB						
Start Time	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Interval Total	
7:45 AM	0	0	3		3	0	10	0		10	0	0	0		0	0	4	0		4	17	
8:00 AM	0	1	0		1	0	9	0		9	2	0	0		2	1	18	0		19	31	
8:15 AM	1	0	1		2	1	9	1		11	0	1	0		1	1	5	0		6	20	
8:30 AM	0	0	1		1	1	5	0		6	0	0	0		0	0	7	1		8	15	
TOTAL	1	1	5	0	7	2	33	1	0	36	2	1	0	0	3	2	34	1	0	37	83	

Turning Movement Count Report - Cars + Trucks

INT ID	ROAD 1	ROAD 2	ROAD 3	ROAD 4	COMMUNITY	TMC DATE
	SHELBURNE ROAD PLAZA	SHELBURNE STREET	THE GATEWAY SHOPPING CENTER	SHELBURNE STREET	BURLINGTON	4/12/2018

	EB					SB					WB					NB						
Start Time	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Interval Total	15 MINUTE
4:00 PM	36	9	25		70	5	275	45		325	32	6	5		43	43	228	56		327	765	
4:15 PM	23	11	44		78	3	272	30		305	27	8	8		43	41	259	62		362	788	
4:30 PM	17	4	46		67	3	334	24		361	46	5	4		55	21	294	57		372	855	
4:45 PM	18	14	32		64	0	306	25		331	31	4	11		46	36	290	59		385	826	3234
5:00 PM	13	6	44		63	1	346	57		403.6182	47	11	5		63	39	332	42		413	943	3412
5:15 PM	37	8	46		91	4	316	52		371.7091	40	12	10		62	42	274	66		382	906	3530
5:30 PM	50	6	46		102	10	327	54		390.5091	48	9	11		68	28	300	72		400	960	3635
5:45 PM	39	11	46		96	4	288	47		339.1273	43	11	11		65	26	274	66		366	866	3675
Total	233	69	329	0	631	30	2464	333	0	2826.964	314	66	65	0	445	276	2251	478.996139	0	3006	6909	
App %																						
Total %																						
HV %																						

PEAK HOUR 5:00 to 6:00 PM

	EB					SB					WB					NB						
Start Time	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Interval Total	
5:00 PM	13	6	44		63	1	346	57		403.6182	47	11	5		63	39	332	42		413	943	943
5:15 PM	37	8	46		91	4	316	52		371.7091	40	12	10		62	42	274	66		382	906	1849
5:30 PM	50	6	46		102	10	327	54		390.5091	48	9	11		68	28	300	72		400	960	2809
5:45 PM	39	11	46		96	4	288	47		339.1273	43	11	11		65	26	274	66		366	866	3675
TOTAL	139	31	182	0	352	19	1277	209	0	1504.964	178	43	37	0	258	135	1180	245	0	1560	3675	
PHF	0.695	0.705	0.989			0.475	0.923	0.923			0.927	0.896	0.841			0.804	0.889	0.853				
HV %	1%	0%	1%		1%	0%	1%	1%		1%	0%	0%	0%		0%	0%	1%	0%		1%		

Turning Movement Count Report - Cars + Trucks

INT ID	ROAD 1	ROAD 2	ROAD 3	ROAD 4	COMMUNITY	TMC DATE
	HOME AVE	SHELBURNE ST	FARRELL ST	SHELBURNE ST	SOUTH BURLINGTON	4/11/2018

	EB					SB					WB					NB						
Start Time	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Interval Total	15 MINUTE
7:00 AM	3	6	36		45	13	118	3		134	8	8	41		57	27	131	2		160	396	
7:15 AM	2	9	38		49	8	177	5		190	9	13	53		75	44	276	11		331	645	
7:30 AM	22	7	40		69	13	163	5		181	12	12	71		95	58	328	3		389	734	
7:45 AM	21	15	48		84	23	243	8		274	13	16	95		124	44	345	2		391	873	2648
8:00 AM	11	18	64		93	42	292	4		338	7	23	22		52	38	197	14		249	732	2984
8:15 AM	17	17	39		73	24	208	12		244	4	18	88		110	43	297	5		345	772	3111
8:30 AM	10	13	28		51	23	213	6		242	12	21	70		103	53	303	3		359	755	3132
8:45 AM	7	20	21		48	40	190	9		239	12	21	69		102	79	288	5		372	761	3020
Total	93	105	314	0	512	186	1604	52	0	1842	77	132	509	0	718	386	2165	45	0	2596	5668	

PEAK HOUR 7:00 - 8:00 AM

	EB					SB					WB					NB						
Start Time	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Interval Total	
7:00 AM	3	6	36		45	13	118	3		134	8	8	41		57	27	131	2		160	396	
7:15 AM	2	9	38		49	8	177	5		190	9	13	53		75	44	276	11		331	645	
7:30 AM	22	7	40		69	13	163	5		181	12	12	71		95	58	328	3		389	734	
7:45 AM	21	15	48		84	23	243	8		274	13	16	95		124	44	345	2		391	873	
TOTAL	48	37	162	0	247	57	701	21	0	779	42	49	260	0	351	173	1080	18	0	1271	2648	
PHF	0.55	0.62	0.84			0.62	0.72	0.66			0.81	0.77	0.68			0.75	0.78	0.41				
HV%	0%		1%		1%	0%	3%	0%		3%	2%		1%		1%	2%	2%	11%		2%		

TRUCKS

	EB					SB					WB					NB						
Start Time	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Interval Total	
7:00 AM						0		5			5					0		3			3	8	
7:15 AM						0		6			6			1		1	1	6			7	14	
7:30 AM				2		2		4			4	1				1	2	2	2		6	13	
7:45 AM						0		8			8			1		1		6			6	15	
TOTAL	0	0	2	0	2	0	23	0	0	23	1	0	2	0	3	3	17	2	0	22	50	

Turning Movement Count Report - Cars + Trucks

INT ID	ROAD 1	ROAD 2	ROAD 3	ROAD 4	COMMUNITY	TMC DATE
	HOME AVE	SHELBURNE ST	FARRELL ST	SHELBURNE ST	SOUTH BURLINGTON	4/11/2018

	EB					SB					WB					NB						
Start Time	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Interval Total	15 MINUTE
4:00 PM	12	22	76		110	54	270	6		330	9	10	51		70	41	228	4		273	783	
4:15 PM	8	15	74		97	45	252	9		306	10	15	55		80	51	242	18		311	794	
4:30 PM	9	11	60		80	51	279	11		341	14	19	53		86	42	264	10		316	823	
4:45 PM	15	12	57		84	42	255	10		307	15	17	74		106	43	292	6		341	838	3238
5:00 PM	13	10	55		78	66	301	6		373	14	20	90		124	41	258	1		300	875	3330
5:15 PM	15	19	69		103	49	302	13		364	12	27	63		102	61	260	1		322	891	3427
5:30 PM	9	16	58		83	64	279	4		347	9	31	97		137	60	268	8		336	903	3507
5:45 PM	11	11	49		71	44	256	11		311	9	14	50		73	42	193	14		249	704	3373
Total	92	116	498	0	706	415	2194	70	0	2679	92	153	533	0	778	381	2005	62	0	2448	6611	

PEAK HOUR 4:00 - 5:00 PM

	EB					SB					WB					NB						
Start Time	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Interval Total	
4:45 PM	15	12	57		84	42	255	10		307	15	17	74		106	43	292	6		341	838	
5:00 PM	13	10	55		78	66	301	6		373	14	20	90		124	41	258	1		300	875	
5:15 PM	15	19	69		103	49	302	13		364	12	27	63		102	61	260	1		322	891	
5:30 PM	9	16	58		83	64	279	4		347	9	31	97		137	60	268	8		336	903	
TOTAL	52	57	239	0	348	221	1137	33	0	1391	50	95	324	0	469	205	1078	16	0	1299	3507	
PHF	0.87	0.75	0.87			0.84	0.94	0.63			0.83	0.77	0.84			0.84	0.92	0.50				
HV%	4%		0%		1%	1%	1%	0%		1%	4%		1%		1%	1%	1%	6%		1%		

TRUCKS

	EB					SB					WB					NB						
Start Time	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Interval Total	
4:45 PM	1				1	1				1	1				1	1	3			4	7	
5:00 PM					0	2	4			6			1		1		5			5	12	
5:15 PM					0		2			2	1		2		3		1	1		2	7	
5:30 PM	1				1		3			3			1		1	1	4			5	10	
TOTAL	2	0	0	0	2	3	9	0	0	12	2	0	4	0	6	2	13	1	0	16	36	

Turning Movement Count Report - Cars + Trucks

INT ID	ROAD 1	ROAD 2	ROAD 3	ROAD 4	COMMUNITY	TMC DATE
30403730	US-7	SHOPPING CENTER PARKING	US-7	FLYNN AV	BURLINGTON	6/17/2016

NB						EB						SB						WB								
Start Time	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Interval Total					
6:00 AM	8	42	0	1	50	2	0	3	1	5	0	37	0	1	37	0	1	1	0	2	94					
6:15 AM	22	47	0	1	69	1	0	12	1	13	1	36	2	0	39	1	1	1	0	3	124					
6:30 AM	26	90	0	1	116	2	0	12	0	14	0	69	1	2	70	3	1	0	2	4	204					
6:45 AM	45	97	1	0	143	0	0	25	0	25	2	78	6	2	86	2	0	2	0	4	258	680				
7:00 AM	38	125	3	1	166	9	0	26	0	35	2	86	10	2	98	2	1	5	0	8	307	893				
7:15 AM	49	161	3	1	213	7	2	20	0	29	2	103	3	1	108	6	1	4	0	11	361	1130				
7:30 AM	68	189	3	4	260	10	1	28	1	39	1	130	6	0	137	3	2	8	1	13	449	1375				
7:45 AM	75	226	2	5	303	11	5	23	3	39	1	189	25	2	215	6	4	8	1	18	575	1692				
8:00 AM	66	244	0	4	310	12	4	34	0	50	0	150	13	2	163	7	2	2	1	11	534	1919				
8:15 AM	56	265	4	2	325	19	1	19	3	39	1	149	13	5	163	8	2	4	6	14	541	2099				
8:30 AM	58	245	8	1	311	21	4	26	2	51	6	158	12	3	176	8	1	8	0	17	555	2205				
8:45 AM	57	295	4	1	356	13	1	36	2	50	3	190	15	2	208	1	1	8	4	10	624	2254	13567	8 to 9 PEAK HOUR		
9:00 AM	60	191	2	0	253	20	1	37	0	58	2	162	13	2	177	11	2	4	1	17	505	2225	14899			
9:15 AM	34	195	4	2	233	12	4	44	1	60	3	164	9	2	176	11	1	2	0	14	483	2167	15936			
9:30 AM	41	214	4	1	259	10	3	35	1	48	5	154	6	0	165	9	5	7	0	21	493	2105	16666			
9:45 AM	42	175	5	2	222	7	0	40	1	47	5	155	5	2	165	6	2	2	1	10	444	1925	16899	8 to 10 PEAK PERIOD		
10:00 AM	36	162	3	3	201	20	5	45	0	70	3	159	5	0	167	9	3	10	1	22	460	1880	16860			
10:15 AM	33	168	7	3	208	7	3	30	2	40	5	150	9	4	164	11	1	11	0	23	435	1832	16593			
10:30 AM	38	198	3	2	239	9	5	30	0	44	5	146	8	1	159	16	3	10	0	29	471	1810	16198			
10:45 AM	47	202	3	2	252	15	6	41	0	62	6	142	11	4	159	7	3	9	1	19	492	1858	15802			
11:00 AM	32	192	6	2	230	18	8	44	0	70	7	141	5	3	153	14	3	6	0	23	476	1874	15451			
11:15 AM	31	220	5	3	256	11	2	47	0	60	5	147	17	1	169	13	8	8	0	29	514	1953	15237			
11:30 AM	40	184	2	5	226	14	1	40	0	55	4	189	12	0	205	17	2	8	5	27	513	1995	15127			
11:45 AM	39	247	6	2	292	11	2	44	0	57	7	199	21	4	227	17	9	11	0	37	613	2116	15318			
Total	1041	4374	78	49	5493	261	58	741	18	1060	76	3283	227	45	3586	188	59	139	24	386	10525					
App %	19	79.6	1.4			24.6	5.5	69.9			2.1	91.6	6.3			48.7	15.3	36								
Total %	9.9	41.6	0.7		52.2	2.5	0.6	7		10.1	0.7	31.2	2.2		34.1	1.8	0.6	1.3		3.7					
HV %	8	3	0			5	2	12			0	2	5			1	2	2								

PEAK HOUR 8:00 to 9:00 AM

NB						EB						SB						WB								
Start Time	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Interval Total					
8:00 AM	66	244	0	4	310	12	4	34	0	50	0	150	13	2	163	7	2	2	1	11	534					
8:15 AM	56	265	4	2	325	19	1	19	3	39	1	149	13	5	163	8	2	4	6	14	541					
8:30 AM	58	245	8	1	311	21	4	26	2	51	6	158	12	3	176	8	1	8	0	17	555					
8:45 AM	57	295	4	1	356	13	1	36	2	50	3	190	15	2	208	1	1	8	4	10	624					
TOTAL	237	1049	16	8	1302	65	10	115	7	190	10	647	53	12	710	24	6	22	11	52	2254					
PHF	0.90	0.89	0.50			0.77	0.63	0.80			0.42	0.85	0.88			0.75	0.75	0.69								
HV%	5%	2%	0%		3%	3%	0%	16%		11%	0%	2%	2%		2%	0%	17%	5%		4%						

Factor 1.01

1.01 Factored 2016 -> 2018 PEAK HOUR 8:00 to 9:00 AM

NB						EB						SB						WB								
Start Time	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Interval Total					
8:00 AM	67	246	0	4	310	12	4	34	0	50	0	152	13	2	163	7	2	2	1	11						
8:15 AM	57	268	4	2	325	19	1	19	3	39	1	150	13	5	163	8	2	4	6	14						
8:30 AM	59	247	8	1	311	21	4	26	2	51	6	160	12	3	176	8	1	8	0	17						
8:45 AM	58	298	4	1	356	13	1	36	2	50	3	192	15	2	208	1	1	8	4	10						
TOTAL	241	1059	16	8	1302	65	10	115	7	190	10	654	53	12	710	24	6	22	11	52						
App %																										
Total %																										
HV %																										
PHF	0.90	0.89	0.50			0.77	0.63	0.80			0.42	0.85	0.88			0.75	0.75	0.69								
HV%	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%						

Turning Movement Count Report - Cars + Trucks

INT ID	ROAD 1	ROAD 2	ROAD 3	ROAD 4	COMMUNITY	TMC DATE
30403730	US-7	SHOPPING CENTER PARKING	US-7	FLYNN AV	BURLINGTON	6/16/2016

	NB					EB					SB					WB							
Start Time	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Interval Total		
12:00 PM	42	209	3	4	254	22	9	56	0	87	4	194	9	5	207	10	6	7	3	23	571		
12:15 PM	28	238	6	0	272	13	8	54	0	75	4	196	26	2	226	16	7	6	3	29	602		
12:30 PM	46	235	4	0	285	13	7	44	1	64	10	165	14	3	189	10	7	11	1	28	566		
12:45 PM	53	211	3	3	267	18	5	47	2	70	5	193	14	1	212	10	6	16	0	32	581	2320	
1:00 PM	50	215	5	1	270	20	11	68	3	99	10	147	20	3	177	14	9	11	2	34	580	2329	
1:15 PM	54	206	3	1	263	12	4	63	1	79	6	176	18	2	200	23	3	8	0	34	576	2303	
1:30 PM	45	207	7	2	259	15	3	55	1	73	2	186	17	2	205	10	1	11	0	22	559	2296	
1:45 PM	41	189	5	0	235	13	6	60	2	79	4	139	12	4	155	8	8	10	0	26	495	2210	
2:00 PM	45	191	4	0	240	14	3	49	2	66	4	152	17	1	173	8	2	5	2	15	494	2124	
2:15 PM	43	202	0	1	245	14	4	49	0	67	10	173	22	0	205	6	5	4	0	15	532	2080	
2:30 PM	45	208	9	0	262	16	4	70	0	90	6	213	15	0	234	14	2	6	1	22	608	2129	17791
2:45 PM	37	225	0	1	262	18	5	73	1	96	8	195	8	2	211	23	4	13	0	40	609	2243	17714
3:00 PM	33	208	2	0	243	23	7	83	2	113	7	227	13	1	247	13	2	9	0	24	627	2376	17761
3:15 PM	30	207	1	3	238	17	6	63	0	86	4	155	7	3	166	4	8	6	2	18	508	2352	17810
3:30 PM	45	219	6	2	270	20	3	75	0	98	7	181	18	1	206	18	1	7	4	26	600	2344	17858
3:45 PM	36	216	1	1	253	11	1	57	0	69	7	213	16	0	236	10	4	7	1	21	579	2314	17962
4:00 PM	37	222	1	1	260	20	10	83	0	113	13	233	15	2	261	13	4	8	0	25	659	2346	18184
4:15 PM	41	214	5	1	260	18	6	70	3	94	8	218	18	2	244	18	2	9	1	29	627	2465	18569
4:30 PM	40	247	2	5	289	25	8	54	1	87	14	238	15	3	267	25	5	10	2	40	683	2548	18988
4:45 PM	43	249	4	5	296	28	7	70	2	105	13	253	19	2	285	18	6	7	3	31	717	2686	19431
5:00 PM	46	251	5	5	302	31	6	85	3	122	11	268	21	1	300	11	6	4	3	21	745	2772	19827
5:15 PM	57	252	3	1	312	22	11	67	0	100	8	272	30	2	310	13	5	11	1	29	751	2896	20371
5:30 PM	55	281	0	1	336	30	8	68	1	106	2	233	31	3	266	13	8	4	0	25	733	2946	20973 4:45 to 5:45 Peak Hour
5:45 PM	54	275	1	0	330	20	3	61	3	84	4	205	12	4	221	7	2	5	1	14	649	2878	21537 4 to 6 Peak Period
Total	1046	5377	80	38	6503	453	145	1524	28	2122	171	4825	407	49	5403	315	113	195	30	623	14651		
App %	16.1	82.7	1.2			21.3	6.8	71.8			3.2	89.3	7.5			50.6	18.1	31.3					
Total %	7.1	36.7	0.5		44.4	3.1	1	10.4		14.5	1.2	32.9	2.8		36.9	2.2	0.8	1.3		4.3			
HV %	7	2	3			3	2	5			1	2	2			2	3	1					

PEAK HOUR 4:45 - 5:45 PM

	NB					EB					SB					WB						
Start Time	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Interval Total	
4:45 PM	43	249	4	5	296	28	7	70	2	105	13	253	19	2	285	18	6	7	3	31	717	
5:00 PM	46	251	5	5	302	31	6	85	3	122	11	268	21	1	300	11	6	4	3	21	745	
5:15 PM	57	252	3	1	312	22	11	67	0	100	8	272	30	2	310	13	5	11	1	29	751	
5:30 PM	55	281	0	1	336	30	8	68	1	106	2	233	31	3	266	13	8	4	0	25	733	
TOTAL	201	1033	12	12	1246	111	32	290	6	433	34	1026	101	8	1161	55	25	26	7	106	2946	
PHF	0.88	0.92	0.60			0.90	0.73	0.85			0.65	0.94	0.81			0.76	0.78	0.59				
HV%	3%	1%	0%		1%	2%	3%	2%		2%	0%	1%	2%		1%	0%	0%	0%		0%		

Factor 1.01

2016 -> 2018 (x 1.01) Factored PEAK HOUR 4:45 - 5:45 PM

	NB					EB					SB					WB						
Start Time	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Interval Total	
4:45 PM	43	251	4	5	298	28	7	71	2	106	13	256	19	2	288	18	6	7	3	31	16	
5:00 PM	46	254	5	5	305	31	6	86	3	123	11	271	21	1	303	11	6	4	3	21	13	
5:15 PM	58	255	3	1	316	22	11	68	0	101	8	275	30	2	313	13	5	11	1	29	17	
5:30 PM	56	284	0	1	340	30	8	69	1	107	2	235	31	3	268	13	8	4	0	25	12	
TOTAL	203	1044	12	12	1259	111	32	294	6	437	34	1037	101	8	1172	55	25	26	7	106	58	
App %																						
Total %																						
HV %																						
PHF	0.88	0.92	0.60			0.90	0.73	0.85			0.65	0.94	0.81			0.76	0.78	0.59				
HV%	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%		

Turning Movement Count Report - Cars + Trucks

INT ID	ROAD 1	ROAD 2	ROAD 3	ROAD 4	COMMUNITY	TMC DATE
	DRIVEWAY	SHELBURNE ST	PROSPECT PARKWAY	SHELBURNE ST	SOUTH BURLINGTON	4/10/2018

	EB					SB					WB					NB						
Start Time	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Interval Total	15 MINUTE
7:00 AM	1				1	10	131	1		142	6		2		8		156	7		163	314	
7:15 AM					0	6	159	1		166	4		7		11		215	8		223	400	
7:30 AM	1		1		2	13	244	1		258	8		12		20		265	5		270	550	
7:45 AM	2				2	19	299	1		319	20		16		36	1	334	7		342	699	1963
8:00 AM	3	1	1		5	5	339			344	32		6		38		329	11		340	727	2376
8:15 AM	5				5	7	299			306	12		7		19		334	7		341	671	2647
8:30 AM					0	3	215			218	5		4		9		319	8		327	554	2651
8:45 AM	1	1			2	2	215			217	8		10		18		305	7		312	549	2501
Total	13	2	2	0	17	65	1901	4	0	1970	95	0	64	0	159	1	2257	60	0	2318	4464	

PEAK HOUR 7:45 to 8:45 AM

	EB					SB					WB					NB						
Start Time	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Interval Total	
7:45 AM	2				2	19	299	1		319	20		16		36	1	334	7		342	699	
8:00 AM	3	1	1		5	5	339			344	32		6		38		329	11		340	727	
8:15 AM	5				5	7	299			306	12		7		19		334	7		341	671	
8:30 AM					0	3	215			218	5		4		9		319	8		327	554	
TOTAL	10	1	1	0	12	34	1152	1	0	1187	69	0	33	0	102	1	1316	33	0	1350	2651	
PHF	0.50	0.25	0.25			0.45	0.85	0.25			0.54		0.52			0.25	0.99	0.75				
HV%	30%		0%		25%	0%	2%	0%		2%	0%		0%		0%	0%	2%	3%		2%		

TRUCKS

	EB					SB					WB					NB						
Start Time	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Interval Total	
7:45 AM					0		5			5					0		6			6	11	
8:00 AM	2				2		6			6					0		5			5	13	
8:15 AM	1				1		4			4					0		3	1		4	9	
8:30 AM					0		3			3					0		6			6	9	
TOTAL	3	0	0	0	3	0	18	0	0	18	0	0	0	0	0	0	20	1	0	21	42	

Turning Movement Count Report - Cars + Trucks

INT ID	ROAD 1	ROAD 2	ROAD 3	ROAD 4	COMMUNITY	TMC DATE
	DRIVEWAY	SHELBURNE ST	PROSPECT PARKWAY	SHELBURNE ST	SOUTH BURLINGTON	4/10/2018

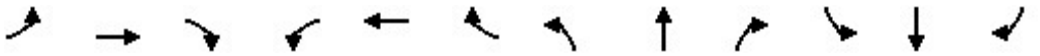
	EB					SB					WB					NB						
Start Time	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Interval Total	15 MINUTE
4:00 PM					0	5	256	2		263	8		2		10	1	272	11		284	557	
4:15 PM	1		1		2	3	289	2		294	17		10		27	1	243	8		252	575	
4:30 PM	4		5		9	11	233	2		246	19		6		25	0	278	9		287	567	
4:45 PM	1				1	13	307	2		322	18		8		26	0	311	12		323	672	2371
5:00 PM	3		1		4	9	295			304	22		14		36	0	329	15		344	688	2502
5:15 PM	1	1			2	20	295	2		317	5		6		11	0	336	7		343	673	2600
5:30 PM	2				2	11	225			236	9		12		21	0	302	19		321	580	2613
5:45 PM	1				1	3	215			218	19		4		23	0	268	12		280	522	2463
Total	13	1	7	0	21	75	2115	10	0	2200	117	0	62	0	179	2	2339	93	0	2434	4834	

PEAK HOUR 4:00 - 5:00 PM

	EB					SB					WB					NB						
Start Time	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Interval Total	
4:15 PM	1		1		2	3	289	2		294	17		10		27	1	243	8		252	575	
4:30 PM	4		5		9	11	233	2		246	19		6		25	0	278	9		287	567	
4:45 PM	1				1	13	307	2		322	18		8		26	0	311	12		323	672	
5:00 PM	3		1		4	9	295			304	22		14		36	0	329	15		344	688	
TOTAL	9	0	7	0	16	36	1124	6	0	1166	76	0	38	0	114	1	1161	44	0	1206	2502	
PHF	0.56		0.35			0.69	0.92	0.75			0.86		0.68			0.25	0.88	0.73				
HV%	11%		0%		6%	6%	0%	17%		1%	0%		0%		0%	100%	1%	0%		1%		

TRUCKS

	EB					SB					WB					NB						
Start Time	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Left	Thru	Right	Ped	App Total	Interval Total	
4:15 PM					0	1	2	1		4					0	1	4			5	9	
4:30 PM	1				1					0					0		3			3	4	
4:45 PM					0	1	2			3					0		1			1	4	
5:00 PM					0		1			1					0		1			1	2	
TOTAL	1	0	0	0	1	2	5	1	0	8	0	0	0	0	0	1	9	0	0	10	19	

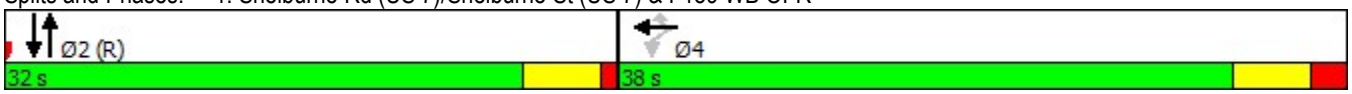


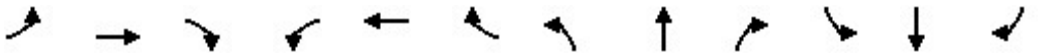
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	1253	30	998	0	674	0	0	1155	0
Future Volume (vph)	0	0	0	1253	30	998	0	674	0	0	1155	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12	12	12	12	11	11	11
Storage Length (ft)	0		0	0		420	0		0	0		0
Storage Lanes	0		0	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.91	0.91
Frt						0.850						
Flt Protected				0.950	0.955							
Satd. Flow (prot)	0	0	0	1513	1521	1425	0	3185	0	0	4424	0
Flt Permitted				0.950	0.955							
Satd. Flow (perm)	0	0	0	1513	1521	1425	0	3185	0	0	4424	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						87						
Link Speed (mph)		20			35			25			25	
Link Distance (ft)		195			1008			629			496	
Travel Time (s)		6.6			19.6			17.2			13.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	1362	33	1085	0	733	0	0	1255	0
Shared Lane Traffic (%)				49%								
Lane Group Flow (vph)	0	0	0	695	700	1085	0	733	0	0	1255	0
Turn Type				Perm	NA	Perm		NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4		4						
Minimum Split (s)				24.0	24.0	24.0		35.0			35.0	
Total Split (s)				38.0	38.0	38.0		32.0			32.0	
Total Split (%)				54.3%	54.3%	54.3%		45.7%			45.7%	
Maximum Green (s)				32.0	32.0	32.0		27.0			27.0	
Yellow Time (s)				4.0	4.0	4.0		4.0			4.0	
All-Red Time (s)				2.0	2.0	2.0		1.0			1.0	
Lost Time Adjust (s)				0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)				6.0	6.0	6.0		5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)				32.0	32.0	32.0		27.0			27.0	
Actuated g/C Ratio				0.46	0.46	0.46		0.39			0.39	
v/c Ratio				1.01	1.01	1.55		0.60			0.74	
Control Delay				57.8	58.0	277.2		19.6			18.9	
Queue Delay				0.0	0.0	0.0		0.0			0.0	
Total Delay				57.8	58.0	277.2		19.6			18.9	
LOS				E	E	F		B			B	
Approach Delay					153.8			19.6			18.9	
Approach LOS					F			B			B	
Queue Length 50th (ft)				~304	~307	~663		128			89	
Queue Length 95th (ft)				#540	#544	#891		182			264	
Internal Link Dist (ft)		115			928			549			416	
Turn Bay Length (ft)						420						

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)				691	695	698		1228			1706	
Starvation Cap Reductn				0	0	0		0			0	
Spillback Cap Reductn				0	0	0		0			0	
Storage Cap Reductn				0	0	0		0			0	
Reduced v/c Ratio				1.01	1.01	1.55		0.60			0.74	

Intersection Summary			
Area Type:	CBD		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 6 (9%), Referenced to phase 2:NBSB, Start of Green			
Natural Cycle: 100			
Control Type: Pretimed			
Maximum v/c Ratio: 1.55			
Intersection Signal Delay: 93.9		Intersection LOS: F	
Intersection Capacity Utilization 102.8%		ICU Level of Service G	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 1: Shelburne Rd (US 7)/Shelburne St (US 7) & I-189 WB OFR





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	15	30	92	7	12	29	1443	200	6	1033	33
Future Volume (vph)	74	15	30	92	7	12	29	1443	200	6	1033	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	10	10	10	11	11	11
Storage Length (ft)	0		70	0		70	100		100	145		130
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor										0.90		0.96
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1540	1621	1378	1540	1621	1378	1486	2973	1330	1540	3079	1378
Flt Permitted	0.752			0.747			0.950			0.950		
Satd. Flow (perm)	1219	1621	1378	1211	1621	1378	1486	2973	1330	1383	3079	1328
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			218			218			132			148
Link Speed (mph)		20			20			25			25	
Link Distance (ft)		338			302			496			363	
Travel Time (s)		11.5			10.3			13.5			9.9	
Confl. Peds. (#/hr)										1033		33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	80	16	33	100	8	13	32	1568	217	7	1123	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	16	33	100	8	13	32	1568	217	7	1123	36
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8			8		5	2		1	6	
Permitted Phases	8		8	8		8			2			6
Detector Phase	8	8	8	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	4.0	20.0	20.0	4.0	20.0	20.0
Minimum Split (s)	15.0	15.0	15.0	15.0	15.0	15.0	9.5	25.5	25.5	9.5	25.0	25.0
Total Split (s)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	35.0	35.0	13.0	33.0	33.0
Total Split (%)	21.4%	21.4%	21.4%	21.4%	21.4%	21.4%	21.4%	50.0%	50.0%	18.6%	47.1%	47.1%
Maximum Green (s)	10.5	10.5	10.5	10.5	10.5	10.5	11.0	30.0	30.0	9.0	28.0	28.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.0	3.0	3.0	0.5	3.0	3.0
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.0	3.0	3.0	0.5	3.0	3.0
Time Before Reduce (s)	6.0	6.0	6.0	6.0	6.0	6.0	4.0	0.0	0.0	4.0	0.0	0.0
Time To Reduce (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	20.0	20.0	10.0	20.0	20.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	4.0	4.0	4.0	4.0	4.0	4.0						
Flash Dont Walk (s)	6.0	6.0	6.0	6.0	6.0	6.0						
Pedestrian Calls (#/hr)	0	0	0	0	0	0						

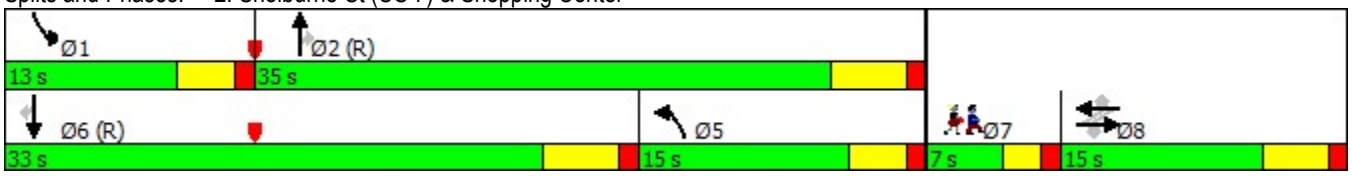
Lane Group	Ø7
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	7
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	5.0
Total Split (s)	7.0
Total Split (%)	10%
Maximum Green (s)	4.0
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Vehicle Extension (s)	3.0
Minimum Gap (s)	3.0
Time Before Reduce (s)	0.0
Time To Reduce (s)	0.0
Recall Mode	None
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	10.2	10.2	10.2	10.2	10.2	10.2	7.0	51.8	51.8	4.1	47.4	47.4
Actuated g/C Ratio	0.15	0.15	0.15	0.15	0.15	0.15	0.10	0.74	0.74	0.06	0.68	0.68
v/c Ratio	0.45	0.07	0.09	0.57	0.03	0.03	0.22	0.71	0.21	0.08	0.54	0.04
Control Delay	34.4	24.0	0.4	39.7	23.3	0.2	26.2	9.2	3.0	33.2	18.1	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.1	0.0	0.0	0.2	0.0
Total Delay	34.4	24.0	0.4	39.7	23.3	0.2	26.2	14.3	3.0	33.2	18.2	2.0
LOS	C	C	A	D	C	A	C	B	A	C	B	A
Approach Delay		24.4			34.4			13.2			17.8	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	32	6	0	41	3	0	13	166	16	3	66	0
Queue Length 95th (ft)	65	20	0	79	13	0	m12	m197	m19	m6	m314	m0
Internal Link Dist (ft)		258			222			416			283	
Turn Bay Length (ft)			70			70	100		100	145		130
Base Capacity (vph)	204	272	413	203	272	413	233	2198	1017	198	2086	947
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	250	0
Spillback Cap Reductn	0	0	0	0	0	0	0	561	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.06	0.08	0.49	0.03	0.03	0.14	0.96	0.21	0.04	0.61	0.04

Intersection Summary

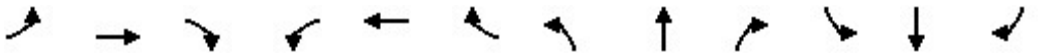
Area Type: CBD
Cycle Length: 70
Actuated Cycle Length: 70
Offset: 53 (76%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 16.1 Intersection LOS: B
Intersection Capacity Utilization 66.0% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Shelburne St (US 7) & Shopping Center



Lane Group	Ø7
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	44	192	50	59	312	208	1299	22	68	830	25
Future Volume (vph)	58	44	192	50	59	312	208	1299	22	68	830	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	12	12	11	11	11	11	11	11	11
Storage Length (ft)	80		0	0		0	85		0	240		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.874			0.997			0.996	
Flt Protected		0.972		0.950			0.950			0.950		
Satd. Flow (prot)	0	1630	1425	1593	1465	0	1540	3070	0	1540	3067	0
Flt Permitted		0.536		0.685			0.265			0.950		
Satd. Flow (perm)	0	899	1425	1148	1465	0	429	3070	0	1540	3067	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			209		339			3			5	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		212			482			363			436	
Travel Time (s)		5.8			13.1			9.9			11.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	63	48	209	54	64	339	226	1412	24	74	902	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	111	209	54	403	0	226	1436	0	74	929	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Prot	NA	
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4			2					
Detector Phase	4	4	4	4	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0		5.0	5.0		5.0	20.0	
Minimum Split (s)	18.0	18.0	18.0	18.0	18.0		10.0	31.0		9.5	29.0	
Total Split (s)	18.0	18.0	18.0	18.0	18.0		15.0	31.0		13.0	29.0	
Total Split (%)	25.7%	25.7%	25.7%	25.7%	25.7%		21.4%	44.3%		18.6%	41.4%	
Maximum Green (s)	14.0	14.0	14.0	14.0	14.0		10.0	26.0		9.0	24.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0	4.0	4.0		5.0	5.0		4.0	5.0	
Lead/Lag	Lag	Lag	Lag	Lag	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0		1.5	0.2		1.0	0.2	
Minimum Gap (s)	1.0	1.0	1.0	1.0	1.0		1.5	0.2		1.0	0.2	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	20.0	20.0	20.0	20.0	20.0		0.0	0.0		0.0	0.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)	0.0	0.0	0.0	0.0	0.0			8.0			15.0	
Flash Dont Walk (s)	14.0	14.0	14.0	14.0	14.0			18.0			9.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0			0	
Act Effct Green (s)		22.0	22.0	22.0	22.0		29.9	29.9		6.9	24.0	
Actuated g/C Ratio		0.31	0.31	0.31	0.31		0.43	0.43		0.10	0.34	

Lane Group	Ø3
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	3.0
Total Split (s)	8.0
Total Split (%)	11%
Maximum Green (s)	6.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Vehicle Extension (s)	1.0
Minimum Gap (s)	1.0
Time Before Reduce (s)	0.0
Time To Reduce (s)	0.0
Recall Mode	None
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	

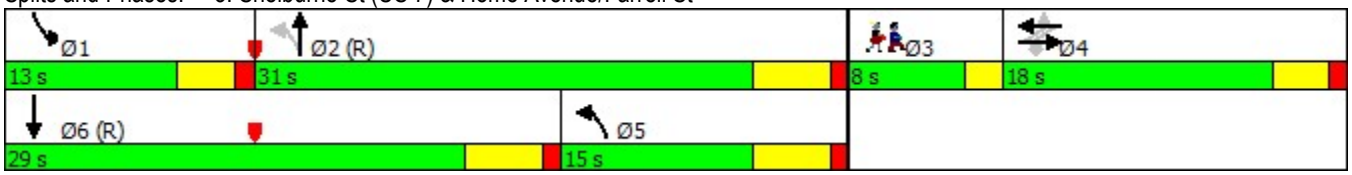
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.39	0.35	0.15	0.58		0.66	1.09		0.49	0.88	
Control Delay		23.9	4.9	18.7	8.0		26.0	72.3		40.7	33.4	
Queue Delay		0.0	0.7	0.4	0.0		0.0	3.2		0.0	0.0	
Total Delay		23.9	5.6	19.1	8.0		26.0	75.5		40.7	33.4	
LOS		C	A	B	A		C	E		D	C	
Approach Delay		11.9			9.3			68.8			34.0	
Approach LOS		B			A			E			C	
Queue Length 50th (ft)		37	0	17	20		64	~412		31	193	
Queue Length 95th (ft)		81	43	42	91		m#91	#564		67	#306	
Internal Link Dist (ft)		132			402			283			356	
Turn Bay Length (ft)							85			240		
Base Capacity (vph)		282	591	360	692		342	1314		198	1054	
Starvation Cap Reductn		0	0	0	0		0	73		0	0	
Spillback Cap Reductn		0	159	120	0		0	0		0	0	
Storage Cap Reductn		0	0	0	0		0	0		0	0	
Reduced v/c Ratio		0.39	0.48	0.23	0.58		0.66	1.16		0.37	0.88	

Intersection Summary

Area Type: CBD
Cycle Length: 70
Actuated Cycle Length: 70
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.09
Intersection Signal Delay: 45.5 Intersection LOS: D
Intersection Capacity Utilization 90.0% ICU Level of Service E
Analysis Period (min) 15

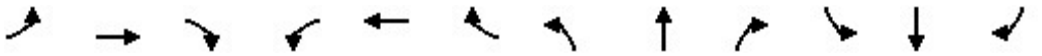
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Shelburne St (US 7) & Home Avenue/Farrell St



Lane Group	Ø3
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	12	132	28	7	25	273	1254	18	12	844	61
Future Volume (vph)	75	12	132	28	7	25	273	1254	18	12	844	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	0		0	150		0	155		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.884			0.998			0.990	
Flt Protected		0.959		0.950			0.950			0.950		
Satd. Flow (prot)	0	1727	1531	1711	1592	0	1711	3414	0	1711	3387	0
Flt Permitted		0.730		0.695			0.127			0.195		
Satd. Flow (perm)	0	1314	1531	1251	1592	0	229	3414	0	351	3387	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					27			2			8	
Link Speed (mph)		25			20			25			25	
Link Distance (ft)		240			181			276			769	
Travel Time (s)		6.5			6.2			7.5			21.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	13	143	30	8	27	297	1363	20	13	917	66
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	95	143	30	35	0	297	1383	0	13	983	0
Turn Type	Perm	NA	pt+ov	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		8	8 1		4		1	6			2	
Permitted Phases	8			4			6			2		
Detector Phase	8	8	8	4	4		1	6		2	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		6.0	10.0		10.0	10.0	
Minimum Split (s)	13.0	13.0		13.0	13.0		11.0	27.0		15.0	15.0	
Total Split (s)	17.0	17.0		17.0	17.0		11.0	34.0		23.0	23.0	
Total Split (%)	21.3%	21.3%		21.3%	21.3%		13.8%	42.5%		28.8%	28.8%	
Maximum Green (s)	12.0	12.0		12.0	12.0		6.0	29.0		18.0	18.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Min		C-Min	C-Min	
Walk Time (s)								10.0				
Flash Dont Walk (s)								12.0				
Pedestrian Calls (#/hr)								12				
Act Effct Green (s)		11.4	35.5	11.4	11.4		53.8	53.8		29.7	29.7	
Actuated g/C Ratio		0.14	0.44	0.14	0.14		0.67	0.67		0.37	0.37	
v/c Ratio		0.51	0.21	0.17	0.14		0.58	0.60		0.10	0.78	
Control Delay		40.8	16.4	30.8	15.0		22.3	12.7		31.1	31.0	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		40.8	16.4	30.8	15.0		22.3	12.7		31.1	31.0	

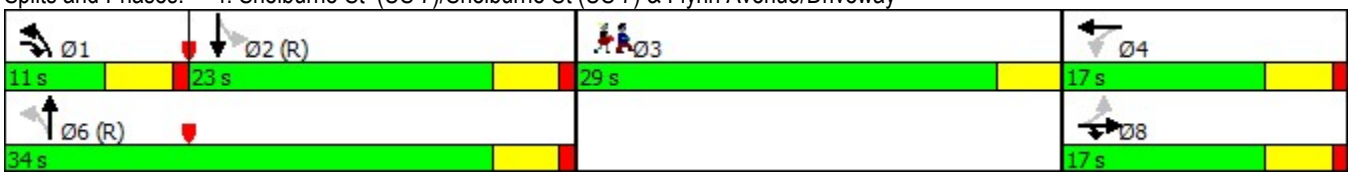
Lane Group	Ø3
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	24.0
Total Split (s)	29.0
Total Split (%)	36%
Maximum Green (s)	25.0
Yellow Time (s)	4.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	8.0
Flash Dont Walk (s)	12.0
Pedestrian Calls (#/hr)	12
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		D	B	C	B		C	B		C	C	
Approach Delay		26.1			22.3			14.4			31.0	
Approach LOS		C			C			B			C	
Queue Length 50th (ft)		45	43	13	4		61	127		4	175	
Queue Length 95th (ft)		86	95	35	27		#316	#543		m14	#455	
Internal Link Dist (ft)		160			101			196			689	
Turn Bay Length (ft)							150			155		
Base Capacity (vph)		213	651	202	280		508	2298		130	1263	
Starvation Cap Reductn		0	0	0	0		0	0		0	0	
Spillback Cap Reductn		0	0	0	0		0	0		0	0	
Storage Cap Reductn		0	0	0	0		0	0		0	0	
Reduced v/c Ratio		0.45	0.22	0.15	0.13		0.58	0.60		0.10	0.78	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 17 (21%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 21.1 Intersection LOS: C
Intersection Capacity Utilization 67.5% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Shelburne St (US 7)/Shelburne St (US 7) & Flynn Avenue/Driveway



Lane Group	Ø3
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR2	NBL2	NBT	NBR	SBL	SBT	SBR	SEL
Lane Configurations												
Traffic Volume (vph)	8	1	69	0	33	1	1316	33	34	1002	1	2
Future Volume (vph)	8	1	69	0	33	1	1316	33	34	1002	1	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	10	11	14	11	11	11	11	11	11	11	10
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95	1.00
Frt				0.956			0.996					0.955
Flt Protected		0.957		0.967						0.998		0.968
Satd. Flow (prot)	0	1664	0	1837	0	0	3408	0	0	3414	0	1607
Flt Permitted		0.735		0.791			0.955			0.788		0.968
Satd. Flow (perm)	0	1278	0	1503	0	0	3254	0	0	2696	0	1607
Right Turn on Red					Yes			Yes				
Satd. Flow (RTOR)				191			3					
Link Speed (mph)		20		25			25			25		20
Link Distance (ft)		143		440			769			850		424
Travel Time (s)		4.9		12.0			21.0			23.2		14.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	9	1	75	0	36	1	1430	36	37	1089	1	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	10	0	111	0	0	1467	0	0	1127	0	3
Turn Type	Perm	NA	Perm	NA		Perm	NA		pm+pt	NA		Prot
Protected Phases		4		4			6		5	2		3
Permitted Phases	4		4			6			2			
Detector Phase	4	4	4	4		6	6		5	5		3
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0		29.0	29.0		6.0	30.0		4.0
Minimum Split (s)	13.0	13.0	13.0	13.0		34.0	34.0		11.0	35.0		9.0
Total Split (s)	15.0	15.0	15.0	15.0		34.0	34.0		11.0	45.0		13.0
Total Split (%)	18.8%	18.8%	18.8%	18.8%		42.5%	42.5%		13.8%	56.3%		16.3%
Maximum Green (s)	10.0	10.0	10.0	10.0		29.0	29.0		6.0	40.0		8.0
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0		1.0
Lost Time Adjust (s)		0.0		0.0			0.0			0.0		0.0
Total Lost Time (s)		5.0		5.0			5.0			5.0		5.0
Lead/Lag						Lag	Lag		Lead			Lead
Lead-Lag Optimize?						Yes	Yes		Yes			Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	None	None	None	None		C-Min	C-Min		None	C-Min		None
Walk Time (s)	0.0	0.0	0.0	0.0		7.0	7.0					
Flash Dont Walk (s)	8.0	8.0	8.0	8.0		10.0	10.0					
Pedestrian Calls (#/hr)	0	0	0	0		0	0					
Act Effct Green (s)		8.0		8.0			41.2			62.3		5.8
Actuated g/C Ratio		0.10		0.10			0.52			0.78		0.07
v/c Ratio		0.08		0.34			0.87			0.50		0.03
Control Delay		34.3		3.6			26.0			5.0		35.0
Queue Delay		0.0		0.0			0.0			0.0		0.0
Total Delay		34.3		3.6			26.0			5.0		35.0
LOS		C		A			C			A		C
Approach Delay		34.3		3.6			26.0			5.0		35.0

Lane Group	SER	Ø7
Lane Configurations		
Traffic Volume (vph)	1	
Future Volume (vph)	1	
Ideal Flow (vphpl)	1900	
Lane Width (ft)	11	
Lane Util. Factor	1.00	
Frt		
Flt Protected		
Satd. Flow (prot)	0	
Flt Permitted		
Satd. Flow (perm)	0	
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor	0.92	
Adj. Flow (vph)	1	
Shared Lane Traffic (%)		
Lane Group Flow (vph)	0	
Turn Type		
Protected Phases		7
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)		5.0
Minimum Split (s)		7.0
Total Split (s)		7.0
Total Split (%)		9%
Maximum Green (s)		5.0
Yellow Time (s)		2.0
All-Red Time (s)		0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		Lag
Lead-Lag Optimize?		Yes
Vehicle Extension (s)		3.0
Recall Mode		None
Walk Time (s)		5.0
Flash Dont Walk (s)		0.0
Pedestrian Calls (#/hr)		0
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		

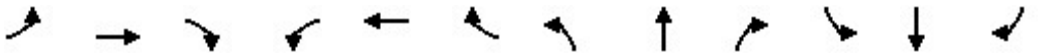
Lane Group	EBL	EBT	WBL	WBT	WBR2	NBL2	NBT	NBR	SBL	SBT	SBR	SEL
Approach LOS		C		A			C			A		C
Queue Length 50th (ft)		5		0			402			74		1
Queue Length 95th (ft)		19		6			#648			190		10
Internal Link Dist (ft)		63		360			689			770		344
Turn Bay Length (ft)												
Base Capacity (vph)		159		355			1678			2245		160
Starvation Cap Reductn		0		0			0			0		0
Spillback Cap Reductn		0		0			0			0		0
Storage Cap Reductn		0		0			0			0		0
Reduced v/c Ratio		0.06		0.31			0.87			0.50		0.02

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 34 (43%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 16.4		Intersection LOS: B	
Intersection Capacity Utilization 74.9%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 5: Shelburne St (US 7) & Prospect Parkway & Bus Barn Driveway

Lane Group	SER	Ø7
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

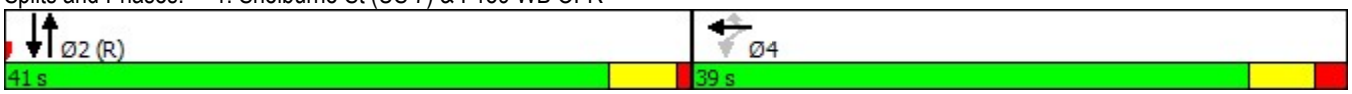


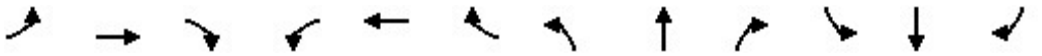
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	806	107	806	0	754	0	0	1637	0
Future Volume (vph)	0	0	0	806	107	806	0	754	0	0	1637	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12	12	12	12	11	11	11
Storage Length (ft)	0		0	0		420	0		0	0		0
Storage Lanes	0		0	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.91	0.91
Frt						0.850						
Flt Protected				0.950	0.963							
Satd. Flow (prot)	0	0	0	1513	1534	1425	0	3185	0	0	4424	0
Flt Permitted				0.950	0.963							
Satd. Flow (perm)	0	0	0	1513	1534	1425	0	3185	0	0	4424	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						97						
Link Speed (mph)		20			35			25			25	
Link Distance (ft)		195			1008			629			496	
Travel Time (s)		6.6			19.6			17.2			13.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	876	116	876	0	820	0	0	1779	0
Shared Lane Traffic (%)				44%								
Lane Group Flow (vph)	0	0	0	491	501	876	0	820	0	0	1779	0
Turn Type				Perm	NA	Perm		NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4		4						
Minimum Split (s)				24.0	24.0	24.0		35.0			35.0	
Total Split (s)				39.0	39.0	39.0		41.0			41.0	
Total Split (%)				48.8%	48.8%	48.8%		51.3%			51.3%	
Maximum Green (s)				33.0	33.0	33.0		36.0			36.0	
Yellow Time (s)				4.0	4.0	4.0		4.0			4.0	
All-Red Time (s)				2.0	2.0	2.0		1.0			1.0	
Lost Time Adjust (s)				0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)				6.0	6.0	6.0		5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)				33.0	33.0	33.0		36.0			36.0	
Actuated g/C Ratio				0.41	0.41	0.41		0.45			0.45	
v/c Ratio				0.79	0.79	1.36		0.57			0.89	
Control Delay				31.6	31.8	194.6		18.3			27.8	
Queue Delay				0.0	0.0	0.3		0.0			0.0	
Total Delay				31.6	31.8	194.9		18.3			27.8	
LOS				C	C	F		B			C	
Approach Delay					108.2			18.3			27.8	
Approach LOS					F			B			C	
Queue Length 50th (ft)				217	223	~559		153			349	
Queue Length 95th (ft)				#389	#396	#784		208			m366	
Internal Link Dist (ft)		115			928			549			416	
Turn Bay Length (ft)						420						

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)				624	632	644		1433			1990	
Starvation Cap Reductn				0	0	0		0			0	
Spillback Cap Reductn				0	0	26		0			0	
Storage Cap Reductn				0	0	0		0			0	
Reduced v/c Ratio				0.79	0.79	1.42		0.57			0.89	

Intersection Summary			
Area Type:	CBD		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 5 (6%), Referenced to phase 2:NBSB, Start of Green			
Natural Cycle: 75			
Control Type: Pretimed			
Maximum v/c Ratio: 1.36			
Intersection Signal Delay: 59.7		Intersection LOS: E	
Intersection Capacity Utilization 89.6%		ICU Level of Service E	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 1: Shelburne St (US 7) & I-189 WB OFR





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	139	31	182	178	43	37	135	1180	245	19	1277	209
Future Volume (vph)	139	31	182	178	43	37	135	1180	245	19	1277	209
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	10	10	10	11	11	11
Storage Length (ft)	0		70	0		70	100		100	145		130
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1540	1621	1378	1540	1621	1378	1486	2973	1330	1540	3079	1378
Flt Permitted	0.726			0.735			0.950			0.950		
Satd. Flow (perm)	1177	1621	1378	1191	1621	1378	1486	2973	1330	1540	3079	1378
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			198			191			177			161
Link Speed (mph)		20			20			25			25	
Link Distance (ft)		338			302			496			363	
Travel Time (s)		11.5			10.3			13.5			9.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	151	34	198	193	47	40	147	1283	266	21	1388	227
Shared Lane Traffic (%)												
Lane Group Flow (vph)	151	34	198	193	47	40	147	1283	266	21	1388	227
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8			8		5	2		1	6	
Permitted Phases	8		8	8		8			2			6
Detector Phase	8	8	8	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	4.0	20.0	20.0	4.0	20.0	20.0
Minimum Split (s)	15.0	15.0	15.0	15.0	15.0	15.0	9.5	25.5	25.5	9.5	25.0	25.0
Total Split (s)	15.0	15.0	15.0	15.0	15.0	15.0	16.0	45.0	45.0	13.0	42.0	42.0
Total Split (%)	18.8%	18.8%	18.8%	18.8%	18.8%	18.8%	20.0%	56.3%	56.3%	16.3%	52.5%	52.5%
Maximum Green (s)	10.5	10.5	10.5	10.5	10.5	10.5	12.0	40.0	40.0	9.0	37.0	37.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.0	3.0	3.0	0.5	3.0	3.0
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.0	3.0	3.0	0.5	3.0	3.0
Time Before Reduce (s)	6.0	6.0	6.0	6.0	6.0	6.0	4.0	0.0	0.0	4.0	0.0	0.0
Time To Reduce (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	20.0	20.0	10.0	20.0	20.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	4.0	4.0	4.0	4.0	4.0	4.0						
Flash Dont Walk (s)	6.0	6.0	6.0	6.0	6.0	6.0						
Pedestrian Calls (#/hr)	0	0	0	0	0	0						
Act Effct Green (s)	17.5	17.5	17.5	17.5	17.5	17.5	12.0	49.2	49.2	4.6	37.0	37.0
Actuated g/C Ratio	0.22	0.22	0.22	0.22	0.22	0.22	0.15	0.62	0.62	0.06	0.46	0.46

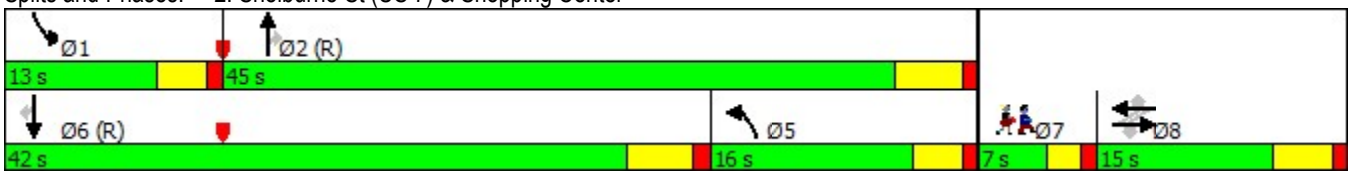
Lane Group	Ø7
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	7
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	5.0
Total Split (s)	7.0
Total Split (%)	9%
Maximum Green (s)	4.0
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Vehicle Extension (s)	3.0
Minimum Gap (s)	3.0
Time Before Reduce (s)	0.0
Time To Reduce (s)	0.0
Recall Mode	None
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.59	0.10	0.43	0.74	0.13	0.09	0.66	0.70	0.30	0.24	0.97	0.31
Control Delay	38.6	25.9	7.6	48.6	26.4	0.4	41.3	16.3	6.5	39.1	40.7	13.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.3	0.0	0.0	25.7	0.0
Total Delay	38.6	25.9	7.6	48.6	26.4	0.4	41.3	31.6	6.5	39.1	66.3	13.0
LOS	D	C	A	D	C	A	D	C	A	D	E	B
Approach Delay		21.4			38.0			28.5			58.6	
Approach LOS		C			D			C			E	
Queue Length 50th (ft)	68	14	0	90	19	0	73	182	25	11	305	51
Queue Length 95th (ft)	#130	37	52	#191	47	0	m93	m251	m35	m14	m313	m57
Internal Link Dist (ft)		258			222			416			283	
Turn Bay Length (ft)			70			70	100		100	145		130
Base Capacity (vph)	257	354	456	260	354	450	222	1828	885	173	1424	723
Starvation Cap Reductn	0	0	0	0	0	0	0	295	0	0	118	0
Spillback Cap Reductn	0	0	0	0	0	35	0	556	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.10	0.43	0.74	0.13	0.10	0.66	1.01	0.30	0.12	1.06	0.31

Intersection Summary

Area Type: CBD
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 60 (75%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 40.8 Intersection LOS: D
Intersection Capacity Utilization 76.4% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Shelburne St (US 7) & Shopping Center



Lane Group	Ø7
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	57	252	53	95	324	214	1125	17	221	1200	33
Future Volume (vph)	52	57	252	53	95	324	214	1125	17	221	1200	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	12	12	11	11	11	11	11	11	11
Storage Length (ft)	80		0	0		0	85		0	240		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.884			0.998			0.996	
Flt Protected		0.977		0.950			0.950			0.950		
Satd. Flow (prot)	0	1638	1425	1593	1482	0	1540	3073	0	1540	3067	0
Flt Permitted		0.371		0.677			0.167			0.950		
Satd. Flow (perm)	0	622	1425	1135	1482	0	271	3073	0	1540	3067	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			274		186			2			4	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		212			482			363			436	
Travel Time (s)		5.8			13.1			9.9			11.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	57	62	274	58	103	352	233	1223	18	240	1304	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	119	274	58	455	0	233	1241	0	240	1340	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Prot	NA	
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4			2					
Detector Phase	4	4	4	4	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0		5.0	5.0		5.0	20.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0		10.0	31.0		9.5	29.0	
Total Split (s)	18.0	18.0	18.0	18.0	18.0		15.0	39.0		15.0	39.0	
Total Split (%)	22.5%	22.5%	22.5%	22.5%	22.5%		18.8%	48.8%		18.8%	48.8%	
Maximum Green (s)	14.0	14.0	14.0	14.0	14.0		10.0	34.0		11.0	34.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.0	4.0	4.0	4.0		5.0	5.0		4.0	5.0	
Lead/Lag	Lag	Lag	Lag	Lag	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0		1.5	0.2		1.0	0.2	
Minimum Gap (s)	1.0	1.0	1.0	1.0	1.0		1.5	0.2		1.0	0.2	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	20.0	20.0	20.0	20.0	20.0		0.0	0.0		0.0	0.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)	0.0	0.0	0.0	0.0	0.0			8.0			15.0	
Flash Dont Walk (s)	14.0	14.0	14.0	14.0	14.0			18.0			9.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0			0	
Act Effct Green (s)		22.0	22.0	22.0	22.0		34.0	34.0		11.0	34.0	
Actuated g/C Ratio		0.28	0.28	0.28	0.28		0.42	0.42		0.14	0.42	

Lane Group	Ø3
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	3.0
Total Split (s)	8.0
Total Split (%)	10%
Maximum Green (s)	6.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Vehicle Extension (s)	1.0
Minimum Gap (s)	1.0
Time Before Reduce (s)	0.0
Time To Reduce (s)	0.0
Recall Mode	None
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.70	0.46	0.19	0.84		0.85	0.95		1.14	1.03	
Control Delay		50.3	6.0	24.2	32.0		49.0	33.1		120.1	48.0	
Queue Delay		0.0	63.5	106.9	0.0		0.0	43.7		0.0	5.8	
Total Delay		50.3	69.5	131.0	32.0		49.0	76.7		120.1	53.9	
LOS		D	E	F	C		D	E		F	D	
Approach Delay		63.7			43.2			72.4			63.9	
Approach LOS		E			D			E			E	
Queue Length 50th (ft)		53	0	22	129		91	348		~137	~393	
Queue Length 95th (ft)		#137	55	52	#297		m#175	#475		m#184	m#495	
Internal Link Dist (ft)		132			402			283			356	
Turn Bay Length (ft)							85			240		
Base Capacity (vph)		171	590	312	542		273	1307		211	1305	
Starvation Cap Reductn		0	0	0	0		0	184		0	0	
Spillback Cap Reductn		0	374	272	0		0	0		0	21	
Storage Cap Reductn		0	0	0	0		0	0		0	0	
Reduced v/c Ratio		0.70	1.27	1.45	0.84		0.85	1.11		1.14	1.04	

Intersection Summary

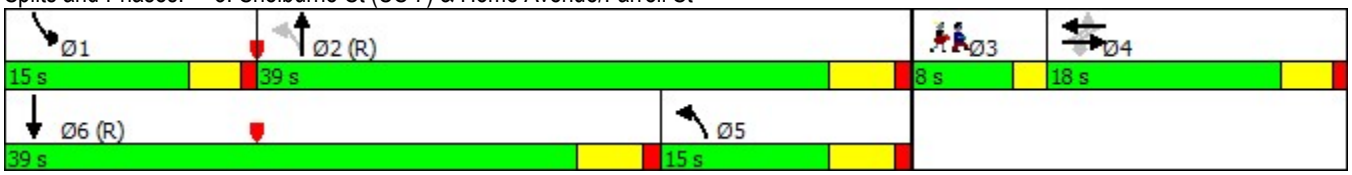
Area Type: CBD
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.14
Intersection Signal Delay: 64.4 Intersection LOS: E
Intersection Capacity Utilization 100.4% ICU Level of Service G
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Shelburne St (US 7) & Home Avenue/Farrell St



Lane Group	Ø3
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	111	32	294	55	25	26	203	1133	12	34	1037	101
Future Volume (vph)	111	32	294	55	25	26	203	1133	12	34	1037	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	0		0	150		0	155		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.924			0.998			0.987	
Flt Protected		0.963		0.950			0.950			0.950		
Satd. Flow (prot)	0	1734	1531	1711	1664	0	1711	3414	0	1711	3377	0
Flt Permitted		0.738		0.616			0.118			0.224		
Satd. Flow (perm)	0	1329	1531	1109	1664	0	212	3414	0	403	3377	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					28			1			12	
Link Speed (mph)		25			20			25			25	
Link Distance (ft)		240			142			276			769	
Travel Time (s)		6.5			4.8			7.5			21.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	121	35	320	60	27	28	221	1232	13	37	1127	110
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	156	320	60	55	0	221	1245	0	37	1237	0
Turn Type	Perm	NA	pt+ov	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		8	8 1		4		1	6			2	
Permitted Phases	8			4			6			2		
Detector Phase	8	8	8	4	4		1	6		2	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		6.0	10.0		10.0	10.0	
Minimum Split (s)	13.0	13.0		13.0	13.0		11.0	27.0		15.0	15.0	
Total Split (s)	17.0	17.0		17.0	17.0		11.0	34.0		23.0	23.0	
Total Split (%)	21.3%	21.3%		21.3%	21.3%		13.8%	42.5%		28.8%	28.8%	
Maximum Green (s)	12.0	12.0		12.0	12.0		6.0	29.0		18.0	18.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Min		C-Min	C-Min	
Walk Time (s)								10.0				
Flash Dont Walk (s)								12.0				
Pedestrian Calls (#/hr)								12				
Act Effct Green (s)		16.3	33.2	16.3	16.3		48.9	48.9		32.0	32.0	
Actuated g/C Ratio		0.20	0.42	0.20	0.20		0.61	0.61		0.40	0.40	
v/c Ratio		0.58	0.50	0.27	0.15		0.63	0.60		0.23	0.91	
Control Delay		37.6	21.1	29.5	16.3		20.3	18.2		32.4	35.8	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		37.6	21.1	29.5	16.3		20.3	18.2		32.4	35.8	

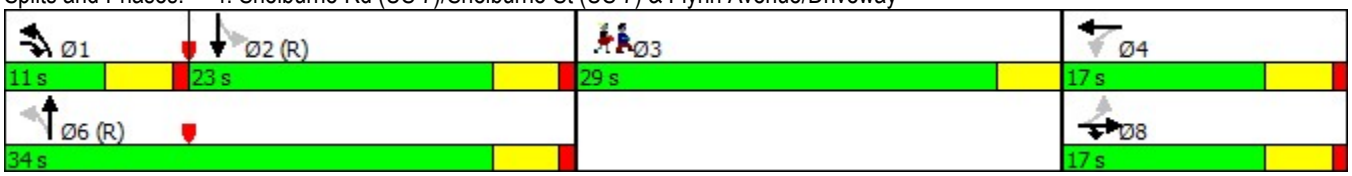
Lane Group	Ø3
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	24.0
Total Split (s)	29.0
Total Split (%)	36%
Maximum Green (s)	25.0
Yellow Time (s)	4.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	8.0
Flash Dont Walk (s)	12.0
Pedestrian Calls (#/hr)	12
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		D	C	C	B		C	B		C	D	
Approach Delay		26.5			23.2			18.5			35.7	
Approach LOS		C			C			B			D	
Queue Length 50th (ft)		69	108	25	11		52	291		11	222	
Queue Length 95th (ft)		131	213	59	40		m#125	m#426		m37	#612	
Internal Link Dist (ft)		160			62			196			689	
Turn Bay Length (ft)							150			155		
Base Capacity (vph)		270	634	225	360		352	2088		161	1359	
Starvation Cap Reductn		0	0	0	0		0	0		0	0	
Spillback Cap Reductn		0	0	0	0		0	0		0	0	
Storage Cap Reductn		0	0	0	0		0	0		0	0	
Reduced v/c Ratio		0.58	0.50	0.27	0.15		0.63	0.60		0.23	0.91	

Intersection Summary

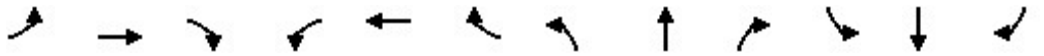
Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 17 (21%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 26.4 Intersection LOS: C
Intersection Capacity Utilization 70.1% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Shelburne Rd (US 7)/Shelburne St (US 7) & Flynn Avenue/Driveway



Lane Group	Ø3
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	6	76	0	38	1	1161	44	36	1124	5
Future Volume (vph)	5	0	6	76	0	38	1	1161	44	36	1124	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	10	11	11	14	11	11	11	11	11	11	11
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.921			0.955			0.995			0.999	
Flt Protected		0.980			0.968						0.998	
Satd. Flow (prot)	0	1569	0	0	1837	0	0	3404	0	0	3411	0
Flt Permitted		0.853			0.792			0.954			0.794	
Satd. Flow (perm)	0	1366	0	0	1503	0	0	3248	0	0	2714	0
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)		191			191			5				
Link Speed (mph)		20			25			25			25	
Link Distance (ft)		143			440			769			850	
Travel Time (s)		4.9			12.0			21.0			23.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	0	7	83	0	41	1	1262	48	39	1222	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	12	0	0	124	0	0	1311	0	0	1267	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			4			6		5	2	
Permitted Phases	4			4			6			2		
Detector Phase	4	4		4	4		6	6		5	5	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		29.0	29.0		6.0	30.0	
Minimum Split (s)	13.0	13.0		13.0	13.0		34.0	34.0		11.0	35.0	
Total Split (s)	15.0	15.0		15.0	15.0		34.0	34.0		11.0	45.0	
Total Split (%)	18.8%	18.8%		18.8%	18.8%		42.5%	42.5%		13.8%	56.3%	
Maximum Green (s)	10.0	10.0		10.0	10.0		29.0	29.0		6.0	40.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min		None	C-Min	
Walk Time (s)	0.0	0.0		0.0	0.0		7.0	7.0				
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		10.0	10.0				
Pedestrian Calls (#/hr)	0	0		0	0		0	0				
Act Effct Green (s)		8.0			8.0			34.7			62.3	
Actuated g/C Ratio		0.10			0.10			0.43			0.78	
v/c Ratio		0.04			0.39			0.93			0.55	
Control Delay		0.3			5.0			35.9			5.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		0.3			5.0			35.9			5.5	
LOS		A			A			D			A	
Approach Delay		0.3			5.0			35.9			5.5	

Lane Group	SBR2	SEL	SER	Ø7
Lane Configurations				
Traffic Volume (vph)	1	4	1	
Future Volume (vph)	1	4	1	
Ideal Flow (vphpl)	1900	1900	1900	
Lane Width (ft)	11	10	11	
Lane Util. Factor	0.95	1.00	1.00	
Frt		0.973		
Flt Protected		0.962		
Satd. Flow (prot)	0	1627	0	
Flt Permitted		0.962		
Satd. Flow (perm)	0	1627	0	
Right Turn on Red	Yes			
Satd. Flow (RTOR)				
Link Speed (mph)		20		
Link Distance (ft)		424		
Travel Time (s)		14.5		
Peak Hour Factor	0.92	0.92	0.92	
Adj. Flow (vph)	1	4	1	
Shared Lane Traffic (%)				
Lane Group Flow (vph)	0	5	0	
Turn Type		Prot		
Protected Phases		3		7
Permitted Phases				
Detector Phase		3		
Switch Phase				
Minimum Initial (s)		4.0		5.0
Minimum Split (s)		9.0		7.0
Total Split (s)		13.0		7.0
Total Split (%)		16.3%		9%
Maximum Green (s)		8.0		5.0
Yellow Time (s)		4.0		2.0
All-Red Time (s)		1.0		0.0
Lost Time Adjust (s)		0.0		
Total Lost Time (s)		5.0		
Lead/Lag		Lead		Lag
Lead-Lag Optimize?		Yes		Yes
Vehicle Extension (s)		3.0		3.0
Recall Mode		None		None
Walk Time (s)				5.0
Flash Dont Walk (s)				0.0
Pedestrian Calls (#/hr)				0
Act Effct Green (s)		5.9		
Actuated g/C Ratio		0.07		
v/c Ratio		0.04		
Control Delay		35.0		
Queue Delay		0.0		
Total Delay		35.0		
LOS		C		
Approach Delay		35.0		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			A			D			A	
Queue Length 50th (ft)		0			0			~377			88	
Queue Length 95th (ft)		0			15			#554			229	
Internal Link Dist (ft)		63			360			689			770	
Turn Bay Length (ft)												
Base Capacity (vph)		337			355			1413			2309	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.04			0.35			0.93			0.55	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 34 (43%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 20.2		Intersection LOS: C	
Intersection Capacity Utilization 83.0%		ICU Level of Service E	
Analysis Period (min) 15			

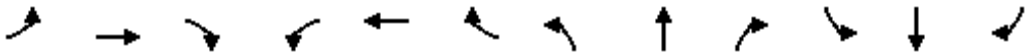
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Shelburne St (US 7) & Prospect Parkway & Bus Barn Driveway

Lane Group	SBR2	SEL	SER	Ø7
Approach LOS		C		
Queue Length 50th (ft)		2		
Queue Length 95th (ft)		13		
Internal Link Dist (ft)		344		
Turn Bay Length (ft)				
Base Capacity (vph)		162		
Starvation Cap Reductn		0		
Spillback Cap Reductn		0		
Storage Cap Reductn		0		
Reduced v/c Ratio		0.03		

Intersection Summary

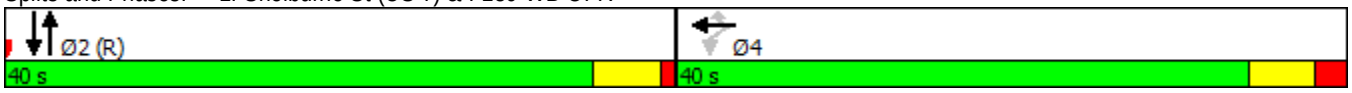


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	806	107	806	0	754	0	0	1637	0
Future Volume (vph)	0	0	0	806	107	806	0	754	0	0	1637	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12	12	12	12	11	11	11
Storage Length (ft)	0		0	0		420	0		0	0		0
Storage Lanes	0		0	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.91	0.91
Frt						0.850						
Flt Protected				0.950	0.963							
Satd. Flow (prot)	0	0	0	1513	1534	1425	0	3185	0	0	4424	0
Flt Permitted				0.950	0.963							
Satd. Flow (perm)	0	0	0	1513	1534	1425	0	3185	0	0	4424	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						90						
Link Speed (mph)		20			35			25			25	
Link Distance (ft)		195			1008			629			496	
Travel Time (s)		6.6			19.6			17.2			13.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	876	116	876	0	820	0	0	1779	0
Shared Lane Traffic (%)				44%								
Lane Group Flow (vph)	0	0	0	491	501	876	0	820	0	0	1779	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.19	1.19	1.19	1.14	1.14	1.14	1.14	1.14	1.14	1.19	1.19	1.19
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA	Perm		NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4		4						
Minimum Split (s)				24.0	24.0	24.0		35.0			35.0	
Total Split (s)				40.0	40.0	40.0		40.0			40.0	
Total Split (%)				50.0%	50.0%	50.0%		50.0%			50.0%	
Maximum Green (s)				34.0	34.0	34.0		35.0			35.0	
Yellow Time (s)				4.0	4.0	4.0		4.0			4.0	
All-Red Time (s)				2.0	2.0	2.0		1.0			1.0	
Lost Time Adjust (s)				0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)				6.0	6.0	6.0		5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)				34.0	34.0	34.0		35.0			35.0	
Actuated g/C Ratio				0.42	0.42	0.42		0.44			0.44	
v/c Ratio				0.76	0.77	1.33		0.59			0.92	
Control Delay				29.2	29.5	182.8		19.2			23.9	
Queue Delay				0.0	0.0	0.3		0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay				29.2	29.5	183.1		19.2			23.9	
LOS				C	C	F		B			C	
Approach Delay					101.5			19.2			23.9	
Approach LOS					F			B			C	
Queue Length 50th (ft)				212	217	~555		157			335	
Queue Length 95th (ft)				#378	#386	#780		214			m356	
Internal Link Dist (ft)		115			928			549			416	
Turn Bay Length (ft)						420						
Base Capacity (vph)				643	651	657		1393			1935	
Starvation Cap Reductn				0	0	0		0			0	
Spillback Cap Reductn				0	0	32		0			0	
Storage Cap Reductn				0	0	0		0			0	
Reduced v/c Ratio				0.76	0.77	1.40		0.59			0.92	

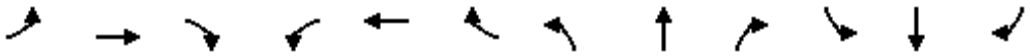
Intersection Summary			
Area Type:	CBD		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 68 (85%), Referenced to phase 2:NBSB, Start of Green			
Natural Cycle: 75			
Control Type: Pretimed			
Maximum v/c Ratio: 1.33			
Intersection Signal Delay: 55.5		Intersection LOS: E	
Intersection Capacity Utilization 89.6%		ICU Level of Service E	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 1: Shelburne St (US 7) & I-189 WB OFR



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	139	31	182	178	43	37	135	1180	245	19	1277	209
Future Volume (vph)	139	31	182	178	43	37	135	1180	245	19	1277	209
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	10	10	10	11	11	11
Storage Length (ft)	0		70	0		70	100		100	145		130
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1540	1621	1378	1540	1621	1378	1486	2973	1330	1540	3079	1378
Flt Permitted	0.726			0.735			0.950			0.950		
Satd. Flow (perm)	1177	1621	1378	1191	1621	1378	1486	2973	1330	1540	3079	1378
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			205			205			177			161
Link Speed (mph)		20			20			25			25	
Link Distance (ft)		338			302			496			363	
Travel Time (s)		11.5			10.3			13.5			9.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	151	34	198	193	47	40	147	1283	266	21	1388	227
Shared Lane Traffic (%)												
Lane Group Flow (vph)	151	34	198	193	47	40	147	1283	266	21	1388	227
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			13			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.19	1.19	1.19	1.19	1.19	1.19	1.25	1.25	1.25	1.19	1.19	1.19
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	0	0	1	0	0
Detector Template	Left		Right	Left		Right	Left			Left		
Leading Detector (ft)	20	20	20	20	20	20	20	0	0	20	0	0
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	20	20	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8			8		5	2		1	6	
Permitted Phases	8		8	8		8			2			6
Detector Phase	8	8	8	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	4.0	20.0	20.0	4.0	20.0	20.0
Minimum Split (s)	15.0	15.0	15.0	15.0	15.0	15.0	10.0	25.0	25.0	10.0	25.0	25.0

Lane Group	Ø7
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	7
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	7.0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	18.0	18.0	18.0	18.0	18.0	18.0	13.0	45.0	45.0	10.0	42.0	42.0
Total Split (%)	22.5%	22.5%	22.5%	22.5%	22.5%	22.5%	16.3%	56.3%	56.3%	12.5%	52.5%	52.5%
Maximum Green (s)	13.0	13.0	13.0	13.0	13.0	13.0	8.0	40.0	40.0	5.0	37.0	37.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.0	3.0	3.0	0.5	3.0	3.0
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.0	3.0	3.0	0.5	3.0	3.0
Time Before Reduce (s)	6.0	6.0	6.0	6.0	6.0	6.0	4.0	0.0	0.0	4.0	0.0	0.0
Time To Reduce (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	20.0	20.0	10.0	20.0	20.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	4.0	4.0	4.0	4.0	4.0	4.0						
Flash Dont Walk (s)	6.0	6.0	6.0	6.0	6.0	6.0						
Pedestrian Calls (#/hr)	0	0	0	0	0	0						
Act Effct Green (s)	19.2	19.2	19.2	19.2	19.2	19.2	8.8	46.8	46.8	4.4	37.0	37.0
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.24	0.24	0.11	0.58	0.58	0.06	0.46	0.46
v/c Ratio	0.54	0.09	0.41	0.68	0.12	0.08	0.90	0.74	0.31	0.25	0.97	0.31
Control Delay	34.2	23.9	6.4	40.9	24.3	0.3	55.4	16.9	5.6	26.4	21.6	0.8
Queue Delay	3.2	0.0	0.0	0.0	0.0	0.1	0.0	0.8	0.0	0.0	14.8	0.0
Total Delay	37.4	23.9	6.4	40.9	24.3	0.4	55.4	17.7	5.6	26.4	36.4	0.8
LOS	D	C	A	D	C	A	E	B	A	C	D	A
Approach Delay		20.2			32.3			19.0			31.4	
Approach LOS		C			C			B			C	
Queue Length 50th (ft)	65	13	0	86	18	0	78	224	31	10	50	1
Queue Length 95th (ft)	124	35	46	#171	45	0	m#111	m274	m39	m12	m#432	m1
Internal Link Dist (ft)		258			222			416			283	
Turn Bay Length (ft)			70			70	100		100	145		130
Base Capacity (vph)	282	388	486	285	388	486	163	1740	852	96	1425	723
Starvation Cap Reductn	0	0	0	0	0	0	0	188	0	0	82	0
Spillback Cap Reductn	64	0	0	0	0	85	0	90	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.09	0.41	0.68	0.12	0.10	0.90	0.83	0.31	0.22	1.03	0.31

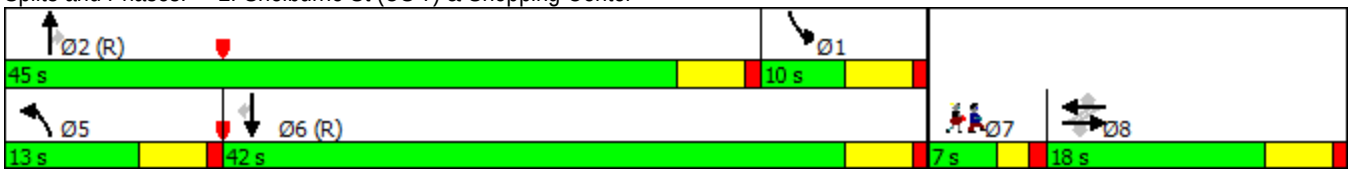
Intersection Summary			
Area Type:	CBD		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 31 (39%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 25.1		Intersection LOS: C	
Intersection Capacity Utilization 77.7%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Lane Group	Ø7
Total Split (s)	7.0
Total Split (%)	9%
Maximum Green (s)	4.0
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Minimum Gap (s)	3.0
Time Before Reduce (s)	0.0
Time To Reduce (s)	0.0
Recall Mode	None
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

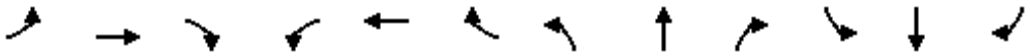
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Shelburne St (US 7) & Shopping Center



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	57	252	53	95	324	214	1125	17	221	1200	33
Future Volume (vph)	52	57	252	53	95	324	214	1125	17	221	1200	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	12	12	11	11	11	11	11	11	11
Storage Length (ft)	80		0	0		0	85		0	240		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.884			0.998			0.996	
Flt Protected		0.977		0.950			0.950			0.950		
Satd. Flow (prot)	0	1638	1425	1593	1482	0	1540	3073	0	1540	3067	0
Flt Permitted		0.313		0.681			0.154			0.950		
Satd. Flow (perm)	0	525	1425	1142	1482	0	250	3073	0	1540	3067	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			274		186			2			5	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		212			482			363			436	
Travel Time (s)		5.8			13.1			9.9			11.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	57	62	274	58	103	352	233	1223	18	240	1304	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	119	274	58	455	0	233	1241	0	240	1340	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			12			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.19	1.14	1.14	1.14	1.14	1.19	1.19	1.19	1.19	1.19	1.19	1.19
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	1		1	0		1	0	
Detector Template	Left	Thru	Right	Left	Left		Left			Left		
Leading Detector (ft)	20	100	20	20	20		20	0		20	0	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	20		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94										
Detector 2 Size(ft)		6										
Detector 2 Type		Cl+Ex										
Detector 2 Channel												
Detector 2 Extend (s)		0.0										
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Prot	NA	
Protected Phases		4			4		5	2		1	6	

Lane Group	Ø3
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	3



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	4			2					
Detector Phase	4	4	4	4	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0		5.0	5.0		5.0	15.0	
Minimum Split (s)	19.0	19.0	19.0	19.0	19.0		10.0	20.0		10.0	20.0	
Total Split (s)	19.0	19.0	19.0	19.0	19.0		12.0	38.0		16.0	42.0	
Total Split (%)	23.8%	23.8%	23.8%	23.8%	23.8%		15.0%	47.5%		20.0%	52.5%	
Maximum Green (s)	14.0	14.0	14.0	14.0	14.0		7.0	33.0		11.0	37.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lag	Lag	Lag	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0		1.5	0.2		1.0	0.2	
Minimum Gap (s)	1.0	1.0	1.0	1.0	1.0		1.5	0.2		1.0	0.2	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	20.0	20.0	20.0	20.0	20.0		0.0	0.0		0.0	0.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)								6.0			7.0	
Flash Dont Walk (s)								18.0			9.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)		21.0	21.0	21.0	21.0		33.0	33.0		11.0	37.0	
Actuated g/C Ratio		0.26	0.26	0.26	0.26		0.41	0.41		0.14	0.46	
v/c Ratio		0.87	0.48	0.19	0.87		1.08	0.98		1.14	0.94	
Control Delay		81.3	6.3	25.1	35.3		105.2	42.3		116.4	19.6	
Queue Delay		0.0	0.1	0.0	0.0		0.0	9.2		0.0	37.3	
Total Delay		81.3	6.4	25.1	35.3		105.2	51.5		116.4	56.9	
LOS		F	A	C	D		F	D		F	E	
Approach Delay		29.1			34.1			60.0			65.9	
Approach LOS		C			C			E			E	
Queue Length 50th (ft)		57	0	23	132		~114	240		~142	113	
Queue Length 95th (ft)		#154	56	53	#304		m#189	#449		m#176	m127	
Internal Link Dist (ft)		132			402			283			356	
Turn Bay Length (ft)							85			240		
Base Capacity (vph)		137	576	299	526		216	1268		211	1421	
Starvation Cap Reductn		0	0	0	0		0	49		0	0	
Spillback Cap Reductn		0	15	0	0		0	0		0	184	
Storage Cap Reductn		0	0	0	0		0	0		0	0	
Reduced v/c Ratio		0.87	0.49	0.19	0.87		1.08	1.02		1.14	1.08	

Intersection Summary	
Area Type:	CBD
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 20 (25%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.14	

Lane Group	Ø3
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	7.0
Total Split (s)	7.0
Total Split (%)	9%
Maximum Green (s)	5.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	
Vehicle Extension (s)	1.0
Minimum Gap (s)	1.0
Time Before Reduce (s)	0.0
Time To Reduce (s)	0.0
Recall Mode	None
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

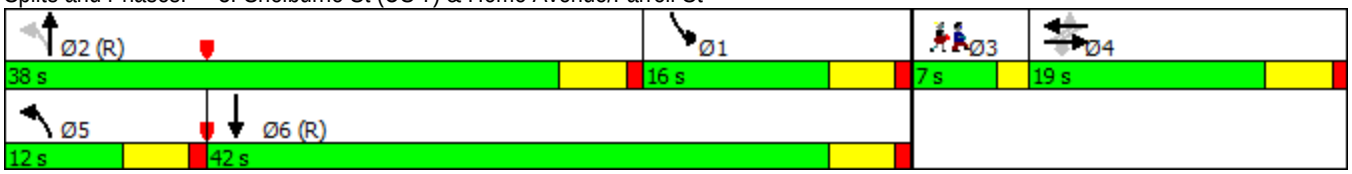
Intersection Signal Delay: 55.9	Intersection LOS: E
Intersection Capacity Utilization 102.1%	ICU Level of Service G
Analysis Period (min) 15	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

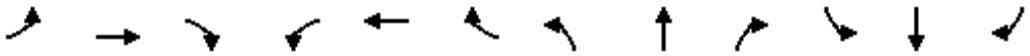
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Shelburne St (US 7) & Home Avenue/Farrell St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	111	32	294	55	25	26	203	1133	12	34	1037	101
Future Volume (vph)	111	32	294	55	25	26	203	1133	12	34	1037	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	0		0	150		0	155		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.924			0.998			0.987	
Flt Protected		0.963		0.950			0.950			0.950		
Satd. Flow (prot)	0	1734	1531	1711	1664	0	1711	3414	0	1711	3377	0
Flt Permitted		0.738		0.624			0.128			0.224		
Satd. Flow (perm)	0	1329	1531	1124	1664	0	230	3414	0	403	3377	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					28			2			14	
Link Speed (mph)		25			20			25			25	
Link Distance (ft)		240			142			276			769	
Travel Time (s)		6.5			4.8			7.5			21.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	121	35	320	60	27	28	221	1232	13	37	1127	110
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	156	320	60	55	0	221	1245	0	37	1237	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			11			11			13	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1		1	0		0	0	
Detector Template	Left	Left	Left	Left	Left		Left					
Leading Detector (ft)	20	20	20	20	20		20	0		0	0	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	20	20	20	20		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	pt+ov	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		8	8 1		4		1	6			2	
Permitted Phases	8			4			6			2		
Detector Phase	8	8	8	4	4		1	6		2	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	10.0		10.0	10.0	
Minimum Split (s)	13.0	13.0		13.0	13.0		10.0	15.0		15.0	15.0	
Total Split (s)	13.0	13.0		13.0	13.0		10.0	42.0		32.0	32.0	

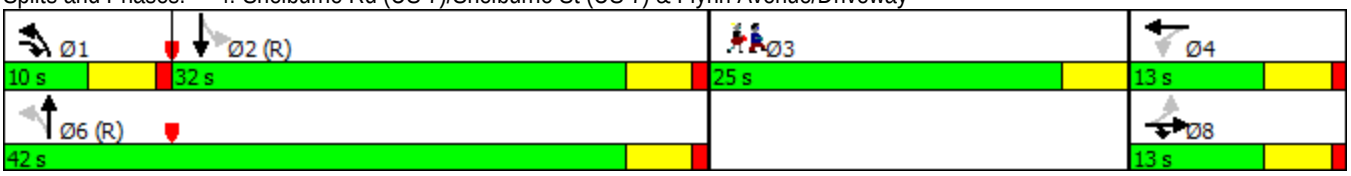
Lane Group	Ø3
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	3
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	25.0
Total Split (s)	25.0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	16.3%	16.3%		16.3%	16.3%		12.5%	52.5%		40.0%	40.0%	
Maximum Green (s)	8.0	8.0		8.0	8.0		5.0	37.0		27.0	27.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)								10.0				
Flash Dont Walk (s)								5.0				
Pedestrian Calls (#/hr)								12				
Act Effct Green (s)		17.6	36.0	17.6	17.6		47.8	47.8		29.4	29.4	
Actuated g/C Ratio		0.22	0.45	0.22	0.22		0.60	0.60		0.37	0.37	
v/c Ratio		0.53	0.47	0.24	0.14		0.58	0.61		0.25	0.99	
Control Delay		38.9	21.9	30.9	17.8		20.5	6.0		21.0	45.6	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		38.9	21.9	30.9	17.8		20.5	6.0		21.0	45.6	
LOS		D	C	C	B		C	A		C	D	
Approach Delay		27.5			24.7			8.2			44.9	
Approach LOS		C			C			A			D	
Queue Length 50th (ft)		68	102	24	11		43	67		8	294	
Queue Length 95th (ft)		#192	#289	66	45		m#86	m296		m20	#480	
Internal Link Dist (ft)		160			62			196			689	
Turn Bay Length (ft)							150			155		
Base Capacity (vph)		292	688	247	388		384	2040		148	1250	
Starvation Cap Reductn		0	0	0	0		0	0		0	0	
Spillback Cap Reductn		0	0	0	0		0	0		0	0	
Storage Cap Reductn		0	0	0	0		0	0		0	0	
Reduced v/c Ratio		0.53	0.47	0.24	0.14		0.58	0.61		0.25	0.99	

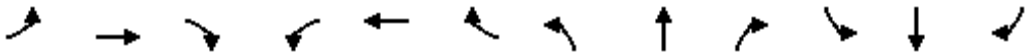
Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 68 (85%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay: 25.5		Intersection LOS: C	
Intersection Capacity Utilization 70.1%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 4: Shelburne Rd (US 7)/Shelburne St (US 7) & Flynn Avenue/Driveway



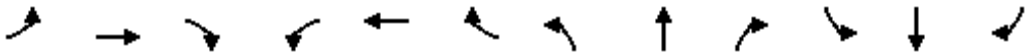
Lane Group	Ø3
Total Split (%)	31%
Maximum Green (s)	21.0
Yellow Time (s)	4.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	12.0
Pedestrian Calls (#/hr)	12
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	6	76	0	38	1	1161	44	36	1124	5
Future Volume (vph)	5	0	6	76	0	38	1	1161	44	36	1124	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	10	11	11	14	11	11	11	11	11	11	11
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.921			0.955			0.995			0.999	
Flt Protected		0.980			0.968						0.998	
Satd. Flow (prot)	0	1569	0	0	1837	0	0	3404	0	0	3411	0
Flt Permitted		0.853			0.792			0.954			0.840	
Satd. Flow (perm)	0	1366	0	0	1503	0	0	3248	0	0	2871	0
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)		191			191			6				
Link Speed (mph)		20			25			25			25	
Link Distance (ft)		143			440			769			850	
Travel Time (s)		4.9			12.0			21.0			23.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	0	7	83	0	41	1	1262	48	39	1222	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	12	0	0	124	0	0	1311	0	0	1267	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.09	1.04	1.04	0.92	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	3		1	0		1	2	
Detector Template	Left			Left			Left			Left		
Leading Detector (ft)	20	11		20	18		20	0		20	21	
Trailing Detector (ft)	0	5		0	-10		0	0		0	5	
Detector 1 Position(ft)	0	5		0	-10		0	0		0	5	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					0						15	
Detector 2 Size(ft)					6						6	
Detector 2 Type					Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0						0.0	
Detector 3 Position(ft)					12							
Detector 3 Size(ft)					6							
Detector 3 Type					Cl+Ex							
Detector 3 Channel												
Detector 3 Extend (s)					0.0							

Lane Group	SBR2	SEL	SER	Ø7
Lane Configurations				
Traffic Volume (vph)	1	4	1	
Future Volume (vph)	1	4	1	
Ideal Flow (vphpl)	1900	1900	1900	
Lane Width (ft)	11	10	11	
Lane Util. Factor	0.95	1.00	1.00	
Frt		0.973		
Flt Protected		0.962		
Satd. Flow (prot)	0	1627	0	
Flt Permitted		0.962		
Satd. Flow (perm)	0	1627	0	
Right Turn on Red	Yes			
Satd. Flow (RTOR)				
Link Speed (mph)		20		
Link Distance (ft)		424		
Travel Time (s)		14.5		
Peak Hour Factor	0.92	0.92	0.92	
Adj. Flow (vph)	1	4	1	
Shared Lane Traffic (%)				
Lane Group Flow (vph)	0	5	0	
Enter Blocked Intersection	No	No	No	
Lane Alignment	Right	Left	Right	
Median Width(ft)		10		
Link Offset(ft)		0		
Crosswalk Width(ft)		16		
Two way Left Turn Lane				
Headway Factor	1.04	1.09	1.04	
Turning Speed (mph)	9	15	9	
Number of Detectors		1		
Detector Template		Left		
Leading Detector (ft)		20		
Trailing Detector (ft)		0		
Detector 1 Position(ft)		0		
Detector 1 Size(ft)		20		
Detector 1 Type		Cl+Ex		
Detector 1 Channel				
Detector 1 Extend (s)		0.0		
Detector 1 Queue (s)		0.0		
Detector 1 Delay (s)		0.0		
Detector 2 Position(ft)				
Detector 2 Size(ft)				
Detector 2 Type				
Detector 2 Channel				
Detector 2 Extend (s)				
Detector 3 Position(ft)				
Detector 3 Size(ft)				
Detector 3 Type				
Detector 3 Channel				
Detector 3 Extend (s)				



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			4			6		5	2	
Permitted Phases	4			4			6			2		
Detector Phase	4	4		4	4		6	6		5	5	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		15.0	15.0		5.0	20.0	
Minimum Split (s)	13.0	13.0		13.0	13.0		20.0	20.0		10.0	25.0	
Total Split (s)	13.0	13.0		13.0	13.0		38.0	38.0		12.0	50.0	
Total Split (%)	16.3%	16.3%		16.3%	16.3%		47.5%	47.5%		15.0%	62.5%	
Maximum Green (s)	8.0	8.0		8.0	8.0		33.0	33.0		7.0	45.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min		None	C-Min	
Walk Time (s)	0.0	0.0		0.0	0.0		15.0	15.0				
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		4.0	4.0				
Pedestrian Calls (#/hr)	0	0		0	0		0	0				
Act Effct Green (s)		8.0			8.0			41.8			62.6	
Actuated g/C Ratio		0.10			0.10			0.52			0.78	
v/c Ratio		0.04			0.39			0.77			0.54	
Control Delay		0.3			5.0			11.9			5.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		0.3			5.0			11.9			5.2	
LOS		A			A			B			A	
Approach Delay		0.3			5.0			11.9			5.2	
Approach LOS		A			A			B			A	
Queue Length 50th (ft)		0			0			111			88	
Queue Length 95th (ft)		0			15			#463			214	
Internal Link Dist (ft)		63			360			689			770	
Turn Bay Length (ft)												
Base Capacity (vph)		308			322			1700			2353	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.04			0.39			0.77			0.54	

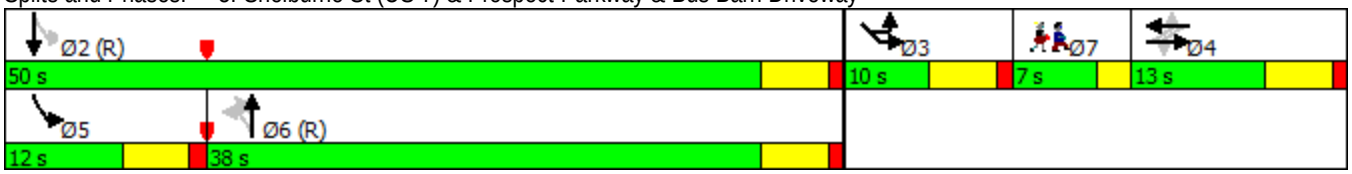
Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 73 (91%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 8.5		Intersection LOS: A	

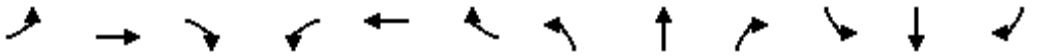
Lane Group	SBR2	SEL	SER	Ø7
Turn Type		Prot		
Protected Phases		3		7
Permitted Phases				
Detector Phase		3		
Switch Phase				
Minimum Initial (s)		5.0		1.0
Minimum Split (s)		10.0		7.0
Total Split (s)		10.0		7.0
Total Split (%)		12.5%		9%
Maximum Green (s)		5.0		5.0
Yellow Time (s)		4.0		2.0
All-Red Time (s)		1.0		0.0
Lost Time Adjust (s)		0.0		
Total Lost Time (s)		5.0		
Lead/Lag		Lead		Lag
Lead-Lag Optimize?		Yes		Yes
Vehicle Extension (s)		3.0		3.0
Recall Mode		None		None
Walk Time (s)				0.0
Flash Dont Walk (s)				0.0
Pedestrian Calls (#/hr)				0
Act Effct Green (s)		5.1		
Actuated g/C Ratio		0.06		
v/c Ratio		0.05		
Control Delay		36.4		
Queue Delay		0.0		
Total Delay		36.4		
LOS		D		
Approach Delay		36.4		
Approach LOS		D		
Queue Length 50th (ft)		2		
Queue Length 95th (ft)		13		
Internal Link Dist (ft)		344		
Turn Bay Length (ft)				
Base Capacity (vph)		103		
Starvation Cap Reductn		0		
Spillback Cap Reductn		0		
Storage Cap Reductn		0		
Reduced v/c Ratio		0.05		

Intersection Summary

Intersection Capacity Utilization 83.9% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Shelburne St (US 7) & Prospect Parkway & Bus Barn Driveway



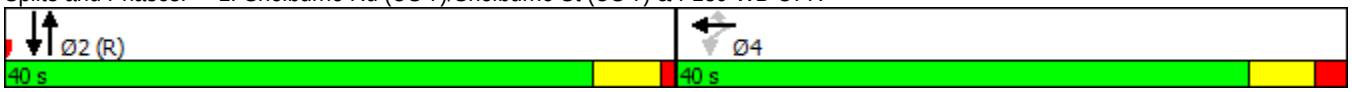


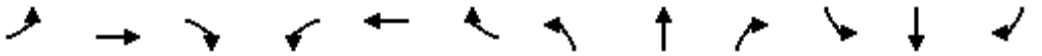
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	1291	31	833	0	599	0	0	1000	0
Future Volume (vph)	0	0	0	1291	31	833	0	599	0	0	1000	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12	12	12	12	11	11	11
Storage Length (ft)	0		0	0		420	0		0	0		0
Storage Lanes	0		0	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.91	0.91
Frt						0.850						
Flt Protected				0.950	0.955							
Satd. Flow (prot)	0	0	0	1513	1521	1425	0	3185	0	0	4424	0
Flt Permitted				0.950	0.955							
Satd. Flow (perm)	0	0	0	1513	1521	1425	0	3185	0	0	4424	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						154						
Link Speed (mph)		20			35			25			25	
Link Distance (ft)		195			1008			629			496	
Travel Time (s)		6.6			19.6			17.2			13.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	1403	34	905	0	651	0	0	1087	0
Shared Lane Traffic (%)				49%								
Lane Group Flow (vph)	0	0	0	716	721	905	0	651	0	0	1087	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.19	1.19	1.19	1.14	1.14	1.14	1.14	1.14	1.14	1.19	1.19	1.19
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA	Perm		NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4		4						
Minimum Split (s)				24.0	24.0	24.0		35.0			35.0	
Total Split (s)				40.0	40.0	40.0		40.0			40.0	
Total Split (%)				50.0%	50.0%	50.0%		50.0%			50.0%	
Maximum Green (s)				34.0	34.0	34.0		35.0			35.0	
Yellow Time (s)				4.0	4.0	4.0		4.0			4.0	
All-Red Time (s)				2.0	2.0	2.0		1.0			1.0	
Lost Time Adjust (s)				0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)				6.0	6.0	6.0		5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)				34.0	34.0	34.0		35.0			35.0	
Actuated g/C Ratio				0.42	0.42	0.42		0.44			0.44	
v/c Ratio				1.11	1.12	1.30		0.47			0.56	
Control Delay				96.0	96.9	168.6		17.3			16.9	
Queue Delay				0.0	0.0	0.7		0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay				96.0	96.9	169.3		17.3			16.9	
LOS				F	F	F		B			B	
Approach Delay					124.6			17.3			16.9	
Approach LOS					F			B			B	
Queue Length 50th (ft)				~438	~442	~546		116			192	
Queue Length 95th (ft)				#654	#657	#771		162			243	
Internal Link Dist (ft)		115			928			549			416	
Turn Bay Length (ft)						420						
Base Capacity (vph)				643	646	694		1393			1935	
Starvation Cap Reductn				0	0	0		0			0	
Spillback Cap Reductn				0	0	73		0			0	
Storage Cap Reductn				0	0	0		0			0	
Reduced v/c Ratio				1.11	1.12	1.46		0.47			0.56	

Intersection Summary			
Area Type:	CBD		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 55 (69%), Referenced to phase 2:NBSB, Start of Green			
Natural Cycle: 100			
Control Type: Pretimed			
Maximum v/c Ratio: 1.30			
Intersection Signal Delay: 78.8		Intersection LOS: E	
Intersection Capacity Utilization 91.5%		ICU Level of Service F	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 1: Shelburne Rd (US 7)/Shelburne St (US 7) & I-189 WB OFR





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	15	30	92	7	12	29	1443	200	6	1033	33
Future Volume (vph)	74	15	30	92	7	12	29	1443	200	6	1033	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	10	10	10	11	11	11
Storage Length (ft)	0		70	0		70	100		100	145		130
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor										0.90		0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1540	1621	1378	1540	1621	1378	1486	2973	1330	1540	3079	1378
Flt Permitted	0.752			0.747			0.950			0.950		
Satd. Flow (perm)	1219	1621	1378	1211	1621	1378	1486	2973	1330	1383	3079	1336
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			205			205			136			136
Link Speed (mph)		20			20			25			25	
Link Distance (ft)		338			302			496			363	
Travel Time (s)		11.5			10.3			13.5			9.9	
Confl. Peds. (#/hr)										1033		33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	80	16	33	100	8	13	32	1568	217	7	1123	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	16	33	100	8	13	32	1568	217	7	1123	36
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			13			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.19	1.19	1.19	1.19	1.19	1.19	1.25	1.25	1.25	1.19	1.19	1.19
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8			8		5	2		1	6	
Permitted Phases	8		8	8		8			2			6
Detector Phase	8	8	8	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	4.0	20.0	20.0	4.0	20.0	20.0
Minimum Split (s)	16.0	16.0	16.0	16.0	16.0	16.0	10.0	25.5	25.5	10.0	25.0	25.0
Total Split (s)	16.0	16.0	16.0	16.0	16.0	16.0	10.0	47.0	47.0	10.0	47.0	47.0
Total Split (%)	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	12.5%	58.8%	58.8%	12.5%	58.8%	58.8%
Maximum Green (s)	11.0	11.0	11.0	11.0	11.0	11.0	5.0	42.0	42.0	5.0	42.0	42.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?												

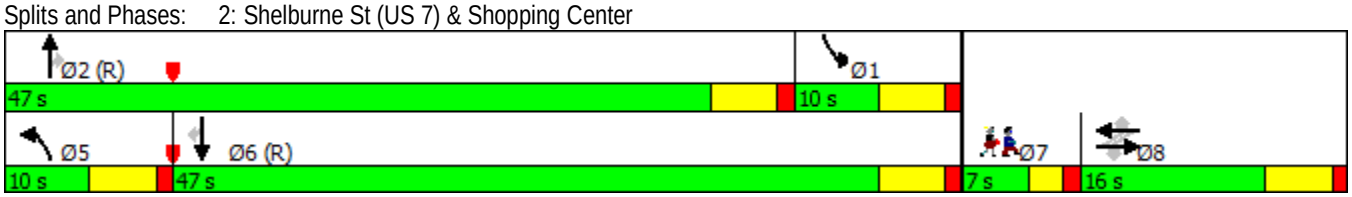
Lane Group	Ø7
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	7
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	7.0
Total Split (s)	7.0
Total Split (%)	9%
Maximum Green (s)	4.0
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vehicle Extension (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.0	3.0	3.0	0.5	3.0	3.0
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.0	3.0	3.0	0.5	3.0	3.0
Time Before Reduce (s)	6.0	6.0	6.0	6.0	6.0	6.0	4.0	0.0	0.0	4.0	0.0	0.0
Time To Reduce (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	20.0	20.0	10.0	20.0	20.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	4.0	4.0	4.0	4.0	4.0	4.0						
Flash Dont Walk (s)	6.0	6.0	6.0	6.0	6.0	6.0						
Pedestrian Calls (#/hr)	0	0	0	0	0	0						
Act Effct Green (s)	11.0	11.0	11.0	11.0	11.0	11.0	5.2	60.2	60.2	4.2	57.7	57.7
Actuated g/C Ratio	0.14	0.14	0.14	0.14	0.14	0.14	0.06	0.75	0.75	0.05	0.72	0.72
v/c Ratio	0.48	0.07	0.09	0.60	0.04	0.04	0.33	0.70	0.21	0.09	0.51	0.04
Control Delay	40.1	28.1	0.5	46.6	27.3	0.2	35.9	11.7	3.6	26.2	3.8	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0
Total Delay	40.1	28.1	0.5	46.6	27.3	0.2	35.9	12.3	3.6	26.2	3.8	0.1
LOS	D	C	A	D	C	A	D	B	A	C	A	A
Approach Delay		28.5			40.3			11.6			3.8	
Approach LOS		C			D			B			A	
Queue Length 50th (ft)	38	7	0	48	4	0	15	220	10	3	32	0
Queue Length 95th (ft)	74	22	0	89	14	0	m23	m319	m37	m5	85	m0
Internal Link Dist (ft)		258			222			416			283	
Turn Bay Length (ft)			70			70	100		100	145		130
Base Capacity (vph)	191	253	388	189	253	388	102	2237	1034	96	2220	1001
Starvation Cap Reductn	0	0	0	0	0	0	0	288	0	0	24	0
Spillback Cap Reductn	0	0	0	0	0	0	0	254	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.06	0.09	0.53	0.03	0.03	0.31	0.80	0.21	0.07	0.51	0.04

Intersection Summary

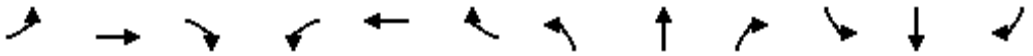
Area Type: CBD
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 15 (19%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 10.5 Intersection LOS: B
Intersection Capacity Utilization 66.8% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Shelburne St (US 7) & Shopping Center



Lane Group	Ø7
Vehicle Extension (s)	2.0
Minimum Gap (s)	2.0
Time Before Reduce (s)	0.0
Time To Reduce (s)	0.0
Recall Mode	None
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	44	192	50	59	312	208	1299	22	68	830	25
Future Volume (vph)	58	44	192	50	59	312	208	1299	22	68	830	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	12	12	11	11	11	11	11	11	11
Storage Length (ft)	80		0	0		0	85		0	240		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.874			0.997			0.996	
Flt Protected		0.972		0.950			0.950			0.950		
Satd. Flow (prot)	0	1630	1425	1593	1465	0	1540	3070	0	1540	3067	0
Flt Permitted		0.372		0.685			0.150			0.950		
Satd. Flow (perm)	0	624	1425	1148	1465	0	243	3070	0	1540	3067	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			209		264			3			5	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		212			482			363			436	
Travel Time (s)		5.8			13.1			9.9			11.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	63	48	209	54	64	339	226	1412	24	74	902	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	111	209	54	403	0	226	1436	0	74	929	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			12			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.19	1.14	1.14	1.14	1.14	1.19	1.19	1.19	1.19	1.19	1.19	1.19
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Prot	NA	
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4			2					
Detector Phase	4	4	4	4	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0		5.0	5.0		5.0	20.0	
Minimum Split (s)	12.0	12.0	12.0	12.0	12.0		10.0	29.0		10.0	25.0	
Total Split (s)	19.0	19.0	19.0	19.0	19.0		13.0	44.0		10.0	41.0	
Total Split (%)	23.8%	23.8%	23.8%	23.8%	23.8%		16.3%	55.0%		12.5%	51.3%	
Maximum Green (s)	14.0	14.0	14.0	14.0	14.0		8.0	39.0		5.0	36.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lag	Lag	Lag	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0		1.5	0.2		1.0	0.2	
Minimum Gap (s)	1.0	1.0	1.0	1.0	1.0		1.5	0.2		1.0	0.2	

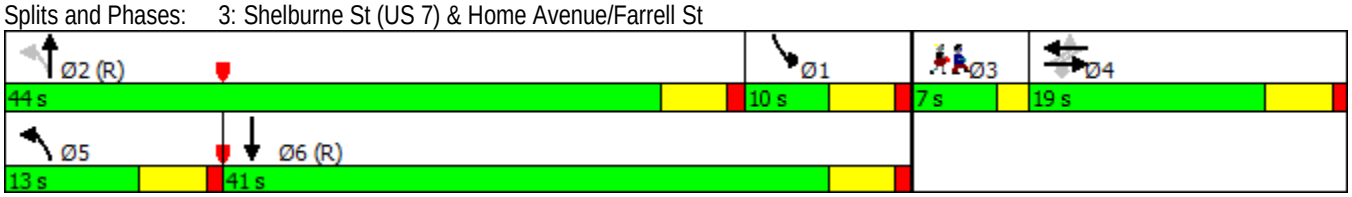
Lane Group	Ø3
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	7.0
Total Split (s)	7.0
Total Split (%)	9%
Maximum Green (s)	5.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	
Vehicle Extension (s)	1.0
Minimum Gap (s)	1.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	20.0	20.0	20.0	20.0	20.0		0.0	0.0		0.0	0.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)								6.0			7.0	
Flash Dont Walk (s)								18.0			9.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)		21.0	21.0	21.0	21.0		41.0	41.0		5.0	36.0	
Actuated g/C Ratio		0.26	0.26	0.26	0.26		0.51	0.51		0.06	0.45	
v/c Ratio		0.68	0.40	0.18	0.70		0.89	0.91		0.77	0.67	
Control Delay		50.5	6.2	24.8	16.6		53.2	26.0		70.9	14.1	
Queue Delay		0.0	0.0	0.0	0.0		0.0	3.1		0.0	0.0	
Total Delay		50.5	6.2	24.8	16.6		53.2	29.1		70.9	14.1	
LOS		D	A	C	B		D	C		E	B	
Approach Delay		21.5			17.5			32.4			18.3	
Approach LOS		C			B			C			B	
Queue Length 50th (ft)		50	0	21	57		72	343		38	68	
Queue Length 95th (ft)		#129	50	50	161		m#170	#495		m#69	182	
Internal Link Dist (ft)		132			402			283			356	
Turn Bay Length (ft)							85			240		
Base Capacity (vph)		163	528	301	579		254	1575		96	1382	
Starvation Cap Reductn		0	0	0	0		0	79		0	0	
Spillback Cap Reductn		0	0	0	0		0	0		0	0	
Storage Cap Reductn		0	0	0	0		0	0		0	0	
Reduced v/c Ratio		0.68	0.40	0.18	0.70		0.89	0.96		0.77	0.67	

Intersection Summary

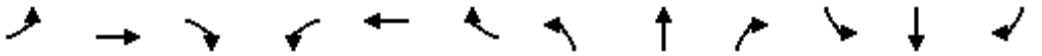
Area Type: CBD
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 13 (16%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 25.3 Intersection LOS: C
Intersection Capacity Utilization 92.5% ICU Level of Service F
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Shelburne St (US 7) & Home Avenue/Farrell St



Lane Group	Ø3
Time Before Reduce (s)	0.0
Time To Reduce (s)	0.0
Recall Mode	None
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	12	132	28	7	25	273	1254	18	12	844	61
Future Volume (vph)	75	12	132	28	7	25	273	1254	18	12	844	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	0		0	150		0	155		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.884			0.998			0.990	
Flt Protected		0.959		0.950			0.950			0.950		
Satd. Flow (prot)	0	1727	1531	1711	1592	0	1711	3414	0	1711	3387	0
Flt Permitted		0.730		0.695			0.147			0.195		
Satd. Flow (perm)	0	1314	1531	1251	1592	0	265	3414	0	351	3387	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					27			2			9	
Link Speed (mph)		25			20			25			25	
Link Distance (ft)		240			181			276			769	
Travel Time (s)		6.5			6.2			7.5			21.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	13	143	30	8	27	297	1363	20	13	917	66
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	95	143	30	35	0	297	1383	0	13	983	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	pt+ov	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		8	8 1		4		1	6			2	
Permitted Phases	8			4			6			2		
Detector Phase	8	8	8	4	4		1	6		2	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	13.0	13.0		13.0	13.0		11.0	11.0		11.0	11.0	
Total Split (s)	13.0	13.0		13.0	13.0		15.0	42.0		27.0	27.0	
Total Split (%)	16.3%	16.3%		16.3%	16.3%		18.8%	52.5%		33.8%	33.8%	
Maximum Green (s)	8.0	8.0		8.0	8.0		10.0	37.0		22.0	22.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)								10.0				

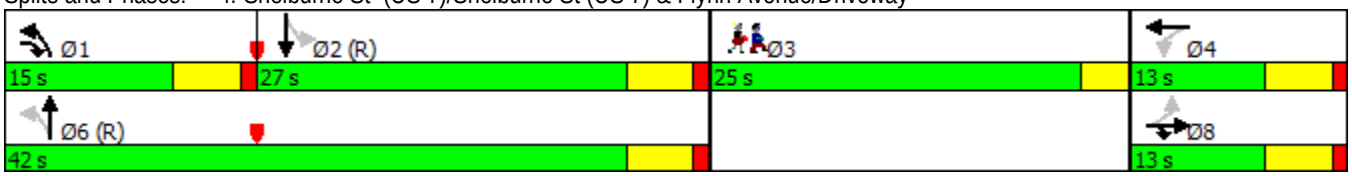
Lane Group	Ø3
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	25.0
Total Split (s)	25.0
Total Split (%)	31%
Maximum Green (s)	22.0
Yellow Time (s)	3.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)								5.0				
Pedestrian Calls (#/hr)								12				
Act Effct Green (s)		10.3	29.5	10.3	10.3		54.7	54.7		35.5	35.5	
Actuated g/C Ratio		0.13	0.37	0.13	0.13		0.68	0.68		0.44	0.44	
v/c Ratio		0.56	0.25	0.19	0.15		0.68	0.59		0.08	0.65	
Control Delay		48.2	19.5	34.2	17.3		22.0	6.8		14.8	19.4	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		48.2	19.5	34.2	17.3		22.0	6.8		14.8	19.4	
LOS		D	B	C	B		C	A		B	B	
Approach Delay		31.0			25.1			9.5			19.3	
Approach LOS		C			C			A			B	
Queue Length 50th (ft)		44	45	13	4		55	50		2	184	
Queue Length 95th (ft)		#124	105	40	30		m#154	m446		m7	#406	
Internal Link Dist (ft)		160			101			196			689	
Turn Bay Length (ft)							150			155		
Base Capacity (vph)		169	565	161	228		437	2334		155	1506	
Starvation Cap Reductn		0	0	0	0		0	0		0	0	
Spillback Cap Reductn		0	0	0	0		0	0		0	0	
Storage Cap Reductn		0	0	0	0		0	0		0	0	
Reduced v/c Ratio		0.56	0.25	0.19	0.15		0.68	0.59		0.08	0.65	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 72 (90%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 14.9 Intersection LOS: B
Intersection Capacity Utilization 64.3% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Shelburne St (US 7)/Shelburne St (US 7) & Flynn Avenue/Driveway



Lane Group	Ø3
Flash Dont Walk (s)	15.0
Pedestrian Calls (#/hr)	12
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR2	NBL2	NBT	NBR	SBL	SBT	SBR	SEL
Lane Configurations												
Traffic Volume (vph)	8	1	69	0	33	1	1316	33	34	1002	1	2
Future Volume (vph)	8	1	69	0	33	1	1316	33	34	1002	1	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	10	11	14	11	11	11	11	11	11	11	10
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95	1.00
Frt				0.956			0.996					0.955
Flt Protected		0.957		0.967						0.998		0.968
Satd. Flow (prot)	0	1664	0	1837	0	0	3408	0	0	3414	0	1607
Flt Permitted		0.735		0.791			0.955			0.810		0.968
Satd. Flow (perm)	0	1278	0	1503	0	0	3254	0	0	2771	0	1607
Right Turn on Red					Yes			Yes				
Satd. Flow (RTOR)				191			4					
Link Speed (mph)		20		25			25			25		20
Link Distance (ft)		143		440			769			850		424
Travel Time (s)		4.9		12.0			21.0			23.2		14.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	9	1	75	0	36	1	1430	36	37	1089	1	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	10	0	111	0	0	1467	0	0	1127	0	3
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left
Median Width(ft)		0		0			0			0		10
Link Offset(ft)		0		0			0			0		0
Crosswalk Width(ft)		16		16			16			16		16
Two way Left Turn Lane												
Headway Factor	1.04	1.09	1.04	0.92	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.09
Turning Speed (mph)	15		15		9	15		9	15		9	15
Turn Type	Perm	NA	Perm	NA		Perm	NA		pm+pt	NA		Prot
Protected Phases		4		4			6		5	2		3
Permitted Phases	4		4			6			2			
Detector Phase	4	4	4	4		6	6		5	5		3
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0		20.0	20.0		5.0	20.0		4.0
Minimum Split (s)	13.0	13.0	13.0	13.0		34.0	34.0		10.0	35.0		9.0
Total Split (s)	13.0	13.0	13.0	13.0		40.0	40.0		11.0	51.0		9.0
Total Split (%)	16.3%	16.3%	16.3%	16.3%		50.0%	50.0%		13.8%	63.8%		11.3%
Maximum Green (s)	8.0	8.0	8.0	8.0		35.0	35.0		6.0	46.0		4.0
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0		1.0
Lost Time Adjust (s)		0.0		0.0			0.0			0.0		0.0
Total Lost Time (s)		5.0		5.0			5.0			5.0		5.0
Lead/Lag						Lag	Lag		Lead			Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	None	None	None	None		C-Min	C-Min		None	C-Min		None
Walk Time (s)	0.0	0.0	0.0	0.0		15.0	15.0					
Flash Dont Walk (s)	8.0	8.0	8.0	8.0		4.0	4.0					
Pedestrian Calls (#/hr)	0	0	0	0		0	0					

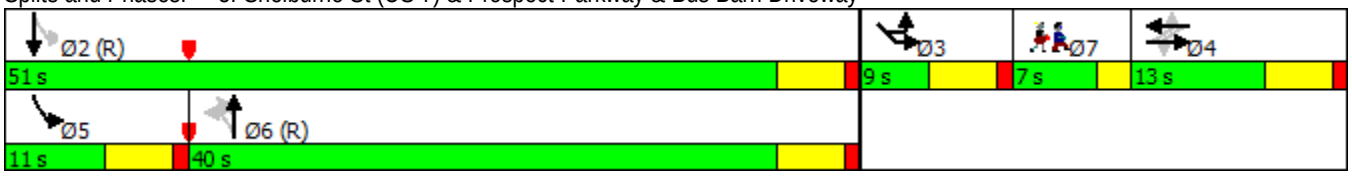
Lane Group	SER	Ø7
Lane Configurations		
Traffic Volume (vph)	1	
Future Volume (vph)	1	
Ideal Flow (vphpl)	1900	
Lane Width (ft)	11	
Lane Util. Factor	1.00	
Frt		
Flt Protected		
Satd. Flow (prot)	0	
Flt Permitted		
Satd. Flow (perm)	0	
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor	0.92	
Adj. Flow (vph)	1	
Shared Lane Traffic (%)		
Lane Group Flow (vph)	0	
Enter Blocked Intersection	No	
Lane Alignment	Right	
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor	1.04	
Turning Speed (mph)	9	
Turn Type		
Protected Phases		7
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)		1.0
Minimum Split (s)		7.0
Total Split (s)		7.0
Total Split (%)		9%
Maximum Green (s)		5.0
Yellow Time (s)		2.0
All-Red Time (s)		0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		Lag
Lead-Lag Optimize?		
Vehicle Extension (s)		2.0
Recall Mode		None
Walk Time (s)		0.0
Flash Dont Walk (s)		0.0
Pedestrian Calls (#/hr)		0

Lane Group	EBL	EBT	WBL	WBT	WBR2	NBL2	NBT	NBR	SBL	SBT	SBR	SEL
Act Effct Green (s)		8.0		8.0			44.4			62.8		4.0
Actuated g/C Ratio		0.10		0.10			0.56			0.78		0.05
v/c Ratio		0.08		0.34			0.81			0.49		0.04
Control Delay		34.3		3.6			16.4			4.6		37.3
Queue Delay		0.0		0.0			0.0			0.0		0.0
Total Delay		34.3		3.6			16.4			4.6		37.3
LOS		C		A			B			A		D
Approach Delay		34.3		3.6			16.4			4.6		37.3
Approach LOS		C		A			B			A		D
Queue Length 50th (ft)		5		0			156			74		2
Queue Length 95th (ft)		19		6			#528			171		10
Internal Link Dist (ft)		63		360			689			770		344
Turn Bay Length (ft)												
Base Capacity (vph)		127		322			1809			2282		80
Starvation Cap Reductn		0		0			0			0		0
Spillback Cap Reductn		0		0			0			0		0
Storage Cap Reductn		0		0			0			0		0
Reduced v/c Ratio		0.08		0.34			0.81			0.49		0.04

Intersection Summary

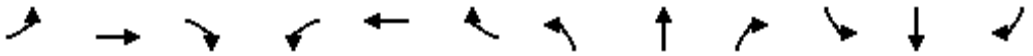
Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 60 (75%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 11.1 Intersection LOS: B
Intersection Capacity Utilization 74.9% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Shelburne St (US 7) & Prospect Parkway & Bus Barn Driveway



Lane Group	SER	Ø7
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

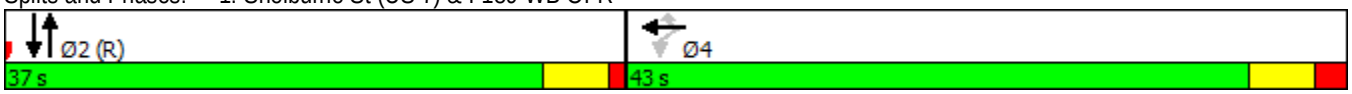


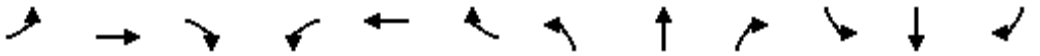
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	830	110	665	0	712	0	0	1271	0
Future Volume (vph)	0	0	0	830	110	665	0	712	0	0	1271	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12	12	12	12	11	11	11
Storage Length (ft)	0		0	0		420	0		0	0		0
Storage Lanes	0		0	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.91	0.91
Frt						0.850						
Flt Protected				0.950	0.963							
Satd. Flow (prot)	0	0	0	1513	1534	1425	0	3185	0	0	4424	0
Flt Permitted				0.950	0.963							
Satd. Flow (perm)	0	0	0	1513	1534	1425	0	3185	0	0	4424	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						83						
Link Speed (mph)		20			35			25			25	
Link Distance (ft)		195			1008			629			496	
Travel Time (s)		6.6			19.6			17.2			13.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	902	120	723	0	774	0	0	1382	0
Shared Lane Traffic (%)				44%								
Lane Group Flow (vph)	0	0	0	505	517	723	0	774	0	0	1382	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.19	1.19	1.19	1.14	1.14	1.14	1.14	1.14	1.14	1.19	1.19	1.19
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA	Perm		NA			NA	
Protected Phases					4			2			2	
Permitted Phases				4		4						
Minimum Split (s)				24.0	24.0	24.0		35.0			35.0	
Total Split (s)				43.0	43.0	43.0		37.0			37.0	
Total Split (%)				53.8%	53.8%	53.8%		46.3%			46.3%	
Maximum Green (s)				37.0	37.0	37.0		32.0			32.0	
Yellow Time (s)				4.0	4.0	4.0		4.0			4.0	
All-Red Time (s)				2.0	2.0	2.0		1.0			1.0	
Lost Time Adjust (s)				0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)				6.0	6.0	6.0		5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)				37.0	37.0	37.0		32.0			32.0	
Actuated g/C Ratio				0.46	0.46	0.46		0.40			0.40	
v/c Ratio				0.72	0.73	1.03		0.61			0.78	
Control Delay				24.6	24.9	63.1		21.5			19.2	
Queue Delay				0.0	0.0	0.0		0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay				24.6	24.9	63.1		21.5			19.2	
LOS				C	C	E		C			B	
Approach Delay					40.6			21.5			19.2	
Approach LOS					D			C			B	
Queue Length 50th (ft)				205	211	~368		157			234	
Queue Length 95th (ft)				332	340	#579		215			287	
Internal Link Dist (ft)		115			928			549			416	
Turn Bay Length (ft)						420						
Base Capacity (vph)				699	709	703		1274			1769	
Starvation Cap Reductn				0	0	0		0			0	
Spillback Cap Reductn				0	0	0		0			0	
Storage Cap Reductn				0	0	0		0			0	
Reduced v/c Ratio				0.72	0.73	1.03		0.61			0.78	

Intersection Summary			
Area Type:	CBD		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 63 (79%), Referenced to phase 2:NBSB, Start of Green			
Natural Cycle: 80			
Control Type: Pretimed			
Maximum v/c Ratio: 1.03			
Intersection Signal Delay: 29.2		Intersection LOS: C	
Intersection Capacity Utilization 79.9%		ICU Level of Service D	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 1: Shelburne St (US 7) & I-189 WB OFR





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	143	32	187	183	44	38	139	995	252	20	930	215
Future Volume (vph)	143	32	187	183	44	38	139	995	252	20	930	215
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	10	10	10	11	11	11
Storage Length (ft)	0		70	0		70	100		100	145		130
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1540	1621	1378	1540	1621	1378	1486	2973	1330	1540	3079	1378
Flt Permitted	0.726			0.734			0.950			0.950		
Satd. Flow (perm)	1177	1621	1378	1190	1621	1378	1486	2973	1330	1540	3079	1378
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			205			205			197			200
Link Speed (mph)		20			20			25			25	
Link Distance (ft)		338			302			496			363	
Travel Time (s)		11.5			10.3			13.5			9.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	155	35	203	199	48	41	151	1082	274	22	1011	234
Shared Lane Traffic (%)												
Lane Group Flow (vph)	155	35	203	199	48	41	151	1082	274	22	1011	234
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			13			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.19	1.19	1.19	1.19	1.19	1.19	1.25	1.25	1.25	1.19	1.19	1.19
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		8			8		5	2		1	6	
Permitted Phases	8		8	8		8			2			6
Detector Phase	8	8	8	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	4.0	20.0	20.0	4.0	20.0	20.0
Minimum Split (s)	15.0	15.0	15.0	15.0	15.0	15.0	10.0	25.0	25.0	10.0	25.0	25.0
Total Split (s)	22.0	22.0	22.0	22.0	22.0	22.0	15.0	41.0	41.0	10.0	36.0	36.0
Total Split (%)	27.5%	27.5%	27.5%	27.5%	27.5%	27.5%	18.8%	51.3%	51.3%	12.5%	45.0%	45.0%
Maximum Green (s)	17.0	17.0	17.0	17.0	17.0	17.0	10.0	36.0	36.0	5.0	31.0	31.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.0	3.0	3.0	0.5	3.0	3.0
Minimum Gap (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.0	3.0	3.0	0.5	3.0	3.0

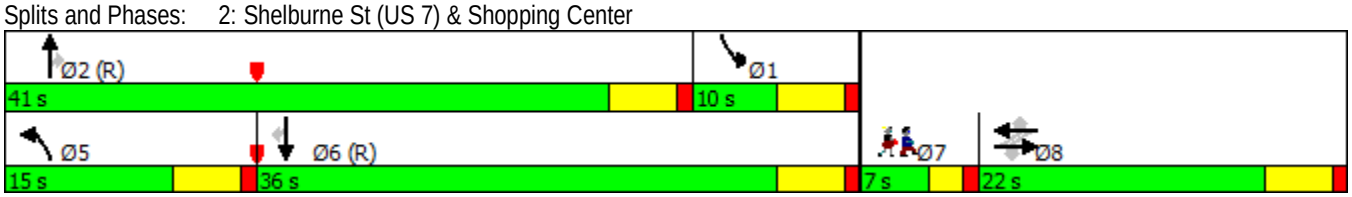
Lane Group	Ø7
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	7
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	7.0
Total Split (s)	7.0
Total Split (%)	9%
Maximum Green (s)	4.0
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Minimum Gap (s)	3.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	6.0	6.0	6.0	6.0	6.0	6.0	4.0	0.0	0.0	4.0	0.0	0.0
Time To Reduce (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	20.0	20.0	10.0	20.0	20.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	4.0	4.0	4.0	4.0	4.0	4.0						
Flash Dont Walk (s)	6.0	6.0	6.0	6.0	6.0	6.0						
Pedestrian Calls (#/hr)	0	0	0	0	0	0						
Act Effct Green (s)	17.9	17.9	17.9	17.9	17.9	17.9	10.7	48.1	48.1	4.4	36.4	36.4
Actuated g/C Ratio	0.22	0.22	0.22	0.22	0.22	0.22	0.13	0.60	0.60	0.06	0.46	0.46
v/c Ratio	0.59	0.10	0.43	0.75	0.13	0.09	0.76	0.61	0.31	0.26	0.72	0.32
Control Delay	36.0	22.8	6.6	45.5	23.4	0.4	45.1	14.9	5.3	22.8	6.9	0.7
Queue Delay	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.2	0.0
Total Delay	36.9	22.8	6.6	45.5	23.4	0.4	45.1	15.1	5.3	22.8	7.1	0.7
LOS	D	C	A	D	C	A	D	B	A	C	A	A
Approach Delay		20.0			35.4			16.4			6.2	
Approach LOS		B			D			B			A	
Queue Length 50th (ft)	69	14	0	92	19	0	75	192	28	9	20	0
Queue Length 95th (ft)	118	33	45	152	42	0	m#117	m276	m63	m11	m40	m0
Internal Link Dist (ft)		258			222			416			283	
Turn Bay Length (ft)			70			70	100		100	145		130
Base Capacity (vph)	287	395	491	290	395	491	208	1786	877	96	1399	735
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	59	0
Spillback Cap Reductn	28	0	0	0	0	49	0	176	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.09	0.41	0.69	0.12	0.09	0.73	0.67	0.31	0.23	0.75	0.32

Intersection Summary

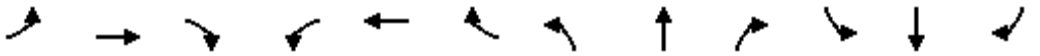
Area Type: CBD
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 30 (38%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 14.6 Intersection LOS: B
Intersection Capacity Utilization 67.6% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Shelburne St (US 7) & Shopping Center



Lane Group	Ø7
Time Before Reduce (s)	0.0
Time To Reduce (s)	0.0
Recall Mode	None
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	59	40	55	98	334	95	1064	18	228	1071	34
Future Volume (vph)	54	59	40	55	98	334	95	1064	18	228	1071	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	12	12	11	11	11	11	11	11	11
Storage Length (ft)	80		0	0		0	85		0	240		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.884			0.997			0.995	
Flt Protected		0.977		0.950			0.950			0.950		
Satd. Flow (prot)	0	1638	1425	1593	1482	0	1540	3070	0	1540	3064	0
Flt Permitted		0.456		0.678			0.167			0.950		
Satd. Flow (perm)	0	764	1425	1137	1482	0	271	3070	0	1540	3064	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			191		200			2			5	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		212			482			363			436	
Travel Time (s)		5.8			13.1			9.9			11.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	59	64	43	60	107	363	103	1157	20	248	1164	37
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	123	43	60	470	0	103	1177	0	248	1201	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			12			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.19	1.14	1.14	1.14	1.14	1.19	1.19	1.19	1.19	1.19	1.19	1.19
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Prot	NA	
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4			2					
Detector Phase	4	4	4	4	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0		5.0	5.0		5.0	15.0	
Minimum Split (s)	19.0	19.0	19.0	19.0	19.0		10.0	20.0		10.0	20.0	
Total Split (s)	24.0	24.0	24.0	24.0	24.0		10.0	34.0		15.0	39.0	
Total Split (%)	30.0%	30.0%	30.0%	30.0%	30.0%		12.5%	42.5%		18.8%	48.8%	
Maximum Green (s)	19.0	19.0	19.0	19.0	19.0		5.0	29.0		10.0	34.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lag	Lag	Lag	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0		1.5	0.2		1.0	0.2	
Minimum Gap (s)	1.0	1.0	1.0	1.0	1.0		1.5	0.2		1.0	0.2	

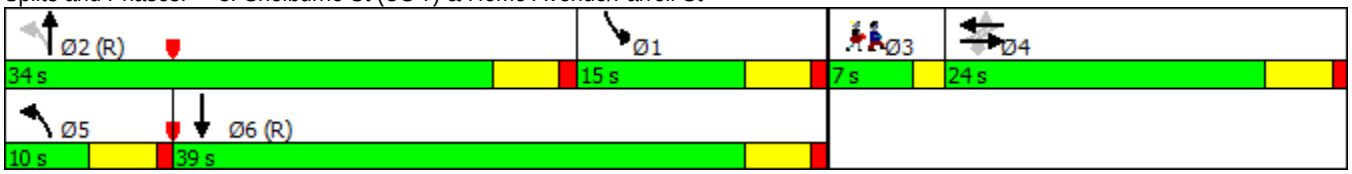
Lane Group	Ø3
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	7.0
Total Split (s)	7.0
Total Split (%)	9%
Maximum Green (s)	5.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	
Vehicle Extension (s)	1.0
Minimum Gap (s)	1.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	20.0	20.0	20.0	20.0	20.0		0.0	0.0		0.0	0.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)								6.0			7.0	
Flash Dont Walk (s)								18.0			9.0	
Pedestrian Calls (#/hr)								0			0	
Act Effct Green (s)		26.0	26.0	26.0	26.0		29.0	29.0		10.0	36.0	
Actuated g/C Ratio		0.32	0.32	0.32	0.32		0.36	0.36		0.12	0.45	
v/c Ratio		0.50	0.07	0.16	0.76		0.58	1.06		1.29	0.87	
Control Delay		30.0	0.2	20.8	23.3		33.3	64.9		184.3	18.0	
Queue Delay		0.0	0.0	0.0	0.0		0.0	4.8		0.0	0.7	
Total Delay		30.0	0.2	20.8	23.3		33.3	69.8		184.3	18.7	
LOS		C	A	C	C		C	E		F	B	
Approach Delay		22.3			23.0			66.8			47.1	
Approach LOS		C			C			E			D	
Queue Length 50th (ft)		49	0	21	120		25	~174		~166	310	
Queue Length 95th (ft)		104	0	49	#274		m68	#454		m#247	#426	
Internal Link Dist (ft)		132			402			283			356	
Turn Bay Length (ft)							85			240		
Base Capacity (vph)		248	592	369	616		177	1114		192	1381	
Starvation Cap Reductn		0	0	0	0		0	13		0	0	
Spillback Cap Reductn		0	2	0	0		0	0		0	39	
Storage Cap Reductn		0	0	0	0		0	0		0	0	
Reduced v/c Ratio		0.50	0.07	0.16	0.76		0.58	1.07		1.29	0.89	

Intersection Summary

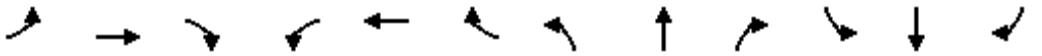
Area Type: CBD
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 19 (24%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.29
Intersection Signal Delay: 49.5 Intersection LOS: D
Intersection Capacity Utilization 99.4% ICU Level of Service F
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Shelburne St (US 7) & Home Avenue/Farrell St



Lane Group	Ø3
Time Before Reduce (s)	0.0
Time To Reduce (s)	0.0
Recall Mode	None
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	114	33	98	57	26	27	99	1167	12	35	1068	104
Future Volume (vph)	114	33	98	57	26	27	99	1167	12	35	1068	104
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	0		0	150		0	155		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.924			0.998			0.987	
Flt Protected		0.963		0.950			0.950			0.950		
Satd. Flow (prot)	0	1734	1531	1711	1664	0	1711	3414	0	1711	3377	0
Flt Permitted		0.736		0.616			0.103			0.179		
Satd. Flow (perm)	0	1325	1531	1109	1664	0	185	3414	0	322	3377	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					29			2			14	
Link Speed (mph)		25			20			25			25	
Link Distance (ft)		240			142			276			769	
Travel Time (s)		6.5			4.8			7.5			21.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	124	36	107	62	28	29	108	1268	13	38	1161	113
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	160	107	62	57	0	108	1281	0	38	1274	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			11			11			13	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	pt+ov	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		8	8 1		4		1	6			2	
Permitted Phases	8			4			6			2		
Detector Phase	8	8	8	4	4		1	6		2	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	10.0		10.0	10.0	
Minimum Split (s)	13.0	13.0		13.0	13.0		10.0	15.0		15.0	15.0	
Total Split (s)	13.0	13.0		13.0	13.0		10.0	42.0		32.0	32.0	
Total Split (%)	16.3%	16.3%		16.3%	16.3%		12.5%	52.5%		40.0%	40.0%	
Maximum Green (s)	8.0	8.0		8.0	8.0		5.0	37.0		27.0	27.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)								10.0				

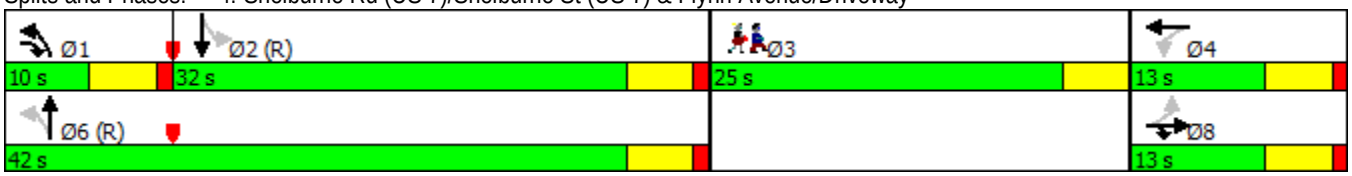
Lane Group	Ø3
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	25.0
Total Split (s)	25.0
Total Split (%)	31%
Maximum Green (s)	21.0
Yellow Time (s)	4.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)								5.0				
Pedestrian Calls (#/hr)								12				
Act Effct Green (s)		17.8	27.2	17.8	17.8		47.6	47.6		38.2	38.2	
Actuated g/C Ratio		0.22	0.34	0.22	0.22		0.60	0.60		0.48	0.48	
v/c Ratio		0.54	0.21	0.25	0.15		0.46	0.63		0.25	0.79	
Control Delay		39.5	20.6	31.3	17.9		17.2	4.3		20.8	21.8	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		39.5	20.6	31.3	17.9		17.2	4.3		20.8	21.8	
LOS		D	C	C	B		B	A		C	C	
Approach Delay		31.9			24.9			5.3			21.8	
Approach LOS		C			C			A			C	
Queue Length 50th (ft)		70	34	25	11		10	62		9	161	
Queue Length 95th (ft)		#198	86	68	46		m19	m88		m22	#503	
Internal Link Dist (ft)		160			62			196			689	
Turn Bay Length (ft)							150			155		
Base Capacity (vph)		294	521	246	392		236	2033		153	1619	
Starvation Cap Reductn		0	0	0	0		0	0		0	0	
Spillback Cap Reductn		0	0	0	0		0	0		0	0	
Storage Cap Reductn		0	0	0	0		0	0		0	0	
Reduced v/c Ratio		0.54	0.21	0.25	0.15		0.46	0.63		0.25	0.79	

Intersection Summary

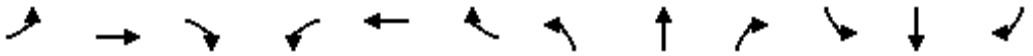
Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 60 (75%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 15.4 Intersection LOS: B
Intersection Capacity Utilization 68.2% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Shelburne Rd (US 7)/Shelburne St (US 7) & Flynn Avenue/Driveway



Lane Group	Ø3
Flash Dont Walk (s)	12.0
Pedestrian Calls (#/hr)	12
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary



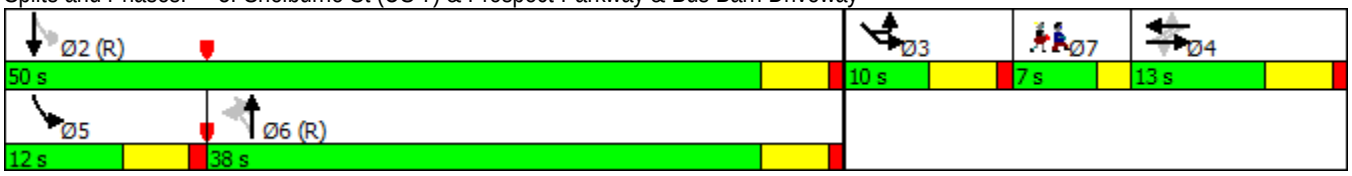
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	6	78	0	39	1	1196	45	37	1158	6
Future Volume (vph)	5	0	6	78	0	39	1	1196	45	37	1158	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	10	11	11	14	11	11	11	11	11	11	11
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.921			0.955			0.995			0.999	
Flt Protected		0.980			0.968						0.998	
Satd. Flow (prot)	0	1569	0	0	1837	0	0	3404	0	0	3411	0
Flt Permitted		0.852			0.792			0.954			0.817	
Satd. Flow (perm)	0	1364	0	0	1503	0	0	3248	0	0	2792	0
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)		191			191			6				
Link Speed (mph)		20			25			25			25	
Link Distance (ft)		143			440			769			850	
Travel Time (s)		4.9			12.0			21.0			23.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	0	7	85	0	42	1	1300	49	40	1259	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	12	0	0	127	0	0	1350	0	0	1307	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.09	1.04	1.04	0.92	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			4			6		5	2	
Permitted Phases	4			4			6			2		
Detector Phase	4	4		4	4		6	6		5	5	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		15.0	15.0		5.0	20.0	
Minimum Split (s)	13.0	13.0		13.0	13.0		20.0	20.0		10.0	25.0	
Total Split (s)	13.0	13.0		13.0	13.0		38.0	38.0		12.0	50.0	
Total Split (%)	16.3%	16.3%		16.3%	16.3%		47.5%	47.5%		15.0%	62.5%	
Maximum Green (s)	8.0	8.0		8.0	8.0		33.0	33.0		7.0	45.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min		None	C-Min	
Walk Time (s)	0.0	0.0		0.0	0.0		15.0	15.0				
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		4.0	4.0				
Pedestrian Calls (#/hr)	0	0		0	0		0	0				

Lane Group	SBR2	SEL	SER	Ø7
Lane Configurations				
Traffic Volume (vph)	1	4	1	
Future Volume (vph)	1	4	1	
Ideal Flow (vphpl)	1900	1900	1900	
Lane Width (ft)	11	10	11	
Lane Util. Factor	0.95	1.00	1.00	
Frt		0.973		
Flt Protected		0.962		
Satd. Flow (prot)	0	1627	0	
Flt Permitted		0.962		
Satd. Flow (perm)	0	1627	0	
Right Turn on Red	Yes			
Satd. Flow (RTOR)				
Link Speed (mph)		20		
Link Distance (ft)		424		
Travel Time (s)		14.5		
Peak Hour Factor	0.92	0.92	0.92	
Adj. Flow (vph)	1	4	1	
Shared Lane Traffic (%)				
Lane Group Flow (vph)	0	5	0	
Enter Blocked Intersection	No	No	No	
Lane Alignment	Right	Left	Right	
Median Width(ft)		10		
Link Offset(ft)		0		
Crosswalk Width(ft)		16		
Two way Left Turn Lane				
Headway Factor	1.04	1.09	1.04	
Turning Speed (mph)	9	15	9	
Turn Type		Prot		
Protected Phases		3		7
Permitted Phases				
Detector Phase		3		
Switch Phase				
Minimum Initial (s)		5.0		1.0
Minimum Split (s)		10.0		7.0
Total Split (s)		10.0		7.0
Total Split (%)		12.5%		9%
Maximum Green (s)		5.0		5.0
Yellow Time (s)		4.0		2.0
All-Red Time (s)		1.0		0.0
Lost Time Adjust (s)		0.0		
Total Lost Time (s)		5.0		
Lead/Lag		Lead		Lag
Lead-Lag Optimize?		Yes		Yes
Vehicle Extension (s)		3.0		3.0
Recall Mode		None		None
Walk Time (s)				0.0
Flash Dont Walk (s)				0.0
Pedestrian Calls (#/hr)				0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)		8.0			8.0			40.9			62.6	
Actuated g/C Ratio		0.10			0.10			0.51			0.78	
v/c Ratio		0.04			0.39			0.81			0.57	
Control Delay		0.3			5.3			15.0			5.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		0.3			5.3			15.0			5.4	
LOS		A			A			B			A	
Approach Delay		0.3			5.3			15.0			5.4	
Approach LOS		A			A			B			A	
Queue Length 50th (ft)		0			0			148			93	
Queue Length 95th (ft)		0			16			#486			224	
Internal Link Dist (ft)		63			360			689			770	
Turn Bay Length (ft)												
Base Capacity (vph)		308			322			1664			2313	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.04			0.39			0.81			0.57	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 67 (84%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 10.1		Intersection LOS: B	
Intersection Capacity Utilization 85.8%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 5: Shelburne St (US 7) & Prospect Parkway & Bus Barn Driveway



Lane Group	SBR2	SEL	SER	Ø7
Act Effct Green (s)		5.1		
Actuated g/C Ratio		0.06		
v/c Ratio		0.05		
Control Delay		36.4		
Queue Delay		0.0		
Total Delay		36.4		
LOS		D		
Approach Delay		36.4		
Approach LOS		D		
Queue Length 50th (ft)		2		
Queue Length 95th (ft)		13		
Internal Link Dist (ft)		344		
Turn Bay Length (ft)				
Base Capacity (vph)		103		
Starvation Cap Reductn		0		
Spillback Cap Reductn		0		
Storage Cap Reductn		0		
Reduced v/c Ratio		0.05		

Intersection Summary