

TRAFFIC IMPACT STUDY
WEST END COMMERCIAL DEVELOPMENT
THIRD STREET AND HIGH STREET
TOWN OF COLLINGWOOD

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1.0 Introduction

CF Crozier & Associates Inc. (Crozier) was retained by Dunn Capital Corporation (DunnCap) to undertake a Traffic Impact Study (TIS) in support of a Draft Plan Application for a proposed mixed-use development. The development is located at the northwest corner of the Third Street and High Street intersection and extends to Black Ash Creek and Cambridge Street. The Draft Plan Application is being made without specific development plans for the subject lands. Development blocks with the intent of commercial uses and potentially some residential uses have instead been established. For the sake of conservative analysis the report has been completed under a worst case scenario. Accordingly, the land use was considered to consist of a wholly commercial development.

The purpose of the study is to assess the impacts of the proposed development on the boundary road system, including future roadway configurations as recommended in the High Street Environmental Assessment, and to identify required mitigation measures, if warranted.

2.0 Existing Conditions

2.1 Development Lands

The subject property proposed for development is bounded by the Home Depot site and High Street to the east, Black Ash Creek to the west, the Walmart site to the north, and business/employment operations to the south. The property is 21.0 hectares in size and is undeveloped or cleared lands.

The development lands have various designations per the Town of Collingwood's Zoning By-Law. The majority of the land is designated "Regional Commercial Exception Eight" (C2-8) with a small portion designated "Business Park Industrial Exception One" (M4-1). Map 12 of the Town of Collingwood's Zoning By-Law provides an outline of the development lands and is provided in Appendix A along with more pertinent zoning-by excerpts.

2.2 Boundary Road Network

To provide clarity throughout this report and in the supporting analysis, the First Street Extension has been referred to simply as First Street.

First Street is an east-west roadway with a five lane cross-section including a median two-way left-turn lane. First Street is under the jurisdiction of the Town of Collingwood. First Street has a posted speed limit of 50 km/h and is defined as an arterial roadway per the Town's Official Plan.

High Street is a north-south roadway with a four lane two-way cross-section and a median two-way left-turn between First Street and the Home Depot signalized entrance. High Street has a posted speed limit of 50 km/h and is under the jurisdiction of the Town of Collingwood. High Street is defined as an arterial roadway per the Town's Official Plan.

Third Street is an east-west roadway with a two lane cross-section. Third Street is under the jurisdiction of the Town of Collingwood and has a posted speed limit of 40 km/h east of High Street. Third Street is defined as a collector per the Town's Official Plan.

Sixth Street is an east-west roadway with a two lane cross-section. Sixth Street is under the jurisdiction of the Town of Collingwood with a posted speed limit of 50 km/h east of High Street and 60 km/h west of High Street. Per the Town's Official Plan is defined as an arterial west of High Street and a collector east of High Street.

Cambridge Street is a north-south roadway with a three lane cross-section including a median two-way left-turn lane. Cambridge Street is under the jurisdiction of the Town of Collingwood, and is defined as a local roadway per the Town's Official Plan. The road has no posted speed limit and is thus 50 km/h per municipal regulation.

The four-legged intersection of Cambridge Street at First Street is a signalized intersection. The existing lane configurations are as follows:

- The westbound approach (First Street) consists of a single left-turn lane, a single through lane, and a single right-turn lane;
- The northbound approach (Cambridge Street) consists of a single left-turn lane with a shared through-right lane;
- The eastbound approach (First Street) consists of a single left-turn lane with a through lane and a shared through-right lane; and,
- The southbound approach (Cambridge Street) consists of a single left-turn lane with a shared through-right lane.

The four-legged intersection of First Street at High Street is a signalized intersection. The existing lane configurations are as follows:

- The westbound approach (First Street) consists of a single left-turn lane, dual through lanes, and a single right-turn lane;
- The northbound approach (High Street) consists of a single left-turn lane, single through lane, and a shared through-right lane;
- The eastbound approach (First Street) consists of a single left-turn lane, single through lane, and a shared through-right lane; and,
- The southbound approach (High Street) consists of a single left-turn lane, a shared through-left, and a shared through-right lane.

The three-legged intersection of High Street at Home Depot Entrance is a signalized intersection. The existing lane configurations are as follows:

- The eastbound approach (Home Depot Entrance) consists of a single left-turn lane and a single right-turn lane;
- The northbound approach (High Street) consists of a single left-turn lane and dual through lanes; and,
- The southbound approach (High Street) consists of a single through-lane and a shared through-right lane.

The four-legged intersection of High Street at Third Street is an unsignalized intersection. Currently the Third Street approaches are stop controlled. The existing lane configurations are as follows:

- The westbound approach (Third Street) consists of a single shared left-through-right lane;
- The northbound approach (High Street) consists of a shared left-through lane and a shared

- through-right lane;
- The eastbound approach (Third Street) consists of a single shared left-through-right lane; and,
- The southbound approach (High Street) consists of a shared left-through lane and a shared through-right lane.

The four-legged intersection of High Street at Sixth Street is a signalized intersection. Currently the Sixth Street approaches are stop controlled. The existing lane configurations are as follows:

- The westbound approach (Third Street) consists of a single shared left-through-right lane;
- The northbound approach (High Street) consists of a shared left-through lane and a shared through-right lane;
- The eastbound approach (Third Street) consists of a single shared left-through-right lane; and,
- The southbound approach (High Street) consists of a shared left-through lane and a shared through-right lane.

2.3 Traffic Data

Turning movement counts at the intersections of First Street and Cambridge Street, First Street and High Street, Home Depot Entrance and High Street, Third Street and High Street, and Sixth Street and High Street were completed by Ontario Traffic Inc. (OTI). The counts were completed on the following days and times:

- Thursday August 7th 2014, from 7 a.m. -10 a.m. and from 3 a.m. -8 p.m., and
- Saturday August 9th 2014, from 11 a.m. – 4 p.m.

Traffic data contained in Appendix B provides a summary of the turning movement counts. The existing peak hour traffic volumes are illustrated in Figure 3.

2.4 Cycling Routes

The Town of Collingwood's Active Transportation Plan identifies High Street and First Street as part of the "Share the Road" signage program. The purpose of this signing program is to warn motorists that they are to provide adequate driving space for cyclists and other vehicles on the road. The sign also advises motorists and cyclists to use extra caution on the upcoming section of road.

2.5 Traffic Modeling

The operations of the critical intersections were analyzed on the basis of the 2014 traffic volumes illustrated in Figure 3. Detailed capacity analysis worksheets are included in Appendix D.

The assessment of intersections is based on the method outlined in the "Highway Capacity Manual, 2010" using Synchro 8 modeling software. Intersections are assessed using a Level of Service metric, with ranges of delay assigned a letter from "A" to "F". To provide context on the system, new roadway facilities are typically designed to provide a Level of Service "C". For stop-controlled intersections, a Level of Service "A" or "B" would typically be measured during off-peak hours when lesser traffic volumes are on the roadways. Levels of Service "C" through "F" would typically be measured in the commuter peak hours when greater vehicle volumes cause longer travel times. The Level of Service (LOS) definitions for signalized intersections are included in Appendix C.

2.6 Intersection Operations

The operations of the critical intersections were analyzed on the basis of the traffic volumes illustrated in Figure 3. Table 1 outlines the 2014 existing traffic levels of service. Detailed capacity analysis worksheets are included in Appendix D.

Table 1
Existing 2014 Traffic Conditions Level of Service

Intersection	Control	Peak Hour	Level of Service	Delay per Vehicle (seconds)	Overall V/C Ratio
First Street at Cambridge Street	Signal	A.M.	B	11.8	0.37
		P.M.	B	13.7	0.54
		Saturday	B	14.0	0.60
First Street at High Street	Signal	A.M.	C	22.5	0.54
		P.M.	C	28.3	0.72
		Saturday	C	27.7	0.72
High Street at Home Depot Access	Signal	A.M.	A	4.7	0.33
		P.M.	A	4.4	0.39
		Saturday	A	6.5	0.39
High Street at Third Street	Stop Control	A.M.	B	11.2	0.38
		P.M.	B	13.0	0.57
		Saturday	B	12.0	0.48
High Street at Sixth Street	Signal	A.M.	B	12.1	0.43
		P.M.	B	12.9	0.53
		Saturday	B	12.1	0.51

Note: The Level of Service of an unsignalized intersection is based on the delay associated with the critical minor road approach.

The Level of Service of a signalized intersection is based on the average control delay per vehicle.

As indicated in Table 1, the intersection of First Street and High Street operates at a Level of Service "C" during the a.m., p.m., and Saturday peak hours under existing conditions. The highest delay per entering vehicle is 28.3 seconds during the p.m. peak hour. The overall volume-to-capacity ratio of 0.72 for the p.m. peak hour indicates that this intersection is operating efficiently.

The intersection of First Street and Cambridge Street will operate at a Level of Service "B" during the a.m., p.m., and Saturday peak hours under existing conditions. The highest delay per entering vehicle is 14.0 seconds during the p.m. peak hour. The overall volume-to-capacity ratio of 0.60 for the Saturday peak hour indicates that some reserve capacity is available for future traffic volume growth.

The remaining boundary intersections operate at a Level of Service "B" or better during the a.m., p.m. and Saturday peak hours. There is significant reserve capacity at the remaining intersections.

3.0 Development Proposal

The subject property is currently a mix of developed and undeveloped/ cleared lands. The development blocks will be formed by the extension of the municipal roadway system through the subject lands. It is proposed to extend Cambridge Street southerly to meet via a horizontal curve the extension of Third Street westerly. A single lane roundabout approximately midway along the road extension is also proposed. It has been assumed that the new roadway extensions would continue the Cambridge Street existing three lane cross section within a 20 metre right-of-way. The Home Depot site would be connected to the proposed roundabout as the east leg. Figure 1 outlines the site location.

Consistent with the Environmental Assessment "High Street Schedule C Class EA", the existing signalized intersection at High Street and the Home Depot entrance would be converted to an unsignalized right-in/right-out. The High Street and Third Street intersection would be signalized with the addition of left-turn lanes. The EA recommendations are to be implemented by the proponent as part of the proposed development.

One development block in the southeast area of the site houses the operational, relocated Goodall plant. On the dates of traffic data collection, the plant was operational therefore trip generation forecasting is not undertaken for this block (refer to Section 2.3)

The remaining development blocks total approximately 17 ha. To analyze a worst-case scenario, a wholly commercial use for the purposes of traffic generation was modelled. To determine a Gross Floor Area (GFA) as the basis of trip generation calculations, a building coverage of 20 percent was assumed. Accordingly, a commercial building coverage equating 33,930 square metres (365,220 square feet) was used.

Figure 3 illustrates the development plan.

4.0 Future Background Conditions

4.1 Study Horizons

Information regarding phasing of the site was not known at the time of writing of the Traffic Impact Study, and will largely depend on market conditions. For the purposes of analysis, it was assumed that full build-out of the development would be achieved by 2020. In order to assess the effect of the development on the operations of the boundary road network, future horizon years of 2020, 2025 and 2030 representing five and ten years beyond full build-out were selected for analysis.

4.2 Traffic Growth Rates

As outlined in the approved Collingwood Transportation Study (CTS), a 2.8 percent growth rate was established with the Town of Collingwood staff as being appropriate for the roadway system. As outlined in the CTS, "future population growth in Collingwood is projected to grow at a rate of 2.8 percent". Historical AADT volumes along Highway 26 show a growth of 2.3 percent per annum. Accordingly, this 2.8 percent growth rate was used to calculate future background traffic volumes for the 2020, 2025 and 2030 horizon years.

4.3 Future Roadway Improvements

While the High Street improvements are to be completed as part of the proposed development, the future background traffic analysis has been undertaken with the assumption that these improvements are in place, along with the connecting roadway between Cambridge Street and Third Street. This was done to provide traffic operations modeling with which to compare the addition of site generated traffic (refer to Section 4.5).

4.4 Future Diverted Trips

As outlined in Section 4.3, the connection of Third Street with Cambridge Street will result in the diversion of traffic from the intersection of First Street at High Street. According to Section 7.2.5 of the Collingwood Transportation Study approximately 30 percent of the northbound left turns and 30 percent of the eastbound rights will divert and use the Cambridge Street and Third Street connection. Figure 5 illustrates more detail for the First Street and High Street diverted trips.

High Street at the Home Depot Entrance in future conditions will be a right-in/right-out only intersection. The removal of left-ins/left-outs at this intersection will divert left turning traffic to the intersections of Cambridge Street at First Street and Third Street at High Street. Figure 4 illustrates more detail for the Home Depot diverted trips.

4.5 Intersection Operations

The future background traffic volumes were determined by applying the growth rates to existing traffic volumes in Figure 3 and adding the diverted trips illustrated in Figures 4 and 5. Figures 6, 7, and 8 illustrate the 2020, 2025, and 2030 future background volumes.

Tables 2, 3, and 4 outline the 2020, 2025, and 2030 future background traffic levels of service, respectively. Detailed capacity analysis worksheets are included in Appendix D.

Table 2
2020 Future Background Conditions Level of Service

Intersection	Control	Peak Hour	Level of Service	Delay per Vehicle (seconds)	Overall V/C Ratio
First Street at Cambridge Street	Signal	A.M.	B	12.8	0.44
		P.M.	B	15.4	0.63
		Saturday	B	16.5	0.69
First Street at High Street	Signal	A.M.	C	24.4	0.61
		P.M.	D	35.1	0.81
		Saturday	D	36.1	0.81
High Street at Home Depot Access	Right-in/Right-out	A.M.	B	10.0	0.23
		P.M.	B	11.2	0.32
		Saturday	B	11.4	0.30
High Street at Third Street	Signal	A.M.	A	6.8	0.37
		P.M.	A	9.0	0.44
		Saturday	A	9.2	0.44
High Street at Sixth Street	Signal	A.M.	B	11.9	0.47
		P.M.	B	14.8	0.59
		Saturday	B	14.9	0.56

Note: *The Level of Service of an unsignalized intersection is based on the delay associated with the critical minor road approach.*
The Level of Service of a signalized intersection is based on the average control delay per vehicle.

Table 3
2025 Future Background Conditions Level of Service

Intersection	Control	Peak Hour	Level of Service	Delay per Vehicle (seconds)	Overall V/C Ratio
First Street at Cambridge Street	Signal	A.M.	B	13.5	0.52
		P.M.	B	17.2	0.70
		Saturday	B	19.2	0.76
First Street at High Street	Signal	A.M.	C	26.5	0.67
		P.M.	D	47.0	0.90
		Saturday	D	51.6	0.92
High Street at Home Depot Access	Right-in/Right-out	A.M.	B	10.4	0.25
		P.M.	B	9.4	0.36
		Saturday	B	12.3	0.34
High Street at Third Street	Signal	A.M.	A	7.6	0.40
		P.M.	A	9.4	0.49
		Saturday	A	8.5	0.49
High Street at Sixth Street	Signal	A.M.	B	12.6	0.51
		P.M.	B	14.7	0.65
		Saturday	B	14.9	0.62

Note: The Level of Service of an unsignalized intersection is based on the delay associated with the critical minor road approach.

The Level of Service of a signalized intersection is based on the average control delay per vehicle.

Table 4
2030 Future Background Conditions Level of Service

Intersection	Control	Peak Hour	Level of Service	Delay per Vehicle (seconds)	Overall V/C Ratio
First Street at Cambridge Street	Signal	A.M.	B	13.9	0.58
		P.M.	B	19.2	0.78
		Saturday	C	24.7	0.85
First Street at High Street	Signal	A.M.	C	32.6	0.75
		P.M.	E	71.1	1.01
		Saturday	E	72.6	1.02
High Street at Home Depot Access	Right-in/Right-out	A.M.	B	11.0	0.27
		P.M.	A	9.6	0.39
		Saturday	B	13.7	0.38
High Street at Third Street	Signal	A.M.	A	8.8	0.43
		P.M.	A	9.8	0.54
		Saturday	A	9.0	0.54
High Street at Sixth Street	Signal	A.M.	B	13.6	0.56
		P.M.	B	16.6	0.72
		Saturday	B	16.9	0.68

Note: The Level of Service of an unsignalized intersection is based on the delay associated with the critical minor road approach.

The Level of Service of a signalized intersection is based on the average control delay per vehicle.

As indicated in the above tables, the intersection of First Street and High Street will operate at a Level of Service "C" for the a.m. peak hour and a Level of Service "E" during the p.m., and Saturday peak hours by the 2030 horizon year, respectively. The highest average delay per entering vehicle is 72.6 seconds during the Saturday peak. The intersection has an overall volume-to-capacity ratio of 1.02 or lower. This is indicative of an intersection operating at capacity.

The intersection of First Street and Cambridge Street operates at a Level of Service "B" during the a.m. and p.m. peak hours for the 2030 horizon year, respectively. During the Saturday peak hour the intersection operates at a Level of Service "C" for the 2030 horizon year. The Collingwood Transportation Study has identified this intersection for geometric improvements post 2030. The Collingwood Transportation Study forecasts this intersection to have increased delay and a failing Level of Service with local development progressing. The Collingwood Transportation Study recommends an exclusive right turn lane to be added to the north and south approaches. The Collingwood Transportation Study included the proponent's development lands and local growth to conclude the geometric improvements are required. Table 7 in Section 6.2 analyzes First Street at Cambridge Street using the geometric improvements outlined in the Collingwood Transportation Study.

The remaining boundary intersections operate Level of Service "B" or better during the a.m., p.m., and Saturday peak hours through to the 2030 horizon year. There is significant reserve capacity at the remaining intersections.

5.0 Site Generated Traffic

The proposed development will result in additional vehicles on the boundary road network that would otherwise not exist. The development will also result in additional turning movements at the boundary road intersections.

5.1 Non-Auto Trip Adjustment

Typically a trip reduction would be applied for transit use within the area of the development. For the purpose of this study a worst case scenario basis was adopted as the development plans have not been finalized. Therefore, a non-auto trip adjustment has not been applied to the primary trip generation.

5.2 ITE Trip Generation

To forecast the trips generated by the development, the ITE Trip Generation Manual, 9th Edition was used. It was determined that Category 820, "Shopping Centre" would best represent the 33,930 square metres of commercial proposed for the site. The a.m., p.m., and Saturday ITE trip generation equations were used to determine the number of trips expected from the development. The trips generated by the proposed development are tabulated in Table 5.

Table 5
ITE Trip Generation

Use	Roadway Peak Hour	Site Generated Trips		
		Inbound	Outbound	Total
Shopping Centre Category 820 (365,220ft ²)	A.M.	213	130	343
	P.M.	685	742	1427
	Saturday	1055	974	2029

5.3 Pass-by Trips

As defined by the ITE Trip Generation Handbook 2nd Edition, primary trips are made for the specific purpose of visiting the generator and pass-by trips are made as an intermediary stop on the way from the origin to a primary trip destination without a route diversion.

As the volume of vehicles not associated with the proponent's development on the abutting roadways is low, an adjustment for pass-by trips was not made. Accordingly, all trips generated by the site uses were considered primary.

5.4 The Collingwood Centre Synergies

Internal capture rates are a percentage reduction applicable to the trip generation estimates for individual land uses within a multi-use site, so that the analysis can account for trips to multiple uses at a site. Given the adjacent Collingwood Centre to the north of the development lands a sharing of trips can be expected. Accordingly, the methodology presented in the ITE Trip Generation Handbook 2nd Edition, Chapter 7 – Multi-use Development was used to estimate the volume of trips that would travel between the two sites. The ITE

Trip Generation Handbook, 2nd Edition, Table 7.1 “Unconstrained Internal Capture Rate for Trip Origins within a Multi-Use Development” provides a 30 percent reduction from retail use over a daily period, respectively. The daily rate of 30 percent was applied to the peak hours of analysis. The reduction has been applied to the trips and outlined in Table 6 below.

Table 6
Total Trip Generation

Use	Trip Type	Roadway Peak Hour	Site Generated Trips		
			Inbound	Outbound	Total
Shopping Centre Category 820 (365,220ft ²)	Primary	A.M.	149	91	240
	Primary	P.M.	480	519	999
	Primary	Saturday	738	628	1366
	Synergy	A.M.	64	39	103
	Synergy	P.M.	205	223	428
	Synergy	Saturday	317	292	609
Total	-	A.M.	213	130	343
	-	P.M.	685	742	1427
	-	Saturday	1055	974	2029

5.5 Trip Distribution and Assignment

The trip distribution for the site development was reviewed and maintained from the Collingwood Transportation Study, which were based on Transportation Tomorrow Survey Data. The trip distribution is illustrated in Figure 9, and the primary trip assignment is illustrated in Figure 10.

The synergy trips were assigned to the north and south through movements at the intersection of First Street and Cambridge Street. This is based on the location of the site entrances in both the subject development and the Collingwood Centre. The synergy trip assignment is based on the entering and exiting percentages for the a.m., p.m., and Saturday peak periods per the ITE Trip Generation manual, 9th Edition for a shopping centre (Code 850). The synergy trips are outlined in Figure 11.

6.0 Total Future Conditions

6.1 Basis of Assessment

The traffic impacts arising from the proposed development were assessed on the basis of the site generated traffic illustrated in Figure 10 and Figure 11 being superimposed on the 2020, 2025, and 2030 future background traffic volumes in Figure 6, Figure 7, and Figure 8, respectively.

Furthermore, preliminary analysis revealed the need for a northbound and southbound right turn lane at Cambridge Street and First Street as well as left turn lanes for all approaches at Third Street and High Street. The total traffic modelling was undertaken with these capacity improvements. The lane dimensions are detailed in Section 6.3.

6.2 Intersection Operations

The operations of the subject intersections were analyzed on the basis of the traffic volumes illustrated in Figure 12, Figure 13, and Figure 14. Table 7, Table 8, and Table 9 outline the 2020, 2025, and 2030 total traffic volumes levels of service, respectively. Detailed capacity analysis worksheets are included in Appendix D.

Table 7
2020 Total Traffic Conditions Level of Service

Intersection	Control	Peak Hour	Level of Service	Delay per Vehicle (seconds)	Overall V/C Ratio
First Street at Cambridge Street	Signal	A.M.	B	12.7	0.52
		P.M.	C	26.5	0.88
		Saturday	D	49.1	1.05
First Street at High Street	Signal	A.M.	C	24.5	0.63
		P.M.	D	35.8	0.78
		Saturday	D	49.5	0.92
High Street at Home Depot Access	Right-in/Right-out	A.M.	B	10.1	0.23
		P.M.	B	11.1	0.35
		Saturday	B	12.3	0.35
High Street at Third Street	Signal	A.M.	A	8.7	0.38
		P.M.	B	13.8	0.71
		Saturday	B	18.1	0.73
High Street at Sixth Street	Signal	A.M.	B	12.0	0.50
		P.M.	B	15.8	0.69
		Saturday	B	17.3	0.70

Note: The Level of Service of an unsignalized intersection is based on the delay associated with the critical minor road approach.

The Level of Service of a signalized intersection is based on the average control delay per vehicle.

Table 8
2025 Total Traffic Conditions Level of Service

Intersection	Control	Peak Hour	Level of Service	Delay per Vehicle (seconds)	Overall V/C Ratio
First Street at Cambridge Street	Signal	A.M.	B	13.7	0.56
		P.M.	C	32.1	0.93
		Saturday	E	66.5	1.11
First Street at High Street	Signal	A.M.	C	28.1	0.72
		P.M.	E	60.9	0.98
		Saturday	E	68.2	1.01
High Street at Home Depot Access	Right-in/Right-out	A.M.	B	10.6	0.25
		P.M.	A	9.8	0.38
		Saturday	B	13.5	0.38
High Street at Third Street	Signal	A.M.	A	6.2	0.42
		P.M.	B	12.5	0.76
		Saturday	C	20.5	0.77
High Street at Sixth Street	Signal	A.M.	B	12.9	0.54
		P.M.	B	18.3	0.74
		Saturday	C	20.2	0.75

*Note: The Level of Service of an unsignalized intersection is based on the delay associated with the critical minor road approach.
 The Level of Service of a signalized intersection is based on the average control delay per vehicle.*

Table 9
2030 Total Traffic Conditions Level of Service

Intersection	Control	Peak Hour	Level of Service	Delay per Vehicle (seconds)	Overall V/C Ratio
First Street at Cambridge Street	Signal	A.M.	C	20.6	0.61
		P.M.	D	48.6	0.99
		Saturday	F	98.8	1.19
First Street at High Street	Signal	A.M.	D	33.7	0.76
		P.M.	F	87.3	1.08
		Saturday	F	101.0	1.12
High Street at Home Depot Access	Right-in/Right-out	A.M.	B	11.2	0.28
		P.M.	A	10.8	0.42
		Saturday	B	14.4	0.42
High Street at Third Street	Signal	A.M.	A	9.5	0.44
		P.M.	B	16.4	0.79
		Saturday	C	23.4	0.81
High Street at Sixth Street	Signal	A.M.	B	14.6	0.59
		P.M.	C	22.1	0.81
		Saturday	C	25.2	0.87

*Note: The Level of Service of an unsignalized intersection is based on the delay associated with the critical minor road approach.
 The Level of Service of a signalized intersection is based on the average control delay per vehicle.*

As indicated in the above tables, the intersection of First Street and High Street will operate at a Level of Service "D" during the a.m. peak hour and a Level of Service "F" during the p.m. and Saturday peak hours for the 2030 horizon year. The a.m. peak hour Level of Service remains unchanged from the 2030 future background condition. The p.m. and Saturday peak hour Levels of Service have reduced to an "F" from a Level of Service "E". Some motorists may require more than one signal to clear the intersection.

The intersection of First Street and Cambridge Street operates at a Level of Service "C" during the a.m. peak hour for the 2030 horizon year. During the p.m. and Saturday peak hours the intersection operates at a Level of Service "F" for the 2030 horizon year. As mentioned in Section 4.5, the Collingwood Transportation Study has identified this intersection for geometric improvements for 2030. The above tables did not include the geometric improvements as part of the analysis as indicated by the poor Level of Service during the p.m. and Saturday peaks. Table 10 below outlines the operation of this intersection with the improvements mentioned in the Collingwood Transportation Study.

The remaining boundary intersections operate Level of Service "C" or better during the a.m., p.m., and Saturday peak hours through to the 2030 horizon year. There is significant reserve capacity at the remaining intersections.

Table 10
Total Traffic Conditions with CTS Improvements Level of Service

Intersection	Year	Control	Peak Hour	Level of Service	Delay per Vehicle (seconds)	Overall V/C Ratio
First Street at Cambridge Street	2025	Signal	Saturday	C	32.0	0.95
First Street at Cambridge Street	2030	Signal	Saturday	D	49.7	1.02

As indicated in Table 10 above, the intersection of First Street at Cambridge Street improves significantly with the inclusion of a dedicated right turn lane for the north and south approaches. During the Saturday peak hour of the 2030 horizon year the intersection improves from a Level of Service "F" to a Level of Service "D". The average delay per entering vehicle improves from 101.0 seconds to 49.7 seconds. The overall vehicle to capacity ratio has also improved from a 1.12 to a 1.02.

6.3 Lane Dimensions

The below storage lengths were based on the 95th percentile queue lengths for the 2030 Saturday peak hour total traffic condition. All left turn taper lengths were derived using Table 2.3.8.1 from the Transportation Association of Canada's Geometric Design Guide for Canadian Roads (TAC Manual). The right turn taper lengths were found within Table 2.3.5.2 of the TAC Manual. The resulting rates of taper were compared with existing conditions along High Street and were found to match. All auxiliary lanes were assumed to be 3.5 metres wide.

The recommendations in regards to the High Street and Third Street intersection are:

- That traffic signals be implemented at the intersection;
- That left-turn lanes be implemented on all approaches with the traffic signals, consisting of:
 - An 80 metre parallel lane length and a 53 metre taper length (15:1 taper development) (northbound);
 - A 15 metre parallel lane length and a 53 metre taper length (15:1 taper development) (eastbound);
 - A 15 metre parallel lane length and a 53 metre taper length (15:1 taper development) (southbound);
 - A 15 metre parallel lane length and a 53 metre taper length (15:1 taper development) (westbound);

The recommendations in regards to the Cambridge Street and First Street intersection are:

- That a northbound right-turn lane consisting of a 40 metre parallel lane and a 53 metre taper be implemented; and,
- That a southbound right-turn lane consisting of a 15 metre parallel lane and a 53 metre taper be

implemented.

It is noted that these dimensions will need to be ultimately determined in the detailed design stage to ensure they are feasible.

6.4 Improvements Staging

As outlined in Section 4.3 and illustrated in Figure 5, the connection of Third Street with Cambridge Street will result in the diversion of traffic from the intersection of First Street at High Street.

The diverted volumes will produce a demand for intersection improvements at the intersection of Third Street and High Street independent of traffic generation from the subject lands. Therefore, the roadway connection of Third Street to Cambridge Street should not be opened to the travelling public before the improvements to the Third Street and High Street intersection have been completed.

7.0 Conclusions and Recommendations

7.1 Conclusions

Intersection analyses of the existing 2014 traffic volumes indicate that the boundary road network has ample capacity with the exception of First Street at High Street. Further analysis for the 2020, 2025 and 2030 future backgrounds was conducted. The intersections operate at a Level of Service "B" or better through to the 2030 future background with the exception of First Street's intersections with High Street and Cambridge Street. First Street at Cambridge Street operates at a Level of Service "B" during the a.m. and p.m. peak periods and a Level of Service "C" in the Saturday peak period. First Street at High Street operates at a Level of Service "E" during the p.m. and Saturday peak periods.

The proposed development is expected to add a total of 240 primary trips to the boundary road system in the a.m. peak hour, 999 primary trips in the p.m. peak hour and 1,366 primary trips in the Saturday peak hour.

Intersection analysis of the total traffic volumes indicate that the boundary road network intersections will operate similarly to future background traffic conditions with the exception of First Street at Cambridge Street. The intersection of First Street and Cambridge Street has been reduced to a Level of Service "F" during the p.m. and Saturday peak hours for the 2030 total traffic condition.

The Collingwood Transportation Study has identified the intersection of Cambridge Street and First Street for geometric improvements post 2030. The Collingwood Transportation Study suggests an exclusive right turn lane be added to the north and south approaches. These geometric changes improve the 2030 horizon year total traffic Level of Service from an "F" to a "D".

The analysis undertaken herein was prepared using a total gross floor area (GFA) of 33,930 metres squared (365,220 square feet) of retail space. Any minor changes to the plan will not materially affect the conclusions contained within this report.

7.2 Recommendations

While not addressed elsewhere in the report, it is recommended that the Third Street extension continue the three 3.5 metre lane cross section of Cambridge Street and Mountain Road. This recommendation is made to provide continuity for future motorists and to facilitate ingress and egress from future block driveways.

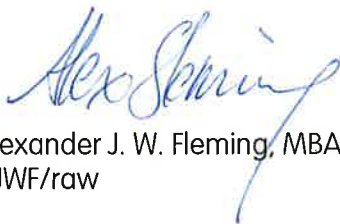
It is recommended that a northbound right-turn lane consisting of a 40 metre parallel lane and a 53 metre taper and that a southbound right-turn lane consisting of a 15 metre parallel lane and a 53 metre taper be implemented at the Cambridge Street and First Street intersection.

It is recommended that the roadway connection between Third Street and Cambridge Street not be opened to the public prior to completion of the intersection improvements to the Third Street and High Street intersection.

The Draft Plan Application of the development can be supported from a traffic operations perspective as the site generated traffic can be accommodated by the boundary roadway system with the implementation of capacity improvements.

Respectfully submitted by,

C.F. CROZIER & ASSOCIATES INC.



Alexander J. W. Fleming, MBA, P.Eng.
AJWF/raw

C.F. CROZIER & ASSOCIATES INC.



Aaron Wignall, E.T.
AJWF/raw

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APPENDIX A
Zoning By-Law Excerpts

Collingwood Zoning By-law

Section 8.0 Industrial Zones

8.1 Industrial Permitted Uses

8.1.1 No person shall use any land or construct or use any building or structure in any Industrial zone except in accordance with Table 8.1.1.1, entitled Industrial Permitted Uses.

Table 8.1.1.1 Industrial Permitted Uses

Uses	Zones				
	M1	M2	M3	M4	M5
Accessory sales outlet	✓(a)	✓(a)	✓(a)	✓(a)	✓(a)
Adult entertainment establishment		✓			
Adventure game	✓				✓
Ambulance service	✓	✓		✓	✓
Animal boarding establishment	✓(e)				
Arena	✓			✓	✓
Assembly hall	✓			✓	✓
Broadcasting	✓			✓	✓
Bulk storage		✓			
Business office	✓			✓	✓
Business service establishment	✓			✓	✓
Business type hotel or motel				✓	
Brewery		✓(i)			
Call centre	✓			✓	✓
Catering service	✓			✓	✓
Commercial parking lot	✓	✓		✓	✓
Commercial school	✓			✓	✓
Community garden	✓	✓	✓	✓	✓
Composting facility		✓	✓		
Concrete plant		✓			
Crematorium		✓			
Crematorium, pet		✓			
Custom workshop	✓	✓		✓	✓
Distillery		✓			
Dry cleaner's establishment	✓			✓	✓
Dry cleaning plant	✓	✓			✓
Equipment Rental	✓				✓
Financial & insurance service office	✓(f)			✓(f)	✓(f)

Collingwood Zoning By-law

Uses	Zones				
	M1	M2	M3	M4	M5
Freight depot		✓			
Garden supply outlet	✓			✓	✓
Health club	✓			✓	✓
Heavy contractor yard		✓			
Incinerator plant			✓		
Kennel	✓(e)				
Landfill			✓		
Life skills centre	✓			✓	✓
Machine shop	✓	✓			✓
Machinery dealership	✓				✓
Manufacturing, processing, assembly, or fabrication plant	✓	✓		✓	✓
Material recovery facility		✓	✓		
Motor vehicle gasoline station	✓	✓		✓	✓
Motor vehicle repair garage	✓	✓			✓
Motor vehicle supply outlet	✓	✓			✓
Motor vehicle towing	✓	✓			
Motor vehicle wash	✓	✓		✓	✓
Newspaper	✓			✓	✓
Open market	✓				
Pet day care centre	✓(e)				
Petroleum wholesaler		✓			
Place of entertainment				✓	
Place of worship	✓			✓	
Pool and spa Store	✓			✓	✓
Professional service office	✓(f)			✓(f)	✓(f)
Real estate service Office	✓(f)			✓(f)	✓(f)
Recreational vehicle dealership	✓				
Refreshment vehicle	✓(h)			✓(h)	✓(h)
Repair shop	✓			✓	✓
Self brewery	✓	✓		✓	✓
Storage, concealed outside	✓(c)				✓(c)
Storage, outside		✓(b)	✓(b)		
Storage, outside display and sale	✓(d)	✓(d)	✓(d)	✓(d)	✓(d)
Taxi establishment	✓				
Veterinarian clinic	✓(e)				
Warehouse	✓	✓		✓	✓
Wholesale outlet	✓	✓		✓	✓
Other provisions	(g)	(g)	(g)	(g)	(g)

Collingwood Zoning By-law

8.3 Industrial Provisions

8.3.1 No person shall use any land or construct or use any building or structure in any industrial zone except in accordance with Table 8.3.1.1, entitled Industrial Provisions.

Table 8.3.1.1 Industrial Provisions

Lot Provisions	Zones				
	M1	M2	M3	M4	M5
Minimum Lot Area (m ²)	2,000	3,000	6,000	2,000	2,000
Minimum Lot Frontage (m)	30.0	30.0	60.0	30.0	30.0
Minimum Front Yard (m)	9.0	12.0	30.0	9.0	12.0
Minimum Exterior Side Yard (m)	9.0	12.0	30.0	9.0	12.0
Minimum Interior Side Yard (m)	4.5 (b)	6.0 (b)	30.0 (b)	4.5 (b)	6.0 (b)
Minimum Rear Yard (m)	7.5 (b)	7.5 (b)	30.0 (b)	7.5 (b)	7.5 (b)
Maximum Height (m)	15.0	15.0	15.0	15.0	15.0
Maximum Lot Coverage	50%	50%	50%	50%	50%
Minimum Landscaped Open Space	15%	15%	15%	15%	15%
Other provisions	(a)	(a)		(a)	(a)

8.4 Industrial Provision Footnotes

8.4.1 Where the provisions in Table 8.3.1.1 are also followed by a letter in brackets, which indicates a footnote, then the additional provision associated with the following footnote shall also apply.

8.4.1.1 Footnote (a) – Yard abutting a Railway

Where the rear yard or interior side yard of the lot abuts a railway, the minimum rear yard and interior side yard may be reduced to nil.

8.4.1.2 Footnote (b) – Interior Side or Rear Yard

Where the interior side or rear lot line portion thereof abuts a Residential zone, the minimum interior side yard or rear yard shall be 9.0 m.

Collingwood Zoning By-law

2.5 “H” symbol - Holding Zones

- 2.5.1 The symbol “H” preceding a zone classification signifies that a holding by-law is in force and that further development is being held until Council is satisfied that certain conditions are complete or have been otherwise satisfied. To remove a holding symbol “H”, it is necessary to amend this Zoning By-law.
- 2.5.2 Unless provided otherwise, during the time leading up to the removal of a holding symbol “H”, the uses permitted on such lands are limited to those that lawfully existed at the date of this Zoning By-law coming into force, or as the case may be, those lawfully existing prior to the holding by-law coming into force and effect.
- 2.5.3 Where an existing dwelling unit is located on lands that is subject to the holding symbol “H”, an addition or alteration to that dwelling unit is permitted while the holding symbol “H” is in effect. Such addition or alteration shall be undertaken in conformity with the zone provisions of the underlying parent zone.
- 2.5.4 Any land that is subject to a holding symbol “H” shall maintain its lot area and lot frontage as it existed on the day of passing of this Zoning By-law.
- 2.5.5 The symbol “H” shall be followed by a number. This number represents a holding zone with specific conditions to be completed to Council’s satisfaction prior to development proceeding. These holding zones and the specific conditions are outlined on Table 2.5.5.1, entitled Holding Zone Conditions.

Table 2.5.5.1 Holding Zone Conditions

Holding Zone	Conditions
H1	<ul style="list-style-type: none">• The completion and acceptance of a D4 study.
H2	RESERVED
H3	<ul style="list-style-type: none">• Development beyond a first phase of 14,445 m² gross leasable area shall require the completion and acceptance of further market studies and traffic impact studies.
H4	<ul style="list-style-type: none">• No establishment of a permitted commercial use on the land without meeting the minimum required lot frontage for the zone.
H5	<ul style="list-style-type: none">• The remediation of the gravel pit.
H6	<ul style="list-style-type: none">• The acceptance of a draft approved plan of subdivision.• Confirmation of adequate and functional municipal services.
H7	<ul style="list-style-type: none">• The granting of an easement for access over part of the NVCA lands (39 Oliver Crescent).• Legal access has been secured over Block “Q”.• The granting of an easement for utilities over the NVCA land and Block “Q”.
H8	<ul style="list-style-type: none">• Confirmation of adequate and functional municipal services.• The adoption of an authorization by-law for a site plan control agreement.

8.5 Industrial Exception Zones

LIGHT INDUSTRIAL EXCEPTION ONE – M1-1 ZONE

RESERVED

LIGHT INDUSTRIAL EXCEPTION TWO – M1-2 ZONE

RESERVED

LIGHT INDUSTRIAL EXCEPTION THREE – M1-3 ZONE

A mini-storage warehouse shall also be a permitted use.

LIGHT INDUSTRIAL EXCEPTION FOUR – M1-4 ZONE

A motor vehicle sales establishment shall also be permitted.

GENERAL INDUSTRIAL EXCEPTION ONE – M2-1 ZONE

There is no maximum height provision.

GENERAL INDUSTRIAL EXCEPTION TWO – M2-2 ZONE

RESERVED

GENERAL INDUSTRIAL EXCEPTION THREE- M2-3 ZONE

An animal shelter shall also be permitted.

The following zoning exception shall apply;

Minimum front yard:	6.0 m
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BUSINESS PARK INDUSTRIAL EXCEPTION ONE – M4-1 ZONE

Frontage on a public street or highway is not required.

Section 7.0 Commercial Zones

7.1 Commercial Permitted Uses

- 7.1.1 No person shall use any land or construct or use any building or structure in any Commercial zone except in accordance with Table 7.1.2.1, entitled Commercial Permitted Uses.
- 7.1.2 Permitted uses for lands zoned Restrictive Commercial (C7) are found in Section 7.5, entitled Commercial Exception Zones.

Table 7.1.2.1 Commercial Permitted Uses

Uses	Zones					
	C1	C2	C3	C4	C5	C6
Accessory sales outlet	✓	✓	✓	✓	✓	✓
Adventure game	✓	✓	✓(f)	✓	✓	
Ambulance service	✓	✓	✓	✓	✓	
Arcade	✓	✓	✓(f)	✓	✓	
Arena	✓		✓(f)			
Art gallery	✓	✓		✓		
Art studio, live-in	✓			✓		✓
Assembly hall	✓	✓	✓(f)	✓		
Broadcasting	✓			✓	✓	
Business office	✓			✓	✓	
Business service establishment	✓	✓		✓	✓	✓
Business type hotel/motel	✓		✓	✓	✓	
Catalogue store	✓	✓				
Catering service	✓	✓				
Commercial parking lot	✓	✓	✓(f)	✓	✓	
Commercial school	✓	✓		✓	✓	
Community garden	✓	✓	✓	✓	✓	✓
Computer and software store	✓	✓		✓	✓	
Convenience store	✓	✓	✓(f)	✓	✓	✓
Conference centre	✓	✓	✓	✓	✓	
Custom workshop	✓	✓		✓	✓	
Day care centre	✓	✓	✓(f)	✓	✓	✓
Department store		✓				
Deposit taking institution	✓					

Collingwood Zoning By-law

Uses	Zones					
	C1	C2	C3	C4	C5	C6
Dry cleaner's establishment	✓	✓	✓(f)	✓	✓	✓
Dry cleaning distribution Outlet	✓	✓	✓(f)	✓	✓	✓
Dwelling, portion of a non-residential building	✓(h)			✓(h)(k)		✓(h)
Electronics & appliance store	✓	✓		✓	✓	
Equipment rental	✓	✓		✓	✓	
Fabric & textile sales outlet	✓	✓		✓	✓	
Financial & insurance service office	✓			✓	✓	
Financial institution	✓					
Food supermarket		✓				
Funeral home	✓			✓		
Furniture store	✓	✓		✓	✓	
Garden supply outlet	✓	✓		✓	✓	
General merchandise store	✓	✓		✓	✓	
Hardware store	✓	✓		✓	✓	
Health club	✓	✓	✓(f)	✓	✓	✓
Home & auto supply		✓				
Home centre		✓			✓	
Home for the aged or rest home	✓		✓	✓		
Home improvement store	✓	✓		✓	✓	
Hospice	✓					
Hotel	✓		✓	✓	✓	
Laundromat	✓	✓	✓(f)	✓	✓	✓
Life skills centre	✓	✓		✓	✓	✓
Machinery dealership					✓	
Medical clinic	✓			✓		
Medical office	✓			✓	✓	
Mini-golf course			✓(f)		✓	
Motel	✓		✓	✓	✓	
Motor vehicle gasoline station				✓(i)	✓(i)	
Motor vehicle repair garage				✓	✓	
Motor vehicle sales establishment					✓	
Motor vehicle supply outlet	✓	✓		✓	✓	
Motor vehicle towing					✓	
Motor vehicle wash				✓	✓	
Museum	✓	✓		✓		

Collingwood Zoning By-law

Uses	Zones					
	C1	C2	C3	C4	C5	C6
Newspaper	✓			✓	✓	
Nursing facility	✓		✓	✓		
Open market	✓	✓				
Personal service shop	✓	✓	✓(f)	✓	✓	✓
Pet day care centre	✓(e)			✓(e)	✓(e)	
Pet store	✓(e)			✓	✓	
Pharmacy	✓	✓				
Place of entertainment	✓	✓	✓(f)	✓(g)	✓	
Place of worship	✓			✓		
Pool and spa store	✓	✓		✓	✓	
Professional service office	✓			✓	✓	
Real estate services office	✓			✓	✓	
Recreational vehicle dealership					✓	
Refreshment Vehicle	✓(j)	✓(j)	✓(j)	✓(j)	✓(j)	✓(j)
Repair shop	✓	✓		✓		
Restaurant	✓	✓	✓(f)	✓	✓	✓
Retail commercial establishment	✓	✓				
Retail outlet for the sale of alcoholic beverages	✓					
Retirement home	✓		✓	✓		
Senior citizen housing	✓		✓	✓		
Self Brewery	✓	✓		✓	✓	
Shopping centre	✓	✓				
Specialty food store	✓	✓		✓		✓
Sporting equipment sales	✓	✓		✓(g)		
Storage, concealed outside	✓(c)			✓(c)	✓(c)	
Storage, outside					✓(b)	
Storage, outside display and sale	✓(d)	✓(d)	✓(d)	✓(d)	✓(d)	✓(d)
Taxi establishment	✓			✓	✓	
Veterinarian clinic	✓(e)			✓(e)	✓(e)	
Video outlet	✓	✓	✓(f)	✓	✓	✓
Warehouse membership club		✓				
Wholesale outlet	✓	✓		✓	✓	
Other provisions						

Collingwood Zoning By-law

TERM	DEFINITION
Life Skills Centre	The use of land or building for establishments primarily engaged in providing basic life learning counselling, assistance or instruction to clients, and that are operated under the jurisdiction of a public authority or a non-profit organization.
Livestock	Dairy or beef cattle, swine, poultry, horses, goats, sheep, birds, fur-bearing animals, deer and elk, game animals and fish.
Loading Space	That portion of a parking area exclusively used for the unobstructed temporary parking of vehicles during the loading or unloading of equipment, goods or materials.
Lot	<p>A parcel or tract of land described in a deed or other legal document which is legally capable of conveying title, and</p> <ol style="list-style-type: none"> 1. Is a whole lot or block described in accordance with and is within a registered plan of subdivision, which has not been deemed by the Town not to be a registered plan of subdivision under a by-law passed pursuant to the <i>Planning Act</i>; or 2. Is a legally-separated parcel of land without any adjoining or abutting land being owned by the same owner or owners; or 3. The description of which is the same as in a deed which has been given consent pursuant to the <i>Planning Act</i>; or 4. Is the whole remnant remaining to an owner or owners after a conveyance is made with consent pursuant to the <i>Planning Act</i>, but for the purposes of this paragraph, no parcel or tract of land ceases to be a lot by reason only of the fact that a part or parts of it has or have been conveyed to or acquired by the Town, County of Simcoe, Province of Ontario, Dominion of Canada, public authority; or 5. Is ordered by the municipality to have not been created by a contravention of the <i>Planning Act</i> or any predecessor thereof, pursuant to the authority of the <i>Planning Act</i>.
Lot, Area	The total horizontal area of a lot bounded by its lot lines.
Lot, Corner	A lot situated at the intersection of two or more streets or highways, or any combination thereof, in which the interior angle between the front and exterior side lot lines is less than one hundred and thirty-five (135) degrees.
Lot Coverage	The percentage of lot area covered by buildings or decks above grade.
Lot Frontage	The horizontal length measured along a front lot line.
Lot, Interior	A lot other than a corner lot or a through lot.

Collingwood Zoning By-law

7.3 Commercial Provisions

7.3.1 No person shall use any land or construct or use any building or structure in any commercial zone except in accordance with Table 7.3.1.1, entitled Commercial Provisions.

Table 7.3.1.1 Commercial Provisions

Lot Provisions	Zones						
	C1	C2	C3	C4	C5	C6	C7
Minimum Lot Area (m ²)	Nil	20,000	10,000	1,000	1,000	850	(g)
Minimum Lot Frontage (m)	Nil	100.0	50.0	30.0	30.0	20.0	(g)
Minimum Front Yard (m)	Nil (h)	10.0	10.0	6.0	6.0	6.0	6.0
Minimum Exterior Side Yard (m)	Nil (h)	10.0	10.0	6.0	6.0	6.0	6.0
Minimum Interior Side Yard (m)	Nil (a)(i)	10.0	10.0	Nil (d)	3.0 (d)	3.0 (a)	3.0 (d)
Minimum Rear Yard (m)	7.5	10.0	10.0	7.5 (e)	7.5 (e)	7.5	7.5 (e)
Maximum Height (m)	12.0 (j)	15.0	15.0	15.0	15.0	12.0	12.0
Maximum Lot Coverage	Nil	50%	50%	40%	40%	40%	20%
Minimum Landscaped Open Space	Nil (p)	10%	10% (n)	10%	10%	20%	10%
Other provisions	(k) (l)			(f)		(b)	(m) (o)

7.4 Commercial Provision Footnotes

7.4.1.1 Where the provisions in Table 7.3.1.1 are also followed by a letter in brackets, which indicates a footnote, then the additional provision associated with the following footnote shall also apply.

7.4.1.2 Footnote (a) – Reduction to Interior Side Yard

No minimum interior side yard shall be required where the lot line or a portion thereof abuts a Commercial zone.

7.4.1.3 Footnote (b) – Maximum Floor Area

The maximum gross leasable area of a main building shall be 465 m².

The maximum gross leasable area of any individual commercial unit in a main building shall be 230 m².

Collingwood Zoning By-law

- Retail commercial establishment with the exception of stores primarily devoted to the sale of clothing,
- Fabric & textile sales outlet,
- Furniture store,
- General merchandise store,
- Hardware store,
- Home improvement store,
- Pharmacy,
- Pool and spa store, and
- Recreation equipment sales.

Aside from the two (2) retail commercial establishments of 140 m² gross leasable area, every additional retail commercial use shall have a minimum gross leasable area of 370 m².

A minimum 9.0 m wide landscape strip shall be required along the lot frontage abutting High Street, which shall be reserved for landscaping, entrance and signage.

REGIONAL COMMERCIAL EXCEPTION EIGHT – C2-8 ZONE

The following uses are prohibited;

- Department store,
- Home and auto supply store,
- Food supermarket, and
- Warehouse membership club.

The following zoning exceptions shall also apply;

- Minimum interior side yard: 9.0 m
- One (1) home centre only,

A maximum of one (1) retail unit with a minimum gross leasable area of greater than or equal to 280 m² and less than 370 m² shall be permitted on a pro rata basis for each 1.45 ha of land zoned C2-8, and

Every additional retail commercial establishment shall have a minimum gross leasable area of 370 m².

APPENDIX B

Traffic Data

Ontario Traffic Inc.

Morning Peak Diagram	Specified Period From: 7:00:00 To: 10:00:00	One Hour Peak From: 9:00:00 To: 10:00:00
Municipality: Collingwood Site #: 1417600002 Intersection: First St-First St Extension & High St TFR File #: 2 Count date: 7-Aug-14	Weather conditions: Person(s) who counted:	

**** Signalized Intersection **** **Major Road:** First St-First St Extension runs W/E

North Leg Total: 1432 North Entering: 782 North Peds: 2 Peds Cross: \blacktriangleleft	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cyclists</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Trucks</td><td>2</td><td>9</td><td>12</td><td>23</td></tr> <tr><td>Cars</td><td>39</td><td>284</td><td>436</td><td>759</td></tr> <tr><td>Totals</td><td>41</td><td>293</td><td>448</td><td></td></tr> </table>	Cyclists	0	0	0	0	Trucks	2	9	12	23	Cars	39	284	436	759	Totals	41	293	448		<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cyclists</td><td>0</td></tr> <tr><td>Trucks</td><td>26</td></tr> <tr><td>Cars</td><td>624</td></tr> <tr><td>Totals</td><td>650</td></tr> </table>	Cyclists	0	Trucks	26	Cars	624	Totals	650	East Leg Total: 1417 East Entering: 633 East Peds: 0 Peds Cross: \blacktriangleright																				
Cyclists	0	0	0	0																																															
Trucks	2	9	12	23																																															
Cars	39	284	436	759																																															
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Totals	650																																																		
<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cyclists</td><td>Trucks</td><td>Cars</td><td>Totals</td></tr> <tr><td>0</td><td>8</td><td>336</td><td>344</td></tr> </table>	Cyclists	Trucks	Cars	Totals	0	8	336	344		<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cars</td><td>Trucks</td><td>Cyclists</td><td>Totals</td></tr> <tr><td>318</td><td>22</td><td>0</td><td>340</td></tr> <tr><td>202</td><td>5</td><td>0</td><td>207</td></tr> <tr><td>81</td><td>5</td><td>0</td><td>86</td></tr> <tr><td>601</td><td>32</td><td>0</td><td></td></tr> </table>	Cars	Trucks	Cyclists	Totals	318	22	0	340	202	5	0	207	81	5	0	86	601	32	0																						
Cyclists	Trucks	Cars	Totals																																																
0	8	336	344																																																
Cars	Trucks	Cyclists	Totals																																																
318	22	0	340																																																
202	5	0	207																																																
81	5	0	86																																																
601	32	0																																																	
<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cyclists</td><td>Trucks</td><td>Cars</td><td>Totals</td></tr> <tr><td>0</td><td>1</td><td>39</td><td>40</td></tr> <tr><td>0</td><td>10</td><td>241</td><td>251</td></tr> <tr><td>0</td><td>2</td><td>43</td><td>45</td></tr> <tr><td>0</td><td>13</td><td>323</td><td></td></tr> </table>	Cyclists	Trucks	Cars	Totals	0	1	39	40	0	10	241	251	0	2	43	45	0	13	323		<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cars</td><td>408</td></tr> <tr><td>Trucks</td><td>16</td></tr> <tr><td>Cyclists</td><td>0</td></tr> <tr><td>Totals</td><td>424</td></tr> </table>	Cars	408	Trucks	16	Cyclists	0	Totals	424	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cars</td><td>95</td><td>267</td><td>82</td><td>444</td></tr> <tr><td>Trucks</td><td>1</td><td>3</td><td>3</td><td>7</td></tr> <tr><td>Cyclists</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Totals</td><td>96</td><td>270</td><td>85</td><td></td></tr> </table>	Cars	95	267	82	444	Trucks	1	3	3	7	Cyclists	0	0	0	0	Totals	96	270	85		Peds Cross: \blacktriangleright South Peds: 26 South Entering: 451 South Leg Total: 875
Cyclists	Trucks	Cars	Totals																																																
0	1	39	40																																																
0	10	241	251																																																
0	2	43	45																																																
0	13	323																																																	
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Cars	95	267	82	444																																															
Trucks	1	3	3	7																																															
Cyclists	0	0	0	0																																															
Totals	96	270	85																																																

Comments

Ontario Traffic Inc.

Afternoon Peak Diagram

Specified Period

From: 15:00:00
To: 20:00:00

One Hour Peak

From: 16:30:00
To: 17:30:00

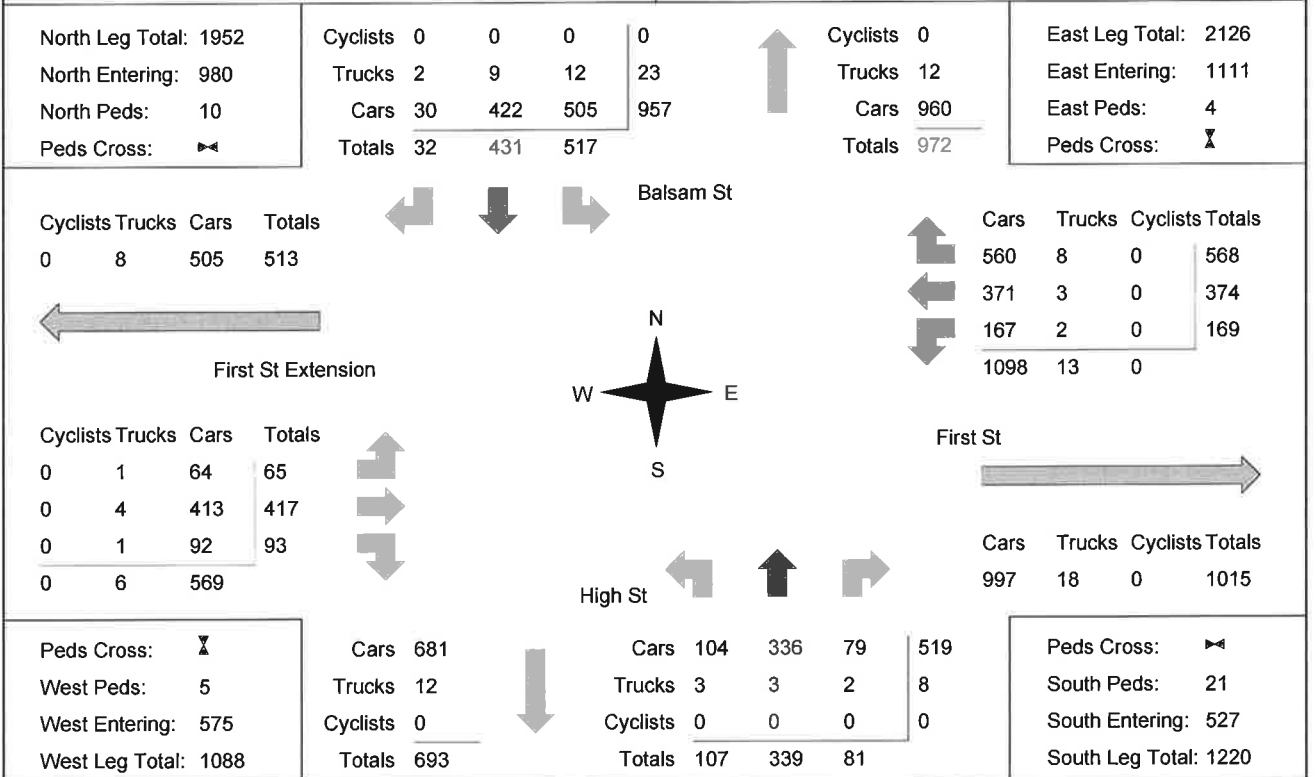
Municipality: Collingwood
Site #: 1417600002
Intersection: First St-First St Extension & High St
TFR File #: 2
Count date: 7-Aug-14

Weather conditions:

Person(s) who counted:

** Signalized Intersection **

Major Road: First St-First St Extension runs W/E



Comments

Ontario Traffic Inc.

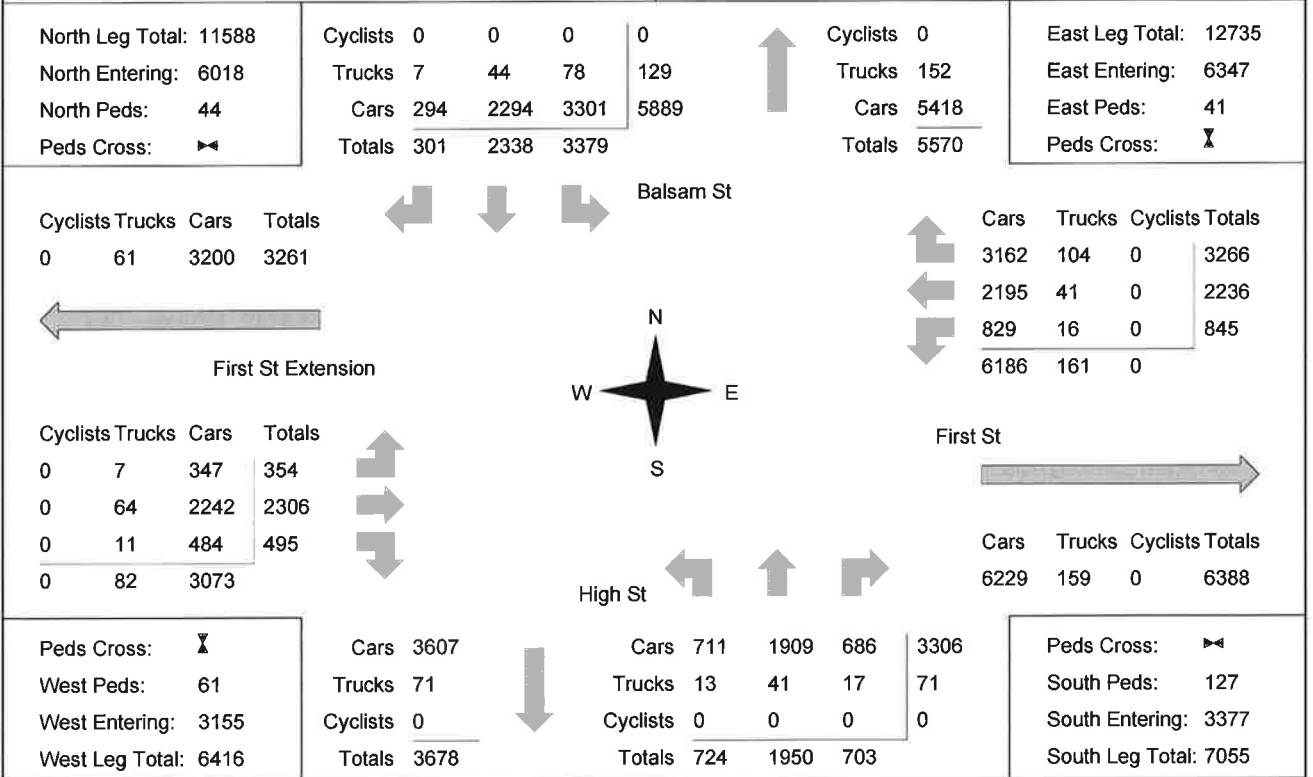
Total Count Diagram

Municipality: Collingwood
Site #: 1417600002
Intersection: First St-First St Extension & High St
TFR File #: 2
Count date: 7-Aug-14

Weather conditions:
Person(s) who counted:

**** Signalized Intersection ****

Major Road: First St-First St Extension runs W/E



Comments

Ontario Traffic Inc. Traffic Count Summary

Intersection: First St-First St Extension & High S Count Date: 7-Aug-14 Municipality: Collingwood

North Approach Totals						North/South Total Approaches	South Approach Totals					
Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds		Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0
8:00:00	237	157	14	408	1	695	8:00:00	57	162	68	287	0
9:00:00	349	227	18	594	3	984	9:00:00	75	228	87	390	0
10:00:00	448	293	41	782	2	1233	10:00:00	96	270	85	451	26
15:00:00	0	0	0	0	0	1	15:00:00	1	0	0	1	0
16:00:00	549	390	51	990	13	1449	16:00:00	109	263	87	459	12
17:00:00	534	398	51	983	10	1474	17:00:00	103	305	83	491	14
18:00:00	508	401	49	958	7	1487	18:00:00	112	327	90	529	23
19:00:00	422	261	44	727	6	1153	19:00:00	79	232	115	426	25
20:00:00	332	211	33	576	2	917	20:00:00	92	162	87	341	27
Totals:	3379	2338	301	6018	44	9393		724	1949	702	3375	127

East Approach Totals						East/West Total Approaches	West Approach Totals					
Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds		Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0
8:00:00	60	119	229	408	3	539	8:00:00	12	88	31	131	1
9:00:00	76	179	332	587	4	833	9:00:00	26	177	43	246	4
10:00:00	86	207	340	633	0	969	10:00:00	40	251	45	336	3
15:00:00	0	10	0	10	0	10	15:00:00	0	0	0	0	0
16:00:00	133	388	507	1028	2	1585	16:00:00	57	435	65	557	15
17:00:00	136	381	580	1097	5	1657	17:00:00	58	413	89	560	6
18:00:00	160	361	585	1106	7	1649	18:00:00	64	385	94	543	16
19:00:00	105	330	437	872	15	1327	19:00:00	52	329	74	455	7
20:00:00	88	257	256	601	5	928	20:00:00	45	228	54	327	9
Totals:	844	2232	3266	6342	41	9497		354	2306	495	3155	61

Calculated Values for Traffic Crossing Major Street

Hours Ending:	8:00	9:00	10:00	16:00	17:00	18:00	19:00	20:00
Crossing Values:	460	660	840	1065	1046	1044	784	649

Ontario Traffic Inc.

Morning Peak Diagram

Specified Period

From: 7:00:00
To: 10:00:00

One Hour Peak

From: 9:00:00
To: 10:00:00

Municipality: Collingwood
Site #: 1417600004
Intersection: High St & Third St
TFR File #: 1
Count date: 7-Aug-14

Weather conditions:

Person(s) who counted:

** Non-Signalized Intersection **

Major Road: High St runs N/S

North Leg Total: 855
North Entering: 394
North Peds: 0
Peds Cross: \blacktriangleleft

Cyclists	0	0	0	0
Trucks	0	16	4	20
Cars	2	306	66	374
Totals	2	322	70	

Cyclists 0
Trucks 13
Cars 448
Totals 461

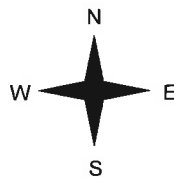
East Leg Total: 190
East Entering: 92
East Peds: 7
Peds Cross: \blacktriangleright

Cyclists	Trucks	Cars	Totals
0	0	2	2



Third St

Cyclists	Trucks	Cars	Totals
0	0	2	2
0	0	1	1
0	0	0	0
0	0	3	



High St

Cars	Trucks	Cyclists	Totals
73	3	0	76
0	0	0	0
16	0	0	16
89	3	0	

Third St



Cars	Trucks	Cyclists	Totals
91	7	0	98

Peds Cross: \blacktriangleright
West Peds: 4
West Entering: 3
West Leg Total: 5

Cars	322
Trucks	16
Cyclists	0
Totals	338



Cars	0	373	24	397
Trucks	0	10	3	13
Cyclists	0	0	0	0
Totals	0	383	27	

Peds Cross: \blacktriangleleft
South Peds: 0
South Entering: 410
South Leg Total: 748

Comments

Ontario Traffic Inc.

Afternoon Peak Diagram

Specified Period

From: 15:00:00

To: 20:00:00

One Hour Peak

From: 16:30:00

To: 17:30:00

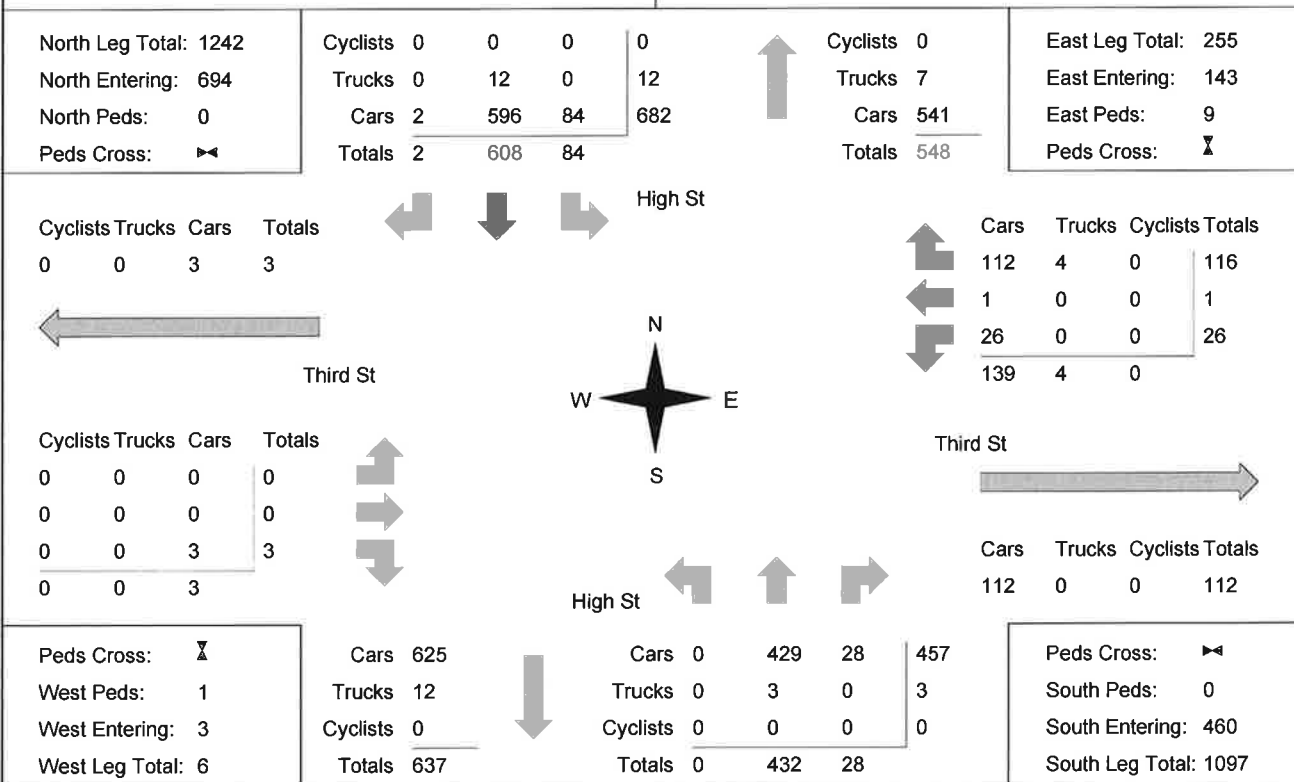
Municipality: Collingwood
Site #: 1417600004
Intersection: High St & Third St
TFR File #: 1
Count date: 7-Aug-14

Weather conditions:

Person(s) who counted:

**** Non-Signalized Intersection ****

Major Road: High St runs N/S



Comments

Ontario Traffic Inc.

Total Count Diagram

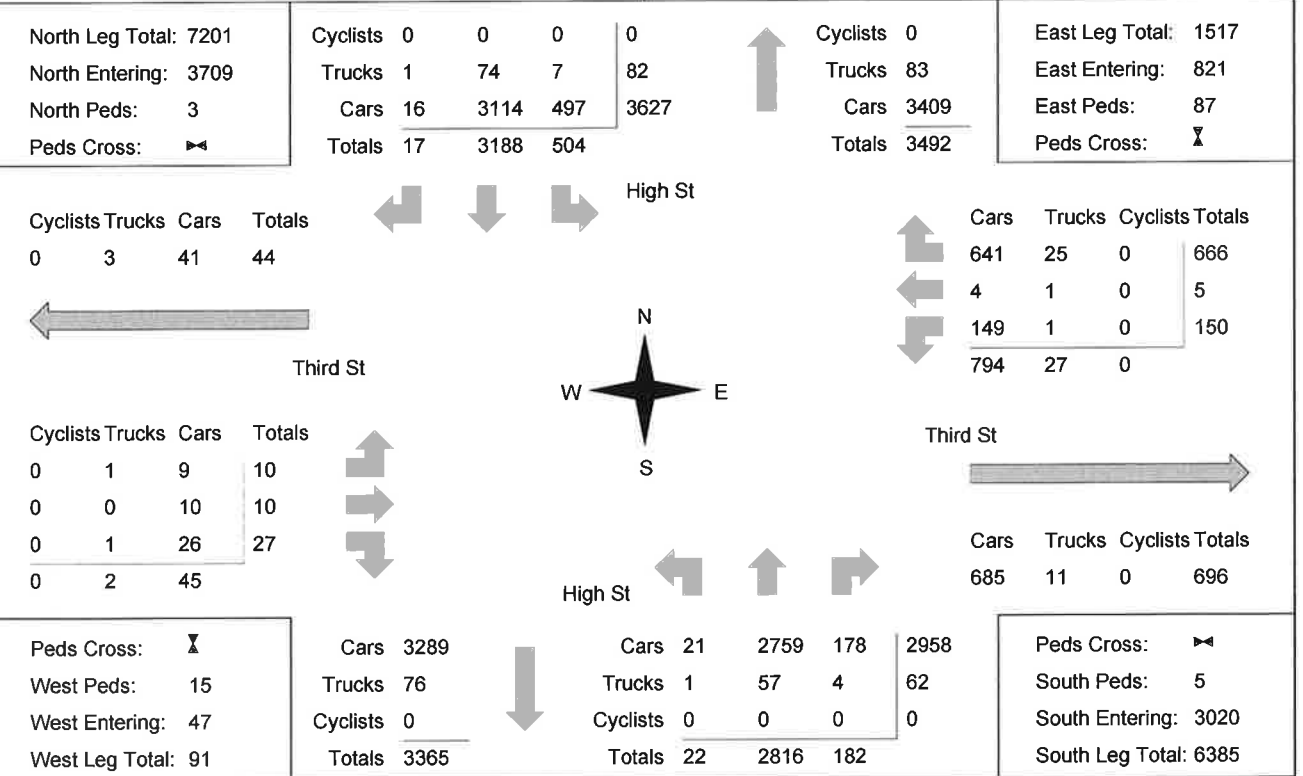
Municipality: Collingwood
Site #: 1417600004
Intersection: High St & Third St
TFR File #: 1
Count date: 7-Aug-14

Weather conditions:

Person(s) who counted:

**** Non-Signalized Intersection ****

Major Road: High St runs N/S



Comments

Ontario Traffic Inc. Traffic Count Summary

Intersection: High St & Third St

Count Date: 7-Aug-14

Municipality: Collingwood

North Approach Totals						North/South Total Approaches	South Approach Totals					
Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds		Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0
8:00:00	33	208	4	245	0	558	8:00:00	13	282	18	313	1
9:00:00	46	275	0	321	0	716	9:00:00	4	364	27	395	1
10:00:00	70	322	2	394	0	804	10:00:00	0	383	27	410	0
15:00:00	0	1	0	1	0	1	15:00:00	0	0	0	0	0
16:00:00	91	489	6	586	0	959	16:00:00	5	347	21	373	0
17:00:00	74	590	3	667	0	1107	17:00:00	0	408	32	440	0
18:00:00	87	582	1	670	0	1113	18:00:00	0	416	27	443	2
19:00:00	50	404	1	455	0	804	19:00:00	0	333	16	349	0
20:00:00	53	317	0	370	3	667	20:00:00	0	283	14	297	1
Totals:	504	3188	17	3709	3	6729		22	2816	182	3020	5
East Approach Totals						East/West Total Approaches	West Approach Totals					
Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds		Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
7:00:00	0	0	0	0	1	0	7:00:00	0	0	0	0	0
8:00:00	15	2	55	72	5	77	8:00:00	0	1	4	5	2
9:00:00	12	0	72	84	3	86	9:00:00	0	1	1	2	4
10:00:00	16	0	76	92	7	95	10:00:00	2	1	0	3	4
15:00:00	0	0	0	0	0	0	15:00:00	0	0	0	0	0
16:00:00	23	2	107	132	18	143	16:00:00	5	2	4	11	1
17:00:00	17	0	96	113	8	134	17:00:00	0	5	16	21	1
18:00:00	29	1	124	154	11	156	18:00:00	1	0	1	2	3
19:00:00	21	0	81	102	19	104	19:00:00	1	0	1	2	0
20:00:00	17	0	55	72	15	73	20:00:00	1	0	0	1	0
Totals:	150	5	666	821	87	868		10	10	27	47	15
Calculated Values for Traffic Crossing Major Street												
Hours Ending:	8:00	9:00	10:00	16:00		17:00	18:00	19:00	20:00			
Crossing Values:	18	14	19	30		22	33	22	22			

Ontario Traffic Inc.

Morning Peak Diagram

Specified Period

From: 7:00:00
To: 10:00:00

One Hour Peak

From: 9:00:00
To: 10:00:00

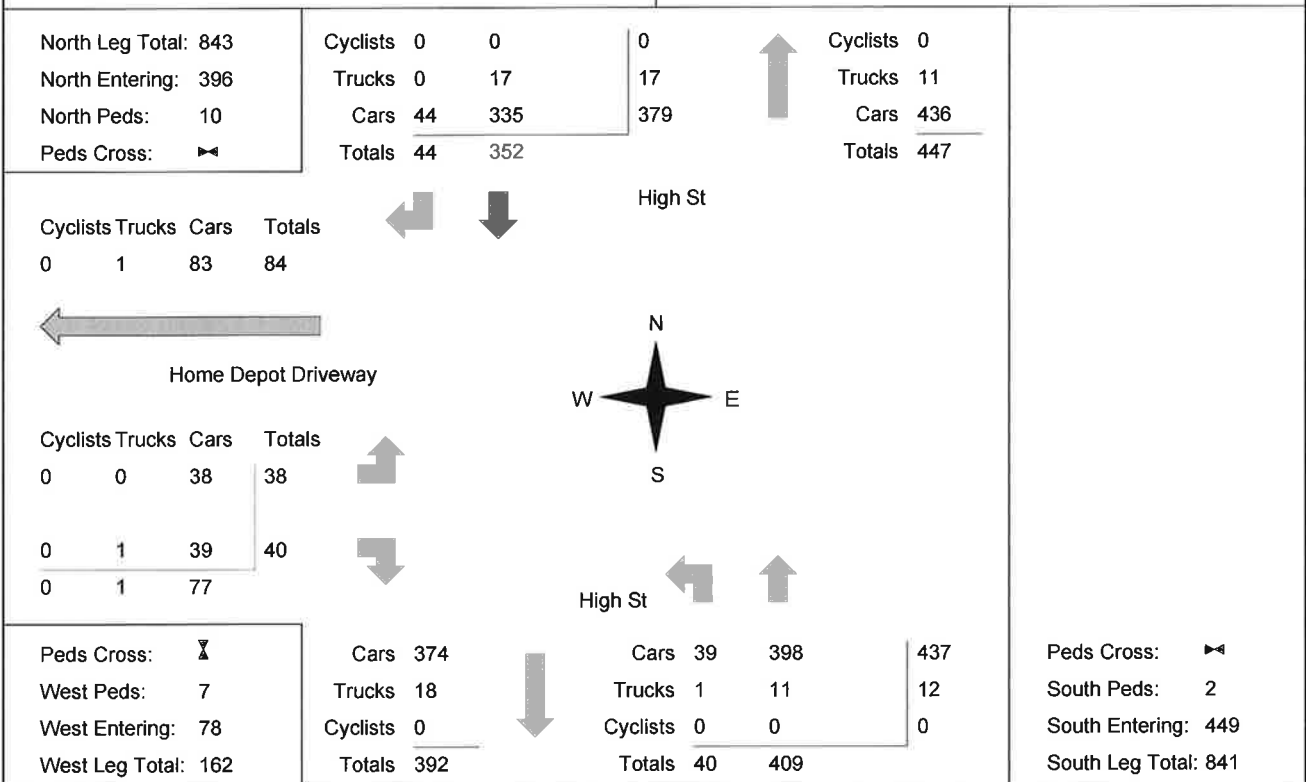
Municipality: Collingwood
Site #: 1400000003
Intersection: High St & Home Depot Driveway
TFR File #: 2
Count date: 7-Aug-14

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: High St runs N/S



Comments

Ontario Traffic Inc.

Afternoon Peak Diagram

Specified Period

From: 15:00:00

To: 20:00:00

One Hour Peak

From: 16:30:00

To: 17:30:00

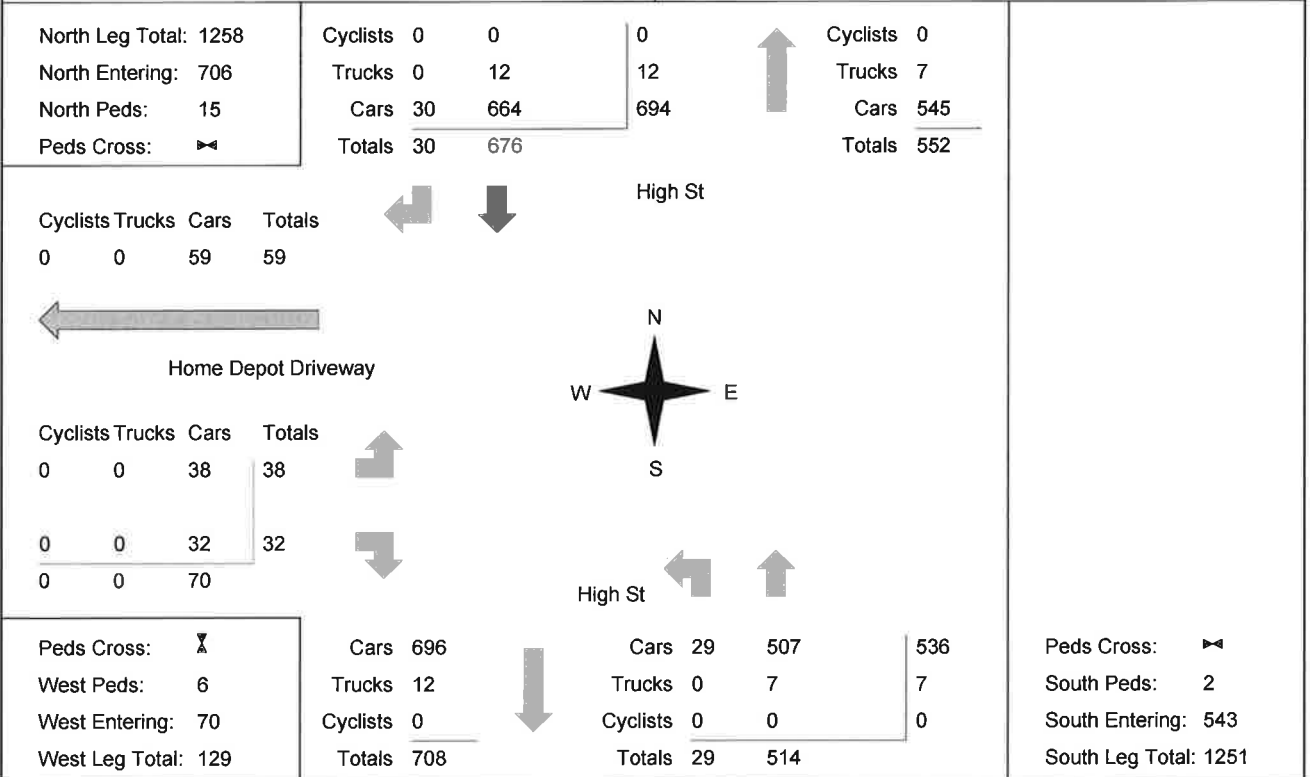
Municipality: Collingwood
Site #: 1400000003
Intersection: High St & Home Depot Driveway
TFR File #: 2
Count date: 7-Aug-14

Weather conditions:

Person(s) who counted:

** Signalized Intersection **

Major Road: High St runs N/S



Comments

Ontario Traffic Inc.

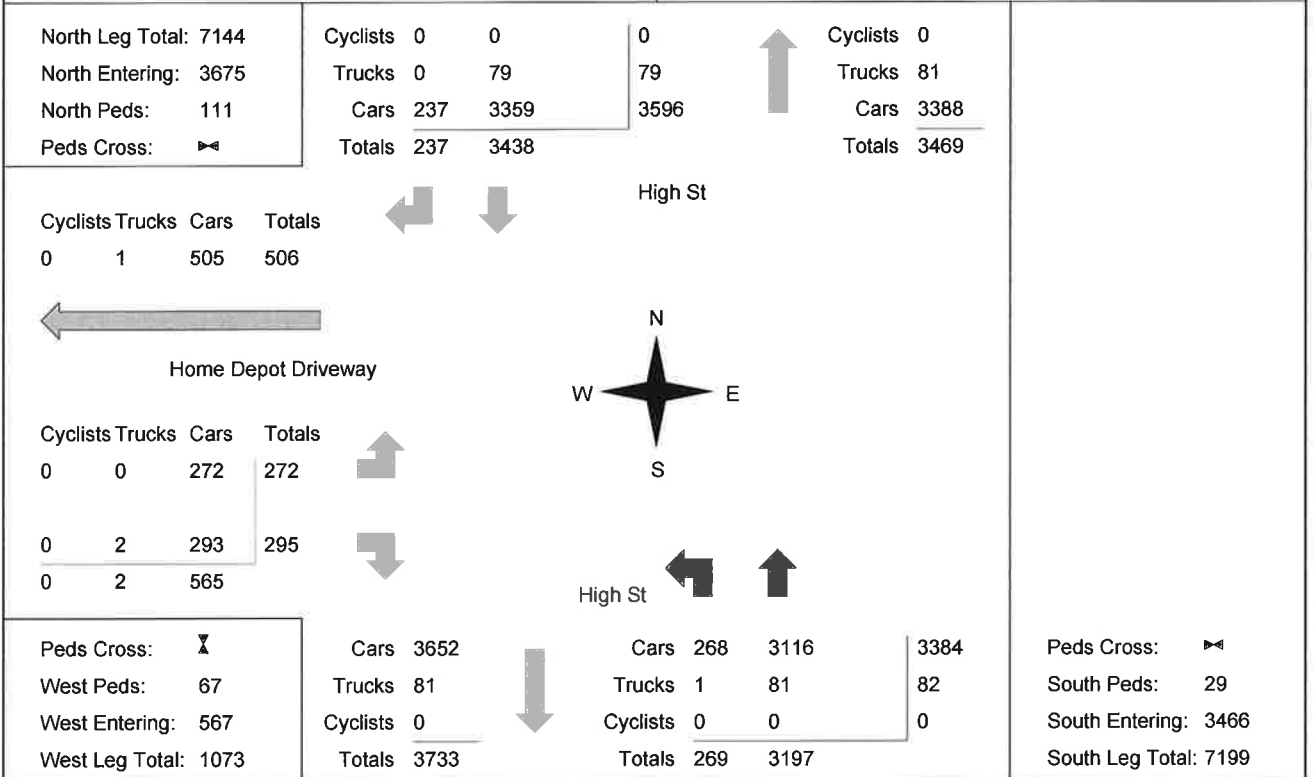
Total Count Diagram

Municipality: Collingwood
Site #: 1400000003
Intersection: High St & Home Depot Driveway
TFR File #: 2
Count date: 7-Aug-14

Weather conditions:
Person(s) who counted:

**** Signalized Intersection ****

Major Road: High St runs N/S



Comments

Ontario Traffic Inc. Traffic Count Summary

Intersection: High St & Home Depot Driveway

Count Date: 7-Aug-14

Municipality: Collingwood

North Approach Totals						North/South Total Approaches	South Approach Totals					
Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds		Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0
8:00:00	0	238	12	250	7	578	8:00:00	18	310	0	328	1
9:00:00	0	299	26	325	6	763	9:00:00	32	406	0	438	1
10:00:00	0	352	44	396	10	845	10:00:00	40	409	0	449	2
15:00:00	0	0	0	0	0	0	15:00:00	0	0	0	0	0
16:00:00	0	531	55	586	13	1048	16:00:00	54	408	0	462	13
17:00:00	0	614	23	637	16	1138	17:00:00	40	461	0	501	5
18:00:00	0	635	34	669	19	1202	18:00:00	29	504	0	533	3
19:00:00	0	428	21	449	22	866	19:00:00	33	384	0	417	2
20:00:00	0	341	22	363	18	701	20:00:00	23	315	0	338	2
Totals:	0	3438	237	3675	111	7141		269	3197	0	3466	29
East Approach Totals						East/West Total Approaches	West Approach Totals					
Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds		Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0
8:00:00	0	0	0	0	0	16	8:00:00	8	0	8	16	10
9:00:00	0	0	0	0	0	52	9:00:00	27	0	25	52	6
10:00:00	0	0	0	0	0	78	10:00:00	38	0	40	78	7
15:00:00	0	0	0	0	0	0	15:00:00	0	0	0	0	0
16:00:00	0	0	0	0	0	121	16:00:00	57	0	64	121	19
17:00:00	0	0	0	0	0	91	17:00:00	39	0	52	91	6
18:00:00	0	0	0	0	0	81	18:00:00	38	0	43	81	5
19:00:00	0	0	0	0	0	66	19:00:00	36	0	30	66	8
20:00:00	0	0	0	0	0	62	20:00:00	29	0	33	62	6
Totals:	0	0	0	0	0	567		272	0	295	567	67
Calculated Values for Traffic Crossing Major Street												
Hours Ending:	8:00	9:00	10:00	16:00		17:00	18:00	19:00	20:00			
Crossing Values:	16	34	50	83		60	60	60	49			

Ontario Traffic Inc.

Morning Peak Diagram

Specified Period

From: 7:00:00
To: 10:00:00

One Hour Peak

From: 8:15:00
To: 9:15:00

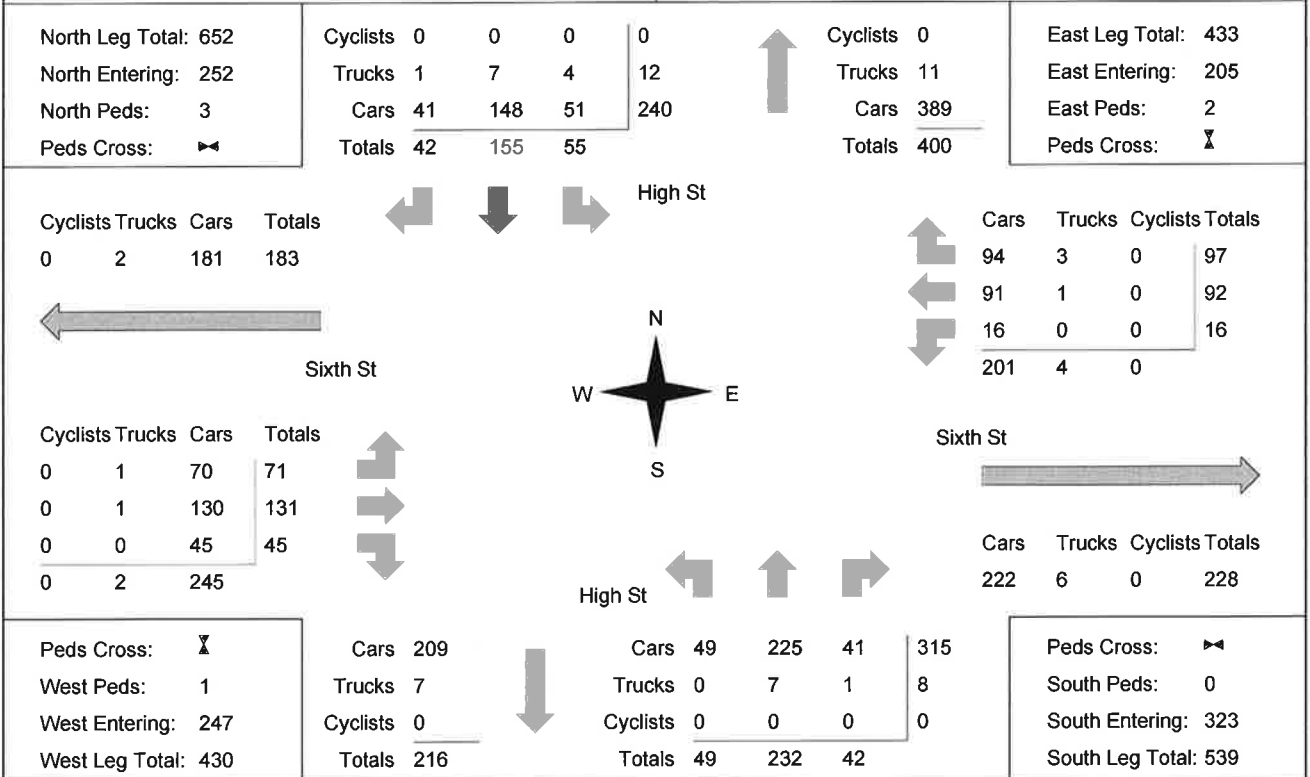
Municipality: Collingwood
Site #: 1417600005
Intersection: High St & Sixth St
TFR File #: 1
Count date: 7-Aug-14

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: High St runs N/S



Comments

Ontario Traffic Inc.

Afternoon Peak Diagram

Specified Period

From: 15:00:00
To: 20:00:00

One Hour Peak

From: 16:45:00
To: 17:45:00

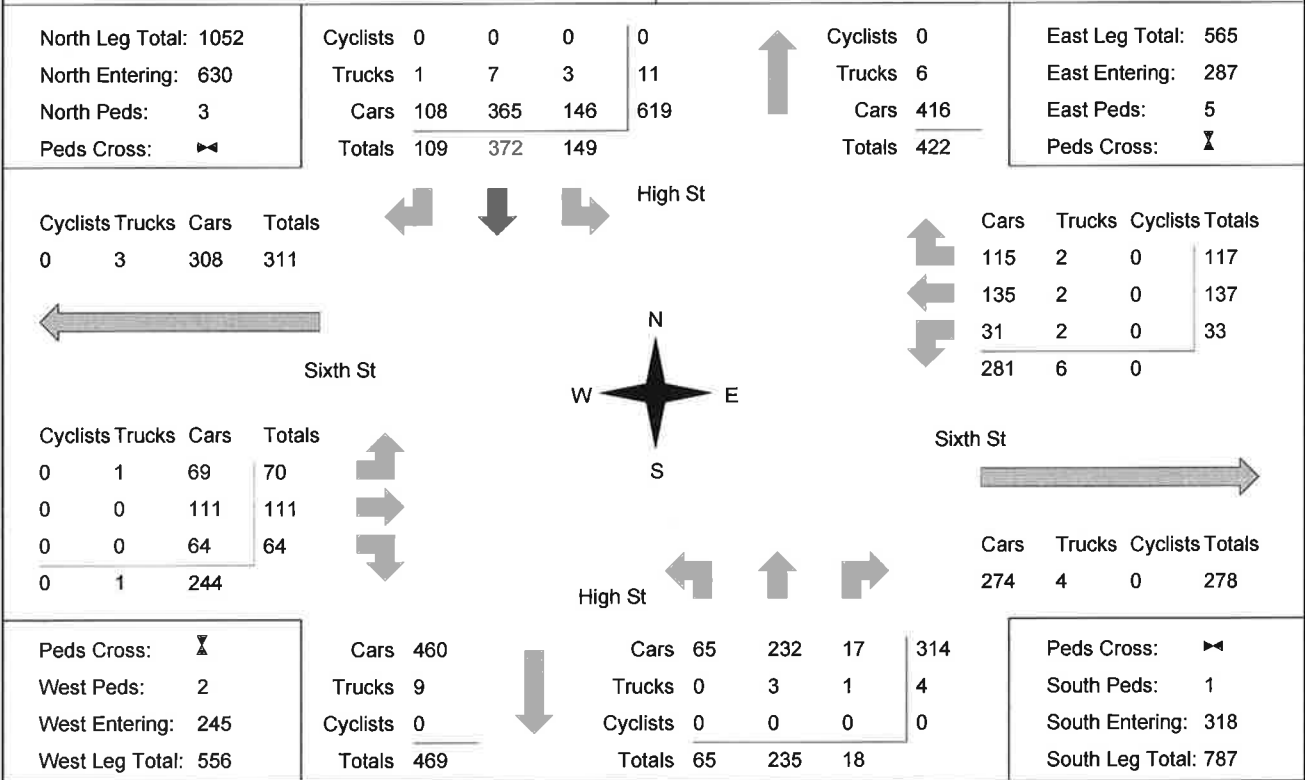
Municipality: Collingwood
Site #: 1417600005
Intersection: High St & Sixth St
TFR File #: 1
Count date: 7-Aug-14

Weather conditions:

Person(s) who counted:

** Signalized Intersection **

Major Road: High St runs N/S



Comments

Ontario Traffic Inc.

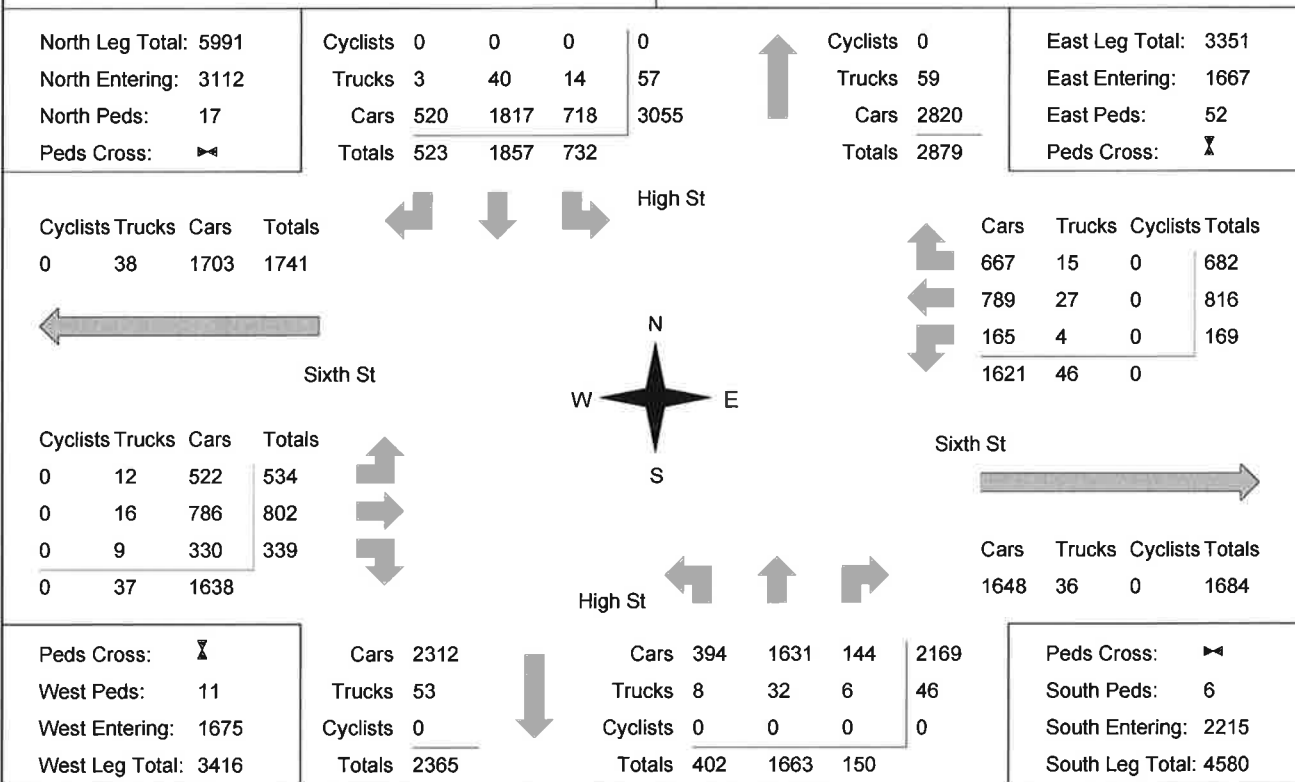
Total Count Diagram

Municipality: Collingwood
Site #: 1417600005
Intersection: High St & Sixth St
TFR File #: 1
Count date: 7-Aug-14

Weather conditions:
Person(s) who counted:

**** Signalized Intersection ****

Major Road: High St runs N/S



Comments

Ontario Traffic Inc. Traffic Count Summary

Intersection: High St & Sixth St

Count Date: 7-Aug-14

Municipality: Collingwood

North Approach Totals						North/South Total Approaches	South Approach Totals					
Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds		Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0
8:00:00	41	121	33	195	2	417	8:00:00	41	169	12	222	1
9:00:00	46	140	44	230	2	545	9:00:00	44	230	41	315	0
10:00:00	66	183	49	298	3	578	10:00:00	46	214	20	280	0
15:00:00	0	1	0	1	0	1	15:00:00	0	0	0	0	0
16:00:00	113	277	72	462	2	731	16:00:00	51	204	14	269	0
17:00:00	152	340	78	570	1	889	17:00:00	60	242	17	319	2
18:00:00	138	351	113	602	3	924	18:00:00	69	238	15	322	1
19:00:00	104	238	77	419	1	701	19:00:00	54	212	16	282	2
20:00:00	72	200	57	329	3	533	20:00:00	37	152	15	204	0
Totals:	732	1851	523	3106	17	5319		402	1661	150	2213	6
East Approach Totals						East/West Total Approaches	West Approach Totals					
Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds		Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0
8:00:00	5	62	74	141	8	281	8:00:00	59	63	18	140	3
9:00:00	14	86	95	195	3	422	9:00:00	66	114	47	227	1
10:00:00	13	89	98	200	2	419	10:00:00	86	102	31	219	1
15:00:00	0	0	0	0	0	1	15:00:00	1	0	0	1	0
16:00:00	28	122	90	240	5	454	16:00:00	62	105	47	214	2
17:00:00	31	149	93	273	4	520	17:00:00	66	111	70	247	0
18:00:00	32	136	99	267	6	534	18:00:00	72	126	69	267	2
19:00:00	24	95	79	198	13	386	19:00:00	55	102	31	188	0
20:00:00	22	77	54	153	11	325	20:00:00	67	79	26	172	2
Totals:	169	816	682	1667	52	3342		534	802	339	1675	11
Calculated Values for Traffic Crossing Major Street												
Hours Ending:	8:00	9:00	10:00	16:00		17:00	18:00	19:00	20:00			
Crossing Values:	130	196	204	214		249	244	184	171			

Ontario Traffic Inc.

Morning Peak Diagram

Specified Period

From: 7:00:00
To: 10:00:00

One Hour Peak

From: 9:00:00
To: 10:00:00

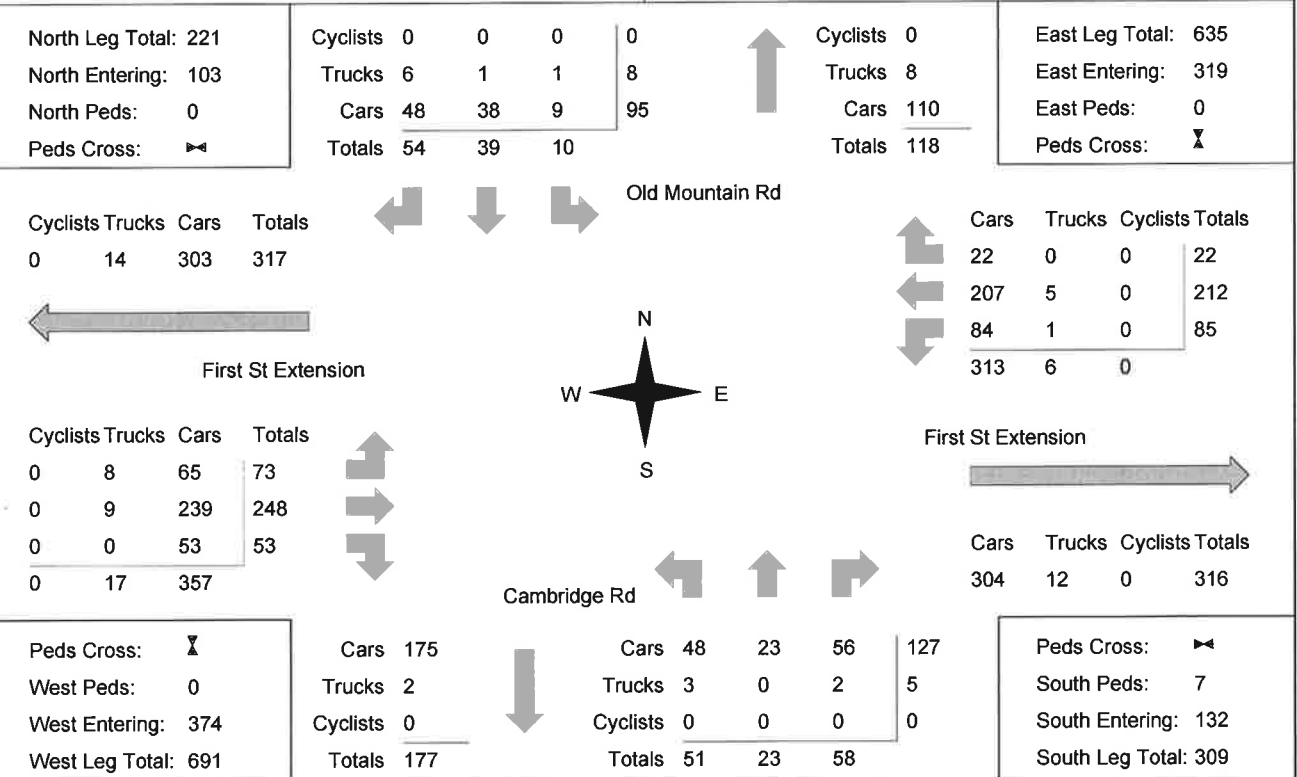
Municipality: Collingwood
Site #: 1417600001
Intersection: First St Extension & Cambridge Rd-
TFR File #: 6
Count date: 7-Aug-14

Weather conditions:

Person(s) who counted:

** Signalized Intersection **

Major Road: First St Extension runs W/E



Comments

Ontario Traffic Inc.

Afternoon Peak Diagram

Specified Period

From: 15:00:00
To: 20:00:00

One Hour Peak

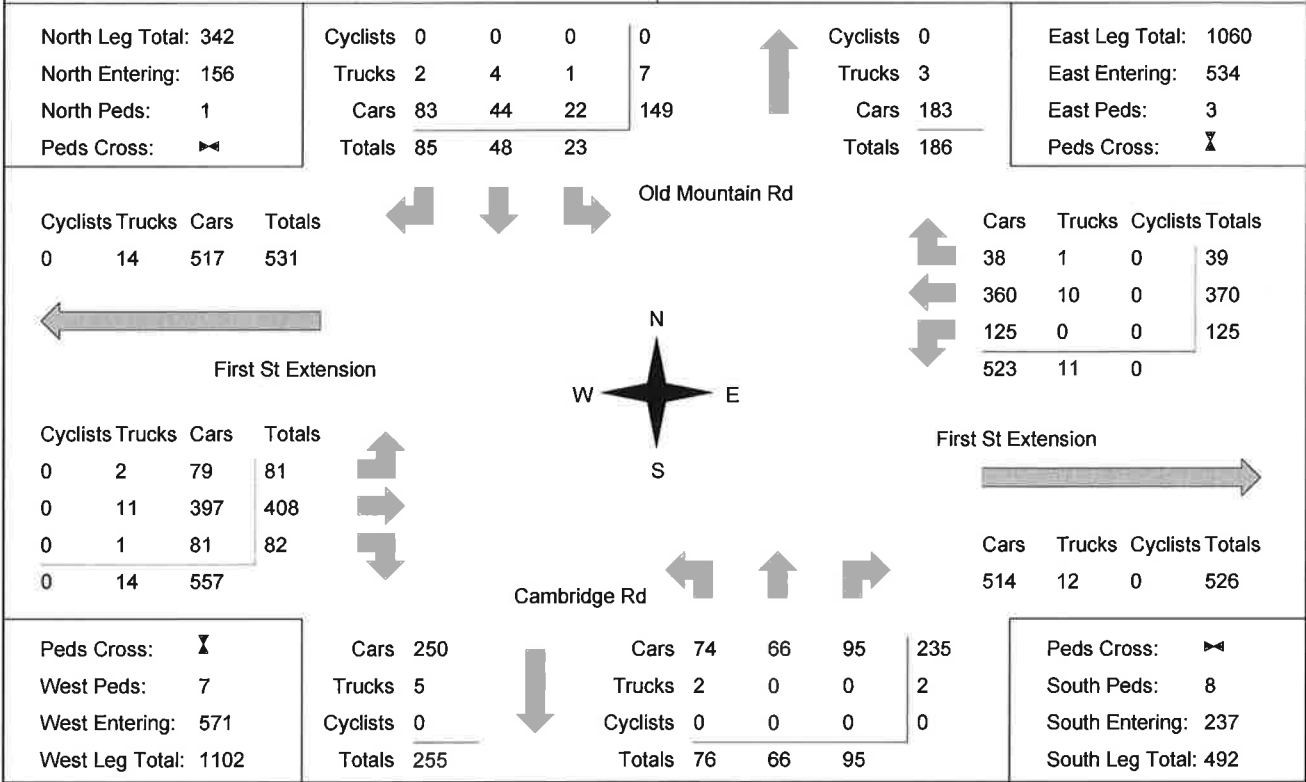
From: 15:45:00
To: 16:45:00

Municipality: Collingwood
Site #: 1417600001
Intersection: First St Extension & Cambridge Rd-
TFR File #: 6
Count date: 7-Aug-14

Weather conditions:
Person(s) who counted:

** Signalized Intersection **

Major Road: First St Extension runs W/E



Comments

Ontario Traffic Inc.

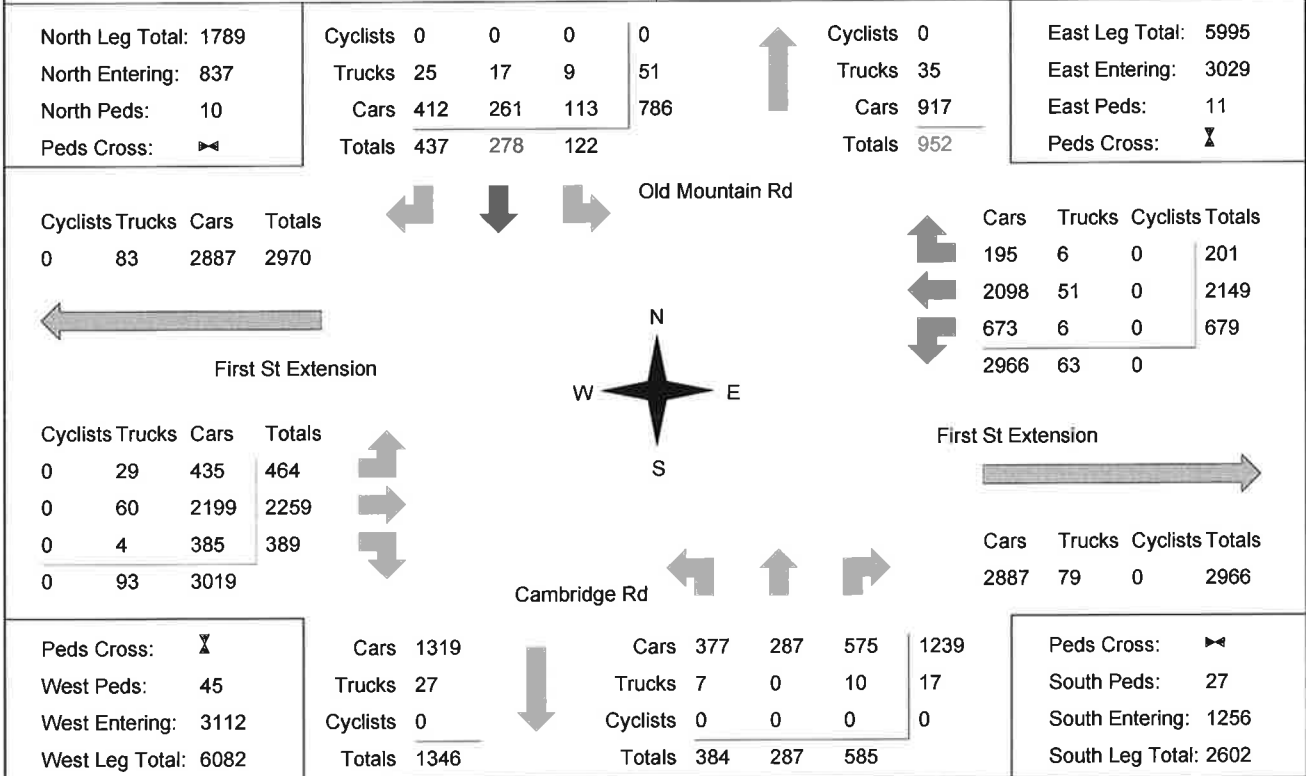
Total Count Diagram

Municipality: Collingwood
Site #: 1417600001
Intersection: First St Extension & Cambridge Rd-
TFR File #: 6
Count date: 7-Aug-14

Weather conditions:
Person(s) who counted:

**** Signalized Intersection ****

Major Road: First St Extension runs W/E



Comments

Ontario Traffic Inc. Traffic Count Summary

Intersection: First St Extension & Cambridge Rd Count Date: 7-Aug-14 Municipality: Collingwood

North Approach Totals						North/South Total Approaches	South Approach Totals					
Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds		Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
7:00:00	0	1	0	1	0	2	7:00:00	0	1	0	1	0
8:00:00	5	5	18	28	1	107	8:00:00	44	5	30	79	1
9:00:00	6	24	51	81	0	169	9:00:00	44	13	31	88	0
10:00:00	10	39	54	103	0	235	10:00:00	51	23	58	132	7
15:00:00	0	0	2	2	0	6	15:00:00	2	1	1	4	0
16:00:00	20	48	86	154	4	368	16:00:00	48	60	106	214	4
17:00:00	27	50	73	150	1	387	17:00:00	71	62	104	237	7
18:00:00	19	40	69	128	3	314	18:00:00	54	46	86	186	1
19:00:00	17	33	52	102	0	288	19:00:00	49	40	97	186	3
20:00:00	18	38	32	88	1	217	20:00:00	21	36	72	129	4
Totals:	122	278	437	837	10	2093		384	287	585	1256	27
East Approach Totals						East/West Total Approaches	West Approach Totals					
Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds		Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
7:00:00	1	6	0	7	0	11	7:00:00	1	2	1	4	0
8:00:00	21	142	5	168	1	326	8:00:00	32	108	18	158	1
9:00:00	32	217	16	265	0	558	9:00:00	47	196	50	293	0
10:00:00	85	212	22	319	0	693	10:00:00	73	248	53	374	0
15:00:00	1	4	2	7	0	15	15:00:00	2	5	1	8	0
16:00:00	117	340	37	494	2	985	16:00:00	75	367	49	491	7
17:00:00	123	359	30	512	2	1083	17:00:00	84	405	82	571	8
18:00:00	88	349	34	471	5	980	18:00:00	71	383	55	509	5
19:00:00	92	277	28	397	1	786	19:00:00	41	309	39	389	12
20:00:00	118	239	26	383	0	695	20:00:00	38	233	41	312	12
Totals:	678	2145	200	3023	11	6132		464	2256	389	3109	45
Calculated Values for Traffic Crossing Major Street												
Hours Ending:	8:00	9:00	10:00	16:00		17:00	18:00	19:00	20:00			
Crossing Values:	56	74	100	137		170	129	119	89			

Ontario Traffic Inc.

Mid-day Peak Diagram	Specified Period From: 11:00:00 To: 16:00:00	One Hour Peak From: 11:15:00 To: 12:15:00
Municipality: Collingwood Site #: 1417600010 Intersection: High St & Sixth St TFR File #: 2 Count date: 9-Aug-14	Weather conditions: Person(s) who counted:	

**** Signalized Intersection **** **Major Road:** High St runs N/S

North Leg Total: 932 North Entering: 496 North Peds: 2 Peds Cross: ▶	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cyclists</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Trucks</td><td>0</td><td>2</td><td>0</td><td>2</td></tr> <tr><td>Cars</td><td>109</td><td>273</td><td>112</td><td>494</td></tr> <tr><td>Totals</td><td>109</td><td>275</td><td>112</td><td></td></tr> </table>	Cyclists	0	0	0	0	Trucks	0	2	0	2	Cars	109	273	112	494	Totals	109	275	112		<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cyclists</td><td>0</td></tr> <tr><td>Trucks</td><td>3</td></tr> <tr><td>Cars</td><td>433</td></tr> <tr><td>Totals</td><td>436</td></tr> </table>	Cyclists	0	Trucks	3	Cars	433	Totals	436	East Leg Total: 523 East Entering: 271 East Peds: 6 Peds Cross: ✕																											
Cyclists	0	0	0	0																																																						
Trucks	0	2	0	2																																																						
Cars	109	273	112	494																																																						
Totals	109	275	112																																																							
Cyclists	0																																																									
Trucks	3																																																									
Cars	433																																																									
Totals	436																																																									
<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cyclists</td><td>0</td><td>Trucks</td><td>3</td><td>Cars</td><td>283</td><td>Totals</td><td>286</td></tr> <tr><td>0</td><td>1</td><td>95</td><td>96</td><td>0</td><td>0</td><td>117</td><td>117</td></tr> <tr><td>0</td><td>0</td><td>52</td><td>53</td><td>0</td><td>1</td><td>264</td><td>264</td></tr> <tr><td>0</td><td>2</td><td>264</td><td></td><td>0</td><td>0</td><td>297</td><td>297</td></tr> </table>	Cyclists	0	Trucks	3	Cars	283	Totals	286	0	1	95	96	0	0	117	117	0	0	52	53	0	1	264	264	0	2	264		0	0	297	297		<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cars</td><td>115</td><td>Trucks</td><td>1</td><td>Cyclists</td><td>0</td><td>Totals</td><td>116</td></tr> <tr><td>123</td><td>2</td><td>0</td><td>125</td><td>30</td><td>0</td><td>0</td><td>30</td></tr> <tr><td>268</td><td>3</td><td>0</td><td></td><td>252</td><td>0</td><td>0</td><td>252</td></tr> </table>	Cars	115	Trucks	1	Cyclists	0	Totals	116	123	2	0	125	30	0	0	30	268	3	0		252	0	0	252
Cyclists	0	Trucks	3	Cars	283	Totals	286																																																			
0	1	95	96	0	0	117	117																																																			
0	0	52	53	0	1	264	264																																																			
0	2	264		0	0	297	297																																																			
Cars	115	Trucks	1	Cyclists	0	Totals	116																																																			
123	2	0	125	30	0	0	30																																																			
268	3	0		252	0	0	252																																																			
Peds Cross: ✕ West Peds: 0 West Entering: 266 West Leg Total: 552	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cars</td><td>355</td><td>Trucks</td><td>3</td><td>Cyclists</td><td>0</td><td>Totals</td><td>358</td></tr> <tr><td>51</td><td>1</td><td>0</td><td>2</td><td>0</td><td>0</td><td>0</td><td></td></tr> <tr><td>52</td><td>224</td><td>23</td><td></td><td></td><td></td><td></td><td></td></tr> </table>	Cars	355	Trucks	3	Cyclists	0	Totals	358	51	1	0	2	0	0	0		52	224	23						Peds Cross: ▶▶ South Peds: 1 South Entering: 299 South Leg Total: 657																																
Cars	355	Trucks	3	Cyclists	0	Totals	358																																																			
51	1	0	2	0	0	0																																																				
52	224	23																																																								

Comments

Ontario Traffic Inc.

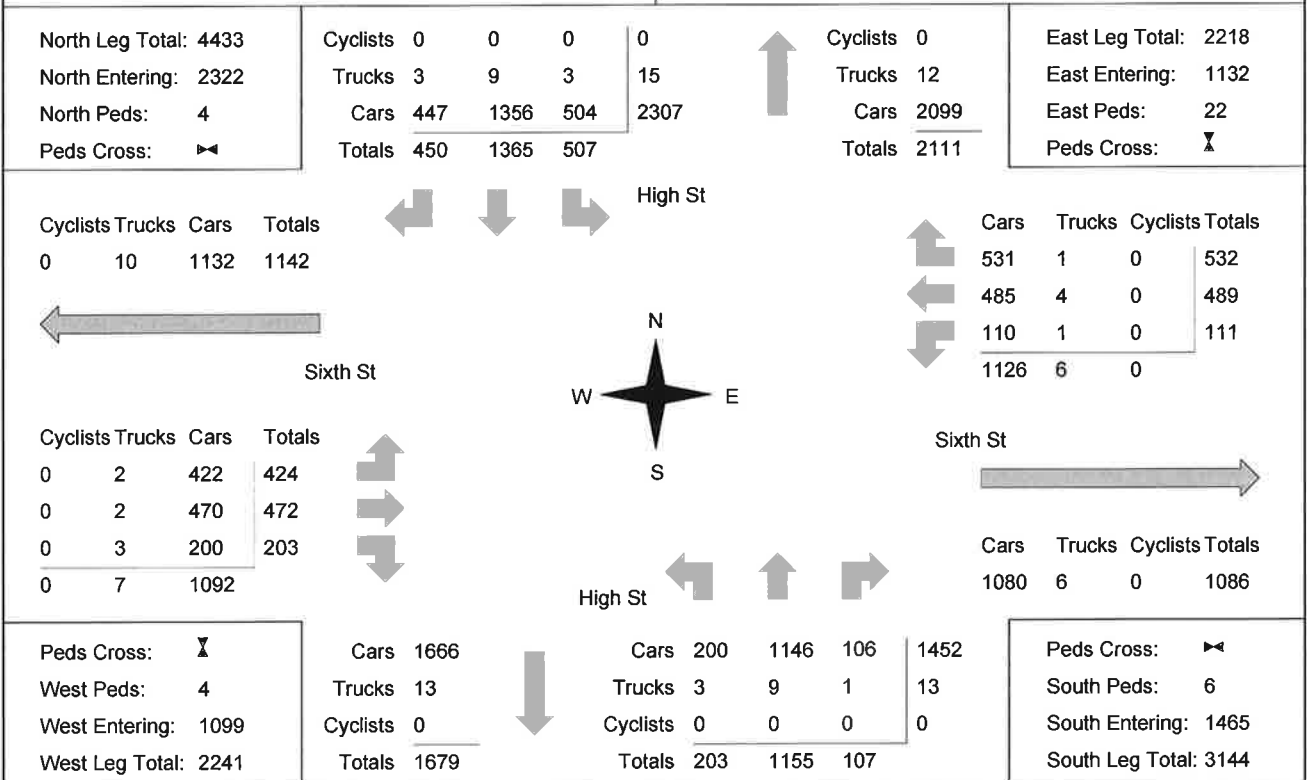
Total Count Diagram

Municipality: Collingwood
Site #: 1417600010
Intersection: High St & Sixth St
TFR File #: 2
Count date: 9-Aug-14

Weather conditions:
Person(s) who counted:

**** Signalized Intersection ****

Major Road: High St runs N/S



Comments

Ontario Traffic Inc. Traffic Count Summary

Intersection: High St & Sixth St

Count Date: 9-Aug-14

Municipality: Collingwood

North Approach Totals						North/South Total Approaches	South Approach Totals					
Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds		Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
11:00:00	0	0	0	0	0	0	11:00:00	0	0	0	0	0
12:00:00	100	278	110	488	2	789	12:00:00	43	235	23	301	1
13:00:00	107	289	86	482	0	768	13:00:00	44	224	18	286	0
14:00:00	88	266	92	446	1	718	14:00:00	33	211	28	272	3
15:00:00	97	251	85	433	1	740	15:00:00	46	242	19	307	0
16:00:00	108	274	76	458	0	752	16:00:00	37	238	19	294	2
Totals:	500	1358	449	2307	4	3767		203	1150	107	1460	6
East Approach Totals						East/West Total Approaches	West Approach Totals					
Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds		Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
11:00:00	0	0	0	0	0	0	11:00:00	0	0	0	0	0
12:00:00	33	123	108	264	9	527	12:00:00	93	122	48	263	0
13:00:00	25	99	106	230	4	449	13:00:00	92	89	38	219	0
14:00:00	18	94	108	220	1	427	14:00:00	85	90	32	207	4
15:00:00	17	73	113	203	5	411	15:00:00	72	94	42	208	0
16:00:00	18	99	97	214	3	409	16:00:00	82	74	39	195	0
Totals:	111	488	532	1131	22	2223		424	469	199	1092	4
Calculated Values for Traffic Crossing Major Street												
Hours Ending:	11:00	12:00	13:00	14:00		15:00	15:00	16:00	16:00			
Crossing Values:	0	252	216	201		184	184	201	201			

Ontario Traffic Inc.

Mid-day Peak Diagram

Specified Period

From: 11:00:00
To: 16:00:00

One Hour Peak

From: 11:00:00
To: 12:00:00

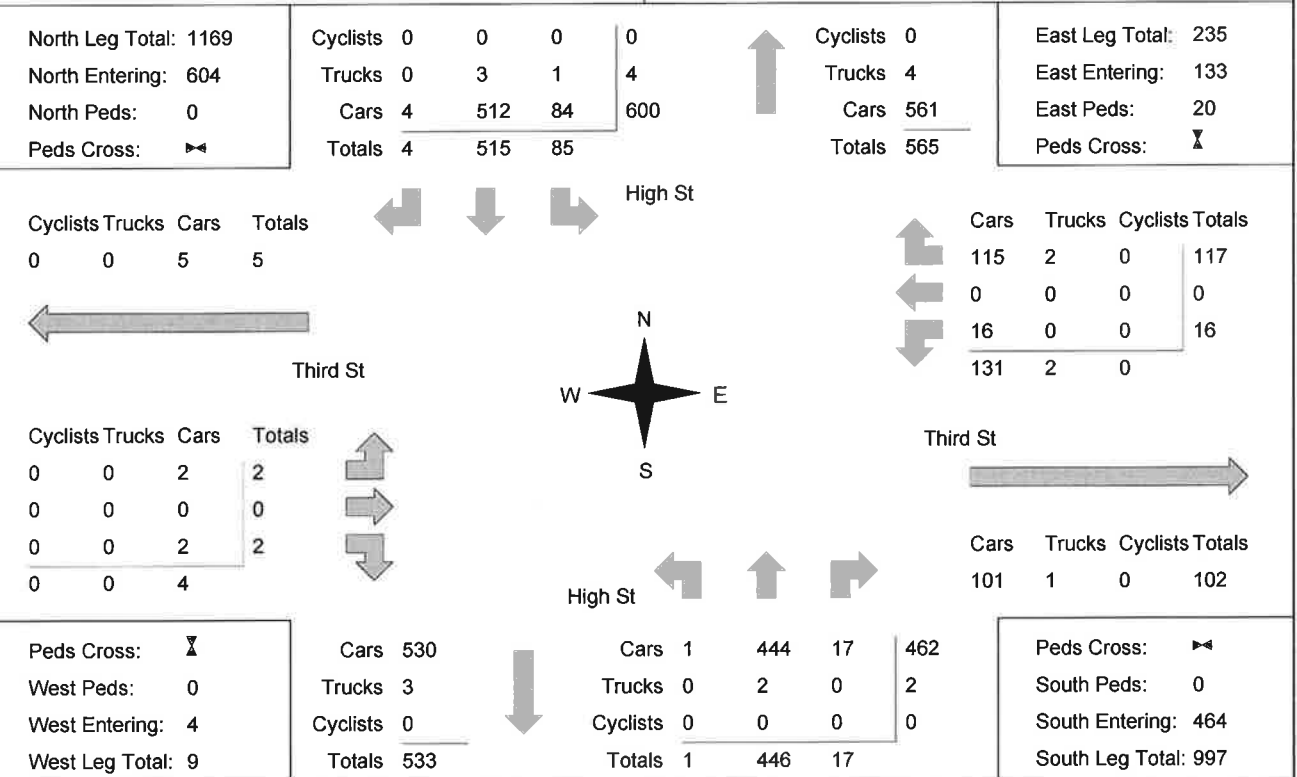
Municipality: Collingwood
Site #: 1417600004
Intersection: High St & Third St
TFR File #: 2
Count date: 9-Aug-14

Weather conditions:

Person(s) who counted:

**** Non-Signalized Intersection ****

Major Road: High St runs N/S



Comments

Ontario Traffic Inc.

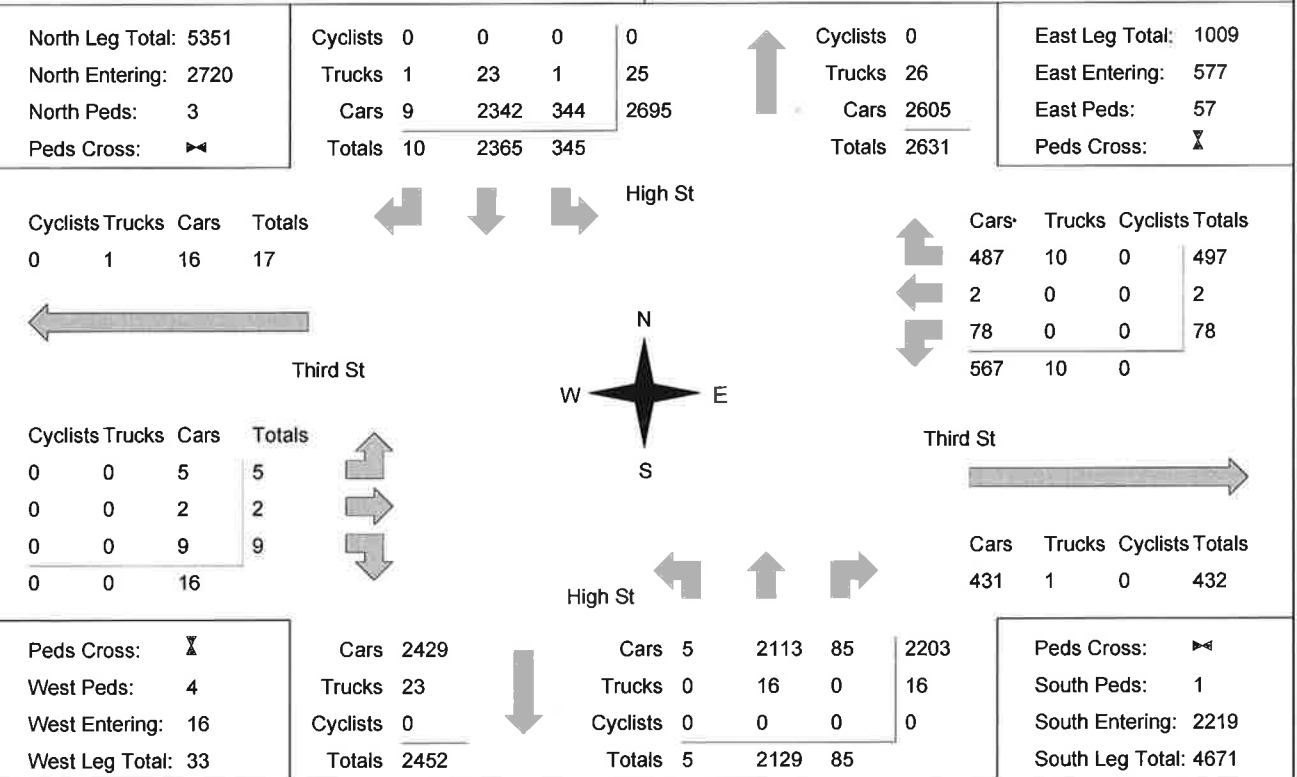
Total Count Diagram

Municipality: Collingwood
Site #: 1417600004
Intersection: High St & Third St
TFR File #: 2
Count date: 9-Aug-14

Weather conditions:
Person(s) who counted:

**** Non-Signalized Intersection ****

Major Road: High St runs N/S



Comments

Ontario Traffic Inc. Traffic Count Summary

Intersection: High St & Third St

Count Date: 9-Aug-14

Municipality: Collingwood

North Approach Totals						North/South Total Approaches	South Approach Totals					
Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds		Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
11:00:00	0	0	0	0	0	0	11:00:00	0	0	0	0	0
12:00:00	85	515	4	604	0	1068	12:00:00	1	446	17	464	0
13:00:00	67	480	1	548	0	990	13:00:00	1	417	24	442	0
14:00:00	61	457	1	519	2	949	14:00:00	2	413	15	430	0
15:00:00	74	450	3	527	1	973	15:00:00	1	433	12	446	0
16:00:00	58	463	1	522	0	959	16:00:00	0	420	17	437	1
Totals:	345	2365	10	2720	3	4939		5	2129	85	2219	1

East Approach Totals						East/West Total Approaches	West Approach Totals					
Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds		Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
11:00:00	0	0	0	0	0	0	11:00:00	0	0	0	0	0
12:00:00	16	0	117	133	20	137	12:00:00	2	0	2	4	0
13:00:00	22	0	99	121	7	125	13:00:00	0	1	3	4	0
14:00:00	14	2	94	110	8	115	14:00:00	2	0	3	5	2
15:00:00	13	0	82	95	14	96	15:00:00	1	0	0	1	1
16:00:00	13	0	105	118	8	120	16:00:00	0	1	1	2	1
Totals:	78	2	497	577	57	593		5	2	9	16	4

Calculated Values for Traffic Crossing Major Street

Hours Ending:	11:00	12:00	13:00	14:00	15:00	16:00	16:00	16:00	16:00
Crossing Values:	0	18	23	20	15	15	15	15	15

Ontario Traffic Inc.

Mid-day Peak Diagram

Specified Period

From: 11:00:00
To: 16:00:00

One Hour Peak

From: 11:15:00
To: 12:15:00

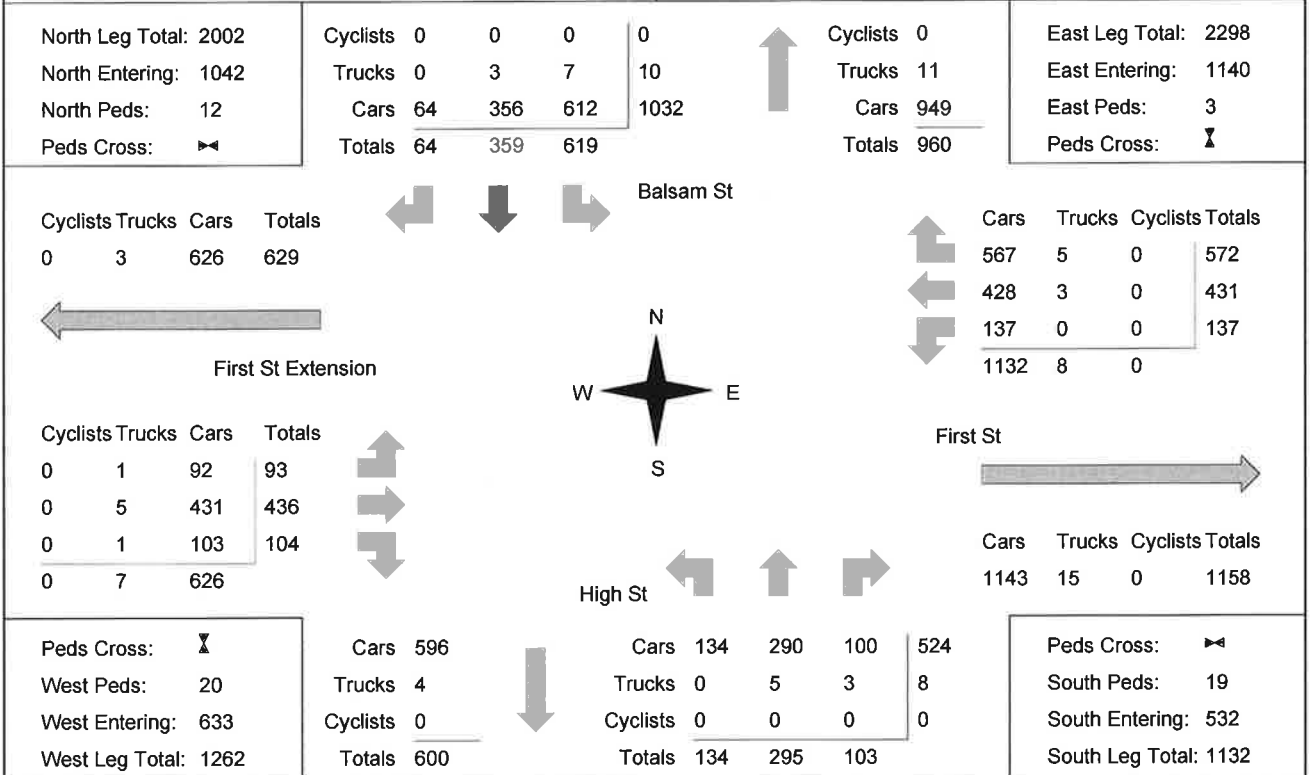
Municipality: Collingwood
Site #: 1417600007
Intersection: First St-First St Extension & High St
TFR File #: 3
Count date: 9-Aug-14

Weather conditions:

Person(s) who counted:

** Signalized Intersection **

Major Road: First St-First St Extension runs W/E



Comments

Ontario Traffic Inc.

Total Count Diagram

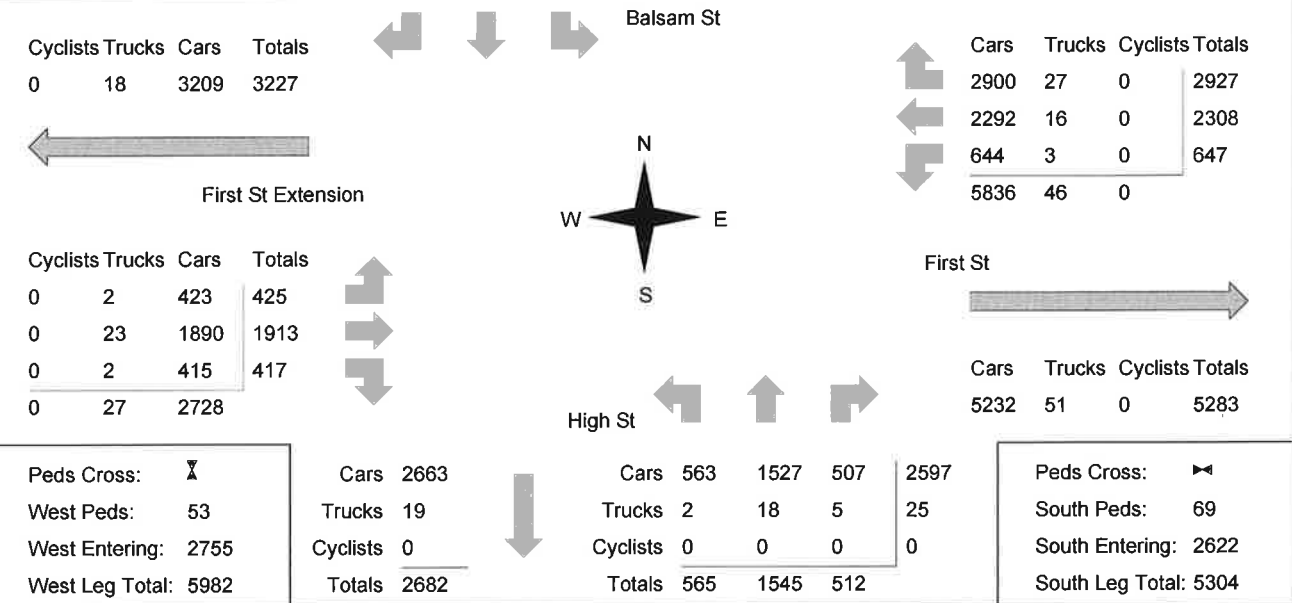
Municipality: Collingwood
Site #: 1417600007
Intersection: First St-First St Extension & High St
TFR File #: 3
Count date: 9-Aug-14

Weather conditions:
Person(s) who counted:

**** Signalized Intersection ****

Major Road: First St-First St Extension runs W/E

North Leg Total: 9727 North Entering: 4830 North Peds: 52 Peds Cross: ▶	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Cyclists</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Trucks</td><td>0</td><td>14</td><td>23</td><td>37</td></tr> <tr><td>Cars</td><td>354</td><td>1604</td><td>2835</td><td>4793</td></tr> <tr><td>Totals</td><td>354</td><td>1618</td><td>2858</td><td></td></tr> </table>	Cyclists	0	0	0	0	Trucks	0	14	23	37	Cars	354	1604	2835	4793	Totals	354	1618	2858		↑	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Cyclists</td><td>0</td></tr> <tr><td>Trucks</td><td>47</td></tr> <tr><td>Cars</td><td>4850</td></tr> <tr><td>Totals</td><td>4897</td></tr> </table>	Cyclists	0	Trucks	47	Cars	4850	Totals	4897	East Leg Total: 11165 East Entering: 5882 East Peds: 52 Peds Cross: ✕
Cyclists	0	0	0	0																												
Trucks	0	14	23	37																												
Cars	354	1604	2835	4793																												
Totals	354	1618	2858																													
Cyclists	0																															
Trucks	47																															
Cars	4850																															
Totals	4897																															



Comments

Ontario Traffic Inc. Traffic Count Summary

Intersection: First St-First St Extension & High S													Count Date: 9-Aug-14		Municipality: Collingwood	
North Approach Totals						South Approach Totals										
Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds	North/South Total Approaches	Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds				
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total					
11:00:00	0	0	0	0	0	0	11:00:00	0	0	0	0	0				
12:00:00	614	366	49	1029	8	1583	12:00:00	138	313	103	554	9				
13:00:00	569	325	75	969	14	1475	13:00:00	103	301	102	506	24				
14:00:00	569	314	65	948	13	1471	14:00:00	104	304	115	523	5				
15:00:00	569	324	83	976	13	1500	15:00:00	113	305	106	524	24				
16:00:00	537	289	80	906	4	1421	16:00:00	107	322	86	515	7				
Totals:	2858	1618	352	4828	52	7450		565	1545	512	2622	69				
East Approach Totals						West Approach Totals										
Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds	East/West Total Approaches	Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds				
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total					
11:00:00	0	0	0	0	0	0	11:00:00	0	0	0	0	0				
12:00:00	139	399	520	1058	1	1664	12:00:00	91	415	100	606	16				
13:00:00	130	442	646	1218	12	1737	13:00:00	89	350	80	519	18				
14:00:00	119	493	593	1205	13	1704	14:00:00	70	344	85	499	7				
15:00:00	138	472	603	1213	22	1746	15:00:00	96	369	68	533	4				
16:00:00	121	502	565	1188	4	1783	16:00:00	79	432	84	595	8				
Totals:	647	2308	2927	5882	52	8634		425	1910	417	2752	53				
Calculated Values for Traffic Crossing Major Street																
Hours Ending:	11:00	12:00	13:00	14:00		15:00	15:00	16:00	16:00							
Crossing Values:	0	1135	1027	1007		743	1032	713	978							

Ontario Traffic Inc.

Mid-day Peak Diagram

Specified Period

From: 11:00:00

To: 16:00:00

One Hour Peak

From: 11:00:00

To: 12:00:00

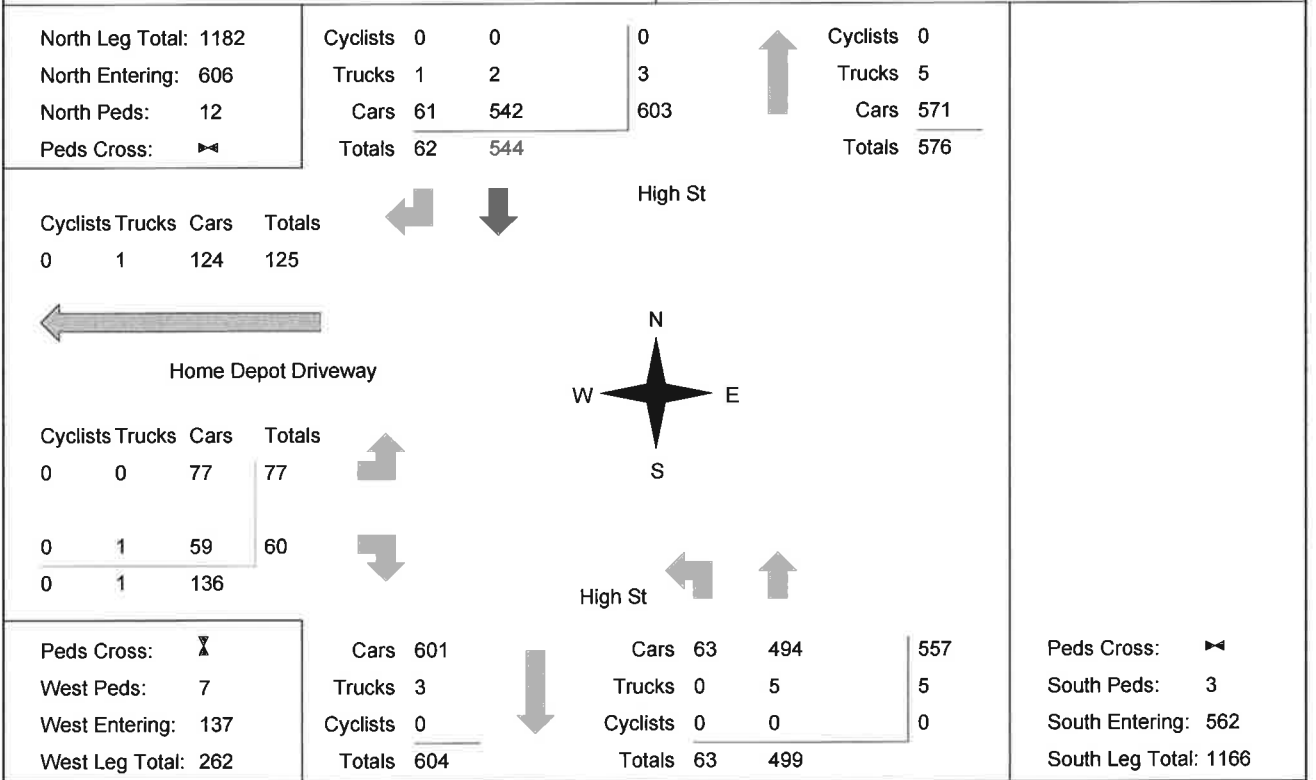
Municipality: Collingwood
Site #: 1417600008
Intersection: High St & Home Depot Driveway
TFR File #: 1
Count date: 9-Aug-14

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: High St runs N/S



Comments

Ontario Traffic Inc.

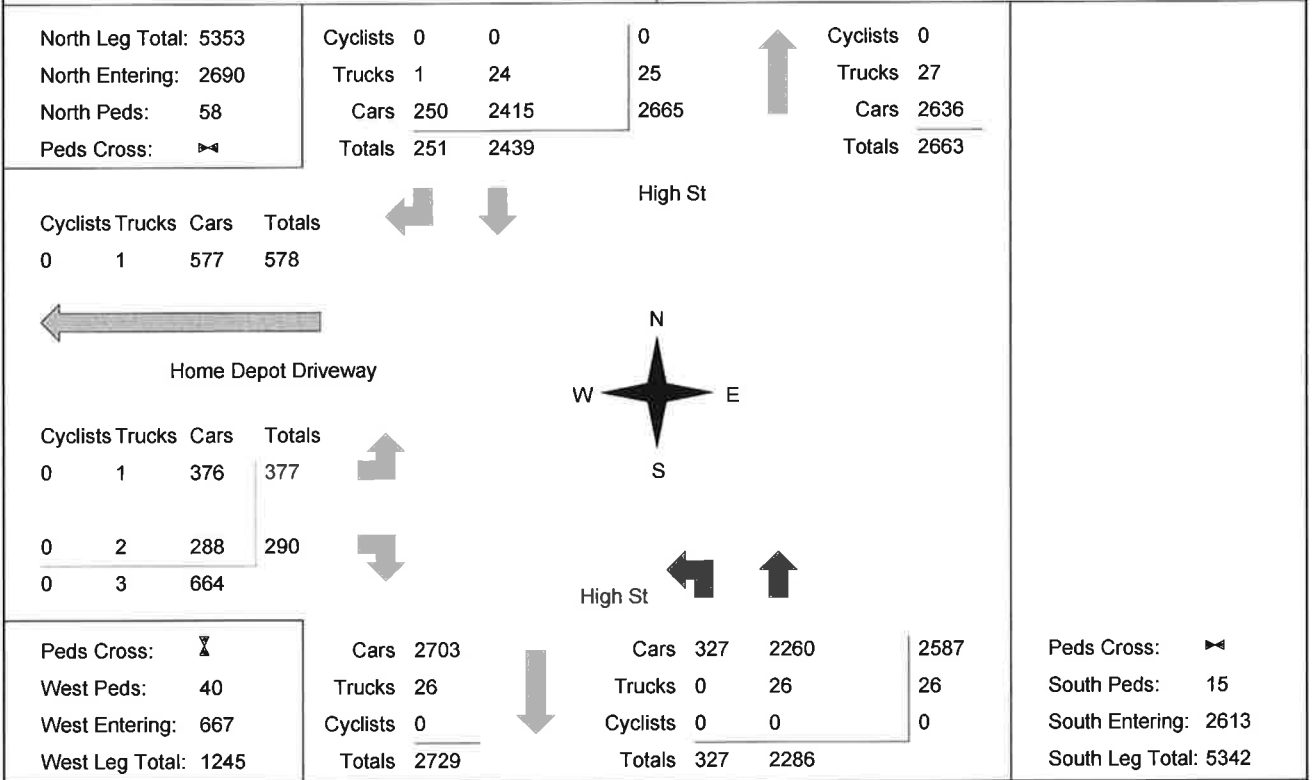
Total Count Diagram

Municipality: Collingwood
Site #: 1417600008
Intersection: High St & Home Depot Driveway
TFR File #: 1
Count date: 9-Aug-14

Weather conditions:
Person(s) who counted:

**** Signalized Intersection ****

Major Road: High St runs N/S



Comments

Ontario Traffic Inc. Traffic Count Summary

Intersection: High St & Home Depot Driveway

Count Date: 9-Aug-14

Municipality: Collingwood

North Approach Totals						North/South Total Approaches	South Approach Totals					
Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds		Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
11:00:00	0	0	0	0	0	0	11:00:00	0	0	0	0	0
12:00:00	0	544	62	606	12	1168	12:00:00	63	499	0	562	3
13:00:00	0	503	35	538	5	1049	13:00:00	75	436	0	511	3
14:00:00	0	466	48	514	20	1026	14:00:00	64	448	0	512	5
15:00:00	0	466	67	533	12	1048	15:00:00	65	450	0	515	3
16:00:00	0	459	39	498	9	1011	16:00:00	60	453	0	513	1
Totals:	0	2438	251	2689	58	5302		327	2286	0	2613	15
East Approach Totals						East/West Total Approaches	West Approach Totals					
Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds		Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
11:00:00	0	0	0	0	0	0	11:00:00	0	0	0	0	0
12:00:00	0	0	0	0	0	137	12:00:00	77	0	60	137	7
13:00:00	0	0	0	0	0	126	13:00:00	74	0	52	126	7
14:00:00	0	0	0	0	0	130	14:00:00	76	0	54	130	14
15:00:00	0	0	0	0	0	132	15:00:00	75	0	57	132	9
16:00:00	0	0	0	0	0	142	16:00:00	75	0	67	142	3
Totals:	0	0	0	0	0	667		377	0	290	667	40
Calculated Values for Traffic Crossing Major Street												
Hours Ending:	11:00	12:00	13:00	14:00		15:00	15:00	16:00	16:00			
Crossing Values:	0	92	82	101		90	90	85	85			

Ontario Traffic Inc.

Mid-day Peak Diagram

Specified Period

From: 11:00:00

To: 16:00:00

One Hour Peak

From: 15:00:00

To: 16:00:00

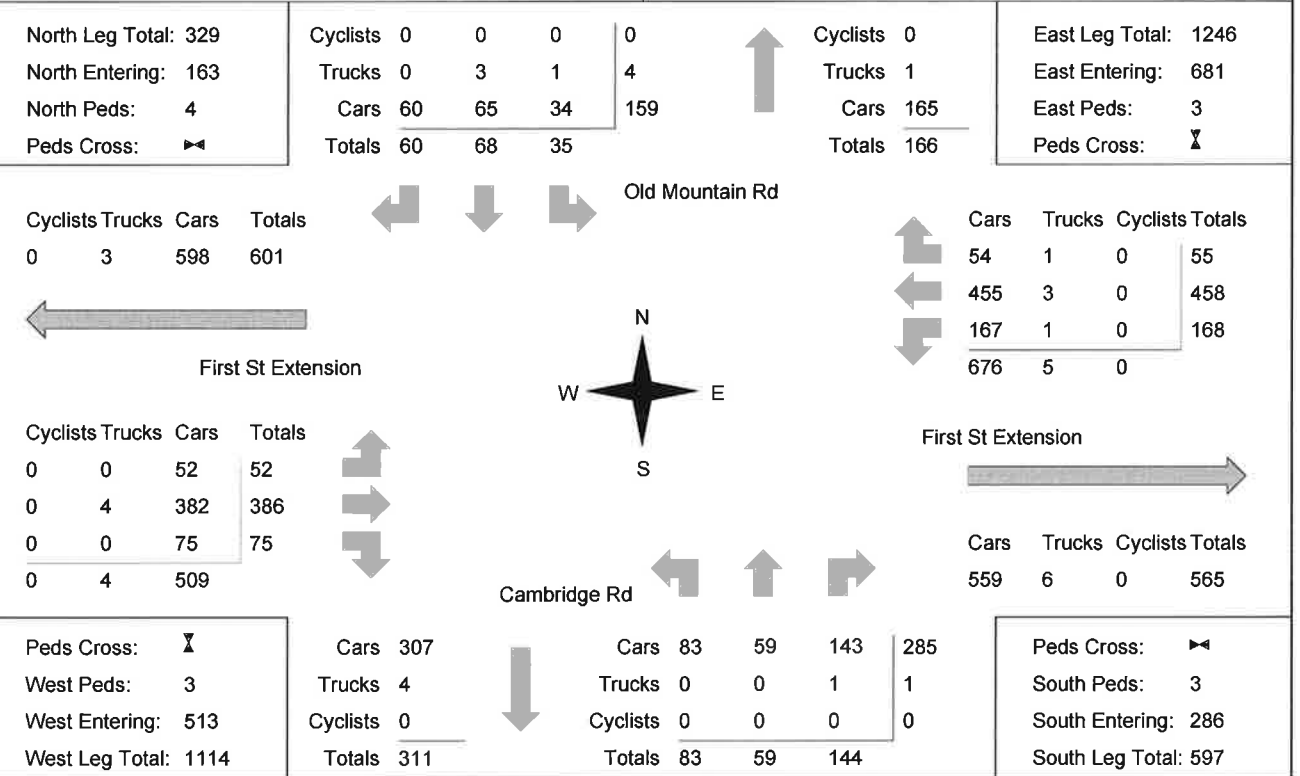
Municipality: Collingwood
Site #: 1417600006
Intersection: First St Extension & Cambridge Rd-
TFR File #: 9
Count date: 9-Aug-14

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: First St Extension runs W/E



Comments

Ontario Traffic Inc.

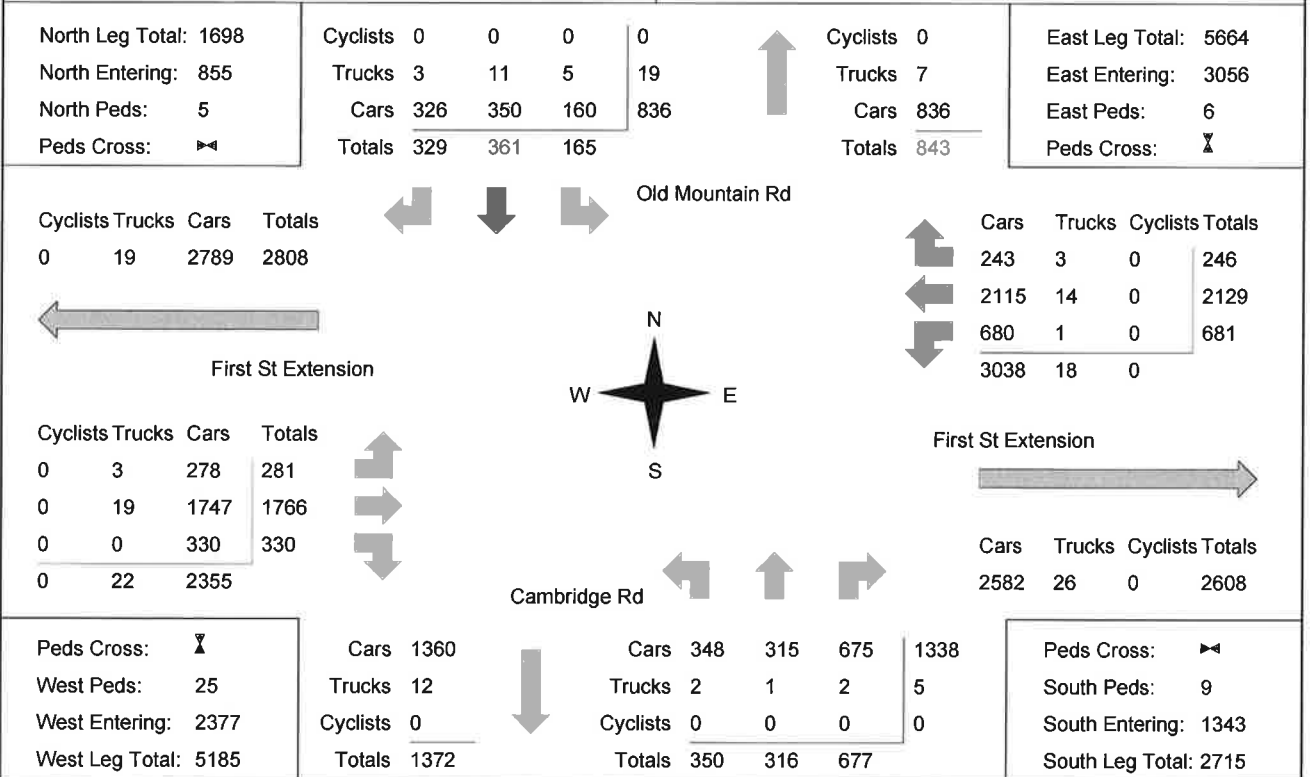
Total Count Diagram

Municipality: Collingwood
Site #: 1417600006
Intersection: First St Extension & Cambridge Rd-
TFR File #: 9
Count date: 9-Aug-14

Weather conditions:
Person(s) who counted:

**** Signalized Intersection ****

Major Road: First St Extension runs W/E



Comments

Ontario Traffic Inc. Traffic Count Summary

Intersection: First St Extension & Cambridge Rd Count Date: 9-Aug-14 Municipality: Collingwood

North Approach Totals						North/South Total Approaches	South Approach Totals					
Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds		Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
11:00:00	0	0	0	0	0	1	11:00:00	1	0	0	1	0
12:00:00	37	77	71	185	0	462	12:00:00	68	59	150	277	4
13:00:00	38	86	62	186	0	470	13:00:00	61	78	145	284	1
14:00:00	22	63	61	146	0	379	14:00:00	64	68	101	233	1
15:00:00	33	67	75	175	1	437	15:00:00	73	52	137	262	0
16:00:00	35	68	60	163	4	449	16:00:00	83	59	144	286	3
Totals:	165	361	329	855	5	2198		350	316	677	1343	9

East Approach Totals						East/West Total Approaches	West Approach Totals					
Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds		Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
11:00:00	0	3	0	3	0	7	11:00:00	0	3	1	4	0
12:00:00	150	374	55	579	0	1072	12:00:00	60	363	70	493	4
13:00:00	114	392	46	552	0	964	13:00:00	53	304	55	412	5
14:00:00	121	457	39	617	2	1093	14:00:00	58	354	64	476	9
15:00:00	128	445	51	624	1	1103	15:00:00	58	356	65	479	4
16:00:00	168	458	55	681	3	1192	16:00:00	52	384	75	511	3
Totals:	681	2129	246	3056	6	5431		281	1764	330	2375	25

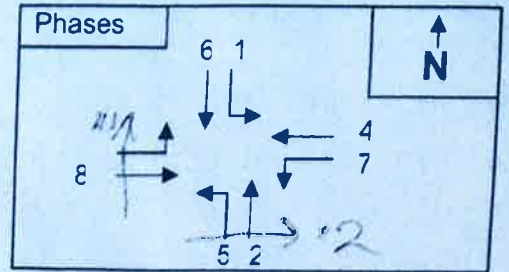
Calculated Values for Traffic Crossing Major Street

Hours Ending:	11:00	12:00	13:00	14:00	15:00	15:00	16:00	16:00
Crossing Values:	1	186	190	165	632	178	192	685

NORTH SOUTH (Ø 2, Ø 6) APS LUCKY
 EAST WEST (Ø 4, Ø 8) APS MELODY

Traffic Signal Timing Plan

Intersection: High Street & First Street
Town/City: Collingwood
Date: August 12, 2009



Startup of signals to be set to flashing Red on all approaches.

PAD OXINT MXB

Without Pedestrian Actuation (Vehicles Only)

4 APS
 1109-3518A SN# 22027

Signal Operation	High Street Northbound	High Street Southbound	First Street Westbound Adv Green	First Street Westbound	First Street Eastbound
Phase #	2 / 5	1 / 6	7	4	8
Minimum Green	10	-	7	10	10
Extension	3	-	3	3	3
Maximum Green	25	36	10	28	28
Amber Clearance	3.3	3.3	3	3.3	3.3
All Red	3.2	3.2	1	3.7	3.7

Max. Cycle Length: 123 seconds

With Pedestrian Actuation

Signal Operation	High Street Northbound	High Street Southbound	First Street Westbound Adv Green	First Street Westbound	First Street Eastbound
Phase #	2 / 5	1 / 6	7	4	8
Minimum Green	31	36	7	30	30
Extension	-	-	3	-	-
Maximum Green	31	36	10	30	30
Amber Clearance	3.3	3.3	3	3.3	3.3
All Red	3.2	3.2	1	3.7	3.7
Walk	18	26	--	17.5	17.5
Ped Clearance (FDW)	13	10	--	12.5	12.5

Max. Cycle Length: 131 seconds

Notes: -Northbound and Southbound moves are fully protected
 -Based on 2010 traffic conditions
 -Amber Clearance and All Red from MTO Book 12

Phasings

Temp

9: Full Moves Access & High Street

Sa



Chad R

Phase	EBL	EBR	NBL	NBT	SBT
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Minimum Initial (s)	7.0	7.0	5.0	7.0	7.0
Minimum Split (s)	31.0	31.0	7.0	26.0	26.0
Total Split (s)	34.0	34.0	15.0	56.0	41.0
Total Split (%)	37.8%	37.8%	16.7%	62.2%	45.6%
Maximum Green (s)	28.0	28.0	13.0	50.0	35.0
Yellow Time (s)	3.6	3.6	2.0	3.6	3.6
All-Red Time (s)	2.4	2.4	0.0	2.4	2.4
Lead/Lag			Lead		Lag
Lead-Lag Optimize?					
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0
Time Before Red (s)	0.0	0.0	0.0	0.0	0.0
Time To Red (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	Max	Max
Walk Time (s)	12.0	12.0		9.0	9.0
Flash Don't Walk (s)	13.0	13.0		10.0	10.0
Pedestrian Calls (1/1hr)	0	0		0	0
90th %ile Green (s)	22.3	22.1	9.2	50.0	38.8
90th %ile Term Code	Gap	Gap	Gap	MaxR	Hold
70th %ile Green (s)	17.2	17.2	7.8	50.0	40.2
70th %ile Term Code	Gap	Gap	Gap	MaxR	Hold
50th %ile Green (s)	14.6	14.0	7.0	50.0	41.0
50th %ile Term Code	Gap	Gap	Gap	MaxR	Hold
30th %ile Green (s)	12.1	12.1	6.3	50.0	41.7
30th %ile Term Code	Gap	Gap	Gap	MaxR	Hold
10th %ile Green (s)	8.7	8.7	0.0	50.5	50.5
10th %ile Term Code	Gap	Gap	Skip	Dwell	Dwell

5320

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 77
 Control Type: Semi Act-Uncoord
 90th %ile Actuated Cycle: 84.1
 70th %ile Actuated Cycle: 79.2
 50th %ile Actuated Cycle: 76.0
 30th %ile Actuated Cycle: 74.1
 10th %ile Actuated Cycle: 71.2

Traffic Signal Timing Plan

Intersection: High Street & Sixth Street

City: Collingwood

Date: 22-May-08

Startup of signals to be set to flashing Red on all approaches.

Signal Operation	Sixth St. Eastbound	Sixth St. Westbound	High St. Northbound	High St. Southbound	High St. NB / SB Advanced Green
Phase #	4	8	2	6	5 / 1
Minimum Green	10	10	20	20	7
Extension	34.0	34.0	-	-	3 ¹
Maximum Green	19 ² 28	19 ² 28	-	-	10
Amber Clearance	3.3	3.3	3.3	3.3	3
All Red	2.5	2.5	2.6	2.6	1.5
Walk	15	15	13	13	-
Ped Clearance (FDW)	10	10	8	8	-

Notes: ¹ Extension for NB and SB left turn lane loop detectors

² Maximum green time when pedestrian phase not activated

-NB / SB advanced green phase to be provided only when left-turning vehicle detected

-Signals operate under semi-actuated control (loop detectors on Sixth Street)

-Amber Clearance, All Red, and Ped timing from MTO Book 12

-Based on 2008 traffic conditions with some forecasted development

Changed to this May 11

Memorandum

DATE May 15, 2006 FILE NO. RG 04 7755

RE First Street Extension and Cambridge Street/Old Mountain Road Traffic Signal Timing

To ATTENTION Brian MacDonald, Manager, Engineering Services

COMPANY Town of Collingwood

From NAME JP Stickle

Comments

A traffic signal timing plan has been developed for the intersection of First Street Extension and Cambridge Street / Old Mountain Road in Collingwood, Ontario and modified during programming on September 27, 2005. The timing plan was prepared using MTO methods consistent with the Ontario Traffic Manual Book 12. The timings are based on a posted speed of 50 km/h for both First Street Extension and Cambridge Street / Old Mountain Road.

The traffic signals operate in semi-actuated mode with loop-detectors placed on Cambridge Street and Old Mountain Road and pedestrian pushbuttons to actuate both the East-West phase and the North-South phase. Because the pedestrian phases will only be used when they are actuated by the pushbuttons, two timing plans have been developed: one is for the case when there is no pedestrian phase called, and the other is for the case when a pedestrian is called. Table 1 shows the timing without pedestrian actuation.

Table 1: Signal Timing Without Pedestrian Actuation (Vehicles Only)

Signal Operation	First St. Ext. Eastbound	First St. Ext. Westbound Advance Grn	First St. Ext. Westbound	Cambridge St. Northbound	Old Mountain Rd. Southbound
Phase #	2	1	6	8	4
Minimum Green	30	5	30	7	7
Extension	--	3	--	3	3
Maximum Green	--	11	--	20	20
Amber Clearance	4.4	3	4.4	3.3	3.3
All Red	3.2	1	3.2	2.7	2.7

Pedestrian phases are only being provided when the pushbutton is activated and only on the leg of the intersection where the call is placed. Table 2 shows the signal timing with pedestrian actuation.

Table 2: Signal Timing With Pedestrian Actuation

Signal Operation	First St. Ext. Eastbound	First St. Ext. Westbound Advance Grn	First St. Ext. Westbound	Cambridge St. Northbound	Old Mountain Rd. Southbound
Phase #	2	1	6	8	4
Minimum Green	30	5	30	19	19
Extension	--	3	--	3	3
Maximum Green	--	11	--	20	20
Amber Clearance	4.4	3	4.4	3.3	3.3
All Red	3.2	1	3.2	2.7	2.7
Walk	17	15*	17	14	14
Ped Clearance (FDW)	5		5	5	5

*It should be noted that if the pushbutton for the north leg of the intersection (crossing Old Mountain Road) is activated, the pedestrian phase begins during Phase 1 (Advanced Westbound Green) and continue through Phases 2/6.

Table 4 – Amber Clearance Interval Times

Posted Speed (km/h)	40	50	60	70	80	90	100	110
Amber clearance for 1.0 seconds perception + reaction time (s)	3.0	3.3	3.7	4.2	4.6	5.1	5.5	6.0

Table 5 – All Red Clearance Interval Times

Clearing Distance (W + L) (m)	Posted Speed (km/h)							
	40	50	60	70	80	90	100	110
12.0	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0
13.5	1.2	1.0	1.0	1.0	1.0	1.0	1.0	1.0
15.0	1.4	1.1	1.0	1.0	1.0	1.0	1.0	1.0
16.5	1.5	1.2	1.0	1.0	1.0	1.0	1.0	1.0
18.0	1.6	1.3	1.1	1.0	1.0	1.0	1.0	1.0
19.5	1.8	1.4	1.2	1.0	1.0	1.0	1.0	1.0
21.0	1.9	1.5	1.3	1.1	1.0	1.0	1.0	1.0
22.5	2.0	1.6	1.4	1.2	1.0	1.0	1.0	1.0
24.0	2.2	1.7	1.4	1.2	1.1	1.0	1.0	1.0
25.5	2.3	1.8	1.5	1.3	1.1	1.0	1.0	1.0
27.0	2.4	1.9	1.6	1.4	1.2	1.1	1.0	1.0
28.5	2.6	2.1	1.7	1.5	1.3	1.1	1.0	1.0
30.0	2.7	2.2	1.8	1.5	1.4	1.2	1.1	1.0
31.5	2.8	2.3	1.9	1.6	1.4	1.3	1.1	1.0
33.0	3.0	2.4	2.0	1.7	1.5	1.4	1.2	1.1
34.5	3.1	2.5	2.1	1.8	1.6	1.4	1.2	1.1
36.0	3.2	2.6	2.2	1.9	1.6	1.5	1.3	1.2
37.5	3.4	2.7	2.3	1.9	1.7	1.6	1.4	1.2
39.0	3.5	2.8	2.3	2.0	1.8	1.6	1.4	1.3
40.5	3.6	2.9	2.4	2.1	1.8	1.6	1.5	1.3
42.0	3.8	3.0	2.5	2.2	1.9	1.7	1.5	1.4
43.5	3.9	3.1	2.6	2.2	2.0	1.7	1.6	1.4
45.0	4.1	3.2	2.7	2.3	2.0	1.8	1.6	1.5

Notes:

1. Values do not apply to left turn clearances.
2. Where the approach to the intersection is on a significant grade, the formula to be used should be: $y = t + v / (2a + 70.6g)$ where $g = \% \text{ grade} / 100$ and $70.6 = \text{factor } 2 \times \text{acceleration of gravity } (2 \times 3.6 \times 9.81)$ in km/h/s.
3. Three seconds is the recommended minimum for the amber clearance time; one second is the recommended minimum for All-Red.
4. If posted speeds are less than 40 km/h, use 3.0 second amber and 1.0 second all-red.

General

The required clearance time for any through movement phase is related to the approach operating speed, the motorists' perception and reaction times, the crossing width of the intersection and the average deceleration rate of the vehicles. Amber times are set so that motorists can reach the intersection if the motorist is unable to stop when at the decision point for stopping or proceeding. The all-red times are set so that vehicles just crossing the stop line have sufficient time to clear the intersection. It is generally accepted that the posted speed is used to ensure safe clearance times.

Amber and All-Red Clearance Intervals

The total clearance period is separated into the amber interval clearance and the All-Red interval clearance. The clearance period may be expressed as:^{1, 23}

$$\text{clearance} = y+r = [t+V/2a+70.6g]+[3.6(W+l)/V]$$

Amber + All-Red

Where:

- y = the amber interval clearance(s)
- r = the all-red interval clearance (s)
- t = perception and reaction time (1 second minimum)
- V = approach operating speed (km/h)
- 70.6 = factor of 2x acceleration of gravity in km/h/s
- g = % grade/100
- a = average deceleration rate (11 km/h/s used)
- l = 6.0 m taken as the length of the average passenger vehicle

W = width of the intersecting road (m) to be crossed from the near side stop line to the far side curb line or the far outside edge of the crosswalk where used

3.6 = factor to convert km/h to m/s

The amber interval ($y = t + V/2a + 70.6g$) indicates to the driver that the right-of-way is about to be changed and therefore must provide sufficient time for the approaching motorist to travel the Stopping Sight Distance.

The all-red interval [$r = 3.6 (W + l)/V$] represents the time required to provide a safe passage across the intersection for vehicles entering the intersection at or near the end of the amber interval. In the interests of standardization, the all-red interval should be used at all signalized intersections.

The amber and all-red clearance intervals are given in Tables 4 and 5 assuming a level approach grade and 1.0 seconds as a minimum perception plus reaction time. Larger perception reaction times can be adopted at the discretion of the road authority.

Clearance for Left-Turn Signals

A minimum clearance time of 1.5 to 3.0 seconds must follow the left-turn green (green arrow, or fast flash green ball) before the opposing traffic is released. An all-red of 1.0 to 1.5 seconds may be used after the amber arrow if additional clearance is required.

Where the fully protected mode of operation in a left-turn lane is used, a nominal amber clearance time of 3.0 seconds should be used followed by a 1.5 second to 2.0 second all-red to complete the clearance of any left turning vehicles left trapped in the intersection²⁵.

APPENDIX C

Level of Service Definitions

Level of Service Definitions

Signalized Intersections

Level of Service	Control Delay per Vehicle (seconds)	Interpretation
A	≤ 10	EXCELLENT. Extremely favourable progression with most vehicles arriving during the green phase. Most vehicles do not stop and short cycle lengths may contribute to low delay.
B	> 10 and ≤ 20	VERY GOOD. Very good progression and/or short cycle lengths with slightly more vehicles stopping than LOS "A" causing slightly higher levels of average delay.
C	> 20 and ≤ 35	GOOD. Fair progression and longer cycle lengths lead to a greater number of vehicles stopping than LOS "B".
D	> 35 and ≤ 55	FAIR. Congestion becomes noticeable with higher average delays resulting from a combination of long cycle lengths, high volume-to-capacity ratios and unfavourable progression.
E	> 55 and ≤ 80	POOR. Lengthy delays values are indicative of poor progression, long cycle lengths and high volume-to-capacity ratios. Individual cycle failures are common with individual movement failures also common.
F	> 80	UNSATISFACTORY. Indicative of oversaturated conditions with vehicular demand greater than the capacity of the intersection.

Adapted from Highway Capacity Manual 2000, Transportation Research Board

APPENDIX D

Capacity Analysis Worksheets

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2014 Existing AM
10/8/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	248	53	85	212	22	51	23	58	10	39	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	80.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr		0.974				0.850		0.893			0.913	
Fit Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3409	0	1750	1842	1566	1750	1645	0	1750	1682	0
Fit Permitted	0.620			0.458			0.694			0.702		
Satd. Flow (perm)	1142	3409	0	844	1842	1566	1278	1645	0	1293	1682	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		47				119		60			56	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		233.0			263.0			159.0			120.7	
Travel Time (s)		16.8			18.9			11.4			8.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	24	258	55	89	221	23	53	24	60	10	41	56
Shared Lane Traffic (%)												
Lane Group Flow (vph)	24	313	0	89	221	23	53	84	0	10	97	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	7	4		3	8	8	2	2		6	6	

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2014 Existing AM
10/8/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	21.5	21.5		21.5	21.5	
Total Split (s)	9.5	22.0		10.0	22.5	22.5	23.0	23.0		23.0	23.0	
Total Split (%)	17.3%	40.0%		18.2%	40.9%	40.9%	41.8%	41.8%		41.8%	41.8%	
Maximum Green (s)	6.0	16.5		6.5	17.0	17.0	17.5	17.5		17.5	17.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	15.0	9.7		16.7	13.5	13.5	18.0	18.0		18.0	18.0	
Actuated g/C Ratio	0.34	0.22		0.38	0.30	0.30	0.41	0.41		0.41	0.41	
v/c Ratio	0.05	0.40		0.20	0.39	0.04	0.10	0.12		0.02	0.14	
Control Delay	7.5	14.8		8.8	14.7	0.1	11.9	6.2		11.5	7.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	7.5	14.8		8.8	14.7	0.1	11.9	6.2		11.5	7.0	
LOS	A	B		A	B	A	B	A		B	A	
Approach Delay		14.2			12.1			8.4			7.4	
Approach LOS		B			B			A			A	

Intersection Summary

Area Type: Other
 Cycle Length: 55
 Actuated Cycle Length: 44.4
 Natural Cycle: 55
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.40
 Intersection Signal Delay: 11.8
 Intersection Capacity Utilization 36.5%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 3: Cambridge Street & 1st Street

23 s	10 s	22 s
23 s	9.5 s	22.5 s

Lanes, Volumes, Timings
6: High Street & 1st Street

2014 Existing AM
10/8/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	251	45	86	207	340	96	270	85	448	239	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	60.0		0.0	65.0		135.0	65.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.977				0.850		0.964			0.987	
Flt Protected	0.950			0.950			0.950			0.950	0.979	
Satd. Flow (prot)	1750	3419	0	1750	3500	1566	1750	3374	0	1592	3239	0
Flt Permitted	0.617			0.470			0.950			0.950	0.979	
Satd. Flow (perm)	1137	3419	0	866	3500	1566	1750	3374	0	1592	3239	0
Right Turn on Red			Yes			Yes		Yes	Yes			Yes
Satd. Flow (RTOR)		30				354		52			13	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		263.0			517.2			308.8			272.0	
Travel Time (s)		18.9			37.2			22.2			19.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	42	261	47	90	216	354	100	281	89	467	249	43
Shared Lane Traffic (%)										46%		
Lane Group Flow (vph)	42	308	0	90	216	354	100	370	0	252	507	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Split	NA		Split	NA	
Protected Phases	3	8		7	4		5	5		6	6	
Permitted Phases	8			4		4				6		6
Detector Phase	3	8		7	4	4	5	5		6		6

Lanes, Volumes, Timings
6: High Street & 1st Street

2014 Existing AM
10/8/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	9.5	9.5		21.5	21.5	
Total Split (s)	9.5	21.5		9.5	21.5	21.5	12.4	12.4		21.6	21.6	
Total Split (%)	14.6%	33.1%		14.6%	33.1%	33.1%	19.1%	19.1%		33.2%	33.2%	
Maximum Green (s)	6.0	16.0		6.0	16.0	16.0	6.9	6.9		16.1	16.1	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	None		Max	Max	
Walk Time (s)		5.0			5.0	5.0				5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0				11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0				0	0	
Act Effct Green (s)	17.1	10.5		18.5	14.3	14.3	7.0	7.0		16.3	16.3	
Actuated g/C Ratio	0.30	0.18		0.32	0.25	0.25	0.12	0.12		0.28	0.28	
v/c Ratio	0.11	0.48		0.24	0.25	0.54	0.47	0.82		0.56	0.55	
Control Delay	12.4	21.9		14.0	19.0	6.4	34.6	40.3		25.5	21.2	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	12.4	21.9		14.0	19.0	6.4	34.6	40.3		25.5	21.2	
LOS	B	C		B	B	A	C	D		C	C	
Approach Delay		20.7			11.5			39.1			22.6	
Approach LOS		C			B			D			C	

Intersection Summary

Area Type: Other
 Cycle Length: 65
 Actuated Cycle Length: 57.8
 Natural Cycle: 65
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay: 22.5
 Intersection Capacity Utilization 54.4%
 Analysis Period (min) 15

Intersection LOS: C
 ICU Level of Service A

Splits and Phases: 6: High Street & 1st Street

Ø5	Ø6	Ø3	Ø4
12.4 s	21.6 s	9.5 s	21.5 s
		Ø7	Ø8
		9.5 s	21.5 s

Lanes, Volumes, Timings
9: High Street & Home Depot Access

2014 Existing AM
10/8/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	38	40	40	409	352	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	10.0	55.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Friction		0.850			0.983	
Fit Protected	0.950		0.950			
Satd. Flow (prot)	1750	1566	1750	3500	3440	0
Fit Permitted	0.950		0.465			
Satd. Flow (perm)	1750	1566	857	3500	3440	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		42			21	
Link Speed (k/h)	50			50	50	
Link Distance (m)	237.8			150.0	308.8	
Travel Time (s)	17.1			10.8	22.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	40	42	42	426	367	46
Shared Lane Traffic (%)						
Lane Group Flow (vph)	40	42	42	426	413	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4	2			
Detector Phase	4	4	5	2	6	

Lanes, Volumes, Timings
 9: High Street & Home Depot Access



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Switch Phase						
Minimum Initial (s)	7.0	7.0	3.0	7.0	7.0	
Minimum Split (s)	31.0	31.0	8.5	26.0	26.0	
Total Split (s)	31.0	31.0	9.0	39.0	30.0	
Total Split (%)	44.3%	44.3%	12.9%	55.7%	42.9%	
Maximum Green (s)	25.5	25.5	5.5	33.5	24.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	2.0	2.0	0.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5	3.5	5.5	5.5	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	0.2	0.2	0.2	0.2	0.2	
Recall Mode	None	None	None	Max	Max	
Act Effect Green (s)	7.0	7.0	41.2	41.3	38.5	
Actuated g/C Ratio	0.13	0.13	0.79	0.79	0.74	
v/c Ratio	0.17	0.17	0.06	0.15	0.16	
Control Delay	21.7	9.7	2.6	2.9	4.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	21.7	9.7	2.6	2.9	4.6	
LOS	C	A	A	A	A	
Approach Delay	15.6			2.9	4.6	
Approach LOS	B			A	A	

Intersection Summary

Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 52.3
 Natural Cycle: 70
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.17
 Intersection Signal Delay: 4.7
 Intersection Capacity Utilization 32.8%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 9: High Street & Home Depot Access

Ø2	Ø4
39 s	31 s
Ø5	Ø6
9 s	30 s

Intersection									
Int Delay, s/veh	1.9								

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	2	1	0	16	0	76	0	383	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	1	0	17	0	79	0	399	28

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	681	909	169	727	896	214	338	0	0
Stage 1	482	482	-	413	413	-	-	-	-
Stage 2	199	427	-	314	483	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-
Pot Cap-1 Maneuver	336	273	845	312	278	791	1218	-	-
Stage 1	534	552	-	587	592	-	-	-	-
Stage 2	784	584	-	671	551	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	284	251	845	292	256	791	1218	-	-
Mov Cap-2 Maneuver	392	347	-	407	365	-	-	-	-
Stage 1	534	508	-	587	592	-	-	-	-
Stage 2	706	584	-	616	507	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	14.7	11.2	0
HCM LOS	B	B	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1218	-	-	376	680	1129	-	-
HCM Lane V/C Ratio	-	-	-	0.008	0.141	0.065	-	-
HCM Control Delay (s)	0	-	-	14.7	11.2	8.4	0.2	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.5	0.2	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	70	322	2
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	96	96	96
Heavy Vehicles, %	2	2	2
Mvmt Flow	73	335	2

Major/Minor Major2

Conflicting Flow All	427	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	1129	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1129	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach SB

HCM Control Delay, s	1.7
HCM LOS	

Minor Lane/Major Mvmt

Lanes, Volumes, Timings
14: High Street & 6th Street

2014 Existing AM
10/8/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	71	131	45	16	92	97	49	232	42	55	155	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	200.0		0.0	20.0		0.0	100.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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
Frnt		0.961			0.923			0.977			0.968	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1770	0	1750	1700	0	1750	3419	0	1750	3388	0
Flt Permitted	0.634			0.642			0.623			0.576		
Satd. Flow (perm)	1168	1770	0	1183	1700	0	1148	3419	0	1061	3388	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29			87			33			44	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		327.4			123.4			257.6			568.8	
Travel Time (s)		23.6			8.9			18.5			41.0	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	74	136	47	17	96	101	51	242	44	57	161	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	74	183	0	17	197	0	51	286	0	57	205	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	

Lanes, Volumes, Timings
14: High Street & 6th Street

2014 Existing AM
10/8/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Switch Phase																
Minimum Initial (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0					
Minimum Split (s)	31.0	31.0		31.0	31.0		7.0	27.1		7.0	27.1					
Total Split (s)	32.0	32.0		32.0	32.0		7.0	31.0		7.0	31.0					
Total Split (%)	45.7%	45.7%		45.7%	45.7%		10.0%	44.3%		10.0%	44.3%					
Maximum Green (s)	26.5	26.5		26.5	26.5		3.5	25.5		3.5	25.5					
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5					
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0					
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0					
Total Lost Time (s)	5.5	5.5		5.5	5.5		3.5	5.5		3.5	5.5					
Lead/Lag							Lead	Lag		Lead	Lag					
Lead-Lag Optimize?							Yes	Yes		Yes	Yes					
Vehicle Extension (s)							3.0	3.0		3.0	3.0					
Recall Mode							None	None		None	Max		None	Max		
Walk Time (s)							15.0	15.0		15.0	15.0		13.0	13.0		
Flash Dont Walk (s)							10.0	10.0		10.0	10.0		8.0	8.0		
Pedestrian Calls (#/hr)							0	0		0	0		0	0		
Act Effct Green (s)							9.7	9.7		9.7	9.7		29.8	25.9	29.8	25.9
Actuated g/C Ratio							0.19	0.19		0.19	0.19		0.59	0.51	0.59	0.51
v/c Ratio							0.33	0.50		0.07	0.50		0.07	0.16	0.08	0.12
Control Delay							22.5	21.0		18.1	15.8		4.6	7.5	4.7	6.7
Queue Delay							0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0
Total Delay							22.5	21.0		18.1	15.8		4.6	7.5	4.7	6.7
LOS							C	C		B	B		A	A	A	A
Approach Delay								21.4			16.0			7.0		6.3
Approach LOS								C			B			A		A

Intersection Summary






















Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 50.6
 Natural Cycle: 70
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.50
 Intersection Signal Delay: 12.1
 Intersection Capacity Utilization 42.9%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 14: High Street & 6th Street

ø1	ø2	ø4
7 s	31 s	32 s
ø5	ø6	ø8
7 s	31 s	32 s

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

Existing 2014 PM
10/8/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	81	408	82	125	370	39	76	66	95	23	48	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	80.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.975				0.850			0.912			0.904
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3412	0	1750	1842	1566	1750	1680	0	1750	1665	0
Flt Permitted	0.443			0.406			0.668			0.651		
Satd. Flow (perm)	816	3412	0	748	1842	1566	1230	1680	0	1199	1665	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		46				119		99			89	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		233.0			263.0			159.0			120.7	
Travel Time (s)		16.8			18.9			11.4			8.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	84	425	85	130	385	41	79	69	99	24	50	89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	84	510	0	130	385	41	79	168	0	24	139	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	7	4		3	8	8	2	2		6	6	

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

Existing 2014 PM
10/8/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	21.5	21.5		21.5	21.5	
Total Split (s)	9.5	23.9		9.6	24.0	24.0	21.5	21.5		21.5	21.5	
Total Split (%)	17.3%	43.5%		17.5%	43.6%	43.6%	39.1%	39.1%		39.1%	39.1%	
Maximum Green (s)	6.0	18.4		6.1	18.5	18.5	16.0	16.0		16.0	16.0	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	20.6	14.0		21.5	16.1	16.1	16.4	16.4		16.4	16.4	
Actuated g/C Ratio	0.42	0.29		0.44	0.33	0.33	0.33	0.33		0.33	0.33	
v/c Ratio	0.18	0.51		0.29	0.64	0.07	0.19	0.27		0.06	0.23	
Control Delay	7.3	15.2		8.3	20.3	0.2	15.8	8.5		14.6	7.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	7.3	15.2		8.3	20.3	0.2	15.8	8.5		14.6	7.9	
LOS	A	B		A	C	A	B	A		B	A	
Approach Delay		14.1			16.0			10.9			8.9	
Approach LOS		B			B			B			A	

Intersection Summary






















Area Type: Other
 Cycle Length: 55
 Actuated Cycle Length: 49
 Natural Cycle: 55
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.64
 Intersection Signal Delay: 13.7
 Intersection Capacity Utilization 53.7%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 3: Cambridge Street & 1st Street

21.5 s	9.6 s	23.9 s
21.5 s	9.5 s	24 s

Lanes, Volumes, Timings
6: High Street & 1st Street

Existing 2014 PM
10/8/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	65	417	93	169	374	568	107	339	81	517	431	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	60.0		0.0	65.0		135.0	65.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.973				0.850		0.971			0.993	
Flt Protected	0.950			0.950			0.950			0.950	0.985	
Satd. Flow (prot)	1750	3405	0	1750	3500	1566	1750	3398	0	1592	3279	0
Flt Permitted	0.520			0.266			0.950			0.950	0.985	
Satd. Flow (perm)	958	3405	0	490	3500	1566	1750	3398	0	1592	3279	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33				592		32			7	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		263.0			517.2			308.8			272.0	
Travel Time (s)		18.9			37.2			22.2			19.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	68	434	97	176	390	592	111	353	84	539	449	33
Shared Lane Traffic (%)										38%		
Lane Group Flow (vph)	68	531	0	176	390	592	111	437	0	334	687	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Split	NA		Split	NA	
Protected Phases	3	8		7	4		5	5		6	6	
Permitted Phases	8			4		4				6		6
Detector Phase	3	8		7	4	4	5	5		6	6	

Lanes, Volumes, Timings
6: High Street & 1st Street

Existing 2014 PM
10/8/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	9.5	9.5		21.5	21.5	
Total Split (s)	9.5	21.6		10.0	22.1	22.1	16.0	16.0		27.4	27.4	
Total Split (%)	12.7%	28.8%		13.3%	29.5%	29.5%	21.3%	21.3%		36.5%	36.5%	
Maximum Green (s)	6.0	16.1		6.5	16.6	16.6	10.5	10.5		21.9	21.9	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	None		Max	Max	
Walk Time (s)		5.0			5.0	5.0				5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0				11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0				0	0	
Act Effct Green (s)	22.6	14.7		24.3	17.2	17.2	10.5	10.5		21.9	21.9	
Actuated g/C Ratio	0.31	0.20		0.33	0.23	0.23	0.14	0.14		0.30	0.30	
v/c Ratio	0.19	0.75		0.64	0.48	0.72	0.44	0.85		0.71	0.70	
Control Delay	16.9	33.5		29.8	27.4	8.4	35.8	46.9		33.2	27.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	16.9	33.5		29.8	27.4	8.4	35.8	46.9		33.2	27.5	
LOS	B	C		C	C	A	D	D		C	C	
Approach Delay		31.6			18.0			44.6			29.4	
Approach LOS		C			B			D			C	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 73.6

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 28.3

Intersection LOS: C

Intersection Capacity Utilization 71.5%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 6: High Street & 1st Street

ø5	ø6	ø3	ø4
16 s	27.4 s	9.5 s	22.1 s
		ø7	ø8
		10 s	21.6 s

Lanes, Volumes, Timings
9: High Street & Home Depot Access

Existing 2014 PM
10/8/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↶	↷	↶	↕	↕	
Volume (vph)	38	32	29	514	676	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	10.0	55.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Fr _t		0.850			0.994	
Fl _t Protected	0.950		0.950			
Satd. Flow (prot)	1750	1566	1750	3500	3479	0
Fl _t Permitted	0.950		0.341			
Satd. Flow (perm)	1750	1566	628	3500	3479	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		33			7	
Link Speed (k/h)	50			50	50	
Link Distance (m)	237.8			150.0	308.8	
Travel Time (s)	17.1			10.8	22.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	40	33	30	535	704	31
Shared Lane Traffic (%)						
Lane Group Flow (vph)	40	33	30	535	735	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4	2			
Detector Phase	4	4	5	2	6	

Lanes, Volumes, Timings
 9: High Street & Home Depot Access

Existing 2014 PM
 10/8/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Switch Phase						
Minimum Initial (s)	7.0	7.0	3.0	7.0	7.0	
Minimum Split (s)	31.0	31.0	8.5	26.0	26.0	
Total Split (s)	31.0	31.0	9.0	39.0	30.0	
Total Split (%)	44.3%	44.3%	12.9%	55.7%	42.9%	
Maximum Green (s)	25.5	25.5	5.5	33.5	24.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	2.0	2.0	0.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5	3.5	5.5	5.5	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	0.2	0.2	0.2	0.2	0.2	
Recall Mode	None	None	None	Max	Max	
Act Effect Green (s)	7.0	7.0	41.4	41.5	40.1	
Actuated g/C Ratio	0.13	0.13	0.79	0.79	0.76	
v/c Ratio	0.17	0.14	0.05	0.19	0.28	
Control Delay	21.8	10.1	2.7	3.0	4.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	21.8	10.1	2.7	3.0	4.4	
LOS	C	B	A	A	A	
Approach Delay	16.5			3.0	4.4	
Approach LOS	B			A	A	

Intersection Summary

Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 52.5
 Natural Cycle: 70
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.28
 Intersection Signal Delay: 4.4
 Intersection Capacity Utilization 39.1%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 9: High Street & Home Depot Access

Ø2	Ø4
39 s	31 s
Ø5	Ø6
9 s	30 s

Intersection									
Int Delay, s/veh	2.2								

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	0	0	3	26	1	116	0	432	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	3	27	1	121	0	450	29

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	1035	1288	318	957	1275	240	635	0	0
Stage 1	809	809	-	465	465	-	-	-	-
Stage 2	226	479	-	492	810	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-
Pot Cap-1 Maneuver	186	163	678	212	166	761	944	-	-
Stage 1	340	392	-	547	561	-	-	-	-
Stage 2	756	553	-	527	391	-	-	-	-
Platoon blocked, %									
Mov Cap-1 Maneuver	141	142	678	191	145	761	944	-	-
Mov Cap-2 Maneuver	251	243	-	314	254	-	-	-	-
Stage 1	340	343	-	547	561	-	-	-	-
Stage 2	635	553	-	458	342	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	10.3	13	0
HCM LOS	B	B	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	944	-	-	678	598	1080	-	-
HCM Lane V/C Ratio	-	-	-	0.005	0.249	0.081	-	-
HCM Control Delay (s)	0	-	-	10.3	13	8.6	0.4	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	1	0.3	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	84	608	2
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	96	96	96
Heavy Vehicles, %	2	2	2
Mvmt Flow	88	633	2

Major/Minor

	Major2		
Conflicting Flow All	479	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	1080	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	1080	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-






















Approach

	SB
HCM Control Delay, s	1.4
HCM LOS	

Minor Lane/Major Mvmt

Lanes, Volumes, Timings
14: High Street & 6th Street

Existing 2014 PM
10/8/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	111	64	33	137	117	65	235	18	149	372	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	200.0		0.0	20.0		0.0	100.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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
Fr _t		0.945			0.931			0.989			0.966	
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1741	0	1750	1715	0	1750	3461	0	1750	3381	0
Fl _t Permitted	0.485			0.642			0.468			0.543		
Satd. Flow (perm)	893	1741	0	1183	1715	0	862	3461	0	1000	3381	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		47			69			13			63	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		327.4			123.4			257.6			568.8	
Travel Time (s)		23.6			8.9			18.5			41.0	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	73	116	67	34	143	122	68	245	19	155	388	114
Shared Lane Traffic (%)												
Lane Group Flow (vph)	73	183	0	34	265	0	68	264	0	155	502	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	

Lanes, Volumes, Timings
14: High Street & 6th Street

Existing 2014 PM
10/8/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Minimum Split (s)	31.0	31.0		31.0	31.0		7.0	27.1		7.0	27.1	
Total Split (s)	31.0	31.0		31.0	31.0		7.0	30.0		9.0	32.0	
Total Split (%)	44.3%	44.3%		44.3%	44.3%		10.0%	42.9%		12.9%	45.7%	
Maximum Green (s)	25.5	25.5		25.5	25.5		3.5	24.5		5.5	26.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		5.5	5.5		3.5	5.5		3.5	5.5	
Lead/Lag							Lead	Lag	Lead		Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	15.0	15.0		15.0	15.0			13.0			13.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0			8.0			8.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	12.0	12.0		12.0	12.0		30.1	25.4		33.5	28.3	
Actuated g/C Ratio	0.22	0.22		0.22	0.22		0.54	0.46		0.60	0.51	
v/c Ratio	0.38	0.44		0.13	0.62		0.13	0.17		0.23	0.29	
Control Delay	24.6	17.7		18.5	21.4		6.1	10.5		6.3	8.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	24.6	17.7		18.5	21.4		6.1	10.5		6.3	8.7	
LOS	C	B		B	C		A	B		A	A	
Approach Delay		19.7			21.0			9.6			8.2	
Approach LOS		B			C			A			A	

Intersection Summary






















Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 55.4
 Natural Cycle: 70
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.63
 Intersection Signal Delay: 12.9
 Intersection Capacity Utilization 52.7%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 14: High Street & 6th Street

φ1	φ2	φ4
9 s	30 s	31 s
φ5	φ6	φ8
7 s	32 s	31 s

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

Existing 2014 Saturday
10/8/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	52	386	75	168	458	55	83	59	144	35	68	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	80.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.976				0.850		0.893			0.930	
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3416	0	1750	1842	1566	1750	1645	0	1750	1713	0
Fl _t Permitted	0.345			0.429			0.672			0.626		
Satd. Flow (perm)	636	3416	0	790	1842	1566	1238	1645	0	1153	1713	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43				109		150			62	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		233.0			263.0			159.0			120.7	
Travel Time (s)		16.8			18.9			11.4			8.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	54	402	78	175	477	57	86	61	150	36	71	62
Shared Lane Traffic (%)												
Lane Group Flow (vph)	54	480	0	175	477	57	86	211	0	36	133	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	7	4		3	8	8	2	2		6	6	

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

Existing 2014 Saturday
10/8/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	21.5	21.5		21.5	21.5	
Total Split (s)	9.5	28.6		9.9	29.0	29.0	21.5	21.5		21.5	21.5	
Total Split (%)	15.8%	47.7%		16.5%	48.3%	48.3%	35.8%	35.8%		35.8%	35.8%	
Maximum Green (s)	6.0	23.1		6.4	23.5	23.5	16.0	16.0		16.0	16.0	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	23.3	16.8		24.7	19.2	19.2	16.6	16.6		16.6	16.6	
Actuated g/C Ratio	0.45	0.32		0.47	0.37	0.37	0.32	0.32		0.32	0.32	
v/c Ratio	0.13	0.43		0.35	0.70	0.09	0.22	0.34		0.10	0.23	
Control Delay	6.5	13.8		8.4	21.1	1.1	18.4	8.2		17.2	11.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	6.5	13.8		8.4	21.1	1.1	18.4	8.2		17.2	11.3	
LOS	A	B		A	C	A	B	A		B	B	
Approach Delay		13.0			16.4			11.2			12.6	
Approach LOS		B			B			B			B	

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 52.2
 Natural Cycle: 60
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.70
 Intersection Signal Delay: 14.0
 Intersection Capacity Utilization 59.8%
 Analysis Period (min) 15























Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 3: Cambridge Street & 1st Street

21.5 s	9.9 s	28.6 s
21.5 s	9.5 s	29 s

Lanes, Volumes, Timings
6: High Street & 1st Street

Existing 2014 Saturday
10/8/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	93	436	104	137	431	572	134	295	103	619	359	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	60.0		0.0	65.0		135.0	65.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.971				0.850		0.961			0.986	
Flt Protected	0.950			0.950			0.950			0.950	0.981	
Satd. Flow (prot)	1750	3398	0	1750	3500	1566	1750	3363	0	1592	3243	0
Flt Permitted	0.409			0.294			0.950			0.950	0.981	
Satd. Flow (perm)	753	3398	0	542	3500	1566	1750	3363	0	1592	3243	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		38				596		57			14	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		263.0			517.2			308.8			272.0	
Travel Time (s)		18.9			37.2			22.2			19.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	97	454	108	143	449	596	140	307	107	645	374	67
Shared Lane Traffic (%)										44%		
Lane Group Flow (vph)	97	562	0	143	449	596	140	414	0	361	725	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Split	NA		Split	NA	
Protected Phases	3	8		7	4		5	5		6	6	
Permitted Phases	8			4		4				6		6
Detector Phase	3	8		7	4	4	5	5		6		6

Lanes, Volumes, Timings
6: High Street & 1st Street

Existing 2014 Saturday
10/8/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	9.5	9.5		21.5	21.5	
Total Split (s)	9.5	21.6		9.5	21.6	21.6	14.2	14.2		24.7	24.7	
Total Split (%)	13.6%	30.9%		13.6%	30.9%	30.9%	20.3%	20.3%		35.3%	35.3%	
Maximum Green (s)	6.0	16.1		6.0	16.1	16.1	8.7	8.7		19.2	19.2	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	None		Max	Max	
Walk Time (s)		5.0			5.0	5.0				5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0				11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0				0	0	
Act Effct Green (s)	21.2	14.6		21.2	14.6	14.6	8.8	8.8		19.4	19.4	
Actuated g/C Ratio	0.32	0.22		0.32	0.22	0.22	0.13	0.13		0.29	0.29	
v/c Ratio	0.30	0.73		0.51	0.59	0.74	0.61	0.84		0.78	0.76	
Control Delay	16.4	29.0		21.4	27.2	8.7	42.3	43.5		37.6	28.8	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	16.4	29.0		21.4	27.2	8.7	42.3	43.5		37.6	28.8	
LOS	B	C		C	C	A	D	D		D	C	
Approach Delay		27.1			17.2			43.2			31.7	
Approach LOS		C			B			D			C	

Intersection Summary

Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 66.7
 Natural Cycle: 70
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay: 27.7
 Intersection Capacity Utilization 71.5%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service C

Splits and Phases: 6: High Street & 1st Street

ø5	ø6	ø3	ø4
14.2 s	24.7 s	9.5 s	21.6 s
		ø7	ø8
		9.5 s	21.6 s

Lanes, Volumes, Timings
9: High Street & Home Depot Access

Existing 2014 Saturday
10/8/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↶	↷	↶	↕	↕	↷
Volume (vph)	77	60	63	449	544	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	10.0	55.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Fr _t		0.850			0.985	
Fl _t Protected	0.950		0.950			
Satd. Flow (prot)	1750	1566	1750	3500	3447	0
Fl _t Permitted	0.950		0.372			
Satd. Flow (perm)	1750	1566	685	3500	3447	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		62			19	
Link Speed (k/h)	50			50	50	
Link Distance (m)	237.8			150.0	308.8	
Travel Time (s)	17.1			10.8	22.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	80	62	66	468	567	65
Shared Lane Traffic (%)						
Lane Group Flow (vph)	80	62	66	468	632	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4	2			
Detector Phase	4	4	5	2	6	

Lanes, Volumes, Timings
 9: High Street & Home Depot Access

Existing 2014 Saturday
 10/8/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Switch Phase						
Minimum Initial (s)	7.0	7.0	3.0	7.0	7.0	
Minimum Split (s)	31.0	31.0	8.5	26.0	26.0	
Total Split (s)	31.0	31.0	9.0	39.0	30.0	
Total Split (%)	44.3%	44.3%	12.9%	55.7%	42.9%	
Maximum Green (s)	25.5	25.5	5.5	33.5	24.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	2.0	2.0	0.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5	3.5	5.5	5.5	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	0.2	0.2	0.2	0.2	0.2	
Recall Mode	None	None	None	Max	Max	
Act Effct Green (s)	7.1	7.1	38.4	37.5	33.1	
Actuated g/C Ratio	0.14	0.14	0.74	0.72	0.64	
v/c Ratio	0.34	0.23	0.11	0.19	0.29	
Control Delay	24.5	9.2	3.1	3.6	6.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	24.5	9.2	3.1	3.6	6.5	
LOS	C	A	A	A	A	
Approach Delay	17.8			3.5	6.5	
Approach LOS	B			A	A	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 52.1

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.34

Intersection Signal Delay: 6.5

Intersection Capacity Utilization 38.8%

Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service A

Splits and Phases: 9: High Street & Home Depot Access

ø2	ø4
39 s	31 s
ø5	ø6
9 s	30 s

Intersection									
Int Delay, s/veh	2.2								

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	2	0	2	16	0	117	1	446	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	0	2	17	0	122	1	465	18

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	950	1200	270	921	1194	241	541	0	0
Stage 1	716	716	-	476	476	-	-	-	-
Stage 2	234	484	-	445	718	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-
Pot Cap-1 Maneuver	215	184	728	225	185	760	1024	-	-
Stage 1	387	432	-	539	555	-	-	-	-
Stage 2	748	550	-	562	431	-	-	-	-
Platoon blocked, %									
Mov Cap-1 Maneuver	164	162	728	204	163	760	1024	-	-
Mov Cap-2 Maneuver	277	263	-	328	276	-	-	-	-
Stage 1	387	381	-	538	554	-	-	-	-
Stage 2	627	549	-	494	380	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	14.1	12	0
HCM LOS	B	B	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1024	-	-	401	656	1077	-	-
HCM Lane V/C Ratio	0.001	-	-	0.01	0.211	0.082	-	-
HCM Control Delay (s)	8.5	0	-	14.1	12	8.6	0.4	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.8	0.3	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	85	515	4
Conflicting Peds, #/hr	0	0	0
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	96	96	96
Heavy Vehicles, %	2	2	2
Mvmt Flow	89	536	4





















Major/Minor	Major2		
Conflicting Flow All	482	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	1077	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	1077	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	SB
HCM Control Delay, s	1.6
HCM LOS	

Minor Lane/Major Mvmt

Lanes, Volumes, Timings
14: High Street & 6th Street

Existing 2014 Saturday
10/8/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	96	117	53	30	125	116	52	224	23	112	275	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	200.0		0.0	20.0		0.0	100.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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		0.953			0.928			0.986			0.957	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1755	0	1750	1709	0	1750	3451	0	1750	3349	0
Flt Permitted	0.547			0.646			0.516			0.575		
Satd. Flow (perm)	1008	1755	0	1190	1709	0	950	3451	0	1059	3349	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		41			84			18			98	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		327.4			123.4			257.6			568.8	
Travel Time (s)		23.6			8.9			18.5			41.0	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	100	122	55	31	130	121	54	233	24	117	286	114
Shared Lane Traffic (%)												
Lane Group Flow (vph)	100	177	0	31	251	0	54	257	0	117	400	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	

Lanes, Volumes, Timings
14: High Street & 6th Street

Existing 2014 Saturday
10/8/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Minimum Split (s)	30.8	30.8		30.8	30.8		7.0	26.9		7.0	26.9	
Total Split (s)	30.8	30.8		30.8	30.8		7.0	27.2		7.0	27.2	
Total Split (%)	47.4%	47.4%		47.4%	47.4%		10.8%	41.8%		10.8%	41.8%	
Maximum Green (s)	25.3	25.3		25.3	25.3		3.5	21.7		3.5	21.7	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		5.5	5.5		3.5	5.5		3.5	5.5	
Lead/Lag							Lead	Lag	Lead		Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	15.0	15.0		15.0	15.0			13.0			13.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0			8.0			8.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	10.4	10.4		10.4	10.4		26.7	22.1		27.5	23.5	
Actuated g/C Ratio	0.21	0.21		0.21	0.21		0.54	0.45		0.56	0.48	
v/c Ratio	0.47	0.44		0.12	0.58		0.09	0.16		0.18	0.24	
Control Delay	24.6	16.7		16.5	17.6		5.6	9.3		6.0	7.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	24.6	16.7		16.5	17.6		5.6	9.3		6.0	7.5	
LOS	C	B		B	B		A	A		A	A	
Approach Delay		19.6			17.5			8.7			7.2	
Approach LOS		B			B			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 49

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 12.1

Intersection LOS: B

Intersection Capacity Utilization 50.5%

ICU Level of Service A

Analysis Period (min) 15
























Splits and Phases: 14: High Street & 6th Street

ø1	ø2	ø4
7 s	27.2 s	30.8 s
ø5	ø6	ø8
7 s	27.2 s	30.8 s

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2020 Future Background AM

12/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	86	276	79	100	250	26	118	27	90	12	46	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	80.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.967				0.850		0.884			0.913	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3384	0	1750	1842	1566	1750	1628	0	1750	1682	0
Flt Permitted	0.599			0.480			0.683			0.679		
Satd. Flow (perm)	1103	3384	0	884	1842	1566	1258	1628	0	1251	1682	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		68				119		94			67	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		233.0			263.0			308.7			120.7	
Travel Time (s)		16.8			18.9			22.2			8.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	90	288	82	104	260	27	123	28	94	12	48	67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	90	370	0	104	260	27	123	122	0	12	115	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	7	4		3	8	8	2	2		6	6	

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2020 Future Background AM

12/17/2014

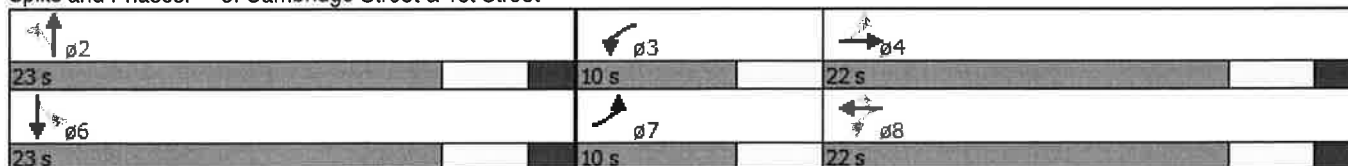


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	21.5	21.5		21.5	21.5	
Total Split (s)	10.0	22.0		10.0	22.0	22.0	23.0	23.0		23.0	23.0	
Total Split (%)	18.2%	40.0%		18.2%	40.0%	40.0%	41.8%	41.8%		41.8%	41.8%	
Maximum Green (s)	6.5	16.5		6.5	16.5	16.5	17.5	17.5		17.5	17.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	18.4	11.5		19.1	13.5	13.5	17.9	17.9		17.9	17.9	
Actuated g/C Ratio	0.38	0.24		0.40	0.28	0.28	0.37	0.37		0.37	0.37	
v/c Ratio	0.18	0.43		0.22	0.50	0.05	0.26	0.18		0.03	0.17	
Control Delay	8.1	14.5		8.6	19.4	0.2	15.0	6.1		12.7	7.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	8.1	14.5		8.6	19.4	0.2	15.0	6.1		12.7	7.5	
LOS	A	B		A	B	A	B	A		B	A	
Approach Delay		13.2			15.2			10.6			8.0	
Approach LOS		B			B			B			A	

Intersection Summary

Area Type: Other
 Cycle Length: 55
 Actuated Cycle Length: 48.2
 Natural Cycle: 55
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.50
 Intersection Signal Delay: 12.8
 Intersection Capacity Utilization 43.6%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 3: Cambridge Street & 1st Street



Queues
3: Cambridge Street & 1st Street
























Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	90	370	104	260	27	123	122	12	115
v/c Ratio	0.18	0.43	0.22	0.50	0.05	0.26	0.18	0.03	0.17
Control Delay	8.1	14.5	8.6	19.4	0.2	15.0	6.1	12.7	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.1	14.5	8.6	19.4	0.2	15.0	6.1	12.7	7.5
Queue Length 50th (m)	4.1	11.9	4.8	20.8	0.0	7.8	1.7	0.7	2.8
Queue Length 95th (m)	9.5	20.9	10.7	38.3	0.0	20.2	10.9	3.6	12.2
Internal Link Dist (m)		209.0		239.0			284.7		96.7
Turn Bay Length (m)	30.0		80.0			50.0		30.0	
Base Capacity (vph)	511	1231	470	660	637	468	664	465	667
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.30	0.22	0.39	0.04	0.26	0.18	0.03	0.17

Intersection Summary

Lanes, Volumes, Timings
6: High Street & 1st Street

2020 Future Background AM

12/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	315	37	101	244	401	79	319	100	529	282	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	60.0		0.0	65.0		135.0	65.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frnt		0.984				0.850		0.964			0.987	
Flt Protected	0.950			0.950			0.950			0.950	0.979	
Satd. Flow (prot)	1750	3444	0	1750	3500	1566	1750	3374	0	1592	3239	0
Flt Permitted	0.595			0.451			0.950			0.950	0.979	
Satd. Flow (perm)	1096	3444	0	831	3500	1566	1750	3374	0	1592	3239	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17				418		50			13	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		263.0			517.2			308.8			272.0	
Travel Time (s)		18.9			37.2			22.2			19.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	52	328	39	105	254	418	82	332	104	551	294	50
Shared Lane Traffic (%)										46%		
Lane Group Flow (vph)	52	367	0	105	254	418	82	436	0	298	597	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Split	NA		Split	NA	
Protected Phases	3	8		7	4		5	5		6	6	
Permitted Phases	8			4		4				6		6
Detector Phase	3	8		7	4	4	5	5		6		6

Lanes, Volumes, Timings
6: High Street & 1st Street

2020 Future Background AM

12/17/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	9.5	9.5		21.5	21.5	
Total Split (s)	9.5	21.6		9.6	21.7	21.7	15.0	15.0		23.8	23.8	
Total Split (%)	13.6%	30.9%		13.7%	31.0%	31.0%	21.4%	21.4%		34.0%	34.0%	
Maximum Green (s)	6.0	16.1		6.1	16.2	16.2	9.5	9.5		18.3	18.3	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	None		Max	Max	
Walk Time (s)		5.0			5.0	5.0				5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0				11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0				0	0	
Act Effct Green (s)	18.5	11.9		19.4	13.9	13.9	9.6	9.6		18.5	18.5	
Actuated g/C Ratio	0.29	0.19		0.30	0.22	0.22	0.15	0.15		0.29	0.29	
v/c Ratio	0.14	0.56		0.31	0.33	0.63	0.31	0.80		0.65	0.63	
Control Delay	14.7	26.4		16.9	23.2	7.5	30.1	37.8		30.0	24.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	14.7	26.4		16.9	23.2	7.5	30.1	37.8		30.0	24.1	
LOS	B	C		B	C	A	C	D		C	C	
Approach Delay		24.9			13.9			36.6			26.1	
Approach LOS		C			B			D			C	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 64

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 24.4

Intersection LOS: C

Intersection Capacity Utilization 61.0%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 6: High Street & 1st Street

ø5	ø6	ø3	ø4
15 s	23.8 s	9.5 s	21.7 s
		ø7	ø8
		9.6 s	21.6 s

Queues
6: High Street & 1st Street

2020 Future Background AM

12/17/2014



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	52	367	105	254	418	82	436	298	597
v/c Ratio	0.14	0.56	0.31	0.33	0.63	0.31	0.80	0.65	0.63
Control Delay	14.7	26.4	16.9	23.2	7.5	30.1	37.8	30.0	24.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.7	26.4	16.9	23.2	7.5	30.1	37.8	30.0	24.1
Queue Length 50th (m)	4.1	20.7	8.6	14.5	0.0	9.1	24.3	35.2	34.3
Queue Length 95th (m)	10.1	32.4	17.6	23.8	19.9	21.7	#50.4	#74.7	55.0
Internal Link Dist (m)		239.0		493.2			284.8		248.0
Turn Bay Length (m)	60.0		65.0		135.0	65.0			
Base Capacity (vph)	379	888	340	937	725	262	548	460	945
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.41	0.31	0.27	0.58	0.31	0.80	0.65	0.63

Intersection Summary

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

Lanes, Volumes, Timings
9: High Street & Home Depot Access



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↗	
Volume (vph)	0	47	0	448	399	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	10.0	55.0			0.0
Storage Lanes	0	0	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.865			0.983	
Flt Protected						
Satd. Flow (prot)	0	1593	0	3500	3440	0
Flt Permitted						
Satd. Flow (perm)	0	1593	0	3500	3440	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	261.5			150.0	308.8	
Travel Time (s)	18.8			10.8	22.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	49	0	467	416	54
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	49	0	467	470	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Yield			Free	Free	






















Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 22.7% ICU Level of Service A
 Analysis Period (min) 15

Lanes, Volumes, Timings
11: High Street & 3rd Street

2020 Future Background AM

12/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	5	13	19	0	90	81	418	32	79	367	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	30.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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		0.889			0.850			0.989			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1638	0	1750	1566	0	1750	3461	0	1750	3496	0
Flt Permitted							0.524			0.483		
Satd. Flow (perm)	1842	1638	0	1842	1566	0	965	3461	0	890	3496	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			428			15			1	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		261.0			77.6			568.8			150.0	
Travel Time (s)		18.8			5.6			41.0			10.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	2	5	14	20	0	94	84	435	33	82	382	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	19	0	20	94	0	84	468	0	82	384	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	

Lanes, Volumes, Timings
11: High Street & 3rd Street

2020 Future Background AM
12/17/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.5	21.5		21.5	21.5		9.5	21.5		9.5	21.5	
Total Split (s)	22.0	22.0		22.0	22.0		10.0	23.0		10.0	23.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		18.2%	41.8%		18.2%	41.8%	
Maximum Green (s)	16.5	16.5		16.5	16.5		6.5	17.5		6.5	17.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		5.5	5.5		3.5	5.5		3.5	5.5	
Lead/Lag							Lead	Lag		Lead	Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	6.2	6.2		6.2	6.2		29.3	26.3		29.3	26.3	
Actuated g/C Ratio	0.15	0.15		0.15	0.15		0.71	0.63		0.71	0.63	
v/c Ratio	0.01	0.07		0.07	0.16		0.11	0.21		0.11	0.17	
Control Delay	16.5	11.7		17.3	0.6		3.2	7.8		3.2	7.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	16.5	11.7		17.3	0.6		3.2	7.8		3.2	7.8	
LOS	B	B		B	A		A	A		A	A	
Approach Delay		12.1			3.5			7.1			7.0	
Approach LOS		B			A			A			A	

Intersection Summary

Area Type: Other
 Cycle Length: 55
 Actuated Cycle Length: 41.5
 Natural Cycle: 55
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.21
 Intersection Signal Delay: 6.8
 Intersection Capacity Utilization 37.2%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

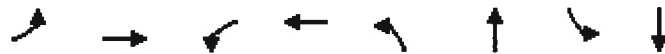
Splits and Phases: 11: High Street & 3rd Street

10 s	23 s	22 s
10 s	23 s	22 s

Queues
11: High Street & 3rd Street

2020 Future Background AM

12/17/2014

























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	2	19	20	94	84	468	82	384
v/c Ratio	0.01	0.07	0.07	0.16	0.11	0.21	0.11	0.17
Control Delay	16.5	11.7	17.3	0.6	3.2	7.8	3.2	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.5	11.7	17.3	0.6	3.2	7.8	3.2	7.8
Queue Length 50th (m)	0.2	0.3	1.4	0.0	1.7	12.0	1.7	9.9
Queue Length 95th (m)	1.5	4.3	5.5	0.0	4.9	21.5	4.8	18.2
Internal Link Dist (m)		237.0		53.6		544.8		126.0
Turn Bay Length (m)	20.0		20.0		30.0		30.0	
Base Capacity (vph)	741	667	741	886	806	2195	765	2212
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	0.00	0.03	0.03	0.11	0.10	0.21	0.11	0.17

Intersection Summary

Lanes, Volumes, Timings
14: High Street & 6th Street

2020 Future Background AM

12/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								 			 	
Volume (vph)	84	155	53	19	109	114	58	274	50	65	183	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	200.0		0.0	20.0		0.0	100.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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		0.962			0.923			0.977			0.961	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1772	0	1750	1700	0	1750	3419	0	1750	3363	0
Flt Permitted	0.600			0.623			0.592			0.549		
Satd. Flow (perm)	1105	1772	0	1148	1700	0	1090	3419	0	1011	3363	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		31			95			35			68	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		327.4			123.4			257.6			568.8	
Travel Time (s)		23.6			8.9			18.5			41.0	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	88	161	55	20	114	119	60	285	52	68	191	68
Shared Lane Traffic (%)												
Lane Group Flow (vph)	88	216	0	20	233	0	60	337	0	68	259	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	

Lanes, Volumes, Timings
14: High Street & 6th Street

2020 Future Background AM
12/17/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Minimum Split (s)	30.8	30.8		30.8	30.8		7.0	26.9		7.0	26.9	
Total Split (s)	30.8	30.8		30.8	30.8		7.0	27.2		7.0	27.2	
Total Split (%)	47.4%	47.4%		47.4%	47.4%		10.8%	41.8%		10.8%	41.8%	
Maximum Green (s)	25.3	25.3		25.3	25.3		3.5	21.7		3.5	21.7	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		5.5	5.5		3.5	5.5		3.5	5.5	
Lead/Lag							Lead	Lag		Lead	Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	15.0	15.0		15.0	15.0			13.0			13.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0			8.0			8.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	10.5	10.5		10.5	10.5		26.1	22.1		26.1	22.1	
Actuated g/C Ratio	0.22	0.22		0.22	0.22		0.55	0.46		0.55	0.46	
v/c Ratio	0.36	0.52		0.08	0.52		0.09	0.21		0.11	0.16	
Control Delay	20.9	19.2		15.9	14.8		5.5	8.7		5.6	7.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	20.9	19.2		15.9	14.8		5.5	8.7		5.6	7.2	
LOS	C	B		B	B		A	A		A	A	
Approach Delay		19.7			14.9			8.2			6.9	
Approach LOS		B			B			A			A	

Intersection Summary

Area Type: Other
 Cycle Length: 65
 Actuated Cycle Length: 47.6
 Natural Cycle: 65
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.52
 Intersection Signal Delay: 11.9
 Intersection Capacity Utilization 47.2%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 14: High Street & 6th Street

7 s	27.2 s	30.8 s
7 s	27.2 s	30.8 s

Queues
14: High Street & 6th Street

2020 Future Background AM
12/17/2014
























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	88	216	20	233	60	337	68	259
v/c Ratio	0.36	0.52	0.08	0.52	0.09	0.21	0.11	0.16
Control Delay	20.9	19.2	15.9	14.8	5.5	8.7	5.6	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.9	19.2	15.9	14.8	5.5	8.7	5.6	7.2
Queue Length 50th (m)	6.8	14.7	1.5	10.7	1.8	8.2	2.0	5.0
Queue Length 95th (m)	16.4	29.9	5.4	25.9	6.4	17.7	7.1	12.4
Internal Link Dist (m)		303.4		99.4		233.6		544.8
Turn Bay Length (m)	200.0		20.0		100.0		40.0	
Base Capacity (vph)	598	974	622	964	646	1608	609	1599
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	0.15	0.22	0.03	0.24	0.09	0.21	0.11	0.16

Intersection Summary

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2020 Future Background PM
12/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	96	448	130	148	437	46	153	78	131	27	57	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	80.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.966				0.850		0.906			0.904	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3381	0	1750	1842	1566	1750	1669	0	1750	1665	0
Flt Permitted	0.314			0.358			0.654			0.622		
Satd. Flow (perm)	578	3381	0	659	1842	1566	1205	1669	0	1146	1665	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		70				109		136			104	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		233.0			263.0			308.5			120.7	
Travel Time (s)		16.8			18.9			22.2			8.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	100	467	135	154	455	48	159	81	136	28	59	104
Shared Lane Traffic (%)												
Lane Group Flow (vph)	100	602	0	154	455	48	159	217	0	28	163	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	7	4		3	8	8	2	2		6	6	

Lanes, Volumes, Timings
 3: Cambridge Street & 1st Street

2020 Future Background PM
 12/17/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	21.5	21.5		21.5	21.5	
Total Split (s)	9.5	27.5		10.0	28.0	28.0	22.5	22.5		22.5	22.5	
Total Split (%)	15.8%	45.8%		16.7%	46.7%	46.7%	37.5%	37.5%		37.5%	37.5%	
Maximum Green (s)	6.0	22.0		6.5	22.5	22.5	17.0	17.0		17.0	17.0	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	23.9	17.3		24.6	17.7	17.7	17.5	17.5		17.5	17.5	
Actuated g/C Ratio	0.45	0.32		0.46	0.33	0.33	0.33	0.33		0.33	0.33	
v/c Ratio	0.26	0.53		0.35	0.75	0.08	0.40	0.34		0.07	0.27	
Control Delay	8.1	14.9		8.9	24.9	0.6	20.9	9.0		16.3	8.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	8.1	14.9		8.9	24.9	0.6	20.9	9.0		16.3	8.7	
LOS	A	B		A	C	A	C	A		B	A	
Approach Delay		13.9			19.4			14.0			9.8	
Approach LOS		B			B			B			A	

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 53.6
 Natural Cycle: 60
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 15.4
 Intersection Capacity Utilization 63.0%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 3: Cambridge Street & 1st Street

Ø2	Ø3	Ø4
22.5 s	10 s	27.5 s
Ø6	Ø7	Ø8
22.5 s	9.5 s	28 s

Queues
3: Cambridge Street & 1st Street
























2020 Future Background PM
12/17/2014



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	100	602	154	455	48	159	217	28	163
v/c Ratio	0.26	0.53	0.35	0.75	0.08	0.40	0.34	0.07	0.27
Control Delay	8.1	14.9	8.9	24.9	0.6	20.9	9.0	16.3	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.1	14.9	8.9	24.9	0.6	20.9	9.0	16.3	8.7
Queue Length 50th (m)	4.5	22.4	7.2	40.2	0.0	13.2	6.1	2.1	4.4
Queue Length 95th (m)	9.8	34.8	14.1	67.5	0.9	29.6	20.8	7.3	16.7
Internal Link Dist (m)		209.0		239.0			284.5		96.7
Turn Bay Length (m)	30.0		80.0			50.0		30.0	
Base Capacity (vph)	392	1468	438	795	738	393	636	374	613
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.41	0.35	0.57	0.07	0.40	0.34	0.07	0.27

Intersection Summary

Lanes, Volumes, Timings
6: High Street & 1st Street

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	79	509	77	199	441	670	89	400	96	610	509	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	60.0		0.0	65.0		135.0	65.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.980				0.850		0.971			0.993	
Flt Protected	0.950			0.950			0.950			0.950	0.985	
Satd. Flow (prot)	1750	3430	0	1750	3500	1566	1750	3398	0	1592	3279	0
Flt Permitted	0.452			0.205			0.950			0.950	0.985	
Satd. Flow (perm)	833	3430	0	378	3500	1566	1750	3398	0	1592	3279	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19				698		31			6	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		263.0			517.2			308.8			272.0	
Travel Time (s)		18.9			37.2			22.2			19.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	82	530	80	207	459	698	93	417	100	635	530	40
Shared Lane Traffic (%)										38%		
Lane Group Flow (vph)	82	610	0	207	459	698	93	517	0	394	811	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Split	NA		Split	NA	
Protected Phases	3	8		7	4		5	5		6	6	
Permitted Phases	8			4		4						
Detector Phase	3	8		7	4	4	5	5		6	6	

Lanes, Volumes, Timings
6: High Street & 1st Street

2020 Future Background PM
12/17/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	9.5	9.5		21.5	21.5	
Total Split (s)	9.5	22.0		11.0	23.5	23.5	18.0	18.0		29.0	29.0	
Total Split (%)	11.9%	27.5%		13.8%	29.4%	29.4%	22.5%	22.5%		36.3%	36.3%	
Maximum Green (s)	6.0	16.5		7.5	18.0	18.0	12.5	12.5		23.5	23.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	None		Max	Max	
Walk Time (s)		5.0			5.0	5.0				5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0				11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0				0	0	
Act Effct Green (s)	24.0	16.1		27.5	19.5	19.5	12.5	12.5		23.5	23.5	
Actuated g/C Ratio	0.30	0.20		0.35	0.24	0.24	0.16	0.16		0.30	0.30	
v/c Ratio	0.26	0.86		0.80	0.53	0.77	0.34	0.92		0.84	0.83	
Control Delay	19.2	43.8		43.9	29.6	9.1	34.0	56.2		44.5	35.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	19.2	43.8		43.9	29.6	9.1	34.0	56.2		44.5	35.4	
LOS	B	D		D	C	A	C	E		D	D	
Approach Delay		40.9			21.3			52.8			38.4	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 79.6
 Natural Cycle: 80
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 35.1
 Intersection Capacity Utilization 80.8%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service D

Splits and Phases: 6: High Street & 1st Street

Ø5	Ø6	Ø3	Ø4
18 s	29 s	9.5 s	23.5 s
		Ø7	Ø8
		11 s	22 s

Queues
6: High Street & 1st Street



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	82	610	207	459	698	93	517	394	811
v/c Ratio	0.26	0.86	0.80	0.53	0.77	0.34	0.92	0.84	0.83
Control Delay	19.2	43.8	43.9	29.6	9.1	34.0	56.2	44.5	35.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.2	43.8	43.9	29.6	9.1	34.0	56.2	44.5	35.4
Queue Length 50th (m)	8.1	45.7	22.1	32.8	0.0	12.8	38.8	61.4	62.6
Queue Length 95th (m)	17.0	#72.2	#48.0	47.4	32.7	25.9	#68.0	#112.3	#93.1
Internal Link Dist (m)		239.0		493.2			284.8		248.0
Turn Bay Length (m)	60.0		65.0		135.0	65.0			
Base Capacity (vph)	320	726	259	858	911	274	560	470	972
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.84	0.80	0.53	0.77	0.34	0.92	0.84	0.83

Intersection Summary

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

Lanes, Volumes, Timings
9: High Street & Home Depot Access
























Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Volume (vph)	0	38	0	569	765	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	10.0	55.0			0.0
Storage Lanes	0	0	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Fr _t		0.865			0.994	
Fl _t Protected						
Satd. Flow (prot)	0	1593	0	3500	3479	0
Fl _t Permitted						
Satd. Flow (perm)	0	1593	0	3500	3479	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	261.8			150.0	308.8	
Travel Time (s)	18.8			10.8	22.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	40	0	593	797	36
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	40	0	593	833	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Yield			Free	Free	

Intersection Summary

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

Lanes, Volumes, Timings
11: High Street & 3rd Street

2020 Future Background PM
12/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	5	32	31	17	122	72	472	33	94	689	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	30.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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		0.870			0.869			0.990				
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	1842	1603	0	1750	1601	0	1750	3465	0	1750	3500	0
Flt Permitted				0.732			0.365			0.457		
Satd. Flow (perm)	1842	1603	0	1348	1601	0	672	3465	0	842	3500	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33			127			14			1	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		263.0			77.6			568.8			150.0	
Travel Time (s)		18.9			5.6			41.0			10.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	5	33	32	18	127	75	492	34	98	718	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	38	0	32	145	0	75	526	0	98	720	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	

Lanes, Volumes, Timings
11: High Street & 3rd Street

2020 Future Background PM
12/17/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.5	21.5		21.5	21.5		9.5	21.5		9.5	21.5	
Total Split (s)	21.6	21.6		21.6	21.6		9.6	23.8		9.6	23.8	
Total Split (%)	39.3%	39.3%		39.3%	39.3%		17.5%	43.3%		17.5%	43.3%	
Maximum Green (s)	16.1	16.1		16.1	16.1		6.1	18.3		6.1	18.3	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		5.5	5.5		3.5	5.5		3.5	5.5	
Lead/Lag							Lead	Lag		Lead	Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		7.0		7.0	7.0		27.9	23.7		27.9	23.7	
Actuated g/C Ratio		0.16		0.16	0.16		0.64	0.55		0.64	0.55	
v/c Ratio		0.13		0.15	0.40		0.13	0.28		0.15	0.38	
Control Delay		9.4		18.2	9.2		4.0	8.9		4.1	9.8	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		9.4		18.2	9.2		4.0	8.9		4.1	9.8	
LOS		A		B	A		A	A		A	A	
Approach Delay		9.4			10.8			8.3			9.1	
Approach LOS		A			B			A			A	

Intersection Summary

Area Type: Other
 Cycle Length: 55
 Actuated Cycle Length: 43.4
 Natural Cycle: 55
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.40
 Intersection Signal Delay: 9.0
 Intersection Capacity Utilization 44.0%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 11: High Street & 3rd Street

Ø1	Ø2	Ø4
9.6 s	23.8 s	21.6 s
Ø5	Ø6	Ø8
9.6 s	23.8 s	21.6 s

Queues
11: High Street & 3rd Street

2020 Future Background PM
12/17/2014
























Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	38	32	145	75	526	98	720
v/c Ratio	0.13	0.15	0.40	0.13	0.28	0.15	0.38
Control Delay	9.4	18.2	9.2	4.0	8.9	4.1	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.4	18.2	9.2	4.0	8.9	4.1	9.8
Queue Length 50th (m)	0.4	2.3	1.3	1.6	14.1	2.1	21.3
Queue Length 95th (m)	5.9	7.6	12.1	5.4	26.1	6.7	37.6
Internal Link Dist (m)	239.0		53.6		544.8		126.0
Turn Bay Length (m)		20.0		30.0		30.0	
Base Capacity (vph)	621	505	679	584	1897	669	1910
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.06	0.21	0.13	0.28	0.15	0.38

Intersection Summary

Lanes, Volumes, Timings
14: High Street & 6th Street

2020 Future Background PM

12/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	83	131	76	39	162	138	77	277	21	176	439	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	200.0		0.0	20.0		0.0	100.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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		0.945			0.931			0.989			0.966	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1741	0	1750	1715	0	1750	3461	0	1750	3381	0
Flt Permitted	0.398			0.590			0.429			0.498		
Satd. Flow (perm)	733	1741	0	1087	1715	0	790	3461	0	917	3381	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		47			69			12			60	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		327.4			123.4			257.6			568.8	
Travel Time (s)		23.6			8.9			18.5			41.0	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	86	136	79	41	169	144	80	289	22	183	457	134
Shared Lane Traffic (%)												
Lane Group Flow (vph)	86	215	0	41	313	0	80	311	0	183	591	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	

Lanes, Volumes, Timings
14: High Street & 6th Street

2020 Future Background PM
12/17/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Minimum Split (s)	31.0	31.0		31.0	31.0		7.0	27.1		7.0	27.1	
Total Split (s)	31.0	31.0		31.0	31.0		9.0	29.0		10.0	30.0	
Total Split (%)	44.3%	44.3%		44.3%	44.3%		12.9%	41.4%		14.3%	42.9%	
Maximum Green (s)	25.5	25.5		25.5	25.5		5.5	23.5		6.5	24.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		5.5	5.5		3.5	5.5		3.5	5.5	
Lead/Lag							Lead	Lag		Lead	Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	15.0	15.0		15.0	15.0			13.0			13.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0			8.0			8.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	13.9	13.9		13.9	13.9		31.2	23.7		34.2	28.5	
Actuated g/C Ratio	0.24	0.24		0.24	0.24		0.53	0.40		0.58	0.49	
v/c Ratio	0.50	0.48		0.16	0.68		0.16	0.22		0.29	0.35	
Control Delay	29.2	18.1		18.3	23.4		7.0	12.6		7.6	11.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	29.2	18.1		18.3	23.4		7.0	12.6		7.6	11.1	
LOS	C	B		B	C		A	B		A	B	
Approach Delay		21.3			22.9			11.4			10.3	
Approach LOS		C			C			B			B	

Intersection Summary

Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 58.6
 Natural Cycle: 70
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.68
 Intersection Signal Delay: 14.8
 Intersection Capacity Utilization 59.2%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 14: High Street & 6th Street

Ø1	Ø2	Ø4
10 s	29 s	31 s
Ø5	Ø6	Ø8
9 s	30 s	31 s

Queues
14: High Street & 6th Street

2020 Future Background PM
12/17/2014

























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	86	215	41	313	80	311	183	591
v/c Ratio	0.50	0.48	0.16	0.68	0.16	0.22	0.29	0.35
Control Delay	29.2	18.1	18.3	23.4	7.0	12.6	7.6	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.2	18.1	18.3	23.4	7.0	12.6	7.6	11.1
Queue Length 50th (m)	7.9	15.1	3.5	23.2	2.9	10.3	7.2	19.3
Queue Length 95th (m)	19.1	30.6	9.7	44.3	9.9	21.8	20.0	38.0
Internal Link Dist (m)		303.4		99.4		233.6		544.8
Turn Bay Length (m)	200.0		20.0		100.0		40.0	
Base Capacity (vph)	321	789	476	790	511	1405	628	1674
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	0.27	0.27	0.09	0.40	0.16	0.22	0.29	0.35

Intersection Summary

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2020 Future Background Saturday

12/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	61	419	125	198	541	65	190	70	216	39	83	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	80.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.966				0.850		0.887			0.931	
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3381	0	1750	1842	1566	1750	1634	0	1750	1715	0
Fl _t Permitted	0.311			0.316			0.656			0.495		
Satd. Flow (perm)	573	3381	0	582	1842	1566	1208	1634	0	912	1715	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		69				109		225			71	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		233.0			263.0			306.1			120.7	
Travel Time (s)		16.8			18.9			22.0			8.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	64	436	130	206	564	68	198	73	225	41	86	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	566	0	206	564	68	198	298	0	41	160	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	7	4		3	8	8	2	2		6	6	

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2020 Future Background Saturday
12/17/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	21.5	21.5		21.5	21.5	
Total Split (s)	9.5	25.3		12.6	28.4	28.4	22.1	22.1		22.1	22.1	
Total Split (%)	15.8%	42.2%		21.0%	47.3%	47.3%	36.8%	36.8%		36.8%	36.8%	
Maximum Green (s)	6.0	19.8		9.1	22.9	22.9	16.6	16.6		16.6	16.6	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	23.5	15.6		29.1	22.1	22.1	16.8	16.8		16.8	16.8	
Actuated g/C Ratio	0.42	0.28		0.53	0.40	0.40	0.30	0.30		0.30	0.30	
v/c Ratio	0.17	0.57		0.43	0.77	0.10	0.54	0.46		0.15	0.28	
Control Delay	7.3	16.9		9.4	24.6	1.7	24.6	8.0		18.0	11.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	7.3	16.9		9.4	24.6	1.7	24.6	8.0		18.0	11.7	
LOS	A	B		A	C	A	C	A		B	B	
Approach Delay		15.9			19.0			14.6			13.0	
Approach LOS		B			B			B			B	

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 55.3
 Natural Cycle: 60
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.77
 Intersection Signal Delay: 16.5
 Intersection Capacity Utilization 69.2%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

Splits and Phases: 3: Cambridge Street & 1st Street

22.1 s	12.6 s	25.3 s
22.1 s	9.5 s	28.4 s

Queues
3: Cambridge Street & 1st Street

2020 Future Background Saturday
12/17/2014
























Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	64	566	206	564	68	198	298	41	160
v/c Ratio	0.17	0.57	0.43	0.77	0.10	0.54	0.46	0.15	0.28
Control Delay	7.3	16.9	9.4	24.6	1.7	24.6	8.0	18.0	11.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.3	16.9	9.4	24.6	1.7	24.6	8.0	18.0	11.7
Queue Length 50th (m)	2.8	22.0	9.7	53.4	0.0	18.7	6.0	3.4	7.4
Queue Length 95th (m)	6.7	34.6	18.2	#101.4	3.2	#38.0	22.7	10.0	19.7
Internal Link Dist (m)		209.0		239.0			282.1		96.7
Turn Bay Length (m)	30.0		80.0			50.0		30.0	
Base Capacity (vph)	374	1271	501	772	720	367	653	277	570
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.45	0.41	0.73	0.09	0.54	0.46	0.15	0.28

Intersection Summary

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

Lanes, Volumes, Timings
6: High Street & 1st Street

2020 Future Background Saturday
12/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	118	552	86	162	509	675	111	348	122	731	424	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	60.0		0.0	65.0		135.0	65.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.980				0.850		0.961			0.986	
Flt Protected	0.950			0.950			0.950			0.950	0.981	
Satd. Flow (prot)	1750	3430	0	1750	3500	1566	1750	3363	0	1592	3243	0
Flt Permitted	0.320			0.194			0.950			0.950	0.981	
Satd. Flow (perm)	589	3430	0	357	3500	1566	1750	3363	0	1592	3243	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18				703		46			12	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		263.0			517.2			308.8			272.0	
Travel Time (s)		18.9			37.2			22.2			19.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	123	575	90	169	530	703	116	362	127	761	442	79
Shared Lane Traffic (%)										44%		
Lane Group Flow (vph)	123	665	0	169	530	703	116	489	0	426	856	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Split	NA		Split	NA	
Protected Phases	3	8		7	4		5	5		6	6	
Permitted Phases	8			4		4						
Detector Phase	3	8		7	4	4	5	5		6	6	

Lanes, Volumes, Timings
6: High Street & 1st Street

2020 Future Background Saturday
12/17/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	9.5	9.5		21.5	21.5	
Total Split (s)	9.5	25.0		11.0	26.5	26.5	19.0	19.0		35.0	35.0	
Total Split (%)	10.6%	27.8%		12.2%	29.4%	29.4%	21.1%	21.1%		38.9%	38.9%	
Maximum Green (s)	6.0	19.5		7.5	21.0	21.0	13.5	13.5		29.5	29.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	None		Max	Max	
Walk Time (s)		5.0			5.0	5.0				5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0				11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0				0	0	
Act Effct Green (s)	27.1	19.1		30.1	20.6	20.6	13.5	13.5		29.5	29.5	
Actuated g/C Ratio	0.30	0.21		0.34	0.23	0.23	0.15	0.15		0.33	0.33	
v/c Ratio	0.48	0.89		0.72	0.66	0.78	0.44	0.90		0.81	0.80	
Control Delay	27.3	49.6		39.7	35.9	9.6	40.7	55.0		42.0	33.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	27.3	49.6		39.7	35.9	9.6	40.7	55.0		42.0	33.6	
LOS	C	D		D	D	A	D	E		D	C	
Approach Delay		46.1			23.2			52.3			36.4	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 89.6
 Natural Cycle: 90
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 36.1
 Intersection Capacity Utilization 81.2%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service D

Splits and Phases: 6: High Street & 1st Street

19 s	35 s	9.5 s	26.5 s
		11 s	25 s

Queues
6: High Street & 1st Street

2020 Future Background Saturday
12/17/2014



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	123	665	169	530	703	116	489	426	856
v/c Ratio	0.48	0.89	0.72	0.66	0.78	0.44	0.90	0.81	0.80
Control Delay	27.3	49.6	39.7	35.9	9.6	40.7	55.0	42.0	33.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.3	49.6	39.7	35.9	9.6	40.7	55.0	42.0	33.6
Queue Length 50th (m)	14.4	57.3	20.4	43.7	0.0	18.5	40.2	73.6	72.3
Queue Length 95th (m)	26.6	#87.2	#39.2	60.4	33.8	34.6	#68.3	#126.2	96.0
Internal Link Dist (m)		239.0		493.2			284.8		248.0
Turn Bay Length (m)	60.0		65.0		135.0	65.0			
Base Capacity (vph)	255	761	236	820	905	263	546	524	1076
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.87	0.72	0.65	0.78	0.44	0.90	0.81	0.80

Intersection Summary

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

Lanes, Volumes, Timings
 9: High Street & Home Depot Access

2020 Future Background Saturday
 12/18/2014
























Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↘	
Volume (vph)	0	71	0	542	605	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	10.0	55.0			0.0
Storage Lanes	0	0	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Fr _t		0.865			0.984	
Fl _t Protected						
Satd. Flow (prot)	0	1593	0	3500	3444	0
Fl _t Permitted						
Satd. Flow (perm)	0	1593	0	3500	3444	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	260.5			150.0	308.8	
Travel Time (s)	18.8			10.8	22.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	74	0	565	630	76
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	74	0	565	706	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Yield			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	30.1%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings
11: High Street & 3rd Street

2020 Future Background Saturday
12/17/2014

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	2	6	33	19	25	113	122	479	20	94	577	5	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (m)	20.0		0.0	20.0		0.0	30.0		0.0	30.0		0.0	
Storage Lanes	1		0	1		0	1		0	1		0	
Taper Length (m)	2.5			2.5			2.5			2.5			
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	
Frnt		0.872			0.877			0.994			0.999		
Flt Protected	0.950			0.950			0.950			0.950			
Satd. Flow (prot)	1750	1606	0	1750	1615	0	1750	3479	0	1750	3496	0	
Flt Permitted	0.714			0.731			0.399			0.460			
Satd. Flow (perm)	1315	1606	0	1347	1615	0	735	3479	0	847	3496	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		34			118			8			2		
Link Speed (k/h)		50			50			50			50		
Link Distance (m)		262.0			77.6			568.8			150.0		
Travel Time (s)		18.9			5.6			41.0			10.8		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Adj. Flow (vph)	2	6	34	20	26	118	127	499	21	98	601	5	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	2	40	0	20	144	0	127	520	0	98	606	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(m)		3.5			3.5			3.5			3.5		
Link Offset(m)		0.0			0.0			0.0			0.0		
Crosswalk Width(m)		1.6			1.6			1.6			1.6		
Two way Left Turn Lane													
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	
Turning Speed (k/h)	24		14	24		14	24		14	24		14	
Number of Detectors	1	2		1	2		1	2		1	2		
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru		
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5		
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8		
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(m)		28.7			28.7			28.7			28.7		
Detector 2 Size(m)		1.8			1.8			1.8			1.8		
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex		
Detector 2 Channel													
Detector 2 Extend (s)		0.0			0.0			0.0			0.0		
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA		
Protected Phases		4			8		5	2		1	6		
Permitted Phases	4			8			2			6			
Detector Phase	4	4		8	8		5	2		1	6		

Lanes, Volumes, Timings
11: High Street & 3rd Street

2020 Future Background Saturday
12/17/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.5	21.5		21.5	21.5		9.5	21.5		9.5	21.5	
Total Split (s)	22.0	22.0		22.0	22.0		10.0	23.0		10.0	23.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		18.2%	41.8%		18.2%	41.8%	
Maximum Green (s)	16.5	16.5		16.5	16.5		6.5	17.5		6.5	17.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		5.5	5.5		3.5	5.5		3.5	5.5	
Lead/Lag							Lead	Lag		Lead	Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	6.9	6.9		6.9	6.9		28.9	24.4		28.0	22.4	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.65	0.55		0.63	0.51	
v/c Ratio	0.01	0.14		0.10	0.41		0.20	0.27		0.15	0.34	
Control Delay	16.0	9.3		17.2	9.9		4.4	9.2		4.1	10.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	16.0	9.3		17.2	9.9		4.4	9.2		4.1	10.6	
LOS	B	A		B	A		A	A		A	B	
Approach Delay		9.7			10.8			8.2			9.7	
Approach LOS		A			B			A			A	

Intersection Summary

Area Type: Other
 Cycle Length: 55
 Actuated Cycle Length: 44.3
 Natural Cycle: 55
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.41
 Intersection Signal Delay: 9.2
 Intersection Capacity Utilization 43.6%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 11: High Street & 3rd Street

Ø1	Ø2	Ø4
10 s	23 s	22 s
Ø5	Ø6	Ø8
10 s	23 s	22 s

Queues
11: High Street & 3rd Street

2020 Future Background Saturday
12/17/2014
























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	2	40	20	144	127	520	98	606
v/c Ratio	0.01	0.14	0.10	0.41	0.20	0.27	0.15	0.34
Control Delay	16.0	9.3	17.2	9.9	4.4	9.2	4.1	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.0	9.3	17.2	9.9	4.4	9.2	4.1	10.6
Queue Length 50th (m)	0.2	0.4	1.4	1.8	2.7	14.1	2.0	17.2
Queue Length 95th (m)	1.4	6.0	5.5	12.6	8.3	26.5	6.7	31.6
Internal Link Dist (m)		238.0		53.6		544.8		126.0
Turn Bay Length (m)	20.0		20.0		30.0		30.0	
Base Capacity (vph)	493	623	505	679	629	1922	671	1769
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	0.00	0.06	0.04	0.21	0.20	0.27	0.15	0.34

Intersection Summary

Lanes, Volumes, Timings
14: High Street & 6th Street

2020 Future Background Saturday
12/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	113	138	63	35	148	137	61	264	27	132	325	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	200.0		0.0	20.0		0.0	100.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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		0.953			0.928			0.986			0.958	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1755	0	1750	1709	0	1750	3451	0	1750	3353	0
Flt Permitted	0.429			0.606			0.481			0.523		
Satd. Flow (perm)	790	1755	0	1116	1709	0	886	3451	0	963	3353	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37			75			17			96	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		327.4			123.4			257.6			568.8	
Travel Time (s)		23.6			8.9			18.5			41.0	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	118	144	66	36	154	143	64	275	28	138	339	134
Shared Lane Traffic (%)												
Lane Group Flow (vph)	118	210	0	36	297	0	64	303	0	138	473	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	

Lanes, Volumes, Timings
14: High Street & 6th Street

2020 Future Background Saturday
12/17/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Minimum Split (s)	31.0	31.0		31.0	31.0		7.0	27.1		7.0	27.1	
Total Split (s)	31.0	31.0		31.0	31.0		7.0	30.0		9.0	32.0	
Total Split (%)	44.3%	44.3%		44.3%	44.3%		10.0%	42.9%		12.9%	45.7%	
Maximum Green (s)	25.5	25.5		25.5	25.5		3.5	24.5		5.5	26.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		5.5	5.5		3.5	5.5		3.5	5.5	
Lead/Lag							Lead	Lag		Lead	Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	15.0	15.0		15.0	15.0			13.0			13.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0			8.0			8.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	13.0	13.0		13.0	13.0		30.1	25.4		33.5	28.4	
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.53	0.45		0.59	0.50	
v/c Ratio	0.65	0.49		0.14	0.66		0.12	0.19		0.21	0.27	
Control Delay	37.4	19.3		18.3	22.1		6.6	11.1		6.7	8.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	37.4	19.3		18.3	22.1		6.6	11.1		6.7	8.4	
LOS	D	B		B	C		A	B		A	A	
Approach Delay		25.8			21.6			10.3			8.0	
Approach LOS		C			C			B			A	

Intersection Summary

Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 56.4
 Natural Cycle: 70
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.66
 Intersection Signal Delay: 14.9
 Intersection Capacity Utilization 56.0%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 14: High Street & 6th Street

Ø1	Ø2	Ø4
9 s	30 s	31 s
Ø5	Ø6	Ø8
7 s	32 s	31 s

Queues
14: High Street & 6th Street

2020 Future Background Saturday
12/17/2014

























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	118	210	36	297	64	303	138	473
v/c Ratio	0.65	0.49	0.14	0.66	0.12	0.19	0.21	0.27
Control Delay	37.4	19.3	18.3	22.1	6.6	11.1	6.7	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.4	19.3	18.3	22.1	6.6	11.1	6.7	8.4
Queue Length 50th (m)	11.3	15.6	3.0	20.7	2.2	9.3	5.0	11.7
Queue Length 95th (m)	25.8	30.9	8.7	41.0	8.1	19.9	14.9	25.1
Internal Link Dist (m)		303.4		99.4		233.6		544.8
Turn Bay Length (m)	200.0		20.0		100.0		40.0	
Base Capacity (vph)	362	825	512	825	527	1563	648	1733
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	0.33	0.25	0.07	0.36	0.12	0.19	0.21	0.27

Intersection Summary

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2025 Future Background AM
12/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	99	317	91	115	287	30	135	31	103	14	53	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	80.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.966				0.850		0.885			0.913	
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3381	0	1750	1842	1566	1750	1630	0	1750	1682	0
Fl _t Permitted	0.502			0.500			0.673			0.668		
Satd. Flow (perm)	925	3381	0	921	1842	1566	1240	1630	0	1230	1682	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		71				119		107			76	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		233.0			263.0			308.0			120.7	
Travel Time (s)		16.8			18.9			22.2			8.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	103	330	95	120	299	31	141	32	107	15	55	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	103	425	0	120	299	31	141	139	0	15	131	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	7	4		3	8	8	2	2		6	6	

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2025 Future Background AM
12/17/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	21.5	21.5		21.5	21.5	
Total Split (s)	9.5	22.9		9.6	23.0	23.0	22.5	22.5		22.5	22.5	
Total Split (%)	17.3%	41.6%		17.5%	41.8%	41.8%	40.9%	40.9%		40.9%	40.9%	
Maximum Green (s)	6.0	17.4		6.1	17.5	17.5	17.0	17.0		17.0	17.0	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	19.2	12.7		19.4	12.8	12.8	17.4	17.4		17.4	17.4	
Actuated g/C Ratio	0.40	0.26		0.40	0.26	0.26	0.36	0.36		0.36	0.36	
v/c Ratio	0.22	0.46		0.25	0.62	0.06	0.32	0.21		0.03	0.20	
Control Delay	8.2	14.3		8.5	22.3	0.2	16.4	6.2		13.1	7.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	8.2	14.3		8.5	22.3	0.2	16.4	6.2		13.1	7.9	
LOS	A	B		A	C	A	B	A		B	A	
Approach Delay		13.1			17.1			11.3			8.4	
Approach LOS		B			B			B			A	

Intersection Summary

Area Type: Other
 Cycle Length: 55
 Actuated Cycle Length: 48.6
 Natural Cycle: 55
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.62
 Intersection Signal Delay: 13.5
 Intersection Capacity Utilization 52.4%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 3: Cambridge Street & 1st Street

22.5 s	9.6 s	22.9 s
22.5 s	9.5 s	23 s

Queues
3: Cambridge Street & 1st Street

2025 Future Background AM
12/17/2014




























Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	103	425	120	299	31	141	139	15	131
v/c Ratio	0.22	0.46	0.25	0.62	0.06	0.32	0.21	0.03	0.20
Control Delay	8.2	14.3	8.5	22.3	0.2	16.4	6.2	13.1	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.2	14.3	8.5	22.3	0.2	16.4	6.2	13.1	7.9
Queue Length 50th (m)	4.6	13.8	5.5	23.8	0.0	9.3	1.9	0.9	3.3
Queue Length 95th (m)	10.3	23.4	11.7	42.7	0.0	23.3	11.9	4.3	13.6
Internal Link Dist (m)		209.0		239.0			284.0		96.7
Turn Bay Length (m)	30.0		80.0			50.0		30.0	
Base Capacity (vph)	470	1285	474	679	653	444	652	441	651
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.33	0.25	0.44	0.05	0.32	0.21	0.03	0.20
Intersection Summary									

Lanes, Volumes, Timings
6: High Street & 1st Street

2025 Future Background AM

12/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Volume (vph)	57	361	42	116	280	460	91	366	115	607	282	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	60.0		0.0	65.0		135.0	65.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.984				0.850		0.964			0.989	
Flt Protected	0.950			0.950			0.950			0.950	0.977	
Satd. Flow (prot)	1750	3444	0	1750	3500	1566	1750	3374	0	1592	3239	0
Flt Permitted	0.573			0.379			0.950			0.950	0.977	
Satd. Flow (perm)	1055	3444	0	698	3500	1566	1750	3374	0	1592	3239	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15				479		48			11	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		263.0			517.2			308.8			272.0	
Travel Time (s)		18.9			37.2			22.2			19.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	59	376	44	121	292	479	95	381	120	632	294	50
Shared Lane Traffic (%)										49%		
Lane Group Flow (vph)	59	420	0	121	292	479	95	501	0	322	654	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Split	NA		Split	NA	
Protected Phases	3	8		7	4		5	5		6	6	
Permitted Phases	8			4		4				6		6
Detector Phase	3	8		7	4	4	5	5		6	6	

Lanes, Volumes, Timings
6: High Street & 1st Street

2025 Future Background AM
12/17/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	9.5	9.5		21.5	21.5	
Total Split (s)	9.5	21.6		9.6	21.7	21.7	18.0	18.0		25.8	25.8	
Total Split (%)	12.7%	28.8%		12.8%	28.9%	28.9%	24.0%	24.0%		34.4%	34.4%	
Maximum Green (s)	6.0	16.1		6.1	16.2	16.2	12.5	12.5		20.3	20.3	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	None		Max	Max	
Walk Time (s)		5.0			5.0	5.0				5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0				11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0				0	0	
Act Effct Green (s)	19.9	13.3		20.7	15.2	15.2	12.1	12.1		20.6	20.6	
Actuated g/C Ratio	0.28	0.19		0.30	0.22	0.22	0.17	0.17		0.29	0.29	
v/c Ratio	0.16	0.63		0.40	0.38	0.67	0.32	0.81		0.69	0.68	
Control Delay	17.0	30.2		21.0	25.8	8.1	30.4	37.9		33.2	27.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	17.0	30.2		21.0	25.8	8.1	30.4	37.9		33.2	27.0	
LOS	B	C		C	C	A	C	D		C	C	
Approach Delay		28.6			15.6			36.7			29.0	
Approach LOS		C			B			D			C	

Intersection Summary

Area Type: Other
 Cycle Length: 75
 Actuated Cycle Length: 69.9
 Natural Cycle: 75
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 26.5
 Intersection Capacity Utilization 66.6%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service C

Splits and Phases: 6: High Street & 1st Street

ø5	ø6	ø3	ø4
18 s	25.8 s	9.5 s	21.7 s
		ø7	ø8
		9.6 s	21.6 s

Queues
6: High Street & 1st Street

2025 Future Background AM
12/17/2014



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	59	420	121	292	479	95	501	322	654
v/c Ratio	0.16	0.63	0.40	0.38	0.67	0.32	0.81	0.69	0.68
Control Delay	17.0	30.2	21.0	25.8	8.1	30.4	37.9	33.2	27.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.0	30.2	21.0	25.8	8.1	30.4	37.9	33.2	27.0
Queue Length 50th (m)	5.3	27.0	11.4	18.6	0.0	11.5	31.6	43.4	43.2
Queue Length 95th (m)	12.4	40.6	22.1	29.3	23.5	24.7	#56.8	#85.2	64.2
Internal Link Dist (m)		239.0		493.2			284.8		248.0
Turn Bay Length (m)	60.0		65.0		135.0	65.0			
Base Capacity (vph)	360	814	299	874	750	316	650	468	960
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.52	0.40	0.33	0.64	0.30	0.77	0.69	0.68

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.
























Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	54	0	514	458	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	10.0	55.0			0.0
Storage Lanes	0	0	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.865			0.983	
Flt Protected						
Satd. Flow (prot)	0	1593	0	3500	3440	0
Flt Permitted						
Satd. Flow (perm)	0	1593	0	3500	3440	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	260.9			150.0	308.8	
Travel Time (s)	18.8			10.8	22.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	56	0	535	477	63
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	56	0	535	539	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Yield			Free	Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 24.6% ICU Level of Service A
 Analysis Period (min) 15

Lanes, Volumes, Timings
11: High Street & 3rd Street

2025 Future Background AM
12/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	6	15	22	0	103	93	480	37	91	421	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	30.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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		0.891			0.850			0.989			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1641	0	1750	1566	0	1750	3461	0	1750	3496	0
Flt Permitted	0.784			0.784			0.494			0.451		
Satd. Flow (perm)	1444	1641	0	1444	1566	0	910	3461	0	831	3496	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			396			15			1	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		262.0			77.6			568.8			150.0	
Travel Time (s)		18.9			5.6			41.0			10.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	2	6	16	23	0	107	97	500	39	95	439	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	22	0	23	107	0	97	539	0	95	441	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	

Lanes, Volumes, Timings
11: High Street & 3rd Street

2025 Future Background AM
12/17/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.5	21.5		21.5	21.5		9.5	21.5		9.5	21.5	
Total Split (s)	22.0	22.0		22.0	22.0		10.0	23.0		10.0	23.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		18.2%	41.8%		18.2%	41.8%	
Maximum Green (s)	16.5	16.5		16.5	16.5		6.5	17.5		6.5	17.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		5.5	5.5		3.5	5.5		3.5	5.5	
Lead/Lag							Lead	Lag		Lead	Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	6.3	6.3		6.3	6.3		27.9	23.5		27.9	23.5	
Actuated g/C Ratio	0.15	0.15		0.15	0.15		0.65	0.55		0.65	0.55	
v/c Ratio	0.01	0.09		0.11	0.19		0.14	0.28		0.14	0.23	
Control Delay	16.5	11.6		17.9	0.7		3.6	8.7		3.7	8.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	16.5	11.6		17.9	0.7		3.6	8.7		3.7	8.7	
LOS	B	B		B	A		A	A		A	A	
Approach Delay		12.0			3.8			8.0			7.8	
Approach LOS		B			A			A			A	

Intersection Summary

Area Type: Other
 Cycle Length: 55
 Actuated Cycle Length: 42.8
 Natural Cycle: 55
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.28
 Intersection Signal Delay: 7.6
 Intersection Capacity Utilization 39.9%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 11: High Street & 3rd Street

Ø1	Ø2	Ø4
10 s	23 s	22 s
Ø5	Ø6	Ø8
10 s	23 s	22 s

Queues
11: High Street & 3rd Street
























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	2	22	23	107	97	539	95	441
v/c Ratio	0.01	0.09	0.11	0.19	0.14	0.28	0.14	0.23
Control Delay	16.5	11.6	17.9	0.7	3.6	8.7	3.7	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.5	11.6	17.9	0.7	3.6	8.7	3.7	8.7
Queue Length 50th (m)	0.2	0.4	1.6	0.0	2.0	14.4	2.0	11.7
Queue Length 95th (m)	1.5	4.6	6.1	0.0	5.6	25.3	5.5	21.0
Internal Link Dist (m)		238.0		53.6		544.8		126.0
Turn Bay Length (m)	20.0		20.0		30.0		30.0	
Base Capacity (vph)	560	646	560	849	722	1906	682	1918
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	0.00	0.03	0.04	0.13	0.13	0.28	0.14	0.23

Intersection Summary

Lanes, Volumes, Timings
14: High Street & 6th Street

2025 Future Background AM
12/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	96	180	61	22	125	131	67	315	57	75	210	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	200.0		0.0	20.0		0.0	100.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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		0.962			0.923			0.977			0.965	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1772	0	1750	1700	0	1750	3419	0	1750	3377	0
Flt Permitted	0.529			0.556			0.576			0.523		
Satd. Flow (perm)	974	1772	0	1024	1700	0	1061	3419	0	963	3377	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		31			95			34			67	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		327.4			123.4			257.6			568.8	
Travel Time (s)		23.6			8.9			18.5			41.0	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	100	188	64	23	130	136	70	328	59	78	219	67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	100	252	0	23	266	0	70	387	0	78	286	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	

Lanes, Volumes, Timings
14: High Street & 6th Street

2025 Future Background AM
12/17/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Minimum Split (s)	30.8	30.8		30.8	30.8		7.0	26.9		7.0	26.9	
Total Split (s)	30.8	30.8		30.8	30.8		7.0	27.2		7.0	27.2	
Total Split (%)	47.4%	47.4%		47.4%	47.4%		10.8%	41.8%		10.8%	41.8%	
Maximum Green (s)	25.5	25.5		25.5	25.5		4.0	21.9		4.0	21.9	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.0	3.3		3.0	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		3.0	5.3		3.0	5.3	
Lead/Lag							Lead	Lag		Lead	Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	15.0	15.0		15.0	15.0			13.0			13.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0			8.0			8.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effect Green (s)	11.7	11.7		11.7	11.7		26.8	22.3		26.8	22.3	
Actuated g/C Ratio	0.24	0.24		0.24	0.24		0.55	0.46		0.55	0.46	
v/c Ratio	0.43	0.56		0.09	0.55		0.11	0.24		0.13	0.18	
Control Delay	22.4	19.7		15.7	15.5		5.8	9.4		5.9	7.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	22.4	19.7		15.7	15.5		5.8	9.4		5.9	7.8	
LOS	C	B		B	B		A	A		A	A	
Approach Delay		20.5			15.5			8.8			7.4	
Approach LOS		C			B			A			A	

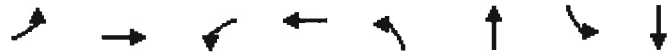
Intersection Summary

Area Type: Other
 Cycle Length: 65
 Actuated Cycle Length: 48.6
 Natural Cycle: 65
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.56
 Intersection Signal Delay: 12.6
 Intersection Capacity Utilization 51.2%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 14: High Street & 6th Street

7 s	27.2 s	30.8 s
7 s	27.2 s	30.8 s

Queues
14: High Street & 6th Street
























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	100	252	23	266	70	387	78	286
v/c Ratio	0.43	0.56	0.09	0.55	0.11	0.24	0.13	0.18
Control Delay	22.4	19.7	15.7	15.5	5.8	9.4	5.9	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.4	19.7	15.7	15.5	5.8	9.4	5.9	7.8
Queue Length 50th (m)	7.9	17.8	1.7	13.5	2.2	10.1	2.4	6.0
Queue Length 95th (m)	18.6	34.8	5.9	30.2	7.6	21.3	8.3	14.3
Internal Link Dist (m)		303.4		99.4		233.6		544.8
Turn Bay Length (m)	200.0		20.0		100.0		40.0	
Base Capacity (vph)	521	962	547	953	643	1589	597	1587
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	0.19	0.26	0.04	0.28	0.11	0.24	0.13	0.18

Intersection Summary

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2025 Future Background PM

12/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	514	149	170	502	53	176	90	150	31	65	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	80.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.966				0.850		0.906			0.904	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3381	0	1750	1842	1566	1750	1669	0	1750	1665	0
Flt Permitted	0.254			0.289			0.639			0.580		
Satd. Flow (perm)	468	3381	0	532	1842	1566	1177	1669	0	1068	1665	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		69				109		139			120	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		233.0			263.0			308.0			120.7	
Travel Time (s)		16.8			18.9			22.2			8.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	115	535	155	177	523	55	183	94	156	32	68	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	115	690	0	177	523	55	183	250	0	32	188	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	7	4		3	8	8	2	2		6	6	

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2025 Future Background PM
12/17/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	21.5	21.5		21.5	21.5	
Total Split (s)	9.5	26.7		10.8	28.0	28.0	22.5	22.5		22.5	22.5	
Total Split (%)	15.8%	44.5%		18.0%	46.7%	46.7%	37.5%	37.5%		37.5%	37.5%	
Maximum Green (s)	6.0	21.2		7.3	22.5	22.5	17.0	17.0		17.0	17.0	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	24.9	18.3		26.8	19.3	19.3	17.4	17.4		17.4	17.4	
Actuated g/C Ratio	0.45	0.33		0.49	0.35	0.35	0.32	0.32		0.32	0.32	
v/c Ratio	0.33	0.59		0.42	0.81	0.09	0.49	0.40		0.09	0.31	
Control Delay	9.0	16.3		9.8	28.5	1.1	23.5	10.6		16.9	9.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	9.0	16.3		9.8	28.5	1.1	23.5	10.6		16.9	9.0	
LOS	A	B		A	C	A	C	B		B	A	
Approach Delay		15.2			22.1			16.0			10.1	
Approach LOS		B			C			B			B	

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 55.1
 Natural Cycle: 60
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 17.2
 Intersection Capacity Utilization 69.8%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

Splits and Phases: 3: Cambridge Street & 1st Street

Ø2	Ø3	Ø4
22.5 s	10.8 s	25.7 s
Ø6	Ø7	Ø8
22.5 s	9.5 s	28 s

Queues
3: Cambridge Street & 1st Street



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	115	690	177	523	55	183	250	32	188
v/c Ratio	0.33	0.59	0.42	0.81	0.09	0.49	0.40	0.09	0.31
Control Delay	9.0	16.3	9.8	28.5	1.1	23.5	10.6	16.9	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.0	16.3	9.8	28.5	1.1	23.5	10.6	16.9	9.0
Queue Length 50th (m)	5.2	27.8	8.3	48.5	0.0	16.9	9.3	2.6	5.6
Queue Length 95th (m)	11.0	42.2	16.0	#91.7	1.7	34.4	25.2	8.1	18.5
Internal Link Dist (m)		209.0		239.0			284.0		96.7
Turn Bay Length (m)	30.0		80.0			50.0		30.0	
Base Capacity (vph)	353	1374	424	770	718	372	622	337	608
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.50	0.42	0.68	0.08	0.49	0.40	0.09	0.31






















Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
6: High Street & 1st Street

2025 Future Background PM
12/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	91	584	88	228	506	769	102	459	110	700	548	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	60.0		0.0	65.0		135.0	65.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.980				0.850		0.971			0.992	
Flt Protected	0.950			0.950			0.950			0.950	0.984	
Satd. Flow (prot)	1750	3430	0	1750	3500	1566	1750	3398	0	1592	3272	0
Flt Permitted	0.398			0.176			0.950			0.950	0.984	
Satd. Flow (perm)	733	3430	0	324	3500	1566	1750	3398	0	1592	3272	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17				690		28			6	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		263.0			517.2			308.8			272.0	
Travel Time (s)		18.9			37.2			22.2			19.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	95	608	92	238	527	801	106	478	115	729	571	46
Shared Lane Traffic (%)										39%		
Lane Group Flow (vph)	95	700	0	238	527	801	106	593	0	445	901	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Split	NA		Split	NA	
Protected Phases	3	8		7	4		5	5		6	6	
Permitted Phases	8			4		4						
Detector Phase	3	8		7	4	4	5	5		6	6	

Lanes, Volumes, Timings
6: High Street & 1st Street

2025 Future Background PM
12/17/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	9.5	9.5		21.5	21.5	
Total Split (s)	9.5	24.0		12.6	27.1	27.1	20.4	20.4		33.0	33.0	
Total Split (%)	10.6%	26.7%		14.0%	30.1%	30.1%	22.7%	22.7%		36.7%	36.7%	
Maximum Green (s)	6.0	18.5		9.1	21.6	21.6	14.9	14.9		27.5	27.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	None		Max	Max	
Walk Time (s)		5.0			5.0	5.0				5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0				11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0				0	0	
Act Effct Green (s)	26.5	18.5		32.8	23.5	23.5	14.9	14.9		27.5	27.5	
Actuated g/C Ratio	0.29	0.21		0.36	0.26	0.26	0.17	0.17		0.31	0.31	
v/c Ratio	0.34	0.97		0.91	0.58	0.87	0.37	1.01		0.92	0.90	
Control Delay	22.9	64.0		61.9	32.6	17.6	37.5	77.7		56.4	43.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	22.9	64.0		61.9	32.6	17.6	37.5	77.7		56.4	43.0	
LOS	C	E		E	C	B	D	E		E	D	
Approach Delay		59.1			29.4			71.6			47.5	
Approach LOS		E			C			E			D	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Natural Cycle: 90
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 1.01
 Intersection Signal Delay: 47.0
 Intersection Capacity Utilization 89.5%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service E

Splits and Phases: 6: High Street & 1st Street

20.4 s	33 s	9.5 s	27.1 s
		12.6 s	24 s

Queues
6: High Street & 1st Street



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	95	700	238	527	801	106	593	445	901
v/c Ratio	0.34	0.97	0.91	0.58	0.87	0.37	1.01	0.92	0.90
Control Delay	22.9	64.0	61.9	32.6	17.6	37.5	77.7	56.4	43.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.9	64.0	61.9	32.6	17.6	37.5	77.7	56.4	43.0
Queue Length 50th (m)	10.8	62.3	29.6	43.0	15.8	16.5	~53.2	80.9	80.8
Queue Length 95th (m)	21.1	#98.5	#67.5	59.4	#95.8	31.5	#87.9	#141.6	#117.7
Internal Link Dist (m)		239.0		493.2			284.8		248.0
Turn Bay Length (m)	60.0		65.0		135.0	65.0			
Base Capacity (vph)	283	718	261	914	918	289	585	486	1003
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.97	0.91	0.58	0.87	0.37	1.01	0.92	0.90

Intersection Summary

- ~ 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.

Lanes, Volumes, Timings
9: High Street & Home Depot Access

2025 Future Background PM
12/17/2014
























Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↘	
Volume (vph)	0	44	0	653	878	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	10.0	55.0			0.0
Storage Lanes	0	0	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Fr _t		0.865			0.993	
Flt Protected						
Satd. Flow (prot)	0	1593	0	3500	3475	0
Flt Permitted						
Satd. Flow (perm)	0	1593	0	3500	3475	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	260.9			150.0	308.8	
Travel Time (s)	18.8			10.8	22.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	46	0	680	915	42
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	46	0	680	957	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Yield			Free	Free	

Intersection Summary

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

Lanes, Volumes, Timings
11: High Street & 3rd Street

2025 Future Background PM
12/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	6	37	36	1	157	83	542	38	108	791	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	30.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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		0.870			0.851			0.990				
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	1842	1603	0	1750	1568	0	1750	3465	0	1750	3500	0
Flt Permitted				0.728			0.330			0.400		
Satd. Flow (perm)	1842	1603	0	1341	1568	0	608	3465	0	737	3500	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		39			164			14				
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		262.0			77.6			568.8			150.0	
Travel Time (s)		18.9			5.6			41.0			10.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	6	39	38	1	164	86	565	40	112	824	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	45	0	38	165	0	86	605	0	112	826	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	

Lanes, Volumes, Timings
11: High Street & 3rd Street

2025 Future Background PM
12/17/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.5	21.5		21.5	21.5		9.5	21.5		9.5	21.5	
Total Split (s)	21.5	21.5		21.5	21.5		9.5	23.9		9.6	24.0	
Total Split (%)	39.1%	39.1%		39.1%	39.1%		17.3%	43.5%		17.5%	43.6%	
Maximum Green (s)	16.0	16.0		16.0	16.0		6.0	18.4		6.1	18.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		5.5	5.5		3.5	5.5		3.5	5.5	
Lead/Lag							Lead	Lag		Lead	Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		7.0		7.0	7.0		28.6	23.2		29.4	25.2	
Actuated g/C Ratio		0.16		0.16	0.16		0.64	0.52		0.65	0.56	
v/c Ratio		0.16		0.18	0.43		0.16	0.34		0.18	0.42	
Control Delay		9.2		18.9	7.9		4.2	10.0		4.2	10.1	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		9.2		18.9	7.9		4.2	10.0		4.2	10.1	
LOS		A		B	A		A	B		A	B	
Approach Delay		9.2			9.9			9.3			9.4	
Approach LOS		A			A			A			A	

Intersection Summary

Area Type: Other
 Cycle Length: 55
 Actuated Cycle Length: 44.9
 Natural Cycle: 55
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.43
 Intersection Signal Delay: 9.4
 Intersection Capacity Utilization 48.8%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 11: High Street & 3rd Street

9.6 s	23.9 s	21.5 s
9.5 s	24 s	21.5 s

Queues
11: High Street & 3rd Street

2025 Future Background PM
12/17/2014
























Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	45	38	165	86	605	112	826
v/c Ratio	0.16	0.18	0.43	0.16	0.34	0.18	0.42
Control Delay	9.2	18.9	7.9	4.2	10.0	4.2	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.2	18.9	7.9	4.2	10.0	4.2	10.1
Queue Length 50th (m)	0.4	2.7	0.1	1.9	16.8	2.4	25.5
Queue Length 95th (m)	6.4	8.6	11.3	6.0	30.2	7.4	43.9
Internal Link Dist (m)	238.0		53.6		544.8		126.0
Turn Bay Length (m)		20.0		30.0		30.0	
Base Capacity (vph)	598	480	666	541	1799	621	1964
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.08	0.25	0.16	0.34	0.18	0.42

Intersection Summary

Lanes, Volumes, Timings
14: High Street & 6th Street

2025 Future Background PM
12/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	95	150	87	45	186	158	88	318	24	202	504	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	200.0		0.0	20.0		0.0	100.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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		0.945			0.931			0.989			0.966	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1741	0	1750	1715	0	1750	3461	0	1750	3381	0
Flt Permitted	0.371			0.560			0.366			0.518		
Satd. Flow (perm)	683	1741	0	1032	1715	0	674	3461	0	954	3381	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		53			78			13			63	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		327.4			123.4			257.6			568.8	
Travel Time (s)		23.6			8.9			18.5			41.0	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	99	156	91	47	194	165	92	331	25	210	525	154
Shared Lane Traffic (%)												
Lane Group Flow (vph)	99	247	0	47	359	0	92	356	0	210	679	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Minimum Split (s)	30.8	30.8		30.8	30.8		7.0	26.9		7.0	26.9	
Total Split (s)	30.8	30.8		30.8	30.8		7.0	27.2		7.0	27.2	
Total Split (%)	47.4%	47.4%		47.4%	47.4%		10.8%	41.8%		10.8%	41.8%	
Maximum Green (s)	25.5	25.5		25.5	25.5		4.0	21.9		4.0	21.9	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.0	3.3		3.0	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		3.0	5.3		3.0	5.3	
Lead/Lag							Lead	Lag		Lead	Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	15.0	15.0		15.0	15.0			13.0			13.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0			8.0			8.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	14.8	14.8		14.8	14.8		28.5	22.1		29.2	23.7	
Actuated g/C Ratio	0.27	0.27		0.27	0.27		0.52	0.40		0.53	0.43	
v/c Ratio	0.54	0.48		0.17	0.69		0.21	0.25		0.37	0.45	
Control Delay	27.7	15.7		15.7	20.8		8.2	12.2		9.9	12.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	27.7	15.7		15.7	20.8		8.2	12.2		9.9	12.8	
LOS	C	B		B	C		A	B		A	B	
Approach Delay		19.2			20.2			11.4			12.1	
Approach LOS		B			C			B			B	

Intersection Summary

Area Type: Other
 Cycle Length: 65
 Actuated Cycle Length: 54.7
 Natural Cycle: 65
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 14.7
 Intersection Capacity Utilization 64.8%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

Splits and Phases: 14: High Street & 6th Street

Ø1	Ø2	Ø4
7 s	27.2 s	30.8 s
Ø5	Ø6	Ø8
7 s	27.2 s	30.8 s

Queues
14: High Street & 6th Street

2025 Future Background PM
12/17/2014
























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	99	247	47	359	92	356	210	679
v/c Ratio	0.54	0.48	0.17	0.69	0.21	0.25	0.37	0.45
Control Delay	27.7	15.7	15.7	20.8	8.2	12.2	9.9	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.7	15.7	15.7	20.8	8.2	12.2	9.9	12.8
Queue Length 50th (m)	8.2	15.5	3.5	23.9	3.4	10.9	8.3	21.5
Queue Length 95th (m)	20.0	30.8	9.5	45.5	11.9	24.1	24.4	44.6
Internal Link Dist (m)		303.4		99.4		233.6		544.8
Turn Bay Length (m)	200.0		20.0		100.0		40.0	
Base Capacity (vph)	321	847	485	848	430	1407	567	1501
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	0.31	0.29	0.10	0.42	0.21	0.25	0.37	0.45

Intersection Summary

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2025 Future Background Saturday
12/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	481	144	227	620	75	218	80	248	47	92	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	80.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frnt		0.965				0.850		0.887			0.930	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3377	0	1750	1842	1566	1750	1634	0	1750	1713	0
Flt Permitted	0.229			0.267			0.643			0.416		
Satd. Flow (perm)	422	3377	0	492	1842	1566	1184	1634	0	766	1713	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		65				101		238			68	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		233.0			263.0			308.0			120.7	
Travel Time (s)		16.8			18.9			22.2			8.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	73	501	150	236	646	78	227	83	258	49	96	85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	73	651	0	236	646	78	227	341	0	49	181	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	7	4		3	8	8	2	2		6	6	

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2025 Future Background Saturday
12/17/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	21.5	21.5		21.5	21.5	
Total Split (s)	9.5	27.6		13.9	32.0	32.0	23.5	23.5		23.5	23.5	
Total Split (%)	14.6%	42.5%		21.4%	49.2%	49.2%	36.2%	36.2%		36.2%	36.2%	
Maximum Green (s)	6.0	22.1		10.4	26.5	26.5	18.0	18.0		18.0	18.0	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	25.8	17.9		32.6	25.3	25.3	18.2	18.2		18.2	18.2	
Actuated g/C Ratio	0.43	0.30		0.54	0.42	0.42	0.30	0.30		0.30	0.30	
v/c Ratio	0.23	0.62		0.51	0.83	0.11	0.63	0.52		0.21	0.32	
Control Delay	8.4	18.8		11.0	28.3	2.5	30.2	9.7		20.8	13.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	8.4	18.8		11.0	28.3	2.5	30.2	9.7		20.8	13.6	
LOS	A	B		B	C	A	C	A		C	B	
Approach Delay		17.7			21.9			17.9			15.1	
Approach LOS		B			C			B			B	

Intersection Summary

Area Type: Other
 Cycle Length: 65
 Actuated Cycle Length: 59.9
 Natural Cycle: 65
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay: 19.2
 Intersection Capacity Utilization 76.4%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service D

Splits and Phases: 3: Cambridge Street & 1st Street

23.5 s	13.9 s	27.6 s
23.5 s	9.5 s	32 s

Queues
3: Cambridge Street & 1st Street

2025 Future Background Saturday
12/17/2014


























Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	73	651	236	646	78	227	341	49	181
v/c Ratio	0.23	0.62	0.51	0.83	0.11	0.63	0.52	0.21	0.32
Control Delay	8.4	18.8	11.0	28.3	2.5	30.2	9.7	20.8	13.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.4	18.8	11.0	28.3	2.5	30.2	9.7	20.8	13.6
Queue Length 50th (m)	3.4	28.6	12.1	68.3	0.0	24.3	9.5	4.5	10.5
Queue Length 95th (m)	7.8	43.7	21.7	#125.2	4.7	#53.1	29.8	12.6	24.7
Internal Link Dist (m)		209.0		239.0			284.0		96.7
Turn Bay Length (m)	30.0		80.0			50.0		30.0	
Base Capacity (vph)	317	1309	488	824	757	359	662	233	568
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.50	0.48	0.78	0.10	0.63	0.52	0.21	0.32

Intersection Summary

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

Lanes, Volumes, Timings
6: High Street & 1st Street

2025 Future Background Saturday
12/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	135	634	99	186	584	775	127	400	140	839	487	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	60.0		0.0	65.0		135.0	65.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frnt		0.980				0.850		0.961			0.986	
Flt Protected	0.950			0.950			0.950			0.950	0.981	
Satd. Flow (prot)	1750	3430	0	1750	3500	1566	1750	3363	0	1592	3243	0
Flt Permitted	0.306			0.153			0.950			0.950	0.981	
Satd. Flow (perm)	564	3430	0	282	3500	1566	1750	3363	0	1592	3243	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16				695		41			11	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		263.0			517.2			308.8			272.0	
Travel Time (s)		18.9			37.2			22.2			19.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	141	660	103	194	608	807	132	417	146	874	507	91
Shared Lane Traffic (%)										44%		
Lane Group Flow (vph)	141	763	0	194	608	807	132	563	0	489	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Split	NA		Split	NA	
Protected Phases	3	8		7	4		5	5		6	6	
Permitted Phases	8			4		4						
Detector Phase	3	8		7	4	4	5	5		6	6	

Lanes, Volumes, Timings
6: High Street & 1st Street

2025 Future Background Saturday
12/17/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	9.5	9.5		21.5	21.5	
Total Split (s)	9.5	27.2		14.0	31.7	31.7	21.0	21.0		37.8	37.8	
Total Split (%)	9.5%	27.2%		14.0%	31.7%	31.7%	21.0%	21.0%		37.8%	37.8%	
Maximum Green (s)	6.0	21.7		8.5	26.2	26.2	15.5	15.5		32.3	32.3	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		5.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	None		Max	Max	
Walk Time (s)		5.0			5.0	5.0				5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0				11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0				0	0	
Act Effct Green (s)	29.7	21.7		34.7	26.2	26.2	15.5	15.5		32.3	32.3	
Actuated g/C Ratio	0.30	0.22		0.35	0.26	0.26	0.16	0.16		0.32	0.32	
v/c Ratio	0.59	1.01		0.87	0.66	0.66	0.49	1.01		0.95	0.93	
Control Delay	34.2	74.1		62.0	37.1	17.7	45.4	81.7		63.9	48.8	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	34.2	74.1		62.0	37.1	17.7	45.4	81.7		63.9	48.8	
LOS	C	E		E	D	B	D	F		E	D	
Approach Delay		67.9			30.4			74.9			53.8	
Approach LOS		E			C			E			D	

Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Natural Cycle: 100
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 1.01
 Intersection Signal Delay: 51.6
 Intersection Capacity Utilization 91.9%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service F

Splits and Phases: 6: High Street & 1st Street

Ø5	Ø6	Ø3	Ø4
21 s	37.8 s	9.5 s	31.7 s
		Ø7	Ø8
		14 s	27.2 s

Queues
6: High Street & 1st Street

2025 Future Background Saturday
12/17/2014



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	141	763	194	608	807	132	563	489	983
v/c Ratio	0.59	1.01	0.87	0.66	0.87	0.49	1.01	0.95	0.93
Control Delay	34.2	74.1	62.0	37.1	17.7	45.4	81.7	63.9	48.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.2	74.1	62.0	37.1	17.7	45.4	81.7	63.9	48.8
Queue Length 50th (m)	18.3	~78.0	26.9	55.4	17.3	23.6	~55.3	101.0	99.7
Queue Length 95th (m)	31.8	#117.5	#60.8	73.8	#101.6	41.9	#90.5	#168.9	#141.2
Internal Link Dist (m)		239.0		493.2			284.8		248.0
Turn Bay Length (m)	60.0		65.0		135.0	65.0			
Base Capacity (vph)	238	756	222	917	923	271	555	514	1054
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	1.01	0.87	0.66	0.87	0.49	1.01	0.95	0.93

Intersection Summary

- ~ 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.

Lanes, Volumes, Timings
9: High Street & Home Depot Access























Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Volume (vph)	0	82	0	622	695	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	10.0	55.0			0.0
Storage Lanes	0	0	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Fr _t		0.865			0.984	
Fl _t Protected						
Satd. Flow (prot)	0	1593	0	3500	3444	0
Fl _t Permitted						
Satd. Flow (perm)	0	1593	0	3500	3444	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	260.9			150.0	308.8	
Travel Time (s)	18.8			10.8	22.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	85	0	648	724	88
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	85	0	648	812	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Yield			Free	Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 33.6% ICU Level of Service A
 Analysis Period (min) 15

Lanes, Volumes, Timings
11: High Street & 3rd Street

2025 Future Background Saturday
12/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	7	38	22	0	158	140	550	23	108	662	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	30.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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
Fr _t		0.872			0.850			0.994			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1606	0	1750	1566	0	1750	3479	0	1750	3496	0
Flt Permitted	0.784			0.784			0.365			0.426		
Satd. Flow (perm)	1444	1606	0	1444	1566	0	672	3479	0	785	3496	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		40			363			8			2	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		262.0			77.6			568.8			150.0	
Travel Time (s)		18.9			5.6			41.0			10.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	2	7	40	23	0	165	146	573	24	112	690	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	47	0	23	165	0	146	597	0	112	696	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	

Lanes, Volumes, Timings
11: High Street & 3rd Street

2025 Future Background Saturday
12/17/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.5	21.5		21.5	21.5		9.5	21.5		9.5	21.5	
Total Split (s)	21.6	21.6		21.6	21.6		10.2	23.8		9.6	23.2	
Total Split (%)	39.3%	39.3%		39.3%	39.3%		18.5%	43.3%		17.5%	42.2%	
Maximum Green (s)	16.1	16.1		16.1	16.1		6.7	18.3		6.1	17.7	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		5.5	5.5		3.5	5.5		3.5	5.5	
Lead/Lag							Lead	Lag		Lead	Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	6.3	6.3		6.3	6.3		28.9	23.0		28.1	22.6	
Actuated g/C Ratio	0.14	0.14		0.14	0.14		0.66	0.52		0.64	0.51	
v/c Ratio	0.01	0.18		0.11	0.31		0.24	0.33		0.18	0.39	
Control Delay	16.5	9.8		18.1	1.5		4.3	9.6		3.9	10.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	16.5	9.8		18.1	1.5		4.3	9.6		3.9	10.5	
LOS	B	A		B	A		A	A		A	B	
Approach Delay		10.1			3.5			8.5			9.6	
Approach LOS		B			A			A			A	

Intersection Summary

Area Type: Other
 Cycle Length: 55
 Actuated Cycle Length: 44.1
 Natural Cycle: 55
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.39
 Intersection Signal Delay: 8.5
 Intersection Capacity Utilization 48.5%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 11: High Street & 3rd Street

9.6 s	23.8 s	21.6 s
10.2 s	23.2 s	21.6 s

Queues
11: High Street & 3rd Street

2025 Future Background Saturday
12/17/2014



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	2	47	23	165	146	597	112	696
v/c Ratio	0.01	0.18	0.11	0.31	0.24	0.33	0.18	0.39
Control Delay	16.5	9.8	18.1	1.5	4.3	9.6	3.9	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.5	9.8	18.1	1.5	4.3	9.6	3.9	10.5
Queue Length 50th (m)	0.2	0.5	1.6	0.0	3.1	16.4	2.3	20.5
Queue Length 95th (m)	1.4	6.7	6.1	0.0	7.9	27.8	6.3	34.2
Internal Link Dist (m)		238.0		53.6		544.8		126.0
Turn Bay Length (m)	20.0		20.0		30.0		30.0	
Base Capacity (vph)	529	613	529	803	606	1820	634	1794
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	0.00	0.08	0.04	0.21	0.24	0.33	0.18	0.39

Intersection Summary

Lanes, Volumes, Timings
14: High Street & 6th Street

2025 Future Background Saturday
12/17/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	130	158	72	41	175	162	67	315	57	152	373	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	200.0		0.0	20.0		0.0	100.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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		0.953			0.928			0.977			0.957	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1755	0	1750	1709	0	1750	3419	0	1750	3349	0
Flt Permitted	0.383			0.575			0.449			0.505		
Satd. Flow (perm)	706	1755	0	1059	1709	0	827	3419	0	930	3349	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		41			85			34			97	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		327.4			123.4			257.6			568.8	
Travel Time (s)		23.6			8.9			18.5			41.0	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	135	165	75	43	182	169	70	328	59	158	389	154
Shared Lane Traffic (%)												
Lane Group Flow (vph)	135	240	0	43	351	0	70	387	0	158	543	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	

Lanes, Volumes, Timings
14: High Street & 6th Street

2025 Future Background Saturday
12/17/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Minimum Split (s)	30.8	30.8		30.8	30.8		7.0	26.9		7.0	26.9	
Total Split (s)	30.8	30.8		30.8	30.8		7.0	27.2		7.0	27.2	
Total Split (%)	47.4%	47.4%		47.4%	47.4%		10.8%	41.8%		10.8%	41.8%	
Maximum Green (s)	25.5	25.5		25.5	25.5		4.0	21.9		4.0	21.9	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.0	3.3		3.0	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		3.0	5.3		3.0	5.3	
Lead/Lag							Lead	Lag		Lead	Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	15.0	15.0		15.0	15.0			13.0			13.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0			8.0			8.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effect Green (s)	14.2	14.2		14.2	14.2		27.8	22.4		28.4	23.9	
Actuated g/C Ratio	0.27	0.27		0.27	0.27		0.53	0.42		0.54	0.45	
v/c Ratio	0.71	0.48		0.15	0.67		0.14	0.26		0.28	0.35	
Control Delay	38.7	16.4		15.5	19.6		7.5	11.4		8.7	10.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	38.7	16.4		15.5	19.6		7.5	11.4		8.7	10.3	
LOS	D	B		B	B		A	B		A	B	
Approach Delay		24.4			19.2			10.8			10.0	
Approach LOS		C			B			B			A	

Intersection Summary

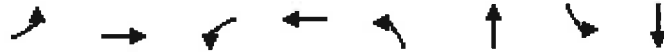
Area Type: Other
 Cycle Length: 65
 Actuated Cycle Length: 52.8
 Natural Cycle: 65
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.71
 Intersection Signal Delay: 14.9
 Intersection Capacity Utilization 61.8%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 14: High Street & 6th Street

7 s	27.2 s	30.8 s
7 s	27.2 s	30.8 s

Queues
14: High Street & 6th Street

2025 Future Background Saturday
12/17/2014
























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	135	240	43	351	70	387	158	543
v/c Ratio	0.71	0.48	0.15	0.67	0.14	0.26	0.28	0.35
Control Delay	38.7	16.4	15.5	19.6	7.5	11.4	8.7	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.7	16.4	15.5	19.6	7.5	11.4	8.7	10.3
Queue Length 50th (m)	11.8	15.9	3.2	22.4	2.5	11.1	5.9	14.4
Queue Length 95th (m)	27.6	31.0	8.9	43.6	9.5	24.8	18.6	32.1
Internal Link Dist (m)		303.4		99.4		233.6		544.8
Turn Bay Length (m)	200.0		20.0		100.0		40.0	
Base Capacity (vph)	348	887	523	887	506	1470	564	1566
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	0.39	0.27	0.08	0.40	0.14	0.26	0.28	0.35

Intersection Summary

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2030 Future Background AM
12/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	114	364	104	132	329	34	155	36	118	16	61	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	80.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.967				0.850		0.885			0.913	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3384	0	1750	1842	1566	1750	1630	0	1750	1682	0
Flt Permitted	0.438			0.459			0.660			0.655		
Satd. Flow (perm)	807	3384	0	845	1842	1566	1216	1630	0	1207	1682	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		71				119		123			88	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		233.0			263.0			308.0			120.7	
Travel Time (s)		16.8			18.9			22.2			8.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	119	379	108	138	343	35	161	38	123	17	64	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	119	487	0	138	343	35	161	161	0	17	152	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	7	4		3	8	8	2	2		6	6	

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2030 Future Background AM
12/17/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	21.5	21.5		21.5	21.5	
Total Split (s)	9.6	23.6		9.6	23.6	23.6	21.8	21.8		21.8	21.8	
Total Split (%)	17.5%	42.9%		17.5%	42.9%	42.9%	39.6%	39.6%		39.6%	39.6%	
Maximum Green (s)	6.1	18.1		6.1	18.1	18.1	16.3	16.3		16.3	16.3	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	20.5	13.9		20.5	13.9	13.9	16.7	16.7		16.7	16.7	
Actuated g/C Ratio	0.42	0.28		0.42	0.28	0.28	0.34	0.34		0.34	0.34	
v/c Ratio	0.26	0.48		0.30	0.66	0.07	0.39	0.25		0.04	0.24	
Control Delay	8.2	14.3		8.5	22.6	0.2	18.5	6.6		14.1	8.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	8.2	14.3		8.5	22.6	0.2	18.5	6.6		14.1	8.5	
LOS	A	B		A	C	A	B	A		B	A	
Approach Delay		13.1			17.3			12.6			9.0	
Approach LOS		B			B			B			A	

Intersection Summary

Area Type: Other
 Cycle Length: 55
 Actuated Cycle Length: 49.1
 Natural Cycle: 55
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.66
 Intersection Signal Delay: 13.9
 Intersection Capacity Utilization 57.7%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 3: Cambridge Street & 1st Street

21.8 s	9.6 s	23.6 s
21.8 s	9.6 s	23.6 s

Queues
3: Cambridge Street & 1st Street

2030 Future Background AM
12/17/2014
























Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	119	487	138	343	35	161	161	17	152
v/c Ratio	0.26	0.48	0.30	0.66	0.07	0.39	0.25	0.04	0.24
Control Delay	8.2	14.3	8.5	22.6	0.2	18.5	6.6	14.1	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.2	14.3	8.5	22.6	0.2	18.5	6.6	14.1	8.5
Queue Length 50th (m)	5.2	16.3	6.1	27.5	0.0	11.4	2.4	1.1	4.1
Queue Length 95th (m)	11.2	26.8	12.7	48.6	0.0	27.2	13.5	4.8	15.3
Internal Link Dist (m)		209.0		239.0			284.0		96.7
Turn Bay Length (m)	30.0		80.0			50.0		30.0	
Base Capacity (vph)	457	1324	468	696	666	414	636	411	631
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.37	0.29	0.49	0.05	0.39	0.25	0.04	0.24

Intersection Summary

Lanes, Volumes, Timings
6: High Street & 1st Street

2030 Future Background AM
12/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	65	414	48	133	321	528	104	420	132	699	372	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	60.0		0.0	65.0		135.0	65.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.984				0.850		0.964			0.987	
Flt Protected	0.950			0.950			0.950			0.950	0.979	
Satd. Flow (prot)	1750	3444	0	1750	3500	1566	1750	3374	0	1592	3239	0
Flt Permitted	0.550			0.298			0.950			0.950	0.979	
Satd. Flow (perm)	1013	3444	0	549	3500	1566	1750	3374	0	1592	3239	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14				550		45			12	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		263.0			517.2			308.8			272.0	
Travel Time (s)		18.9			37.2			22.2			19.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	68	431	50	139	334	550	108	438	138	728	388	66
Shared Lane Traffic (%)										46%		
Lane Group Flow (vph)	68	481	0	139	334	550	108	576	0	393	789	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Split	NA		Split	NA	
Protected Phases	3	8		7	4		5	5		6	6	
Permitted Phases	8			4		4						
Detector Phase	3	8		7	4	4	5	5		6	6	

Lanes, Volumes, Timings
6: High Street & 1st Street

2030 Future Background AM
12/17/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	9.5	9.5		21.5	21.5	
Total Split (s)	9.5	21.6		9.5	21.6	21.6	19.2	19.2		29.7	29.7	
Total Split (%)	11.9%	27.0%		11.9%	27.0%	27.0%	24.0%	24.0%		37.1%	37.1%	
Maximum Green (s)	6.0	16.1		6.0	16.1	16.1	13.7	13.7		24.2	24.2	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	None		Max	Max	
Walk Time (s)		5.0			5.0	5.0				5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0				11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0				0	0	
Act Effct Green (s)	22.6	14.7		23.4	16.7	16.7	13.7	13.7		24.2	24.2	
Actuated g/C Ratio	0.29	0.19		0.30	0.21	0.21	0.17	0.17		0.31	0.31	
v/c Ratio	0.20	0.74		0.55	0.45	0.72	0.36	0.92		0.80	0.78	
Control Delay	19.6	36.6		28.2	30.0	8.9	32.9	52.5		40.1	31.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	19.6	36.6		28.2	30.0	8.9	32.9	52.5		40.1	31.5	
LOS	B	D		C	C	A	C	D		D	C	
Approach Delay		34.5			18.4			49.5			34.3	
Approach LOS		C			B			D			C	

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 78.6
 Natural Cycle: 80
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 32.6
 Intersection Capacity Utilization 75.0%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service D

Splits and Phases: 6: High Street & 1st Street

ø5	ø6	ø3	ø4
19.2 s	29.7 s	9.5 s	21.6 s
		ø7	ø8
		9.5 s	21.6 s

Queues
6: High Street & 1st Street














Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	68	481	139	334	550	108	576	393	789
v/c Ratio	0.20	0.74	0.55	0.45	0.72	0.36	0.92	0.80	0.78
Control Delay	19.6	36.6	28.2	30.0	8.9	32.9	52.5	40.1	31.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.6	36.6	28.2	30.0	8.9	32.9	52.5	40.1	31.5
Queue Length 50th (m)	7.0	34.7	14.8	23.7	0.0	14.7	42.5	60.3	59.2
Queue Length 95th (m)	15.3	50.4	27.6	36.0	27.8	28.9	#73.2	#109.4	#81.2
Internal Link Dist (m)		239.0		493.2			284.8		248.0
Turn Bay Length (m)	60.0		65.0		135.0	65.0			
Base Capacity (vph)	348	716	255	761	770	304	625	490	1006
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.67	0.55	0.44	0.71	0.36	0.92	0.80	0.78

Intersection Summary

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

Lanes, Volumes, Timings
 9: High Street & Home Depot Access






















						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Volume (vph)	0	62	0	590	526	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	10.0	55.0			0.0
Storage Lanes	0	0	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.865			0.983	
Flt Protected						
Satd. Flow (prot)	0	1593	0	3500	3440	0
Flt Permitted						
Satd. Flow (perm)	0	1593	0	3500	3440	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	260.9			150.0	308.8	
Travel Time (s)	18.8			10.8	22.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	65	0	615	548	72
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	65	0	615	620	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Yield			Free	Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 27.2% ICU Level of Service A
 Analysis Period (min) 15

Lanes, Volumes, Timings
11: High Street & 3rd Street

2030 Future Background AM
12/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	7	17	26	20	105	106	551	42	104	438	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	30.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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
Fr _t		0.892			0.874			0.989			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1643	0	1750	1610	0	1750	3461	0	1750	3496	0
Flt Permitted	0.714			0.741			0.488			0.418		
Satd. Flow (perm)	1315	1643	0	1365	1610	0	899	3461	0	770	3496	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			109			15			1	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		262.0			77.6			568.8			150.0	
Travel Time (s)		18.9			5.6			41.0			10.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	2	7	18	27	21	109	110	574	44	108	456	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	25	0	27	130	0	110	618	0	108	458	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	

Lanes, Volumes, Timings
11: High Street & 3rd Street

2030 Future Background AM
12/17/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.5	21.5		21.5	21.5		9.5	21.5		9.5	21.5	
Total Split (s)	22.0	22.0		22.0	22.0		10.0	23.0		10.0	23.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		18.2%	41.8%		18.2%	41.8%	
Maximum Green (s)	16.5	16.5		16.5	16.5		6.5	17.5		6.5	17.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		5.5	5.5		3.5	5.5		3.5	5.5	
Lead/Lag							Lead	Lag		Lead	Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	6.8	6.8		6.8	6.8		27.4	23.0		27.4	23.0	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.64	0.54		0.64	0.54	
v/c Ratio	0.01	0.09		0.12	0.37		0.16	0.33		0.17	0.24	
Control Delay	16.0	11.1		17.7	9.5		4.1	9.5		4.2	9.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	16.0	11.1		17.7	9.5		4.1	9.5		4.2	9.2	
LOS	B	B		B	A		A	A		A	A	
Approach Delay		11.5			10.9			8.7			8.2	
Approach LOS		B			B			A			A	

Intersection Summary

Area Type: Other
 Cycle Length: 55
 Actuated Cycle Length: 42.8
 Natural Cycle: 55
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.37
 Intersection Signal Delay: 8.8
 Intersection Capacity Utilization 42.9%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 11: High Street & 3rd Street

Ø1	Ø2	Ø4
10 s	23 s	22 s
Ø5	Ø6	Ø8
10 s	23 s	22 s

Queues
11: High Street & 3rd Street

2030 Future Background AM
12/17/2014
























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	2	25	27	130	110	618	108	458
v/c Ratio	0.01	0.09	0.12	0.37	0.16	0.33	0.17	0.24
Control Delay	16.0	11.1	17.7	9.5	4.1	9.5	4.2	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.0	11.1	17.7	9.5	4.1	9.5	4.2	9.2
Queue Length 50th (m)	0.2	0.5	1.9	1.5	2.3	17.2	2.3	12.4
Queue Length 95th (m)	1.4	4.9	6.7	11.7	7.2	31.3	7.1	23.3
Internal Link Dist (m)		238.0		53.6		544.8		126.0
Turn Bay Length (m)	20.0		20.0		30.0		30.0	
Base Capacity (vph)	513	652	532	694	706	1866	643	1879
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	0.00	0.04	0.05	0.19	0.16	0.33	0.17	0.24

Intersection Summary

Lanes, Volumes, Timings
14: High Street & 6th Street

2030 Future Background AM
12/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	207	70	25	144	150	77	362	65	86	241	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	200.0		0.0	20.0		0.0	100.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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		0.962			0.924			0.977			0.965	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1772	0	1750	1702	0	1750	3419	0	1750	3377	0
Flt Permitted	0.464			0.494			0.554			0.494		
Satd. Flow (perm)	855	1772	0	910	1702	0	1020	3419	0	910	3377	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		31			95			34			66	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		327.4			123.4			257.6			568.8	
Travel Time (s)		23.6			8.9			18.5			41.0	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	115	216	73	26	150	156	80	377	68	90	251	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	115	289	0	26	306	0	80	445	0	90	327	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	

Lanes, Volumes, Timings
14: High Street & 6th Street

2030 Future Background AM
12/17/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Minimum Split (s)	30.8	30.8		30.8	30.8		7.0	26.9		7.0	26.9	
Total Split (s)	30.8	30.8		30.8	30.8		7.0	27.2		7.0	27.2	
Total Split (%)	47.4%	47.4%		47.4%	47.4%		10.8%	41.8%		10.8%	41.8%	
Maximum Green (s)	25.5	25.5		25.5	25.5		4.0	21.9		4.0	21.9	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.0	3.3		3.0	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		3.0	5.3		3.0	5.3	
Lead/Lag							Lead	Lag		Lead	Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	15.0	15.0		15.0	15.0			13.0			13.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0			8.0			8.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	13.2	13.2		13.2	13.2		27.0	22.4		27.0	22.4	
Actuated g/C Ratio	0.26	0.26		0.26	0.26		0.54	0.45		0.54	0.45	
v/c Ratio	0.51	0.59		0.11	0.59		0.13	0.29		0.16	0.21	
Control Delay	25.0	19.9		15.4	16.2		6.7	10.6		6.9	8.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	25.0	19.9		15.4	16.2		6.7	10.6		6.9	8.9	
LOS	C	B		B	B		A	B		A	A	
Approach Delay		21.4			16.1			10.0			8.5	
Approach LOS		C			B			A			A	

Intersection Summary

Area Type: Other
 Cycle Length: 65
 Actuated Cycle Length: 50.3
 Natural Cycle: 65
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.59
 Intersection Signal Delay: 13.6
 Intersection Capacity Utilization 56.3%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 14: High Street & 6th Street

Ø1	Ø2	Ø4
7 s	27.2 s	30.8 s
Ø5	Ø6	Ø8
7 s	27.2 s	30.8 s

Queues
14: High Street & 6th Street

2030 Future Background AM
12/17/2014
























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	115	289	26	306	80	445	90	327
v/c Ratio	0.51	0.59	0.11	0.59	0.13	0.29	0.16	0.21
Control Delay	25.0	19.9	15.4	16.2	6.7	10.6	6.9	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.0	19.9	15.4	16.2	6.7	10.6	6.9	8.9
Queue Length 50th (m)	9.4	21.4	1.9	17.1	2.7	12.6	3.0	7.6
Queue Length 95th (m)	21.8	39.8	6.4	35.7	9.5	26.6	10.4	18.0
Internal Link Dist (m)		303.4		99.4		233.6		544.8
Turn Bay Length (m)	200.0		20.0		100.0		40.0	
Base Capacity (vph)	444	935	472	929	605	1544	555	1542
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	0.26	0.31	0.06	0.33	0.13	0.29	0.16	0.21

Intersection Summary

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2030 Future Background PM

12/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	126	590	171	195	576	61	202	103	172	36	75	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	80.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.966				0.850		0.906			0.904	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3381	0	1750	1842	1566	1750	1669	0	1750	1665	0
Flt Permitted	0.214			0.225			0.616			0.503		
Satd. Flow (perm)	394	3381	0	414	1842	1566	1135	1669	0	927	1665	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		70				109		140			138	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		233.0			263.0			308.0			120.7	
Travel Time (s)		16.8			18.9			22.2			8.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	131	615	178	203	600	64	210	107	179	38	78	138
Shared Lane Traffic (%)												
Lane Group Flow (vph)	131	793	0	203	600	64	210	286	0	38	216	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	7	4		3	8	8	2	2		6	6	

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2030 Future Background PM
12/17/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	21.5	21.5		21.5	21.5	
Total Split (s)	9.5	27.3		10.2	28.0	28.0	22.5	22.5		22.5	22.5	
Total Split (%)	15.8%	45.5%		17.0%	46.7%	46.7%	37.5%	37.5%		37.5%	37.5%	
Maximum Green (s)	6.0	21.8		6.7	22.5	22.5	17.0	17.0		17.0	17.0	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	27.8	19.8		29.8	22.6	22.6	17.1	17.1		17.1	17.1	
Actuated g/C Ratio	0.48	0.34		0.51	0.39	0.39	0.29	0.29		0.29	0.29	
v/c Ratio	0.40	0.66		0.56	0.84	0.09	0.63	0.49		0.14	0.37	
Control Delay	10.2	17.7		12.8	30.4	1.5	29.6	12.5		17.8	9.2	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	10.2	17.7		12.8	30.4	1.5	29.6	12.5		17.8	9.2	
LOS	B	B		B	C	A	C	B		B	A	
Approach Delay		16.6			24.2			19.7			10.5	
Approach LOS		B			C			B			B	

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 58.1
 Natural Cycle: 60
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay: 19.2
 Intersection Capacity Utilization 77.6%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service D

Splits and Phases: 3: Cambridge Street & 1st Street

22.5 s	10.2 s	27.3 s
22.5 s	9.5 s	28 s

Queues
3: Cambridge Street & 1st Street

2030 Future Background PM

12/17/2014

























Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	131	793	203	600	64	210	286	38	216
v/c Ratio	0.40	0.66	0.56	0.84	0.09	0.63	0.49	0.14	0.37
Control Delay	10.2	17.7	12.8	30.4	1.5	29.6	12.5	17.8	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.2	17.7	12.8	30.4	1.5	29.6	12.5	17.8	9.2
Queue Length 50th (m)	6.0	33.2	9.7	59.2	0.0	20.2	12.5	3.1	6.4
Queue Length 95th (m)	12.3	49.2	18.3	#112.6	2.7	#46.2	30.9	9.3	20.4
Internal Link Dist (m)		209.0		239.0			284.0		96.7
Turn Bay Length (m)	30.0		80.0			50.0		30.0	
Base Capacity (vph)	329	1317	367	716	676	333	589	272	586
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.60	0.55	0.84	0.09	0.63	0.49	0.14	0.37

Intersection Summary

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

Lanes, Volumes, Timings
6: High Street & 1st Street

2030 Future Background PM
12/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	104	670	101	262	581	883	117	527	126	804	670	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	60.0		0.0	65.0		135.0	65.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.980				0.850		0.971			0.993	
Flt Protected	0.950			0.950			0.950			0.950	0.985	
Satd. Flow (prot)	1750	3430	0	1750	3500	1566	1750	3398	0	1592	3279	0
Flt Permitted	0.352			0.125			0.950			0.950	0.985	
Satd. Flow (perm)	648	3430	0	230	3500	1566	1750	3398	0	1592	3279	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12				695		19			4	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		263.0			517.2			308.8			272.0	
Travel Time (s)		18.9			37.2			22.2			19.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	108	698	105	273	605	920	122	549	131	838	698	53
Shared Lane Traffic (%)										38%		
Lane Group Flow (vph)	108	803	0	273	605	920	122	680	0	520	1069	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Split	NA		Split	NA	
Protected Phases	3	8		7	4		5	5		6	6	
Permitted Phases	8			4		4						
Detector Phase	3	8		7	4	4	5	5		6	6	

Lanes, Volumes, Timings
6: High Street & 1st Street

2030 Future Background PM

12/17/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	9.5	9.5		21.5	21.5	
Total Split (s)	9.5	34.0		19.0	43.5	43.5	28.0	28.0		49.0	49.0	
Total Split (%)	7.3%	26.2%		14.6%	33.5%	33.5%	21.5%	21.5%		37.7%	37.7%	
Maximum Green (s)	6.0	28.5		15.5	38.0	38.0	22.5	22.5		43.5	43.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	None		Max	Max	
Walk Time (s)		5.0			5.0	5.0				5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0				11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0				0	0	
Act Effct Green (s)	36.5	28.5		49.5	38.0	38.0	22.5	22.5		43.5	43.5	
Actuated g/C Ratio	0.28	0.22		0.38	0.29	0.29	0.17	0.17		0.33	0.33	
v/c Ratio	0.47	1.06		1.02	0.59	0.97	0.40	1.13		0.98	0.97	
Control Delay	36.2	95.9		94.6	42.2	34.3	52.4	124.0		76.9	63.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	36.2	95.9		94.6	42.2	34.3	52.4	124.0		76.9	63.9	
LOS	D	F		F	D	C	D	F		E	E	
Approach Delay		88.8			46.1			113.1			68.2	
Approach LOS		F			D			F			E	

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Natural Cycle: 130

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.13

Intersection Signal Delay: 71.1

Intersection LOS: E

Intersection Capacity Utilization 100.9%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 6: High Street & 1st Street

ø5	ø6	ø3	ø4
28 s	49 s	9.5 s	43.5 s
		ø7	ø8
		19 s	34 s

Queues
6: High Street & 1st Street



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	108	803	273	605	920	122	680	520	1069
v/c Ratio	0.47	1.06	1.02	0.59	0.97	0.40	1.13	0.98	0.97
Control Delay	36.2	95.9	94.6	42.2	34.3	52.4	124.0	76.9	63.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.2	95.9	94.6	42.2	34.3	52.4	124.0	76.9	63.9
Queue Length 50th (m)	18.1	~117.1	~55.9	69.9	77.8	28.1	~104.0	144.1	147.4
Queue Length 95th (m)	31.2	#156.9	#111.9	89.0	#180.1	47.3	#142.3	#221.4	#195.2
Internal Link Dist (m)		239.0		493.2			284.8		248.0
Turn Bay Length (m)	60.0		65.0		135.0	65.0			
Base Capacity (vph)	232	761	268	1023	949	302	603	532	1099
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	1.06	1.02	0.59	0.97	0.40	1.13	0.98	0.97

Intersection Summary

- ~ 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.

Lanes, Volumes, Timings
9: High Street & Home Depot Access

2030 Future Background PM
12/17/2014























Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Volume (vph)	0	51	0	750	1008	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	10.0	55.0			0.0
Storage Lanes	0	0	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Fr _t		0.865			0.993	
Flt Protected						
Satd. Flow (prot)	0	1593	0	3500	3475	0
Flt Permitted						
Satd. Flow (perm)	0	1593	0	3500	3475	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	260.9			150.0	308.8	
Travel Time (s)	18.8			10.8	22.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	53	0	781	1050	48
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	53	0	781	1098	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Yield			Free	Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 39.3% ICU Level of Service A
 Analysis Period (min) 15

Lanes, Volumes, Timings
11: High Street & 3rd Street

2030 Future Background PM
12/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	7	42	41	1	180	95	622	44	124	908	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	30.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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		0.871			0.851			0.990				
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	1842	1604	0	1750	1568	0	1750	3465	0	1750	3500	0
Flt Permitted				0.724			0.258			0.369		
Satd. Flow (perm)	1842	1604	0	1334	1568	0	475	3465	0	680	3500	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		44			188			14				
Link Speed (k/h)		50			50			50				50
Link Distance (m)		262.0			77.6			568.8				150.0
Travel Time (s)		18.9			5.6			41.0				10.8
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	7	44	43	1	188	99	648	46	129	946	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	51	0	43	189	0	99	694	0	129	948	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	

Lanes, Volumes, Timings
11: High Street & 3rd Street

2030 Future Background PM
12/17/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.5	21.5		21.5	21.5		9.5	21.5		9.5	21.5	
Total Split (s)	21.5	21.5		21.5	21.5		9.5	28.5		10.0	29.0	
Total Split (%)	35.8%	35.8%		35.8%	35.8%		15.8%	47.5%		16.7%	48.3%	
Maximum Green (s)	16.0	16.0		16.0	16.0		6.0	23.0		6.5	23.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		5.5	5.5		3.5	5.5		3.5	5.5	
Lead/Lag							Lead	Lag		Lead	Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		7.3		7.3	7.3		33.4	28.0		34.0	28.3	
Actuated g/C Ratio		0.15		0.15	0.15		0.66	0.56		0.68	0.56	
v/c Ratio		0.19		0.22	0.49		0.21	0.36		0.22	0.48	
Control Delay		10.1		22.1	8.7		4.5	9.7		4.3	10.8	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		10.1		22.1	8.7		4.5	9.7		4.3	10.8	
LOS		B		C	A		A	A		A	B	
Approach Delay		10.1			11.1			9.1			10.0	
Approach LOS		B			B			A			B	

Intersection Summary








Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 50.3
 Natural Cycle: 60
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.49
 Intersection Signal Delay: 9.8
 Intersection Capacity Utilization 54.1%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 11: High Street & 3rd Street

10 s	28.5 s	21.5 s
9.5 s	29 s	21.5 s

Queues
11: High Street & 3rd Street

2030 Future Background PM
12/17/2014

							
Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	51	43	189	99	694	129	948
v/c Ratio	0.19	0.22	0.49	0.21	0.36	0.22	0.48
Control Delay	10.1	22.1	8.7	4.5	9.7	4.3	10.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.1	22.1	8.7	4.5	9.7	4.3	10.8
Queue Length 50th (m)	0.6	3.6	0.1	2.2	20.6	3.0	31.1
Queue Length 95th (m)	7.4	10.4	13.1	6.8	36.1	8.5	52.5
Internal Link Dist (m)	238.0		53.6		544.8		126.0
Turn Bay Length (m)		20.0		30.0		30.0	
Base Capacity (vph)	542	426	628	468	1933	599	1969
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.10	0.30	0.21	0.36	0.22	0.48
Intersection Summary							

Lanes, Volumes, Timings
14: High Street & 6th Street

2030 Future Background PM
12/17/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	106	172	100	52	214	181	101	365	27	232	579	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	200.0		0.0	20.0		0.0	100.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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		0.945			0.931			0.990			0.966	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1741	0	1750	1715	0	1750	3465	0	1750	3381	0
Flt Permitted	0.311			0.507			0.299			0.493		
Satd. Flow (perm)	573	1741	0	934	1715	0	551	3465	0	908	3381	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		53			77			13			63	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		327.4			123.4			257.6			568.8	
Travel Time (s)		23.6			8.9			18.5			41.0	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	110	179	104	54	223	189	105	380	28	242	603	177
Shared Lane Traffic (%)												
Lane Group Flow (vph)	110	283	0	54	412	0	105	408	0	242	780	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	

Lanes, Volumes, Timings
14: High Street & 6th Street

2030 Future Background PM
12/17/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Minimum Split (s)	30.8	30.8		30.8	30.8		7.0	26.9		7.0	26.9	
Total Split (s)	30.8	30.8		30.8	30.8		7.0	27.2		7.0	27.2	
Total Split (%)	47.4%	47.4%		47.4%	47.4%		10.8%	41.8%		10.8%	41.8%	
Maximum Green (s)	25.5	25.5		25.5	25.5		4.0	21.9		4.0	21.9	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.0	3.3		3.0	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		3.0	5.3		3.0	5.3	
Lead/Lag							Lead	Lag		Lead	Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	15.0	15.0		15.0	15.0			13.0			13.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0			8.0			8.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	16.6	16.6		16.6	16.6		28.5	22.1		29.2	23.7	
Actuated g/C Ratio	0.29	0.29		0.29	0.29		0.50	0.39		0.52	0.42	
v/c Ratio	0.65	0.52		0.20	0.74		0.29	0.30		0.46	0.54	
Control Delay	36.2	16.3		15.8	22.7		10.0	13.4		12.3	14.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	36.2	16.3		15.8	22.7		10.0	13.4		12.3	14.7	
LOS	D	B		B	C		A	B		B	B	
Approach Delay		21.9			21.9			12.7			14.1	
Approach LOS		C			C			B			B	

Intersection Summary

Area Type: Other
 Cycle Length: 65
 Actuated Cycle Length: 56.5
 Natural Cycle: 65
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 16.6
 Intersection Capacity Utilization 71.8%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

Splits and Phases: 14: High Street & 6th Street

Ø1	Ø2	Ø4
7 s	27.2 s	30.8 s
Ø5	Ø6	Ø8
7 s	27.2 s	30.8 s

Queues
14: High Street & 6th Street

2030 Future Background PM
12/17/2014
























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	110	283	54	412	105	408	242	780
v/c Ratio	0.65	0.52	0.20	0.74	0.29	0.30	0.46	0.54
Control Delay	36.2	16.3	15.8	22.7	10.0	13.4	12.3	14.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.2	16.3	15.8	22.7	10.0	13.4	12.3	14.7
Queue Length 50th (m)	9.6	18.8	4.1	29.9	4.4	13.7	11.0	28.2
Queue Length 95th (m)	24.2	35.8	10.7	54.6	13.8	28.5	29.4	55.1
Internal Link Dist (m)		303.4		99.4		233.6		544.8
Turn Bay Length (m)	200.0		20.0		100.0		40.0	
Base Capacity (vph)	261	822	425	823	363	1364	529	1456
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	0.42	0.34	0.13	0.50	0.29	0.30	0.46	0.54

Intersection Summary

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2030 Future Background Saturday
12/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	552	165	261	712	86	250	92	285	54	106	94
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	80.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.965				0.850		0.887			0.929	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3377	0	1750	1842	1566	1750	1634	0	1750	1711	0
Flt Permitted	0.149			0.232			0.586			0.307		
Satd. Flow (perm)	274	3377	0	427	1842	1566	1079	1634	0	566	1711	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		54				90		192			55	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		233.0			263.0			308.0			120.7	
Travel Time (s)		16.8			18.9			22.2			8.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	83	575	172	272	742	90	260	96	297	56	110	98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	83	747	0	272	742	90	260	393	0	56	208	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	7	4		3	8	8	2	2		6	6	

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2030 Future Background Saturday
12/17/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	21.5	21.5		21.5	21.5	
Total Split (s)	9.5	33.7		18.8	43.0	43.0	27.5	27.5		27.5	27.5	
Total Split (%)	11.9%	42.1%		23.5%	53.8%	53.8%	34.4%	34.4%		34.4%	34.4%	
Maximum Green (s)	6.0	28.2		15.3	37.5	37.5	22.0	22.0		22.0	22.0	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	34.6	26.6		43.4	34.2	34.2	22.3	22.3		22.3	22.3	
Actuated g/C Ratio	0.46	0.36		0.58	0.46	0.46	0.30	0.30		0.30	0.30	
v/c Ratio	0.34	0.61		0.61	0.88	0.12	0.81	0.63		0.33	0.38	
Control Delay	11.7	20.6		13.7	33.1	3.4	49.0	17.8		30.0	19.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	11.7	20.6		13.7	33.1	3.4	49.0	17.8		30.0	19.3	
LOS	B	C		B	C	A	D	B		C	B	
Approach Delay		19.7			25.9			30.3			21.5	
Approach LOS		B			C			C			C	

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 74.9
 Natural Cycle: 65
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 24.7
 Intersection Capacity Utilization 84.7%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service E

Splits and Phases: 3: Cambridge Street & 1st Street

27.5 s	18.8 s	33.7 s
27.5 s	9.5 s	43 s

Queues
3: Cambridge Street & 1st Street

2030 Future Background Saturday
12/17/2014



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	83	747	272	742	90	260	393	56	208
v/c Ratio	0.34	0.61	0.61	0.88	0.12	0.81	0.63	0.33	0.38
Control Delay	11.7	20.6	13.7	33.1	3.4	49.0	17.8	30.0	19.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.7	20.6	13.7	33.1	3.4	49.0	17.8	30.0	19.3
Queue Length 50th (m)	4.6	40.7	17.0	95.8	0.0	37.6	25.8	6.8	18.5
Queue Length 95th (m)	9.7	62.1	28.2	#162.9	7.0	#78.9	55.9	17.6	36.6
Internal Link Dist (m)		209.0		239.0			284.0		96.7
Turn Bay Length (m)	30.0		80.0			50.0		30.0	
Base Capacity (vph)	246	1396	521	936	840	321	622	168	548
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.54	0.52	0.79	0.11	0.81	0.63	0.33	0.38

Intersection Summary

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

Lanes, Volumes, Timings
6: High Street & 1st Street

2030 Future Background Saturday
12/17/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	155	728	114	214	670	890	146	459	161	963	559	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	60.0		0.0	65.0		135.0	65.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.980				0.850		0.961			0.986	
Flt Protected	0.950			0.950			0.950			0.950	0.981	
Satd. Flow (prot)	1750	3430	0	1750	3500	1566	1750	3363	0	1592	3243	0
Flt Permitted	0.224			0.114			0.950			0.950	0.981	
Satd. Flow (perm)	413	3430	0	210	3500	1566	1750	3363	0	1592	3243	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13				724		32			9	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		263.0			517.2			308.8			272.0	
Travel Time (s)		18.9			37.2			22.2			19.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	161	758	119	223	698	927	152	478	168	1003	582	104
Shared Lane Traffic (%)										44%		
Lane Group Flow (vph)	161	877	0	223	698	927	152	646	0	562	1127	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Split	NA		Split	NA	
Protected Phases	3	8		7	4		5	5		6	6	
Permitted Phases	8			4		4						
Detector Phase	3	8		7	4	4	5	5		6	6	

Lanes, Volumes, Timings
6: High Street & 1st Street

2030 Future Background Saturday
12/17/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	9.5	9.5		21.5	21.5	
Total Split (s)	9.8	37.0		15.0	42.2	42.2	25.0	25.0		53.0	53.0	
Total Split (%)	7.5%	28.5%		11.5%	32.5%	32.5%	19.2%	19.2%		40.8%	40.8%	
Maximum Green (s)	6.3	31.5		11.5	36.7	36.7	19.5	19.5		47.5	47.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	None		Max	Max	
Walk Time (s)		5.0			5.0	5.0				5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0				11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0				0	0	
Act Effct Green (s)	39.8	31.5		48.5	36.7	36.7	19.5	19.5		47.5	47.5	
Actuated g/C Ratio	0.31	0.24		0.37	0.28	0.28	0.15	0.15		0.37	0.37	
v/c Ratio	0.84	1.04		1.04	0.71	0.96	0.58	1.22		0.97	0.95	
Control Delay	68.7	89.9		105.4	46.4	32.2	61.2	157.6		71.0	56.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	68.7	89.9		105.4	46.4	32.2	61.2	157.6		71.0	56.1	
LOS	E	F		F	D	C	E	F		E	E	
Approach Delay		86.7			46.4			139.2			61.0	
Approach LOS		F			D			F			E	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Natural Cycle: 130
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 1.22
 Intersection Signal Delay: 72.6
 Intersection Capacity Utilization 101.6%
 Analysis Period (min) 15
 Intersection LOS: E
 ICU Level of Service G

Splits and Phases: 6: High Street & 1st Street

Ø5	Ø6	Ø3	Ø4
25 s	53 s	9.8 s	42.2 s
		Ø7	Ø8
		15 s	37 s

Queues
6: High Street & 1st Street

2030 Future Background Saturday
12/17/2014



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	161	877	223	698	927	152	646	562	1127
v/c Ratio	0.84	1.04	1.04	0.71	0.96	0.58	1.22	0.97	0.95
Control Delay	68.7	89.9	105.4	46.4	32.2	61.2	157.6	71.0	56.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.7	89.9	105.4	46.4	32.2	61.2	157.6	71.0	56.1
Queue Length 50th (m)	28.3	~126.6	~45.2	84.5	69.5	36.7	~103.0	154.2	152.0
Queue Length 95th (m)	#60.8	#167.3	#96.1	106.1	#172.9	59.3	#140.8	#233.4	#198.5
Internal Link Dist (m)		239.0		493.2			284.8		248.0
Turn Bay Length (m)	60.0		65.0		135.0	65.0			
Base Capacity (vph)	191	840	214	988	961	262	531	581	1190
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	1.04	1.04	0.71	0.96	0.58	1.22	0.97	0.95

Intersection Summary

- ~ 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.

Lanes, Volumes, Timings
 9: High Street & Home Depot Access

2030 Future Background Saturday
 12/17/2014
























Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Volume (vph)	0	94	0	714	798	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	10.0	55.0			0.0
Storage Lanes	0	0	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.865			0.984	
Flt Protected						
Satd. Flow (prot)	0	1593	0	3500	3444	0
Flt Permitted						
Satd. Flow (perm)	0	1593	0	3500	3444	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	260.9			150.0	308.8	
Travel Time (s)	18.8			10.8	22.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	98	0	744	831	100
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	98	0	744	931	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Yield			Free	Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 37.6% ICU Level of Service A
 Analysis Period (min) 15

Lanes, Volumes, Timings
11: High Street & 3rd Street

2030 Future Background Saturday
12/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	8	44	25	0	181	161	631	26	124	760	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	30.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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		0.872			0.850			0.994			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1606	0	1750	1566	0	1750	3479	0	1750	3496	0
Flt Permitted	0.769			0.769			0.324			0.374		
Satd. Flow (perm)	1417	1606	0	1417	1566	0	597	3479	0	689	3496	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		46			332			8			1	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		262.0			77.6			568.8			150.0	
Travel Time (s)		18.9			5.6			41.0			10.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	2	8	46	26	0	189	168	657	27	129	792	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	54	0	26	189	0	168	684	0	129	798	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	

Lanes, Volumes, Timings
11: High Street & 3rd Street

2030 Future Background Saturday
12/17/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.5	21.5		21.5	21.5		9.5	21.5		9.5	21.5	
Total Split (s)	21.6	21.6		21.6	21.6		9.6	23.4		10.0	23.8	
Total Split (%)	39.3%	39.3%		39.3%	39.3%		17.5%	42.5%		18.2%	43.3%	
Maximum Green (s)	16.1	16.1		16.1	16.1		6.1	17.9		6.5	18.3	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		5.5	5.5		3.5	5.5		3.5	5.5	
Lead/Lag							Lead	Lag		Lead	Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	6.5	6.5		6.5	6.5		28.3	22.8		28.8	23.1	
Actuated g/C Ratio	0.15	0.15		0.15	0.15		0.64	0.51		0.65	0.52	
v/c Ratio	0.01	0.20		0.13	0.37		0.31	0.38		0.22	0.44	
Control Delay	16.5	9.6		18.3	2.2		5.0	10.3		4.2	10.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	16.5	9.6		18.3	2.2		5.0	10.3		4.2	10.7	
LOS	B	A		B	A		A	B		A	B	
Approach Delay		9.9			4.2			9.3			9.8	
Approach LOS		A			A			A			A	

Intersection Summary

Area Type: Other
 Cycle Length: 55
 Actuated Cycle Length: 44.3
 Natural Cycle: 60
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.44
 Intersection Signal Delay: 9.0
 Intersection Capacity Utilization 53.8%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 11: High Street & 3rd Street

Ø1	Ø2	Ø4
10 s	23.4 s	21.6 s
Ø5	Ø6	Ø8
9.6 s	23.8 s	21.6 s

Queues
11: High Street & 3rd Street

2030 Future Background Saturday
12/17/2014
























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	2	54	26	189	168	684	129	798
v/c Ratio	0.01	0.20	0.13	0.37	0.31	0.38	0.22	0.44
Control Delay	16.5	9.6	18.3	2.2	5.0	10.3	4.2	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.5	9.6	18.3	2.2	5.0	10.3	4.2	10.7
Queue Length 50th (m)	0.2	0.6	1.9	0.0	3.7	19.8	2.7	23.9
Queue Length 95th (m)	1.4	7.3	6.6	1.1	9.2	33.5	7.3	39.6
Internal Link Dist (m)		238.0		53.6		544.8		126.0
Turn Bay Length (m)	20.0		20.0		30.0		30.0	
Base Capacity (vph)	517	615	517	782	541	1796	605	1821
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	0.00	0.09	0.05	0.24	0.31	0.38	0.21	0.44

Intersection Summary

Lanes, Volumes, Timings
14: High Street & 6th Street

2030 Future Background Saturday
12/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	149	181	83	46	195	180	80	348	36	175	428	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	200.0		0.0	20.0		0.0	100.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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
Fr _t		0.953			0.928			0.986			0.957	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1755	0	1750	1709	0	1750	3451	0	1750	3349	0
Flt Permitted	0.346			0.523			0.396			0.499		
Satd. Flow (perm)	637	1755	0	963	1709	0	729	3451	0	919	3349	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		41			84			18			98	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		327.4			123.4			257.6			568.8	
Travel Time (s)		23.6			8.9			18.5			41.0	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	155	189	86	48	203	188	83	362	38	182	446	177
Shared Lane Traffic (%)												
Lane Group Flow (vph)	155	275	0	48	391	0	83	400	0	182	623	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	

Lanes, Volumes, Timings
14: High Street & 6th Street

2030 Future Background Saturday
12/17/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Minimum Split (s)	30.8	30.8		30.8	30.8		7.0	26.9		7.0	26.9	
Total Split (s)	30.8	30.8		30.8	30.8		7.0	27.2		7.0	27.2	
Total Split (%)	47.4%	47.4%		47.4%	47.4%		10.8%	41.8%		10.8%	41.8%	
Maximum Green (s)	25.5	25.5		25.5	25.5		4.0	21.9		4.0	21.9	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.0	3.3		3.0	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		3.0	5.3		3.0	5.3	
Lead/Lag							Lead	Lag		Lead	Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	15.0	15.0		15.0	15.0			13.0			13.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0			8.0			8.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	16.4	16.4		16.4	16.4		27.8	22.4		28.5	23.9	
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.51	0.41		0.52	0.43	
v/c Ratio	0.82	0.50		0.17	0.69		0.19	0.28		0.34	0.41	
Control Delay	51.4	16.5		15.2	19.9		8.8	13.1		10.5	12.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	51.4	16.5		15.2	19.9		8.8	13.1		10.5	12.0	
LOS	D	B		B	B		A	B		B	B	
Approach Delay		29.1			19.4			12.3			11.7	
Approach LOS		C			B			B			B	

Intersection Summary

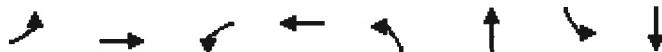
Area Type: Other
 Cycle Length: 65
 Actuated Cycle Length: 55
 Natural Cycle: 65
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay: 16.9
 Intersection Capacity Utilization 67.8%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

Splits and Phases: 14: High Street & 6th Street

7 s	27.2 s					30.8 s					
7 s	27.2 s					30.8 s					

Queues
14: High Street & 6th Street

2030 Future Background Saturday
12/17/2014
























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	155	275	48	391	83	400	182	623
v/c Ratio	0.82	0.50	0.17	0.69	0.19	0.28	0.34	0.41
Control Delay	51.4	16.5	15.2	19.9	8.8	13.1	10.5	12.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.4	16.5	15.2	19.9	8.8	13.1	10.5	12.0
Queue Length 50th (m)	14.5	19.1	3.6	26.8	3.4	13.2	7.9	19.2
Queue Length 95th (m)	#38.9	35.8	9.7	50.1	11.5	27.7	22.3	39.6
Internal Link Dist (m)		303.4		99.4		233.6		544.8
Turn Bay Length (m)	200.0		20.0		100.0		40.0	
Base Capacity (vph)	302	855	457	856	445	1419	537	1512
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	0.51	0.32	0.11	0.46	0.19	0.28	0.34	0.41

Intersection Summary

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

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2020 Total Traffic AM
12/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	86	276	91	133	250	26	125	67	122	12	111	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	80.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frnt		0.963				0.850		0.903			0.945	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3370	0	1750	1842	1566	1750	1663	0	1750	1741	0
Flt Permitted	0.599			0.463			0.642			0.634		
Satd. Flow (perm)	1103	3370	0	853	1842	1566	1183	1663	0	1168	1741	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		82				119		127			56	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		233.0			263.0			308.7			120.7	
Travel Time (s)		16.8			18.9			22.2			8.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	90	288	95	139	260	27	130	70	127	12	116	67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	90	383	0	139	260	27	130	197	0	12	183	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	7	4		3	8	8	2	2		6	6	

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2020 Total Traffic AM
12/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	21.5	21.5		21.5	21.5	
Total Split (s)	9.5	21.5		10.0	22.0	22.0	23.5	23.5		23.5	23.5	
Total Split (%)	17.3%	39.1%		18.2%	40.0%	40.0%	42.7%	42.7%		42.7%	42.7%	
Maximum Green (s)	6.0	16.0		6.5	16.5	16.5	18.0	18.0		18.0	18.0	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	17.8	11.2		19.1	13.5	13.5	18.4	18.4		18.4	18.4	
Actuated g/C Ratio	0.37	0.23		0.39	0.28	0.28	0.38	0.38		0.38	0.38	
v/c Ratio	0.19	0.45		0.30	0.51	0.05	0.29	0.28		0.03	0.26	
Control Delay	8.5	14.5		9.6	19.4	0.2	15.2	6.8		12.4	10.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	8.5	14.5		9.6	19.4	0.2	15.2	6.8		12.4	10.4	
LOS	A	B		A	B	A	B	A		B	B	
Approach Delay		13.3			15.0			10.1			10.5	
Approach LOS		B			B			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 55

Actuated Cycle Length: 48.4

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.51

Intersection Signal Delay: 12.7

Intersection LOS: B

Intersection Capacity Utilization 51.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Cambridge Street & 1st Street

ϕ2	ϕ3	ϕ4
23.5 s	10 s	21.5 s
ϕ6	ϕ7	ϕ8
23.5 s	9.5 s	22 s

Queues
3: Cambridge Street & 1st Street

2020 Total Traffic AM
12/18/2014
























Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	90	383	139	260	27	130	197	12	183
v/c Ratio	0.19	0.45	0.30	0.51	0.05	0.29	0.28	0.03	0.26
Control Delay	8.5	14.5	9.6	19.4	0.2	15.2	6.8	12.4	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.5	14.5	9.6	19.4	0.2	15.2	6.8	12.4	10.4
Queue Length 50th (m)	4.2	12.1	6.7	20.8	0.0	8.3	4.1	0.7	7.7
Queue Length 95th (m)	9.7	21.4	14.0	38.3	0.0	21.2	16.5	3.6	21.0
Internal Link Dist (m)		209.0		239.0			284.7		96.7
Turn Bay Length (m)	30.0		80.0			50.0		30.0	
Base Capacity (vph)	486	1193	460	656	635	450	711	444	696
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.32	0.30	0.40	0.04	0.29	0.28	0.03	0.26

Intersection Summary

Lanes, Volumes, Timings
6: High Street & 1st Street

2020 Total Traffic AM
12/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	57	340	37	116	249	401	79	319	100	529	286	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	60.0		0.0	65.0		135.0	65.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frnt		0.985				0.850		0.964			0.986	
Flt Protected	0.950			0.950			0.950			0.950	0.980	
Satd. Flow (prot)	1750	3447	0	1750	3500	1566	1750	3374	0	1592	3239	0
Flt Permitted	0.592			0.426			0.950			0.950	0.980	
Satd. Flow (perm)	1090	3447	0	785	3500	1566	1750	3374	0	1592	3239	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16				418		50			15	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		263.0			517.2			308.8			272.0	
Travel Time (s)		18.9			37.2			22.2			19.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	59	354	39	121	259	418	82	332	104	551	298	58
Shared Lane Traffic (%)										46%		
Lane Group Flow (vph)	59	393	0	121	259	418	82	436	0	298	609	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Split	NA		Split	NA	
Protected Phases	3	8		7	4		5	5		6	6	
Permitted Phases	8			4		4						
Detector Phase	3	8		7	4	4	5	5		6	6	

Lanes, Volumes, Timings
6: High Street & 1st Street

2020 Total Traffic AM
12/18/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	9.5	9.5		21.5	21.5	
Total Split (s)	9.5	21.6		9.5	21.6	21.6	15.0	15.0		23.9	23.9	
Total Split (%)	13.6%	30.9%		13.6%	30.9%	30.9%	21.4%	21.4%		34.1%	34.1%	
Maximum Green (s)	6.0	16.1		6.0	16.1	16.1	9.5	9.5		18.4	18.4	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	None		Max	Max	
Walk Time (s)		5.0			5.0	5.0				5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0				11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0				0	0	
Act Effct Green (s)	18.8	12.2		19.5	14.1	14.1	9.6	9.6		18.6	18.6	
Actuated g/C Ratio	0.29	0.19		0.30	0.22	0.22	0.15	0.15		0.29	0.29	
v/c Ratio	0.16	0.59		0.37	0.34	0.62	0.32	0.80		0.65	0.64	
Control Delay	14.9	27.0		17.9	23.3	7.5	30.3	38.0		30.0	24.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	14.9	27.0		17.9	23.3	7.5	30.3	38.0		30.0	24.4	
LOS	B	C		B	C	A	C	D		C	C	
Approach Delay		25.4			14.2			36.8			26.2	
Approach LOS		C			B			D			C	

Intersection Summary

Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 64.3
 Natural Cycle: 70
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.80
 Intersection Signal Delay: 24.5
 Intersection Capacity Utilization 62.8%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service B

Splits and Phases: 6: High Street & 1st Street

ø5	ø6	ø3	ø4
15 s	23.9 s	9.5 s	21.6 s
		ø7	ø8
		9.5 s	21.6 s

Queues
6: High Street & 1st Street

2020 Total Traffic AM
12/18/2014



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	59	393	121	259	418	82	436	298	609
v/c Ratio	0.16	0.59	0.37	0.34	0.62	0.32	0.80	0.65	0.64
Control Delay	14.9	27.0	17.9	23.3	7.5	30.3	38.0	30.0	24.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.9	27.0	17.9	23.3	7.5	30.3	38.0	30.0	24.4
Queue Length 50th (m)	4.7	22.5	10.0	14.8	0.0	9.2	24.6	35.6	35.4
Queue Length 95th (m)	11.2	34.7	20.0	24.3	20.0	21.7	#50.4	#74.3	55.9
Internal Link Dist (m)		239.0		493.2			284.8		248.0
Turn Bay Length (m)	60.0		65.0		135.0	65.0			
Base Capacity (vph)	381	883	329	931	723	261	546	459	946
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.45	0.37	0.28	0.58	0.31	0.80	0.65	0.64

Intersection Summary

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

Lanes, Volumes, Timings
 9: High Street & Home Depot Access

2020 Total Traffic AM
 12/18/2014
























Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Volume (vph)	0	51	0	448	399	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	10.0	55.0			0.0
Storage Lanes	0	0	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Fr _t		0.865			0.977	
Flt Protected						
Satd. Flow (prot)	0	1593	0	3500	3419	0
Flt Permitted						
Satd. Flow (perm)	0	1593	0	3500	3419	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	261.5			150.0	308.8	
Travel Time (s)	18.8			10.8	22.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	53	0	467	416	74
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	53	0	467	490	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Yield			Free	Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 23.3% ICU Level of Service A
 Analysis Period (min) 15

Lanes, Volumes, Timings
11: High Street & 3rd Street

2020 Total Traffic AM
12/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	22	43	19	31	90	134	418	32	81	369	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	30.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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
Fr't		0.901			0.888			0.989			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1660	0	1750	1636	0	1750	3461	0	1750	3496	0
Flt Permitted	0.714			0.714			0.494			0.483		
Satd. Flow (perm)	1315	1660	0	1315	1636	0	910	3461	0	890	3496	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		45			94			15			1	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		261.0			77.6			568.8			150.0	
Travel Time (s)		18.8			5.6			41.0			10.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	2	23	45	20	32	94	140	435	33	84	384	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	68	0	20	126	0	140	468	0	84	386	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	

Lanes, Volumes, Timings
11: High Street & 3rd Street

2020 Total Traffic AM
12/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.5	21.5		21.5	21.5		9.5	21.5		9.5	21.5	
Total Split (s)	22.0	22.0		22.0	22.0		10.0	23.0		10.0	23.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		18.2%	41.8%		18.2%	41.8%	
Maximum Green (s)	16.5	16.5		16.5	16.5		6.5	17.5		6.5	17.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		5.5	5.5		3.5	5.5		3.5	5.5	
Lead/Lag							Lead	Lag		Lead	Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	6.9	6.9		6.9	6.9		28.9	24.5		28.0	22.4	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.65	0.55		0.63	0.51	
v/c Ratio	0.01	0.23		0.10	0.38		0.20	0.24		0.12	0.22	
Control Delay	16.0	10.9		17.3	10.6		4.3	8.9		4.0	9.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	16.0	10.9		17.3	10.6		4.3	8.9		4.0	9.8	
LOS	B	B		B	B		A	A		A	A	
Approach Delay		11.0			11.5			7.8			8.8	
Approach LOS		B			B			A			A	

Intersection Summary

Area Type: Other
 Cycle Length: 55
 Actuated Cycle Length: 44.3
 Natural Cycle: 55
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.38
 Intersection Signal Delay: 8.7
 Intersection Capacity Utilization 37.9%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 11: High Street & 3rd Street

φ1	φ2	φ4
10 s	23 s	22 s
φ5	φ6	φ8
10 s	23 s	22 s

Queues
11: High Street & 3rd Street

2020 Total Traffic AM
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









Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	2	68	20	126	140	468	84	386
v/c Ratio	0.01	0.23	0.10	0.38	0.20	0.24	0.12	0.22
Control Delay	16.0	10.9	17.3	10.6	4.3	8.9	4.0	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.0	10.9	17.3	10.6	4.3	8.9	4.0	9.8
Queue Length 50th (m)	0.2	1.6	1.4	2.2	3.0	12.1	1.7	10.2
Queue Length 95th (m)	1.4	9.0	5.5	12.5	8.9	23.4	5.9	19.8
Internal Link Dist (m)		237.0		53.6		544.8		126.0
Turn Bay Length (m)	20.0		20.0		30.0		30.0	
Base Capacity (vph)	493	650	493	672	718	1919	693	1769
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	0.00	0.10	0.04	0.19	0.19	0.24	0.12	0.22

Intersection Summary

Lanes, Volumes, Timings
14: High Street & 6th Street

2020 Total Traffic AM
12/18/2014

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	99	155	53	19	109	129	58	297	50	74	197	65	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (m)	200.0		0.0	20.0		0.0	100.0		0.0	40.0		0.0	
Storage Lanes	1		0	1		0	1		0	1		0	
Taper Length (m)	2.5			2.5			2.5			2.5			
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		0.962			0.919			0.978			0.963		
Flt Protected	0.950			0.950			0.950			0.950			
Satd. Flow (prot)	1750	1772	0	1750	1693	0	1750	3423	0	1750	3370	0	
Flt Permitted	0.560			0.623			0.584			0.536			
Satd. Flow (perm)	1032	1772	0	1148	1693	0	1076	3423	0	987	3370	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		31			107			31			68		
Link Speed (k/h)		50			50			50			50		
Link Distance (m)		327.4			123.4			257.6			568.8		
Travel Time (s)		23.6			8.9			18.5			41.0		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Adj. Flow (vph)	103	161	55	20	114	134	60	309	52	77	205	68	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	103	216	0	20	248	0	60	361	0	77	273	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(m)		3.5			3.5			3.5			3.5		
Link Offset(m)		0.0			0.0			0.0			0.0		
Crosswalk Width(m)		1.6			1.6			1.6			1.6		
Two way Left Turn Lane													
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	
Turning Speed (k/h)	24		14	24		14	24		14	24		14	
Number of Detectors	1	2		1	2		1	2		1	2		
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru		
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5		
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8		
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(m)		28.7			28.7			28.7			28.7		
Detector 2 Size(m)		1.8			1.8			1.8			1.8		
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex		
Detector 2 Channel													
Detector 2 Extend (s)		0.0			0.0			0.0			0.0		
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA		
Protected Phases		4			8		5	2		1	6		
Permitted Phases	4			8			2			6			
Detector Phase	4	4		8	8		5	2		1	6		

Lanes, Volumes, Timings
14: High Street & 6th Street

2020 Total Traffic AM
12/18/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Minimum Split (s)	30.8	30.8		30.8	30.8		7.0	26.9		7.0	26.9	
Total Split (s)	30.8	30.8		30.8	30.8		7.0	27.2		7.0	27.2	
Total Split (%)	47.4%	47.4%		47.4%	47.4%		10.8%	41.8%		10.8%	41.8%	
Maximum Green (s)	25.5	25.5		25.5	25.5		4.0	21.9		4.0	21.9	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.0	3.3		3.0	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		3.0	5.3		3.0	5.3	
Lead/Lag							Lead	Lag		Lead	Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	15.0	15.0		15.0	15.0			13.0			13.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0			8.0			8.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effect Green (s)	10.6	10.6		10.6	10.6		26.8	22.3		26.8	22.3	
Actuated g/C Ratio	0.22	0.22		0.22	0.22		0.56	0.47		0.56	0.47	
v/c Ratio	0.45	0.52		0.08	0.54		0.09	0.22		0.12	0.17	
Control Delay	23.4	19.0		15.9	14.6		5.1	8.7		5.3	7.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	23.4	19.0		15.9	14.6		5.1	8.7		5.3	7.2	
LOS	C	B		B	B		A	A		A	A	
Approach Delay		20.4			14.7			8.2			6.8	
Approach LOS		C			B			A			A	

Intersection Summary

Area Type: Other
 Cycle Length: 65
 Actuated Cycle Length: 47.5
 Natural Cycle: 65
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.54
 Intersection Signal Delay: 12.0
 Intersection Capacity Utilization 49.6%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 14: High Street & 6th Street

7 s	27.2 s	30.8 s
7 s	27.2 s	30.8 s

Queues
14: High Street & 6th Street






















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Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	103	216	20	248	60	361	77	273
v/c Ratio	0.45	0.52	0.08	0.54	0.09	0.22	0.12	0.17
Control Delay	23.4	19.0	15.9	14.6	5.1	8.7	5.3	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.4	19.0	15.9	14.6	5.1	8.7	5.3	7.2
Queue Length 50th (m)	8.1	14.6	1.4	10.9	1.7	8.9	2.2	5.3
Queue Length 95th (m)	19.0	29.8	5.4	26.5	6.3	18.9	7.5	13.0
Internal Link Dist (m)		303.4		99.4		233.6		544.8
Turn Bay Length (m)	200.0		20.0		100.0		40.0	
Base Capacity (vph)	564	983	628	974	666	1624	623	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	0.18	0.22	0.03	0.25	0.09	0.22	0.12	0.17
Intersection Summary								

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2020 Total Traffic PM
12/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	96	448	168	254	437	46	194	306	313	27	267	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	80.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.959				0.850		0.924			0.959	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3356	0	1750	1842	1566	1750	1702	0	1750	1767	0
Flt Permitted	0.309			0.206			0.435			0.172		
Satd. Flow (perm)	569	3356	0	379	1842	1566	801	1702	0	317	1767	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		73				94		90			33	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		233.0			263.0			308.7			120.7	
Travel Time (s)		16.8			18.9			22.2			8.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	100	467	175	265	455	48	202	319	326	28	278	104
Shared Lane Traffic (%)												
Lane Group Flow (vph)	100	642	0	265	455	48	202	645	0	28	382	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	7	4		3	8	8	2	2		6	6	

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2020 Total Traffic PM
12/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	21.5	21.5		21.5	21.5	
Total Split (s)	9.5	22.9		12.6	26.0	26.0	34.5	34.5		34.5	34.5	
Total Split (%)	13.6%	32.7%		18.0%	37.1%	37.1%	49.3%	49.3%		49.3%	49.3%	
Maximum Green (s)	6.0	17.4		9.1	20.5	20.5	29.0	29.0		29.0	29.0	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	24.1	16.2		30.4	21.3	21.3	29.0	29.0		29.0	29.0	
Actuated g/C Ratio	0.35	0.24		0.44	0.31	0.31	0.42	0.42		0.42	0.42	
v/c Ratio	0.33	0.76		0.76	0.80	0.09	0.60	0.84		0.21	0.50	
Control Delay	14.6	28.1		29.5	35.8	1.6	25.1	27.9		18.2	16.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	14.6	28.1		29.5	35.8	1.6	25.1	27.9		18.2	16.4	
LOS	B	C		C	D	A	C	C		B	B	
Approach Delay		26.3			31.5			27.2			16.5	
Approach LOS		C			C			C			B	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 68.8

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 26.5

Intersection LOS: C

Intersection Capacity Utilization 87.5%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Cambridge Street & 1st Street

34.5 s	12.6 s	22.9 s
34.5 s	9.5 s	26 s

Queues
3: Cambridge Street & 1st Street

2020 Total Traffic PM
12/18/2014


























Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	100	642	265	455	48	202	645	28	382
v/c Ratio	0.33	0.76	0.76	0.80	0.09	0.60	0.84	0.21	0.50
Control Delay	14.6	28.1	29.5	35.8	1.6	25.1	27.9	18.2	16.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.6	28.1	29.5	35.8	1.6	25.1	27.9	18.2	16.4
Queue Length 50th (m)	7.2	35.8	21.1	55.5	0.0	20.0	64.3	2.3	32.4
Queue Length 95th (m)	14.9	53.0	#48.4	#102.2	2.2	#42.4	#124.6	8.1	55.2
Internal Link Dist (m)		209.0		239.0			284.7		96.7
Turn Bay Length (m)	30.0		80.0			50.0		30.0	
Base Capacity (vph)	303	904	349	569	549	337	770	133	764
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.71	0.76	0.80	0.09	0.60	0.84	0.21	0.50

Intersection Summary

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













Lanes, Volumes, Timings
6: High Street & 1st Street

2020 Total Traffic PM
12/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	649	77	16	523	670	89	400	96	610	523	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	60.0		0.0	65.0		135.0	65.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.984				0.850		0.971			0.988	
Flt Protected	0.950			0.950			0.950			0.950	0.987	
Satd. Flow (prot)	1750	3444	0	1750	3500	1566	1750	3398	0	1592	3269	0
Flt Permitted	0.284			0.237			0.950			0.950	0.987	
Satd. Flow (perm)	523	3444	0	437	3500	1566	1750	3398	0	1592	3269	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13				680		27			9	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		263.0			517.2			308.8			272.0	
Travel Time (s)		18.9			37.2			22.2			19.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	125	676	80	17	545	698	93	417	100	635	545	65
Shared Lane Traffic (%)										36%		
Lane Group Flow (vph)	125	756	0	17	545	698	93	517	0	406	839	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Split	NA		Split	NA	
Protected Phases	3	8		7	4		5	5		6	6	
Permitted Phases	8			4		4						
Detector Phase	3	8		7	4	4	5	5		6	6	

Lanes, Volumes, Timings
6: High Street & 1st Street







2020 Total Traffic PM
12/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	9.5	9.5		21.5	21.5	
Total Split (s)	9.5	26.0		14.1	30.6	30.6	18.6	18.6		31.3	31.3	
Total Split (%)	10.6%	28.9%		15.7%	34.0%	34.0%	20.7%	20.7%		34.8%	34.8%	
Maximum Green (s)	6.0	20.5		10.6	25.1	25.1	13.1	13.1		25.8	25.8	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	None		Max	Max	
Walk Time (s)		5.0			5.0	5.0				5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0				11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0				0	0	
Act Effct Green (s)	32.2	27.8		30.4	22.3	22.3	13.1	13.1		25.8	25.8	
Actuated g/C Ratio	0.37	0.32		0.35	0.26	0.26	0.15	0.15		0.30	0.30	
v/c Ratio	0.45	0.68		0.07	0.61	0.77	0.35	0.97		0.86	0.86	
Control Delay	23.4	30.2		16.8	31.7	9.3	38.7	69.3		49.9	40.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	23.4	30.2		16.8	31.7	9.3	38.7	69.3		49.9	40.0	
LOS	C	C		B	C	A	D	E		D	D	
Approach Delay		29.3			19.1			64.6			43.3	
Approach LOS		C			B			E			D	

Intersection Summary










Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 87.3
 Natural Cycle: 90
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.97
 Intersection Signal Delay: 35.8
 Intersection Capacity Utilization 77.7%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service D

Splits and Phases: 6: High Street & 1st Street

 p5	 p6	 p3	 p4
18.6 s	31.3 s	9.5 s	30.6 s
		 p7	 p8
		14.1 s	26 s

Queues
6: High Street & 1st Street

2020 Total Traffic PM
12/18/2014

									
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	125	756	17	545	698	93	517	406	839
v/c Ratio	0.45	0.68	0.07	0.61	0.77	0.35	0.97	0.86	0.86
Control Delay	23.4	30.2	16.8	31.7	9.3	38.7	69.3	49.9	40.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.4	30.2	16.8	31.7	9.3	38.7	69.3	49.9	40.0
Queue Length 50th (m)	13.5	52.1	1.7	42.2	2.3	14.7	45.1	73.4	75.1
Queue Length 95th (m)	24.8	#85.4	5.6	58.1	36.0	28.9	#78.7	#130.1	#110.3
Internal Link Dist (m)		239.0		493.2			284.8		248.0
Turn Bay Length (m)	60.0		65.0		135.0	65.0			
Base Capacity (vph)	277	1107	329	1008	935	263	533	471	974
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.68	0.05	0.54	0.75	0.35	0.97	0.86	0.86

Intersection Summary

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

Lanes, Volumes, Timings
 9: High Street & Home Depot Access

2020 Total Traffic PM
 12/18/2014























Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↖		↑↑	↑↓	
Volume (vph)	0	58	0	569	765	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	10.0	55.0			0.0
Storage Lanes	0	0	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Fr _t		0.865			0.983	
Fl _t Protected						
Satd. Flow (prot)	0	1593	0	3500	3440	0
Fl _t Permitted						
Satd. Flow (perm)	0	1593	0	3500	3440	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	261.5			150.0	308.8	
Travel Time (s)	18.8			10.8	22.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	60	0	593	797	101
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	60	0	593	898	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Yield			Free	Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 34.5% ICU Level of Service A
 Analysis Period (min) 15













Lanes, Volumes, Timings
11: High Street & 3rd Street

2020 Total Traffic PM
12/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	104	203	31	102	137	240	472	33	104	699	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	30.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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		0.901			0.914			0.990				
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	1842	1660	0	1750	1684	0	1750	3465	0	1750	3500	0
Flt Permitted				0.400			0.286			0.457		
Satd. Flow (perm)	1842	1660	0	737	1684	0	527	3465	0	842	3500	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		180			125			14			1	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		261.0			77.6			568.8			150.0	
Travel Time (s)		18.8			5.6			41.0			10.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	108	211	32	106	143	250	492	34	108	728	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	319	0	32	249	0	250	526	0	108	730	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	

Lanes, Volumes, Timings
11: High Street & 3rd Street







2020 Total Traffic PM
12/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.5	21.5		21.5	21.5		9.5	21.5		9.5	21.5	
Total Split (s)	21.5	21.5		21.5	21.5		10.2	23.9		9.6	23.3	
Total Split (%)	39.1%	39.1%		39.1%	39.1%		18.5%	43.5%		17.5%	42.4%	
Maximum Green (s)	16.0	16.0		16.0	16.0		6.7	18.4		6.1	17.8	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		5.5	5.5		3.5	5.5		3.5	5.5	
Lead/Lag							Lead	Lag		Lead	Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		10.0		10.0	10.0		27.9	20.6		25.9	17.9	
Actuated g/C Ratio		0.20		0.20	0.20		0.57	0.42		0.53	0.36	
v/c Ratio		0.66		0.21	0.56		0.54	0.36		0.19	0.57	
Control Delay		15.3		19.2	14.2		10.6	12.2		6.1	15.5	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		15.3		19.2	14.2		10.6	12.2		6.1	15.5	
LOS		B		B	B		B	B		A	B	
Approach Delay		15.3			14.8			11.7			14.3	
Approach LOS		B			B			B			B	

Intersection Summary

Area Type: Other
 Cycle Length: 55
 Actuated Cycle Length: 49.2
 Natural Cycle: 60
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.66
 Intersection Signal Delay: 13.6
 Intersection Capacity Utilization 70.9%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

Splits and Phases: 11: High Street & 3rd Street

 ø1	 ø2	 ø4
9.6 s	23.9 s	21.5 s
 ø5	 ø6	 ø8
10.2 s	23.3 s	21.5 s

Queues
11: High Street & 3rd Street

2020 Total Traffic PM
12/18/2014
























Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	319	32	249	250	526	108	730
v/c Ratio	0.66	0.21	0.56	0.54	0.36	0.19	0.57
Control Delay	15.3	19.2	14.2	10.6	12.2	6.1	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.3	19.2	14.2	10.6	12.2	6.1	15.5
Queue Length 50th (m)	10.6	2.3	9.3	7.9	16.3	3.1	25.6
Queue Length 95th (m)	28.8	7.7	24.5	#22.5	31.7	10.2	47.2
Internal Link Dist (m)	237.0		53.6		544.8		126.0
Turn Bay Length (m)		20.0		30.0		30.0	
Base Capacity (vph)	663	240	634	466	1460	558	1273
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.13	0.39	0.54	0.36	0.19	0.57

Intersection Summary

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

Lanes, Volumes, Timings
14: High Street & 6th Street

2020 Total Traffic PM
12/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	131	131	76	39	162	186	77	349	21	228	517	181
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	200.0		0.0	20.0		0.0	100.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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		0.945			0.920			0.991			0.961	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1741	0	1750	1695	0	1750	3468	0	1750	3363	0
Flt Permitted	0.357			0.617			0.353			0.492		
Satd. Flow (perm)	658	1741	0	1137	1695	0	650	3468	0	906	3363	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		53			104			10			81	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		327.4			123.4			257.6			568.8	
Travel Time (s)		23.6			8.9			18.5			41.0	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	136	136	79	41	169	194	80	364	22	238	539	189
Shared Lane Traffic (%)												
Lane Group Flow (vph)	136	215	0	41	363	0	80	386	0	238	728	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	

Lanes, Volumes, Timings
14: High Street & 6th Street

2020 Total Traffic PM
12/18/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Minimum Split (s)	30.8	30.8		30.8	30.8		7.0	26.9		7.0	26.9	
Total Split (s)	30.8	30.8		30.8	30.8		7.0	27.2		7.0	27.2	
Total Split (%)	47.4%	47.4%		47.4%	47.4%		10.8%	41.8%		10.8%	41.8%	
Maximum Green (s)	25.3	25.3		25.3	25.3		3.5	21.7		3.5	21.7	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		5.5	5.5		3.5	5.5		3.5	5.5	
Lead/Lag							Lead	Lag		Lead	Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	15.0	15.0		15.0	15.0			13.0			13.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0			8.0			8.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	14.5	14.5		14.5	14.5		27.5	21.9		29.1	25.1	
Actuated g/C Ratio	0.27	0.27		0.27	0.27		0.50	0.40		0.53	0.46	
v/c Ratio	0.78	0.43		0.14	0.69		0.20	0.28		0.44	0.46	
Control Delay	47.8	14.4		15.2	19.5		8.6	12.7		11.9	12.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	47.8	14.4		15.2	19.5		8.6	12.7		11.9	12.3	
LOS	D	B		B	B		A	B		B	B	
Approach Delay		27.4			19.1			12.0			12.2	
Approach LOS		C			B			B			B	

Intersection Summary

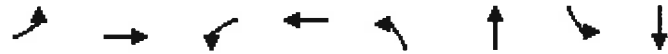
Area Type: Other
 Cycle Length: 65
 Actuated Cycle Length: 54.6
 Natural Cycle: 65
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay: 15.8
 Intersection Capacity Utilization 68.6%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

Splits and Phases: 14: High Street & 6th Street

ϕ1	ϕ2	ϕ4
7 s	27.2 s	30.8 s
ϕ5	ϕ6	ϕ8
7 s	27.2 s	30.8 s

Queues
14: High Street & 6th Street

2020 Total Traffic PM
12/18/2014
























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	136	215	41	363	80	386	238	728
v/c Ratio	0.78	0.43	0.14	0.69	0.20	0.28	0.44	0.46
Control Delay	47.8	14.4	15.2	19.5	8.6	12.7	11.9	12.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.8	14.4	15.2	19.5	8.6	12.7	11.9	12.3
Queue Length 50th (m)	12.2	12.8	3.0	21.8	3.0	12.1	9.8	23.0
Queue Length 95th (m)	#29.3	26.3	8.5	43.3	11.0	26.7	28.7	48.7
Internal Link Dist (m)		303.4		99.4		233.6		544.8
Turn Bay Length (m)	200.0		20.0		100.0		40.0	
Base Capacity (vph)	308	843	532	849	398	1399	536	1587
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	0.44	0.26	0.08	0.43	0.20	0.28	0.44	0.46

Intersection Summary

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

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2020 Total Traffic Saturday
12/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	61	419	184	360	540	65	245	369	455	41	404	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	80.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frnt		0.954				0.850		0.917			0.978	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3339	0	1750	1842	1566	1750	1689	0	1750	1802	0
Flt Permitted	0.204			0.173			0.343			0.082		
Satd. Flow (perm)	376	3339	0	319	1842	1566	632	1689	0	151	1802	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		62				68		87			12	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		233.0			263.0			308.7			120.7	
Travel Time (s)		16.8			18.9			22.2			8.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	64	436	192	375	562	68	255	384	474	43	421	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	628	0	375	562	68	255	858	0	43	495	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	7	4		3	8	8	2	2		6	6	

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2020 Total Traffic Saturday
12/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	21.5	21.5		21.5	21.5	
Total Split (s)	9.5	24.7		21.0	36.2	36.2	54.3	54.3		54.3	54.3	
Total Split (%)	9.5%	24.7%		21.0%	36.2%	36.2%	54.3%	54.3%		54.3%	54.3%	
Maximum Green (s)	6.0	19.2		17.5	30.7	30.7	48.8	48.8		48.8	48.8	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	26.8	18.9		41.9	32.3	32.3	48.8	48.8		48.8	48.8	
Actuated g/C Ratio	0.27	0.19		0.42	0.32	0.32	0.49	0.49		0.49	0.49	
v/c Ratio	0.35	0.92		0.97	0.94	0.12	0.83	0.99		0.59	0.56	
Control Delay	24.4	55.9		66.8	59.9	7.0	46.3	51.3		55.5	20.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	24.4	55.9		66.8	59.9	7.0	46.3	51.3		55.5	20.5	
LOS	C	E		E	E	A	D	D		E	C	
Approach Delay		53.0			58.9			50.2			23.3	
Approach LOS		D			E			D			C	

Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 99.7
 Natural Cycle: 100
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.99
 Intersection Signal Delay: 49.1
 Intersection Capacity Utilization 105.1%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service G

Splits and Phases: 3: Cambridge Street & 1st Street

54.3 s	21 s	24.7 s
54.3 s	9.5 s	36.2 s

Queues

2020 Total Traffic Saturday

3: Cambridge Street & 1st Street

12/18/2014



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	64	628	375	562	68	255	858	43	495
v/c Ratio	0.35	0.92	0.97	0.94	0.12	0.83	0.99	0.59	0.56
Control Delay	24.4	55.9	66.8	59.9	7.0	46.3	51.3	55.5	20.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.4	55.9	66.8	59.9	7.0	46.3	51.3	55.5	20.5
Queue Length 50th (m)	7.3	57.4	55.9	108.2	0.0	40.8	147.4	5.7	63.4
Queue Length 95th (m)	15.2	#89.3	#112.7	#175.7	9.2	#88.3	#234.3	#24.4	93.7
Internal Link Dist (m)		209.0		239.0			284.7		96.7
Turn Bay Length (m)	30.0		80.0			50.0		30.0	
Base Capacity (vph)	183	693	385	597	553	309	870	73	887
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.91	0.97	0.94	0.12	0.83	0.99	0.59	0.56
























Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
6: High Street & 1st Street

2020 Total Traffic Saturday
12/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	173	736	86	236	634	675	111	348	122	731	446	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	60.0		0.0	65.0		135.0	65.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.984				0.850		0.961			0.980	
Flt Protected	0.950			0.950			0.950			0.950	0.983	
Satd. Flow (prot)	1750	3444	0	1750	3500	1566	1750	3363	0	1592	3230	0
Flt Permitted	0.247			0.169			0.950			0.950	0.983	
Satd. Flow (perm)	455	3444	0	311	3500	1566	1750	3363	0	1592	3230	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13				695		45			18	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		263.0			517.2			308.8			272.0	
Travel Time (s)		18.9			37.2			22.2			19.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	180	767	90	246	660	703	116	362	127	761	465	118
Shared Lane Traffic (%)										41%		
Lane Group Flow (vph)	180	857	0	246	660	703	116	489	0	449	895	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Split	NA		Split	NA	
Protected Phases	3	8		7	4		5	5		6	6	
Permitted Phases	8			4		4						
Detector Phase	3	8		7	4	4	5	5		6	6	

Lanes, Volumes, Timings
6: High Street & 1st Street

2020 Total Traffic Saturday
12/18/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	9.5	9.5		21.5	21.5	
Total Split (s)	11.0	27.2		13.0	29.2	29.2	16.6	16.6		33.2	33.2	
Total Split (%)	12.2%	30.2%		14.4%	32.4%	32.4%	18.4%	18.4%		36.9%	36.9%	
Maximum Green (s)	7.5	21.7		9.5	23.7	23.7	11.1	11.1		27.7	27.7	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	None		Max	Max	
Walk Time (s)		5.0			5.0	5.0				5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0				11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0				0	0	
Act Effct Green (s)	31.2	21.7		35.2	23.7	23.7	11.1	11.1		27.7	27.7	
Actuated g/C Ratio	0.35	0.24		0.39	0.26	0.26	0.12	0.12		0.31	0.31	
v/c Ratio	0.68	1.02		0.90	0.72	0.76	0.54	1.08		0.92	0.89	
Control Delay	33.3	70.9		56.8	35.2	8.8	47.2	100.2		56.6	41.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	33.3	70.9		56.8	35.2	8.8	47.2	100.2		56.6	41.6	
LOS	C	E		E	D	A	D	F		E	D	
Approach Delay		64.4			27.0			90.1			46.6	
Approach LOS		E			C			F			D	

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Natural Cycle:	90
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	1.08
Intersection Signal Delay:	49.5
Intersection Capacity Utilization:	91.6%
Analysis Period (min):	15
Intersection LOS:	D
ICU Level of Service:	F

Splits and Phases: 6: High Street & 1st Street

16.6 s	33.2 s	11 s	29.2 s
		13 s	27.2 s

Queues
6: High Street & 1st Street

2020 Total Traffic Saturday
12/18/2014














Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	180	857	246	660	703	116	489	449	895
v/c Ratio	0.68	1.02	0.90	0.72	0.76	0.54	1.08	0.92	0.89
Control Delay	33.3	70.9	56.8	35.2	8.8	47.2	100.2	56.6	41.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.3	70.9	56.8	35.2	8.8	47.2	100.2	56.6	41.6
Queue Length 50th (m)	20.1	~79.9	28.6	54.5	1.0	19.1	~46.2	81.7	79.0
Queue Length 95th (m)	#38.9	#119.5	#67.9	73.3	34.1	35.7	#77.2	#142.5	#115.1
Internal Link Dist (m)		239.0		493.2			284.8		248.0
Turn Bay Length (m)	60.0		65.0		135.0	65.0			
Base Capacity (vph)	265	840	273	921	924	215	454	489	1006
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	1.02	0.90	0.72	0.76	0.54	1.08	0.92	0.89

Intersection Summary

- ~ 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.

Lanes, Volumes, Timings
 9: High Street & Home Depot Access





















2020 Total Traffic Saturday
 12/18/2014

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Volume (vph)	0	99	0	542	605	169
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	10.0	55.0			0.0
Storage Lanes	0	0	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Fr _t		0.865			0.967	
Flt Protected						
Satd. Flow (prot)	0	1593	0	3500	3384	0
Flt Permitted						
Satd. Flow (perm)	0	1593	0	3500	3384	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	261.5			150.0	308.8	
Travel Time (s)	18.8			10.8	22.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	103	0	565	630	176
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	103	0	565	806	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Yield			Free	Free	

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

Lanes, Volumes, Timings
11: High Street & 3rd Street

2020 Total Traffic Saturday
12/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	136	258	19	180	113	380	479	20	108	591	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	30.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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		0.902			0.942			0.994			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1662	0	1750	1735	0	1750	3479	0	1750	3496	0
Flt Permitted	0.450			0.323			0.297			0.460		
Satd. Flow (perm)	829	1662	0	595	1735	0	547	3479	0	847	3496	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		175			58			8			1	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		261.0			77.6			568.8			150.0	
Travel Time (s)		18.8			5.6			41.0			10.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	2	142	269	20	188	118	396	499	21	112	616	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	411	0	20	306	0	396	520	0	112	621	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	

Lanes, Volumes, Timings
11: High Street & 3rd Street

2020 Total Traffic Saturday
12/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.5	21.5		21.5	21.5		9.5	21.5		9.5	21.5	
Total Split (s)	21.5	21.5		21.5	21.5		12.0	23.9		9.6	21.5	
Total Split (%)	39.1%	39.1%		39.1%	39.1%		21.8%	43.5%		17.5%	39.1%	
Maximum Green (s)	16.0	16.0		16.0	16.0		8.5	18.4		6.1	16.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		5.5	5.5		3.5	5.5		3.5	5.5	
Lead/Lag							Lead	Lag	Lead		Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	12.4	12.4		12.4	12.4		29.3	20.6		24.1	16.1	
Actuated g/C Ratio	0.24	0.24		0.24	0.24		0.57	0.40		0.47	0.31	
v/c Ratio	0.01	0.77		0.14	0.66		0.78	0.37		0.22	0.57	
Control Delay	14.0	21.1		17.3	21.6		21.6	13.5		7.3	18.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	14.0	21.1		17.3	21.6		21.6	13.5		7.3	18.0	
LOS	B	C		B	C		C	B		A	B	
Approach Delay		21.0			21.3			17.0			16.4	
Approach LOS		C			C			B			B	

Intersection Summary

Area Type: Other
 Cycle Length: 55
 Actuated Cycle Length: 51.6
 Natural Cycle: 55
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay: 18.1
 Intersection Capacity Utilization 73.0%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service D

Splits and Phases: 11: High Street & 3rd Street

9.6 s	23.9 s	21.5 s
12 s	21.5 s	21.5 s

Queues
11: High Street & 3rd Street

2020 Total Traffic Saturday
12/18/2014























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	2	411	20	306	396	520	112	621
v/c Ratio	0.01	0.77	0.14	0.66	0.78	0.37	0.22	0.57
Control Delay	14.0	21.1	17.3	21.6	21.6	13.5	7.3	18.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.0	21.1	17.3	21.6	21.6	13.5	7.3	18.0
Queue Length 50th (m)	0.2	19.2	1.4	20.2	17.8	18.6	4.2	25.4
Queue Length 95th (m)	1.4	#46.0	5.7	40.3	#54.7	31.5	10.5	41.6
Internal Link Dist (m)		237.0		53.6		544.8		126.0
Turn Bay Length (m)	20.0		20.0		30.0		30.0	
Base Capacity (vph)	258	638	185	580	509	1396	504	1090
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	0.01	0.64	0.11	0.53	0.78	0.37	0.22	0.57

Intersection Summary

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

Lanes, Volumes, Timings
14: High Street & 6th Street

2020 Total Traffic Saturday
12/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	187	138	63	35	148	211	61	375	27	200	427	197
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	200.0		0.0	20.0		0.0	100.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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		0.953			0.912			0.990			0.953	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1755	0	1750	1680	0	1750	3465	0	1750	3335	0
Flt Permitted	0.380			0.622			0.388			0.471		
Satd. Flow (perm)	700	1755	0	1146	1680	0	715	3465	0	868	3335	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		42			130			12			125	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		327.4			123.4			257.6			568.8	
Travel Time (s)		23.6			8.9			18.5			41.0	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	195	144	66	36	154	220	64	391	28	208	445	205
Shared Lane Traffic (%)												
Lane Group Flow (vph)	195	210	0	36	374	0	64	419	0	208	650	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	

Lanes, Volumes, Timings
14: High Street & 6th Street

2020 Total Traffic Saturday
12/18/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Minimum Split (s)	30.8	30.8		30.8	30.8		7.0	26.9		7.0	26.9	
Total Split (s)	30.8	30.8		30.8	30.8		7.0	27.2		7.0	27.2	
Total Split (%)	47.4%	47.4%		47.4%	47.4%		10.8%	41.8%		10.8%	41.8%	
Maximum Green (s)	25.5	25.5		25.5	25.5		4.0	21.9		4.0	21.9	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.0	3.3		3.0	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		3.0	5.3		3.0	5.3	
Lead/Lag							Lead	Lag		Lead	Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	15.0	15.0		15.0	15.0			13.0			13.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0			8.0			8.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	18.5	18.5		18.5	18.5		28.5	22.1		29.9	25.3	
Actuated g/C Ratio	0.32	0.32		0.32	0.32		0.49	0.38		0.51	0.43	
v/c Ratio	0.88	0.36		0.10	0.60		0.15	0.32		0.41	0.43	
Control Delay	57.6	13.2		13.7	14.6		9.4	14.6		12.5	12.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	57.6	13.2		13.7	14.6		9.4	14.6		12.5	12.3	
LOS	E	B		B	B		A	B		B	B	
Approach Delay		34.6			14.5			13.9			12.4	
Approach LOS		C			B			B			B	

Intersection Summary

Area Type: Other
 Cycle Length: 65
 Actuated Cycle Length: 58.4
 Natural Cycle: 65
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 17.3
 Intersection Capacity Utilization 70.0%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

Splits and Phases: 14: High Street & 6th Street

7 s	27.2 s	30.8 s
7 s	27.2 s	30.8 s

Queues
14: High Street & 6th Street

2020 Total Traffic Saturday
12/18/2014
























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	195	210	36	374	64	419	208	650
v/c Ratio	0.88	0.36	0.10	0.60	0.15	0.32	0.41	0.43
Control Delay	57.6	13.2	13.7	14.6	9.4	14.6	12.5	12.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.6	13.2	13.7	14.6	9.4	14.6	12.5	12.3
Queue Length 50th (m)	19.1	13.1	2.6	20.2	3.1	15.9	10.9	21.5
Queue Length 95th (m)	#49.4	26.4	7.6	41.7	9.4	29.4	25.5	40.1
Internal Link Dist (m)		303.4		99.4		233.6		544.8
Turn Bay Length (m)	200.0		20.0		100.0		40.0	
Base Capacity (vph)	309	798	506	814	420	1321	504	1517
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	0.63	0.26	0.07	0.46	0.15	0.32	0.41	0.43

Intersection Summary

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

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2025 Total Traffic AM
12/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	99	317	103	148	287	30	142	71	135	14	118	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	80.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.963				0.850		0.902			0.943	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3370	0	1750	1842	1566	1750	1662	0	1750	1737	0
Flt Permitted	0.500			0.490			0.633			0.624		
Satd. Flow (perm)	921	3370	0	903	1842	1566	1166	1662	0	1149	1737	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		82				119		141			59	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		233.0			263.0			308.7			120.7	
Travel Time (s)		16.8			18.9			22.2			8.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	103	330	107	154	299	31	148	74	141	15	123	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	103	437	0	154	299	31	148	215	0	15	199	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	7	4		3	8	8	2	2		6	6	

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2025 Total Traffic AM
12/18/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	21.5	21.5		21.5	21.5	
Total Split (s)	9.5	22.1		9.8	22.4	22.4	23.1	23.1		23.1	23.1	
Total Split (%)	17.3%	40.2%		17.8%	40.7%	40.7%	42.0%	42.0%		42.0%	42.0%	
Maximum Green (s)	6.0	16.6		6.3	16.9	16.9	17.6	17.6		17.6	17.6	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	19.0	12.5		19.5	12.7	12.7	18.0	18.0		18.0	18.0	
Actuated g/C Ratio	0.39	0.25		0.40	0.26	0.26	0.37	0.37		0.37	0.37	
v/c Ratio	0.22	0.48		0.33	0.63	0.06	0.35	0.31		0.04	0.30	
Control Delay	8.6	14.6		9.6	23.0	0.2	16.7	7.0		12.9	11.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	8.6	14.6		9.6	23.0	0.2	16.7	7.0		12.9	11.1	
LOS	A	B		A	C	A	B	A		B	B	
Approach Delay		13.4			17.3			11.0			11.2	
Approach LOS		B			B			B			B	

Intersection Summary










Area Type: Other
 Cycle Length: 55
 Actuated Cycle Length: 49.1
 Natural Cycle: 55
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.63
 Intersection Signal Delay: 13.7 Intersection LOS: B
 Intersection Capacity Utilization 56.2% ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 3: Cambridge Street & 1st Street

23.1 s	9.8 s	22.1 s
23.1 s	9.5 s	22.4 s
























Queues
3: Cambridge Street & 1st Street

2025 Total Traffic AM
12/18/2014

									
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	103	437	154	299	31	148	215	15	199
v/c Ratio	0.22	0.48	0.33	0.63	0.06	0.35	0.31	0.04	0.30
Control Delay	8.6	14.6	9.6	23.0	0.2	16.7	7.0	12.9	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.6	14.6	9.6	23.0	0.2	16.7	7.0	12.9	11.1
Queue Length 50th (m)	4.8	14.3	7.3	24.2	0.0	10.0	4.6	0.9	8.9
Queue Length 95th (m)	10.6	24.3	14.9	43.5	0.0	24.3	17.5	4.2	23.0
Internal Link Dist (m)		209.0		239.0			284.7		96.7
Turn Bay Length (m)	30.0		80.0			50.0		30.0	
Base Capacity (vph)	460	1219	469	648	628	427	698	421	674
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.36	0.33	0.46	0.05	0.35	0.31	0.04	0.30
Intersection Summary									

Lanes, Volumes, Timings
6: High Street & 1st Street

2025 Total Traffic AM
12/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	64	386	124	131	305	460	91	366	115	607	328	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	60.0		0.0	65.0		135.0	65.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.964				0.850		0.964			0.986	
Flt Protected	0.950			0.950			0.950			0.950	0.980	
Satd. Flow (prot)	1750	3374	0	1750	3500	1566	1750	3374	0	1592	3239	0
Flt Permitted	0.559			0.276			0.950			0.950	0.980	
Satd. Flow (perm)	1030	3374	0	508	3500	1566	1750	3374	0	1592	3239	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		53				479		47			14	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		263.0			517.2			308.8			272.0	
Travel Time (s)		18.9			37.2			22.2			19.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	67	402	129	136	318	479	95	381	120	632	342	66
Shared Lane Traffic (%)										46%		
Lane Group Flow (vph)	67	531	0	136	318	479	95	501	0	341	699	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Split	NA		Split	NA	
Protected Phases	3	8		7	4		5	5		6	6	
Permitted Phases	8			4		4						
Detector Phase	3	8		7	4	4	5	5		6	6	

Lanes, Volumes, Timings
6: High Street & 1st Street

2025 Total Traffic AM
12/18/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	9.5	9.5		21.5	21.5	
Total Split (s)	9.5	21.6		9.6	21.7	21.7	17.0	17.0		26.8	26.8	
Total Split (%)	12.7%	28.8%		12.8%	28.9%	28.9%	22.7%	22.7%		35.7%	35.7%	
Maximum Green (s)	6.0	16.1		6.1	16.2	16.2	11.5	11.5		21.3	21.3	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	None		Max	Max	
Walk Time (s)		5.0			5.0	5.0				5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0				11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0				0	0	
Act Effct Green (s)	20.9	14.3		21.8	16.3	16.3	11.5	11.5		21.5	21.5	
Actuated g/C Ratio	0.29	0.20		0.31	0.23	0.23	0.16	0.16		0.30	0.30	
v/c Ratio	0.19	0.74		0.52	0.40	0.66	0.34	0.86		0.71	0.71	
Control Delay	17.1	31.2		24.5	25.8	7.8	32.2	44.2		33.8	27.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	17.1	31.2		24.5	25.8	7.8	32.2	44.2		33.8	27.5	
LOS	B	C		C	C	A	C	D		C	C	
Approach Delay		29.6			16.4			42.3			29.5	
Approach LOS		C			B			D			C	

Intersection Summary

Area Type: Other
 Cycle Length: 75
 Actuated Cycle Length: 71.3
 Natural Cycle: 75
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 28.1
 Intersection Capacity Utilization 71.9%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service C

Splits and Phases: 6: High Street & 1st Street

ø5	ø6	ø3	ø4
17 s	26.8 s	9.5 s	21.7 s
		ø7	ø8
		9.6 s	21.6 s

Queues
6: High Street & 1st Street

2025 Total Traffic AM
12/18/2014














Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	67	531	136	318	479	95	501	341	699
v/c Ratio	0.19	0.74	0.52	0.40	0.66	0.34	0.86	0.71	0.71
Control Delay	17.1	31.2	24.5	25.8	7.8	32.2	44.2	33.8	27.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.1	31.2	24.5	25.8	7.8	32.2	44.2	33.8	27.5
Queue Length 50th (m)	6.1	32.9	12.9	20.5	0.0	12.2	33.7	48.0	48.2
Queue Length 95th (m)	13.7	48.9	24.5	31.7	23.5	25.1	#60.6	#89.0	67.7
Internal Link Dist (m)		239.0		493.2			284.8		248.0
Turn Bay Length (m)	60.0		65.0		135.0	65.0			
Base Capacity (vph)	363	809	262	870	749	284	588	479	985
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.66	0.52	0.37	0.64	0.33	0.85	0.71	0.71

Intersection Summary

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

Lanes, Volumes, Timings
 9: High Street & Home Depot Access





















2025 Total Traffic AM
 12/18/2014

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Volume (vph)	0	58	0	514	458	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	10.0	55.0			0.0
Storage Lanes	0	0	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.865			0.978	
Flt Protected						
Satd. Flow (prot)	0	1593	0	3500	3423	0
Flt Permitted						
Satd. Flow (perm)	0	1593	0	3500	3423	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	261.5			150.0	308.8	
Travel Time (s)	18.8			10.8	22.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	60	0	535	477	82
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	60	0	535	559	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Yield			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	25.4%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings
11: High Street & 3rd Street

2025 Total Traffic AM
12/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	23	45	22	31	103	146	480	37	93	423	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	30.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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
Frnt		0.901			0.885			0.989			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1660	0	1750	1630	0	1750	3461	0	1750	3496	0
Flt Permitted	0.702			0.711			0.495			0.451		
Satd. Flow (perm)	1293	1660	0	1310	1630	0	912	3461	0	831	3496	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		47			107			21			1	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		261.0			77.6			568.8			150.0	
Travel Time (s)		18.8			5.6			41.0			10.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	2	24	47	23	32	107	152	500	39	97	441	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	71	0	23	139	0	152	539	0	97	443	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	

Lanes, Volumes, Timings
11: High Street & 3rd Street

2025 Total Traffic AM
12/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.5	21.5		21.5	21.5		21.5	21.5		21.5	21.5	
Total Split (s)	21.5	21.5		21.5	21.5		21.5	21.5		21.5	21.5	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		5.5	5.5		5.5	5.5		5.5	5.5	
Lead/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		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	6.8	6.8		6.8	6.8		21.8	21.8		21.8	21.8	
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.60	0.60		0.60	0.60	
v/c Ratio	0.01	0.20		0.09	0.36		0.28	0.26		0.19	0.21	
Control Delay	10.5	7.4		11.6	7.3		7.9	5.4		7.1	5.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	10.5	7.4		11.6	7.3		7.9	5.4		7.1	5.4	
LOS	B	A		B	A		A	A		A	A	
Approach Delay		7.5			8.0			6.0			5.7	
Approach LOS		A			A			A			A	

Intersection Summary

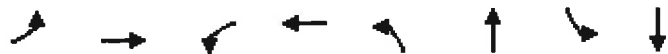
Area Type: Other
 Cycle Length: 43
 Actuated Cycle Length: 36.4
 Natural Cycle: 45
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.36
 Intersection Signal Delay: 6.2
 Intersection Capacity Utilization 41.6%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 11: High Street & 3rd Street

21.5 s	21.5 s
21.5 s	21.5 s

Queues
11: High Street & 3rd Street

2025 Total Traffic AM
12/18/2014
























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	2	71	23	139	152	539	97	443
v/c Ratio	0.01	0.20	0.09	0.36	0.28	0.26	0.19	0.21
Control Delay	10.5	7.4	11.6	7.3	7.9	5.4	7.1	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.5	7.4	11.6	7.3	7.9	5.4	7.1	5.4
Queue Length 50th (m)	0.1	1.1	1.1	1.5	4.3	7.5	2.6	6.2
Queue Length 95th (m)	1.0	6.5	4.2	9.2	14.1	16.2	9.3	13.6
Internal Link Dist (m)		237.0		53.6		544.8		126.0
Turn Bay Length (m)	20.0		20.0		30.0		30.0	
Base Capacity (vph)	572	761	580	781	546	2082	498	2095
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	0.00	0.09	0.04	0.18	0.28	0.26	0.19	0.21

Intersection Summary

Lanes, Volumes, Timings
14: High Street & 6th Street

2025 Total Traffic AM
12/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	111	180	61	22	125	146	67	338	57	86	224	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	200.0		0.0	20.0		0.0	100.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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		0.962			0.919			0.978			0.963	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1772	0	1750	1693	0	1750	3423	0	1750	3370	0
Flt Permitted	0.497			0.556			0.564			0.511		
Satd. Flow (perm)	915	1772	0	1024	1693	0	1039	3423	0	941	3370	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		31			107			31			73	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		327.4			123.4			257.6			568.8	
Travel Time (s)		23.6			8.9			18.5			41.0	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	116	188	64	23	130	152	70	352	59	90	233	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	116	252	0	23	282	0	70	411	0	90	309	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	

Lanes, Volumes, Timings
14: High Street & 6th Street

2025 Total Traffic AM
12/18/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Minimum Split (s)	30.8	30.8		30.8	30.8		7.0	26.9		7.0	26.9	
Total Split (s)	30.8	30.8		30.8	30.8		7.0	27.2		7.0	27.2	
Total Split (%)	47.4%	47.4%		47.4%	47.4%		10.8%	41.8%		10.8%	41.8%	
Maximum Green (s)	25.5	25.5		25.5	25.5		4.0	21.9		4.0	21.9	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.0	3.3		3.0	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		3.0	5.3		3.0	5.3	
Lead/Lag							Lead	Lag		Lead	Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	15.0	15.0		15.0	15.0			13.0			13.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0			8.0			8.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effect Green (s)	11.7	11.7		11.7	11.7		26.9	22.4		26.9	22.4	
Actuated g/C Ratio	0.24	0.24		0.24	0.24		0.55	0.46		0.55	0.46	
v/c Ratio	0.53	0.56		0.09	0.58		0.11	0.26		0.15	0.19	
Control Delay	26.0	19.6		15.7	15.5		5.8	9.6		6.1	7.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	26.0	19.6		15.7	15.5		5.8	9.6		6.1	7.9	
LOS	C	B		B	B		A	A		A	A	
Approach Delay		21.7			15.5			9.0			7.5	
Approach LOS		C			B			A			A	

Intersection Summary

Area Type: Other
 Cycle Length: 65
 Actuated Cycle Length: 48.7
 Natural Cycle: 65
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.58
 Intersection Signal Delay: 12.9
 Intersection Capacity Utilization 54.2%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 14: High Street & 6th Street

7 s	27.2 s	30.8 s
7 s	27.2 s	30.8 s

Queues
14: High Street & 6th Street

2025 Total Traffic AM
12/18/2014


























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	116	252	23	282	70	411	90	309
v/c Ratio	0.53	0.56	0.09	0.58	0.11	0.26	0.15	0.19
Control Delay	26.0	19.6	15.7	15.5	5.8	9.6	6.1	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.0	19.6	15.7	15.5	5.8	9.6	6.1	7.9
Queue Length 50th (m)	9.4	17.8	1.7	13.8	2.2	11.0	2.8	6.5
Queue Length 95th (m)	21.7	34.6	5.9	31.2	7.7	23.0	9.4	15.5
Internal Link Dist (m)		303.4		99.4		233.6		544.8
Turn Bay Length (m)	200.0		20.0		100.0		40.0	
Base Capacity (vph)	488	961	546	954	633	1587	587	1586
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	0.24	0.26	0.04	0.30	0.11	0.26	0.15	0.19

Intersection Summary

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2025 Total Traffic PM
12/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	514	187	276	502	53	217	318	332	31	275	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	80.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.960				0.850		0.923			0.956	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3360	0	1750	1842	1566	1750	1700	0	1750	1761	0
Flt Permitted	0.236			0.177			0.400			0.131		
Satd. Flow (perm)	435	3360	0	326	1842	1566	737	1700	0	241	1761	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		66				87		86			34	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		233.0			263.0			308.7			120.7	
Travel Time (s)		16.8			18.9			22.2			8.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	115	535	195	288	523	55	226	331	346	32	286	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	115	730	0	288	523	55	226	677	0	32	406	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	7	4		3	8	8	2	2		6	6	

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2025 Total Traffic PM
12/18/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	21.5	21.5		21.5	21.5	
Total Split (s)	9.5	24.5		14.0	29.0	29.0	36.5	36.5		36.5	36.5	
Total Split (%)	12.7%	32.7%		18.7%	38.7%	38.7%	48.7%	48.7%		48.7%	48.7%	
Maximum Green (s)	6.0	19.0		10.5	23.5	23.5	31.0	31.0		31.0	31.0	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	26.2	18.3		34.2	24.7	24.7	31.0	31.0		31.0	31.0	
Actuated g/C Ratio	0.35	0.25		0.46	0.33	0.33	0.42	0.42		0.42	0.42	
v/c Ratio	0.44	0.83		0.82	0.85	0.09	0.74	0.89		0.32	0.54	
Control Delay	17.8	33.9		35.7	40.2	2.5	35.9	34.4		25.7	18.2	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	17.8	33.9		35.7	40.2	2.5	35.9	34.4		25.7	18.2	
LOS	B	C		D	D	A	D	C		C	B	
Approach Delay		31.7			36.3			34.8			18.8	
Approach LOS		C			D			C			B	

Intersection Summary

Area Type: Other
 Cycle Length: 75
 Actuated Cycle Length: 74.2
 Natural Cycle: 75
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 32.1
 Intersection Capacity Utilization 92.9%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service F

Splits and Phases: 3: Cambridge Street & 1st Street

36.5 s			14 s			24.5 s					
36.5 s			9.5 s			29 s					

Queues
3: Cambridge Street & 1st Street

2025 Total Traffic PM
12/18/2014
























Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	115	730	288	523	55	226	677	32	406
v/c Ratio	0.44	0.83	0.82	0.85	0.09	0.74	0.89	0.32	0.54
Control Delay	17.8	33.9	35.7	40.2	2.5	35.9	34.4	25.7	18.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.8	33.9	35.7	40.2	2.5	35.9	34.4	25.7	18.2
Queue Length 50th (m)	8.8	46.6	24.7	70.2	0.0	26.2	77.1	3.0	38.2
Queue Length 95th (m)	17.4	#72.4	#61.0	#125.2	3.8	#61.4	#143.2	10.7	63.3
Internal Link Dist (m)		209.0		239.0			284.7		96.7
Turn Bay Length (m)	30.0		80.0			50.0		30.0	
Base Capacity (vph)	260	909	351	613	579	307	760	100	755
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.80	0.82	0.85	0.09	0.74	0.89	0.32	0.54

Intersection Summary

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

Lanes, Volumes, Timings
6: High Street & 1st Street

2025 Total Traffic PM
12/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	132	724	88	276	588	769	102	459	110	700	608	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	60.0		0.0	65.0		135.0	65.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frnt		0.984				0.850		0.971			0.989	
Flt Protected	0.950			0.950			0.950			0.950	0.987	
Satd. Flow (prot)	1750	3444	0	1750	3500	1566	1750	3398	0	1592	3273	0
Flt Permitted	0.372			0.128			0.950			0.950	0.987	
Satd. Flow (perm)	685	3444	0	236	3500	1566	1750	3398	0	1592	3273	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				697		21			7	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		263.0			517.2			308.8			272.0	
Travel Time (s)		18.9			37.2			22.2			19.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	138	754	92	288	612	801	106	478	115	729	633	71
Shared Lane Traffic (%)										35%		
Lane Group Flow (vph)	138	846	0	288	612	801	106	593	0	474	959	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Split	NA		Split	NA	
Protected Phases	3	8		7	4		5	5		6	6	
Permitted Phases	8			4		4						
Detector Phase	3	8		7	4	4	5	5		6	6	

Lanes, Volumes, Timings
6: High Street & 1st Street

2025 Total Traffic PM
12/18/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	9.5	9.5		21.5	21.5	
Total Split (s)	9.6	33.2		19.0	42.6	42.6	24.2	24.2		43.6	43.6	
Total Split (%)	8.0%	27.7%		15.8%	35.5%	35.5%	20.2%	20.2%		36.3%	36.3%	
Maximum Green (s)	6.1	27.7		15.5	37.1	37.1	18.7	18.7		38.1	38.1	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	None		Max	Max	
Walk Time (s)		5.0			5.0	5.0				5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0				11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0				0	0	
Act Effct Green (s)	35.8	27.7		48.7	37.1	37.1	18.7	18.7		38.1	38.1	
Actuated g/C Ratio	0.30	0.23		0.41	0.31	0.31	0.16	0.16		0.32	0.32	
v/c Ratio	0.53	1.05		0.99	0.57	0.83	0.39	1.08		0.94	0.92	
Control Delay	34.4	91.3		82.4	37.2	14.2	50.3	109.0		67.9	53.8	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	34.4	91.3		82.4	37.2	14.2	50.3	109.0		67.9	53.8	
LOS	C	F		F	D	B	D	F		E	D	
Approach Delay		83.3			34.0			100.1			58.4	
Approach LOS		F			C			F			E	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 110
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 1.08
 Intersection Signal Delay: 60.9
 Intersection Capacity Utilization 97.6%
 Analysis Period (min) 15
 Intersection LOS: E
 ICU Level of Service F

Splits and Phases: 6: High Street & 1st Street

24.2 s	43.6 s	9.6 s	42.6 s
		19 s	33.2 s

Queues
6: High Street & 1st Street

2025 Total Traffic PM
12/18/2014



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	138	846	288	612	801	106	593	474	959
v/c Ratio	0.53	1.05	0.99	0.57	0.83	0.39	1.08	0.94	0.92
Control Delay	34.4	91.3	82.4	37.2	14.2	50.3	109.0	67.9	53.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.4	91.3	82.4	37.2	14.2	50.3	109.0	67.9	53.8
Queue Length 50th (m)	20.7	~113.8	51.9	63.3	18.1	22.7	~80.2	118.9	118.4
Queue Length 95th (m)	34.7	#153.4	#107.5	81.8	82.3	40.1	#116.4	#188.5	#159.0
Internal Link Dist (m)		239.0		493.2			284.8		248.0
Turn Bay Length (m)	60.0		65.0		135.0	65.0			
Base Capacity (vph)	258	802	291	1082	965	272	547	505	1043
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	1.05	0.99	0.57	0.83	0.39	1.08	0.94	0.92

Intersection Summary

- ~ 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.

Lanes, Volumes, Timings
9: High Street & Home Depot Access

2025 Total Traffic PM
12/18/2014























Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↗	
Volume (vph)	0	64	0	653	878	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	10.0	55.0			0.0
Storage Lanes	0	0	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.865			0.984	
Flt Protected						
Satd. Flow (prot)	0	1593	0	3500	3444	0
Flt Permitted						
Satd. Flow (perm)	0	1593	0	3500	3444	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	261.5			150.0	308.8	
Travel Time (s)	18.8			10.8	22.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	67	0	680	915	106
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	67	0	680	1021	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Yield			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	38.1%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings
11: High Street & 3rd Street

2025 Total Traffic PM
12/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	105	208	36	102	157	251	542	38	118	801	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	30.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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		0.900			0.909			0.990				
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	1842	1658	0	1750	1674	0	1750	3465	0	1750	3500	0
Flt Permitted				0.342			0.321			0.423		
Satd. Flow (perm)	1842	1658	0	630	1674	0	591	3465	0	779	3500	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		146			114			19			1	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		261.0			77.6			568.8			150.0	
Travel Time (s)		18.8			5.6			41.0			10.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	109	217	38	106	164	261	565	40	123	834	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	326	0	38	270	0	261	605	0	123	836	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	

Lanes, Volumes, Timings
11: High Street & 3rd Street

2025 Total Traffic PM
12/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.5	21.5		21.5	21.5		21.5	21.5		21.5	21.5	
Total Split (s)	21.5	21.5		21.5	21.5		43.5	43.5		43.5	43.5	
Total Split (%)	33.1%	33.1%		33.1%	33.1%		66.9%	66.9%		66.9%	66.9%	
Maximum Green (s)	16.0	16.0		16.0	16.0		38.0	38.0		38.0	38.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		5.5	5.5		5.5	5.5		5.5	5.5	
Lead/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		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		11.7		11.7	11.7		38.2	38.2		38.2	38.2	
Actuated g/C Ratio		0.19		0.19	0.19		0.63	0.63		0.63	0.63	
v/c Ratio		0.75		0.32	0.66		0.71	0.28		0.25	0.38	
Control Delay		23.9		28.0	20.8		23.4	5.9		7.8	6.8	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		23.9		28.0	20.8		23.4	5.9		7.8	6.8	
LOS		C		C	C		C	A		A	A	
Approach Delay		23.9			21.7			11.2			6.9	
Approach LOS		C			C			B			A	

Intersection Summary

Area Type: Other
 Cycle Length: 65
 Actuated Cycle Length: 60.9
 Natural Cycle: 65
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 12.5
 Intersection Capacity Utilization 76.1%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service D

Splits and Phases: 11: High Street & 3rd Street

ø2	ø4
43.5 s	21.5 s
ø6	ø8
43.5 s	21.5 s

Queues
11: High Street & 3rd Street

2025 Total Traffic PM
12/18/2014























Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	326	38	270	261	605	123	836
v/c Ratio	0.75	0.32	0.66	0.71	0.28	0.25	0.38
Control Delay	23.9	28.0	20.8	23.4	5.9	7.8	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.9	28.0	20.8	23.4	5.9	7.8	6.8
Queue Length 50th (m)	18.3	3.7	15.6	17.2	13.6	5.4	21.2
Queue Length 95th (m)	42.1	11.1	35.8	#61.9	24.2	14.8	36.0
Internal Link Dist (m)	237.0		53.6		544.8		126.0
Turn Bay Length (m)		20.0		30.0		30.0	
Base Capacity (vph)	545	166	525	370	2179	488	2194
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.23	0.51	0.71	0.28	0.25	0.38

Intersection Summary

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

Lanes, Volumes, Timings
14: High Street & 6th Street

2025 Total Traffic PM
12/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	143	150	87	45	186	206	88	390	24	254	582	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	200.0		0.0	20.0		0.0	100.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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
Frnt		0.945			0.921			0.991			0.962	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1741	0	1750	1697	0	1750	3468	0	1750	3367	0
Flt Permitted	0.314			0.564			0.281			0.482		
Satd. Flow (perm)	578	1741	0	1039	1697	0	518	3468	0	888	3367	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		53			101			10			79	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		327.4			123.4			257.6			568.8	
Travel Time (s)		23.6			8.9			18.5			41.0	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	149	156	91	47	194	215	92	406	25	265	606	208
Shared Lane Traffic (%)												
Lane Group Flow (vph)	149	247	0	47	409	0	92	431	0	265	814	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	

Lanes, Volumes, Timings
14: High Street & 6th Street

2025 Total Traffic PM
12/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Minimum Split (s)	30.8	30.8		30.8	30.8		7.0	26.9		7.0	26.9	
Total Split (s)	30.8	30.8		30.8	30.8		7.0	27.2		7.0	27.2	
Total Split (%)	47.4%	47.4%		47.4%	47.4%		10.8%	41.8%		10.8%	41.8%	
Maximum Green (s)	25.5	25.5		25.5	25.5		4.0	21.9		4.0	21.9	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.0	3.3		3.0	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		3.0	5.3		3.0	5.3	
Lead/Lag							Lead	Lag		Lead	Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	15.0	15.0		15.0	15.0			13.0			13.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0			8.0			8.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	16.6	16.6		16.6	16.6		28.5	22.1		29.2	23.8	
Actuated g/C Ratio	0.29	0.29		0.29	0.29		0.50	0.39		0.52	0.42	
v/c Ratio	0.88	0.45		0.15	0.72		0.26	0.32		0.51	0.56	
Control Delay	65.3	14.6		14.9	20.5		9.8	13.8		13.7	14.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	65.3	14.6		14.9	20.5		9.8	13.8		13.7	14.9	
LOS	E	B		B	C		A	B		B	B	
Approach Delay		33.7			20.0			13.1			14.6	
Approach LOS		C			B			B			B	

Intersection Summary

Area Type: Other
 Cycle Length: 65
 Actuated Cycle Length: 56.5
 Natural Cycle: 65
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 18.3
 Intersection Capacity Utilization 74.3%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service D

Splits and Phases: 14: High Street & 6th Street

ø1	ø2	ø4
7 s	27.2 s	30.8 s
ø5	ø6	ø8
7 s	27.2 s	30.8 s

Queues
14: High Street & 6th Street

2025 Total Traffic PM
12/18/2014
























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	149	247	47	409	92	431	265	814
v/c Ratio	0.88	0.45	0.15	0.72	0.26	0.32	0.51	0.56
Control Delay	65.3	14.6	14.9	20.5	9.8	13.8	13.7	14.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.3	14.6	14.9	20.5	9.8	13.8	13.7	14.9
Queue Length 50th (m)	14.2	15.5	3.5	27.0	3.8	14.8	12.3	29.3
Queue Length 95th (m)	#39.9	30.5	9.4	51.3	12.4	30.3	32.3	57.1
Internal Link Dist (m)		303.4		99.4		233.6		544.8
Turn Bay Length (m)	200.0		20.0		100.0		40.0	
Base Capacity (vph)	263	823	474	829	349	1365	520	1463
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	0.57	0.30	0.10	0.49	0.26	0.32	0.51	0.56

Intersection Summary

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

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2025 Total Traffic Saturday
12/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	481	203	389	620	75	273	379	487	47	416	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	80.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.956				0.850		0.916			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3346	0	1750	1842	1566	1750	1687	0	1750	1796	0
Flt Permitted	0.169			0.147			0.314			0.075		
Satd. Flow (perm)	311	3346	0	271	1842	1566	578	1687	0	138	1796	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		53				65		81			12	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		233.0			263.0			308.7			120.7	
Travel Time (s)		16.8			18.9			22.2			8.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	73	501	211	405	646	78	284	395	507	49	433	85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	73	712	0	405	646	78	284	902	0	49	518	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	7	4		3	8	8	2	2		6	6	

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2025 Total Traffic Saturday
12/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	21.5	21.5		21.5	21.5	
Total Split (s)	9.5	28.5		23.0	42.0	42.0	58.5	58.5		58.5	58.5	
Total Split (%)	8.6%	25.9%		20.9%	38.2%	38.2%	53.2%	53.2%		53.2%	53.2%	
Maximum Green (s)	6.0	23.0		19.5	36.5	36.5	53.0	53.0		53.0	53.0	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	31.0	23.0		48.0	38.4	38.4	53.0	53.0		53.0	53.0	
Actuated g/C Ratio	0.28	0.21		0.44	0.35	0.35	0.48	0.48		0.48	0.48	
v/c Ratio	0.44	0.96		1.07	1.00	0.13	1.02	1.06		0.74	0.59	
Control Delay	28.8	65.2		94.8	74.0	9.1	90.2	73.4		84.7	23.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	28.8	65.2		94.8	74.0	9.1	90.2	73.4		84.7	23.7	
LOS	C	E		F	E	A	F	E		F	C	
Approach Delay		61.8			77.0			77.4			29.0	
Approach LOS		E			E			E			C	

Intersection Summary

Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 110
 Natural Cycle: 110
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 1.07
 Intersection Signal Delay: 66.5
 Intersection LOS: E
 Intersection Capacity Utilization 111.5%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 3: Cambridge Street & 1st Street

58.5 s	23 s	28.5 s
58.5 s	9.5 s	42 s

Queues
3: Cambridge Street & 1st Street

2025 Total Traffic Saturday
12/18/2014
























Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	73	712	405	646	78	284	902	49	518
v/c Ratio	0.44	0.96	1.07	1.00	0.13	1.02	1.06	0.74	0.59
Control Delay	28.8	65.2	94.8	74.0	9.1	90.2	73.4	84.7	23.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.8	65.2	94.8	74.0	9.1	90.2	73.4	84.7	23.7
Queue Length 50th (m)	9.0	74.8	~80.1	~152.4	1.9	~64.8	~203.2	8.2	76.4
Queue Length 95th (m)	17.7	#112.3	#139.4	#220.0	12.0	#116.3	#278.4	#31.7	109.9
Internal Link Dist (m)		209.0		239.0			284.7		96.7
Turn Bay Length (m)	30.0		80.0			50.0		30.0	
Base Capacity (vph)	166	741	380	643	589	278	854	66	871
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.96	1.07	1.00	0.13	1.02	1.06	0.74	0.59

Intersection Summary

- ~ 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.

Lanes, Volumes, Timings
6: High Street & 1st Street

2025 Total Traffic Saturday
12/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	190	818	99	260	709	775	127	400	140	839	509	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	60.0		0.0	65.0		135.0	65.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frnt		0.984				0.850		0.961			0.981	
Flt Protected	0.950			0.950			0.950			0.950	0.982	
Satd. Flow (prot)	1750	3444	0	1750	3500	1566	1750	3363	0	1592	3230	0
Flt Permitted	0.236			0.116			0.950			0.950	0.982	
Satd. Flow (perm)	435	3444	0	214	3500	1566	1750	3363	0	1592	3230	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				693		34			13	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		263.0			517.2			308.8			272.0	
Travel Time (s)		18.9			37.2			22.2			19.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	198	852	103	271	739	807	132	417	146	874	530	129
Shared Lane Traffic (%)										42%		
Lane Group Flow (vph)	198	955	0	271	739	807	132	563	0	507	1026	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Split	NA		Split	NA	
Protected Phases	3	8		7	4		5	5		6	6	
Permitted Phases	8			4		4				6		6
Detector Phase	3	8		7	4	4	5	5		6	6	

Lanes, Volumes, Timings
6: High Street & 1st Street

2025 Total Traffic Saturday
12/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	9.5	9.5		21.5	21.5	
Total Split (s)	11.7	36.4		17.8	42.5	42.5	21.7	21.7		44.1	44.1	
Total Split (%)	9.8%	30.3%		14.8%	35.4%	35.4%	18.1%	18.1%		36.8%	36.8%	
Maximum Green (s)	8.2	30.9		14.3	37.0	37.0	16.2	16.2		38.6	38.6	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	None		Max	Max	
Walk Time (s)		5.0			5.0	5.0				5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0				11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0				0	0	
Act Effct Green (s)	41.1	30.9		50.7	37.0	37.0	16.2	16.2		38.6	38.6	
Actuated g/C Ratio	0.34	0.26		0.42	0.31	0.31	0.14	0.14		0.32	0.32	
v/c Ratio	0.83	1.07		0.99	0.68	0.84	0.56	1.17		0.99	0.98	
Control Delay	55.3	92.3		84.4	40.3	15.1	58.5	137.9		78.5	63.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	55.3	92.3		84.4	40.3	15.1	58.5	137.9		78.5	63.5	
LOS	E	F		F	D	B	E	F		E	E	
Approach Delay		86.0			35.7			122.9			68.5	
Approach LOS		F			D			F			E	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 120
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 1.17
 Intersection Signal Delay: 68.2
 Intersection Capacity Utilization 101.1%
 Analysis Period (min) 15
 Intersection LOS: E
 ICU Level of Service G

Splits and Phases: 6: High Street & 1st Street

ϕ5	ϕ6	ϕ3	ϕ4
21.7 s	44.1 s	11.7 s	42.5 s
		ϕ7	ϕ8
		17.8 s	36.4 s

Queues
6: High Street & 1st Street

2025 Total Traffic Saturday
12/18/2014



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	198	955	271	739	807	132	563	507	1026
v/c Ratio	0.83	1.07	0.99	0.68	0.84	0.56	1.17	0.99	0.98
Control Delay	55.3	92.3	84.4	40.3	15.1	58.5	137.9	78.5	63.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.3	92.3	84.4	40.3	15.1	58.5	137.9	78.5	63.5
Queue Length 50th (m)	29.9	~130.2	48.1	80.2	20.2	29.5	~79.2	130.1	129.7
Queue Length 95th (m)	#54.8	#170.8	#102.2	101.5	88.0	49.8	#114.9	#206.2	#177.1
Internal Link Dist (m)		239.0		493.2			284.8		248.0
Turn Bay Length (m)	60.0		65.0		135.0	65.0			
Base Capacity (vph)	238	894	273	1079	962	236	483	512	1047
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	1.07	0.99	0.68	0.84	0.56	1.17	0.99	0.98

Intersection Summary

- ~ 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.

Lanes, Volumes, Timings
9: High Street & Home Depot Access

2025 Total Traffic Saturday
12/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↖		↑↑	↑↓	
Volume (vph)	0	110	0	622	695	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	10.0	55.0			0.0
Storage Lanes	0	0	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.865			0.969	
Flt Protected						
Satd. Flow (prot)	0	1593	0	3500	3391	0
Flt Permitted						
Satd. Flow (perm)	0	1593	0	3500	3391	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	261.5			150.0	308.8	
Travel Time (s)	18.8			10.8	22.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	115	0	648	724	188
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	115	0	648	912	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Yield			Free	Free	

Intersection Summary

Area Type: Other





















Control Type: Unsignalized

Intersection Capacity Utilization 38.4% ICU Level of Service A

Analysis Period (min) 15

Lanes, Volumes, Timings
11: High Street & 3rd Street

2025 Total Traffic Saturday
12/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	137	263	22	155	158	398	550	23	122	676	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	30.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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		0.901			0.924			0.994			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1660	0	1750	1702	0	1750	3479	0	1750	3496	0
Flt Permitted	0.384			0.299			0.227			0.426		
Satd. Flow (perm)	707	1660	0	551	1702	0	418	3479	0	785	3496	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		157			84			8			1	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		261.0			77.6			568.8			150.0	
Travel Time (s)		18.8			5.6			41.0			10.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	2	143	274	23	161	165	415	573	24	127	704	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	417	0	23	326	0	415	597	0	127	710	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	

Lanes, Volumes, Timings
11: High Street & 3rd Street

2025 Total Traffic Saturday
12/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.5	21.5		21.5	21.5		9.5	21.5		9.5	21.5	
Total Split (s)	21.5	21.5		21.5	21.5		17.0	28.7		9.8	21.5	
Total Split (%)	35.8%	35.8%		35.8%	35.8%		28.3%	47.8%		16.3%	35.8%	
Maximum Green (s)	16.0	16.0		16.0	16.0		13.5	23.2		6.3	16.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		5.5	5.5		3.5	5.5		3.5	5.5	
Lead/Lag							Lead	Lag		Lead	Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	13.4	13.4		13.4	13.4		34.3	24.7		24.7	16.5	
Actuated g/C Ratio	0.24	0.24		0.24	0.24		0.60	0.43		0.43	0.29	
v/c Ratio	0.01	0.81		0.18	0.70		0.77	0.39		0.28	0.70	
Control Delay	16.5	27.3		20.9	23.4		20.3	13.2		8.4	23.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	16.5	27.3		20.9	23.4		20.3	13.2		8.4	23.5	
LOS	B	C		C	C		C	B		A	C	
Approach Delay		27.3			23.2			16.1			21.2	
Approach LOS		C			C			B			C	

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 56.8
 Natural Cycle: 60
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 20.5
 Intersection Capacity Utilization 76.8%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service D

Splits and Phases: 11: High Street & 3rd Street

ø1	ø2	ø4
9.8 s	28.7 s	21.5 s
ø5	ø6	ø8
17 s	21.5 s	21.5 s

Queues
11: High Street & 3rd Street

2025 Total Traffic Saturday
12/18/2014
























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	2	417	23	326	415	597	127	710
v/c Ratio	0.01	0.81	0.18	0.70	0.77	0.39	0.28	0.70
Control Delay	16.5	27.3	20.9	23.4	20.3	13.2	8.4	23.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.5	27.3	20.9	23.4	20.3	13.2	8.4	23.5
Queue Length 50th (m)	0.2	25.3	1.9	22.7	21.8	24.2	5.5	37.4
Queue Length 95th (m)	1.5	#64.0	7.1	45.8	#61.1	36.1	11.4	#55.8
Internal Link Dist (m)		237.0		53.6		544.8		126.0
Turn Bay Length (m)	20.0		20.0		30.0		30.0	
Base Capacity (vph)	200	583	156	543	571	1520	452	1018
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	0.01	0.72	0.15	0.60	0.73	0.39	0.28	0.70

Intersection Summary

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

Lanes, Volumes, Timings
14: High Street & 6th Street

2025 Total Traffic Saturday
12/18/2014

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	204	158	72	40	170	231	67	338	57	220	475	216	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (m)	200.0		0.0	20.0		0.0	100.0		0.0	40.0		0.0	
Storage Lanes	1		0	1		0	1		0	1		0	
Taper Length (m)	2.5			2.5			2.5			2.5			
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		0.953			0.914			0.978			0.953		
Flt Protected	0.950			0.950			0.950			0.950			
Satd. Flow (prot)	1750	1755	0	1750	1684	0	1750	3423	0	1750	3335	0	
Flt Permitted	0.344			0.578			0.333			0.471			
Satd. Flow (perm)	634	1755	0	1065	1684	0	613	3423	0	868	3335	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		41			122			29			111		
Link Speed (k/h)		50			50			50			50		
Link Distance (m)		327.4			123.4			257.6			568.8		
Travel Time (s)		23.6			8.9			18.5			41.0		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Adj. Flow (vph)	212	165	75	42	177	241	70	352	59	229	495	225	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	212	240	0	42	418	0	70	411	0	229	720	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(m)		3.5			3.5			3.5			3.5		
Link Offset(m)		0.0			0.0			0.0			0.0		
Crosswalk Width(m)		1.6			1.6			1.6			1.6		
Two way Left Turn Lane													
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	
Turning Speed (k/h)	24		14	24		14	24		14	24		14	
Number of Detectors	1	2		1	2		1	2		1	2		
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru		
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5		
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8		
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(m)		28.7			28.7			28.7			28.7		
Detector 2 Size(m)		1.8			1.8			1.8			1.8		
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex		
Detector 2 Channel													
Detector 2 Extend (s)		0.0			0.0			0.0			0.0		
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA		
Protected Phases		4			8		5	2		1	6		
Permitted Phases	4			8			2			6			
Detector Phase	4	4		8	8		5	2		1	6		

Lanes, Volumes, Timings
14: High Street & 6th Street

2025 Total Traffic Saturday
12/18/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Minimum Split (s)	30.8	30.8		30.8	30.8		7.0	26.9		7.0	26.9	
Total Split (s)	35.0	35.0		35.0	35.0		7.0	28.0		7.0	28.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		10.0%	40.0%		10.0%	40.0%	
Maximum Green (s)	29.7	29.7		29.7	29.7		4.0	22.7		4.0	22.7	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.0	3.3		3.0	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		3.0	5.3		3.0	5.3	
Lead/Lag							Lead	Lag		Lead	Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	15.0	15.0		15.0	15.0			13.0			13.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0			8.0			8.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	22.1	22.1		22.1	22.1		29.4	23.0		30.7	26.2	
Actuated g/C Ratio	0.35	0.35		0.35	0.35		0.47	0.37		0.49	0.42	
v/c Ratio	0.95	0.37		0.11	0.62		0.19	0.32		0.48	0.50	
Control Delay	72.4	13.5		13.4	15.6		11.4	15.6		15.7	15.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	72.4	13.5		13.4	15.6		11.4	15.6		15.7	15.0	
LOS	E	B		B	B		B	B		B	B	
Approach Delay		41.1			15.4			15.0			15.2	
Approach LOS		D			B			B			B	

Intersection Summary

Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 62.9
 Natural Cycle: 65
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 20.2
 Intersection Capacity Utilization 74.7%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service D

Splits and Phases: 14: High Street & 6th Street

7 s	28 s	35 s
7 s	28 s	35 s

Queues
14: High Street & 6th Street

2025 Total Traffic Saturday
12/18/2014


























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	212	240	42	418	70	411	229	720
v/c Ratio	0.95	0.37	0.11	0.62	0.19	0.32	0.48	0.50
Control Delay	72.4	13.5	13.4	15.6	11.4	15.6	15.7	15.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.4	13.5	13.4	15.6	11.4	15.6	15.7	15.0
Queue Length 50th (m)	23.1	16.2	3.2	26.5	4.1	17.0	14.7	29.7
Queue Length 95th (m)	#59.0	30.8	8.5	50.3	11.3	30.5	31.4	51.3
Internal Link Dist (m)		303.4		99.4		233.6		544.8
Turn Bay Length (m)	200.0		20.0		100.0		40.0	
Base Capacity (vph)	302	860	509	869	359	1269	481	1453
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	0.70	0.28	0.08	0.48	0.19	0.32	0.48	0.50

Intersection Summary

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

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2025 Total Traffic (Improvements)
Collingwood Transportation Study

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	481	203	389	620	75	273	379	487	47	416	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	80.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.956				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3346	0	1750	1842	1566	1750	1842	1566	1750	1842	1566
Flt Permitted	0.371			0.209			0.374			0.415		
Satd. Flow (perm)	683	3346	0	385	1842	1566	689	1842	1566	764	1842	1566
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		86				78			483			94
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		233.0			263.0			308.7			120.7	
Travel Time (s)		16.8			18.9			22.2			8.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	73	501	211	405	646	78	284	395	507	49	433	85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	73	712	0	405	646	78	284	395	507	49	433	85
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8		8	2		2	6		6
Detector Phase	4	4		3	8	8	2	2	2	6	6	6

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2025 Total Traffic (Improvements)
Collingwood Transportation Study



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.5	21.5		9.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Total Split (s)	21.5	21.5		14.7	36.2	36.2	33.8	33.8	33.8	33.8	33.8	33.8
Total Split (%)	30.7%	30.7%		21.0%	51.7%	51.7%	48.3%	48.3%	48.3%	48.3%	48.3%	48.3%
Maximum Green (s)	16.0	16.0		11.2	30.7	30.7	28.3	28.3	28.3	28.3	28.3	28.3
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0		0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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
Total Lost Time (s)	5.5	5.5		3.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
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	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	Max	Max	Max	Max	Max	Max
Walk Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0	0	0	0	0
Act Effct Green (s)	15.6	15.6		32.3	30.3	30.3	28.3	28.3	28.3	28.3	28.3	28.3
Actuated g/C Ratio	0.22	0.22		0.46	0.44	0.44	0.41	0.41	0.41	0.41	0.41	0.41
v/c Ratio	0.48	0.87		1.02	0.81	0.11	1.01	0.53	0.55	0.16	0.58	0.12
Control Delay	35.3	36.6		68.8	27.0	3.6	83.6	18.9	4.5	15.0	20.0	3.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.3	36.6		68.8	27.0	3.6	83.6	18.9	4.5	15.0	20.0	3.5
LOS	D	D		E	C	A	F	B	A	B	B	A
Approach Delay		36.5			40.4			28.2			17.1	
Approach LOS		D			D			C			B	

Intersection Summary

Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 69.6
 Natural Cycle: 70
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 1.02
 Intersection Signal Delay: 32.0
 Intersection Capacity Utilization 95.4%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service F

Splits and Phases: 3: Cambridge Street & 1st Street

33.8 s	14.7 s	21.5 s
33.8 s	36.2 s	

Queues

3: Cambridge Street & 1st Street

2025 Total Traffic (Improvements)

Collingwood Transportation Study
























Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	73	712	405	646	78	284	395	507	49	433	85
v/c Ratio	0.48	0.87	1.02	0.81	0.11	1.01	0.53	0.55	0.16	0.58	0.12
Control Delay	35.3	36.6	68.8	27.0	3.6	83.6	18.9	4.5	15.0	20.0	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.3	36.6	68.8	27.0	3.6	83.6	18.9	4.5	15.0	20.0	3.5
Queue Length 50th (m)	8.3	41.7	~37.4	70.0	0.0	~37.7	37.9	1.8	3.9	42.7	0.0
Queue Length 95th (m)	#20.9	#69.8	#89.7	#124.7	6.4	#82.5	61.6	18.6	10.6	68.8	6.5
Internal Link Dist (m)		209.0		239.0			284.7			96.7	
Turn Bay Length (m)	30.0		80.0			50.0			30.0		
Base Capacity (vph)	157	836	398	812	734	280	749	923	310	749	693
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.85	1.02	0.80	0.11	1.01	0.53	0.55	0.16	0.58	0.12

Intersection Summary

- ~ 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.

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2030 Total Traffic AM
12/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	114	364	116	169	329	34	162	76	150	16	126	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	80.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr't		0.964				0.850		0.900			0.940	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3374	0	1750	1842	1566	1750	1658	0	1750	1732	0
Flt Permitted	0.358			0.330			0.621			0.612		
Satd. Flow (perm)	659	3374	0	608	1842	1566	1144	1658	0	1127	1732	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		57				94		156			66	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		233.0			263.0			308.7			120.7	
Travel Time (s)		16.8			18.9			22.2			8.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	119	379	121	176	343	35	169	79	156	17	131	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	119	500	0	176	343	35	169	235	0	17	219	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	7	4		3	8	8	2	2		6	6	

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2030 Total Traffic AM
12/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	21.5	21.5		21.5	21.5	
Total Split (s)	9.6	21.8		9.6	21.8	21.8	38.6	38.6		38.6	38.6	
Total Split (%)	13.7%	31.1%		13.7%	31.1%	31.1%	55.1%	55.1%		55.1%	55.1%	
Maximum Green (s)	6.1	16.3		6.1	16.3	16.3	33.1	33.1		33.1	33.1	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	23.0	14.9		23.8	17.0	17.0	33.2	33.2		33.2	33.2	
Actuated g/C Ratio	0.33	0.22		0.35	0.25	0.25	0.48	0.48		0.48	0.48	
v/c Ratio	0.38	0.64		0.56	0.75	0.08	0.31	0.27		0.03	0.25	
Control Delay	17.5	25.7		22.6	37.7	0.3	13.3	5.0		10.2	8.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	17.5	25.7		22.6	37.7	0.3	13.3	5.0		10.2	8.4	
LOS	B	C		C	D	A	B	A		B	A	
Approach Delay		24.1			30.6			8.5			8.6	
Approach LOS		C			C			A			A	

Intersection Summary

Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 68.7
 Natural Cycle: 55
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 20.6
 Intersection Capacity Utilization 61.4%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service B

Splits and Phases: 3: Cambridge Street & 1st Street

38.6 s	9.6 s	21.8 s
38.6 s	9.6 s	21.8 s

Queues
3: Cambridge Street & 1st Street

2030 Total Traffic AM
12/18/2014
























Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	119	500	176	343	35	169	235	17	219
v/c Ratio	0.38	0.64	0.56	0.75	0.08	0.31	0.27	0.03	0.25
Control Delay	17.5	25.7	22.6	37.7	0.3	13.3	5.0	10.2	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	25.7	22.6	37.7	0.3	13.3	5.0	10.2	8.4
Queue Length 50th (m)	9.7	27.1	14.9	42.5	0.0	12.9	5.4	1.1	11.0
Queue Length 95th (m)	19.5	41.5	27.7	#81.0	0.1	25.4	16.4	4.1	22.7
Internal Link Dist (m)		209.0		239.0			284.7		96.7
Turn Bay Length (m)	30.0		80.0			50.0		30.0	
Base Capacity (vph)	317	845	312	455	457	551	880	543	869
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.59	0.56	0.75	0.08	0.31	0.27	0.03	0.25

Intersection Summary

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

Lanes, Volumes, Timings
6: High Street & 1st Street

2030 Total Traffic AM
12/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	72	439	48	148	346	528	104	420	132	699	346	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	60.0		0.0	65.0		135.0	65.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.985				0.850		0.964			0.986	
Flt Protected	0.950			0.950			0.950			0.950	0.978	
Satd. Flow (prot)	1750	3447	0	1750	3500	1566	1750	3374	0	1592	3233	0
Flt Permitted	0.503			0.240			0.950			0.950	0.978	
Satd. Flow (perm)	927	3447	0	442	3500	1566	1750	3374	0	1592	3233	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11				550		41			13	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		263.0			517.2			308.8			272.0	
Travel Time (s)		18.9			37.2			22.2			19.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	75	457	50	154	360	550	108	438	138	728	360	74
Shared Lane Traffic (%)										47%		
Lane Group Flow (vph)	75	507	0	154	360	550	108	576	0	386	776	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Split	NA		Split	NA	
Protected Phases	3	8		7	4		5	5		6	6	
Permitted Phases	8			4		4						
Detector Phase	3	8		7	4	4	5	5		6	6	

Lanes, Volumes, Timings
6: High Street & 1st Street

2030 Total Traffic AM
12/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	9.5	9.5		21.5	21.5	
Total Split (s)	9.5	22.5		10.0	23.0	23.0	22.0	22.0		35.5	35.5	
Total Split (%)	10.6%	25.0%		11.1%	25.6%	25.6%	24.4%	24.4%		39.4%	39.4%	
Maximum Green (s)	6.0	17.0		6.5	17.5	17.5	16.5	16.5		30.0	30.0	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	None		Max	Max	
Walk Time (s)		5.0			5.0	5.0				5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0				11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0				0	0	
Act Effct Green (s)	23.9	16.0		25.7	18.5	18.5	16.2	16.2		30.0	30.0	
Actuated g/C Ratio	0.27	0.18		0.29	0.21	0.21	0.18	0.18		0.34	0.34	
v/c Ratio	0.25	0.80		0.69	0.49	0.72	0.34	0.89		0.72	0.70	
Control Delay	24.1	44.9		41.6	34.5	9.3	35.4	50.6		35.0	29.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	24.1	44.9		41.6	34.5	9.3	35.4	50.6		35.0	29.5	
LOS	C	D		D	C	A	D	D		C	C	
Approach Delay		42.2			22.5			48.2			31.3	
Approach LOS		D			C			D			C	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 88.7
 Natural Cycle: 80
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 33.7
 Intersection Capacity Utilization 76.2%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service D

Splits and Phases: 6: High Street & 1st Street

ø5	ø6	ø3	ø4
22 s	35.5 s	9.5 s	23 s
		ø7	ø8
		10 s	22.5 s

Queues
6: High Street & 1st Street

2030 Total Traffic AM
12/18/2014



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	75	507	154	360	550	108	576	386	776
v/c Ratio	0.25	0.80	0.69	0.49	0.72	0.34	0.89	0.72	0.70
Control Delay	24.1	44.9	41.6	34.5	9.3	35.4	50.6	35.0	29.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.1	44.9	41.6	34.5	9.3	35.4	50.6	35.0	29.5
Queue Length 50th (m)	9.1	43.2	19.6	29.6	0.0	16.4	48.1	63.8	62.8
Queue Length 95th (m)	18.9	#61.3	#34.4	43.2	29.9	31.1	#76.7	#100.0	84.1
Internal Link Dist (m)		239.0		493.2			284.8		248.0
Turn Bay Length (m)	60.0		65.0		135.0	65.0			
Base Capacity (vph)	306	669	223	736	763	325	661	538	1102
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.76	0.69	0.49	0.72	0.33	0.87	0.72	0.70

Intersection Summary

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

Lanes, Volumes, Timings
 9: High Street & Home Depot Access

2030 Total Traffic AM
 12/18/2014
























Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↓	
Volume (vph)	0	66	0	590	526	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	10.0	55.0			0.0
Storage Lanes	0	0	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.865			0.978	
Flt Protected						
Satd. Flow (prot)	0	1593	0	3500	3423	0
Flt Permitted						
Satd. Flow (perm)	0	1593	0	3500	3423	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	261.5			150.0	308.8	
Travel Time (s)	18.8			10.8	22.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	69	0	615	548	92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	69	0	615	640	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Yield			Free	Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 28.1% ICU Level of Service A
 Analysis Period (min) 15

Lanes, Volumes, Timings
11: High Street & 3rd Street

2030 Total Traffic AM
12/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	24	47	25	31	118	159	551	42	106	485	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	30.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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
Fr't		0.901			0.881			0.989			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1660	0	1750	1623	0	1750	3461	0	1750	3496	0
Flt Permitted	0.690			0.709			0.463			0.418		
Satd. Flow (perm)	1271	1660	0	1306	1623	0	853	3461	0	770	3496	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		49			123			15			1	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		261.0			77.6			568.8			150.0	
Travel Time (s)		18.8			5.6			41.0			10.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	2	25	49	26	32	123	166	574	44	110	505	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	74	0	26	155	0	166	618	0	110	507	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	

Lanes, Volumes, Timings
11: High Street & 3rd Street

2030 Total Traffic AM
12/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.5	21.5		21.5	21.5		9.5	21.5		9.5	21.5	
Total Split (s)	21.5	21.5		21.5	21.5		10.0	23.5		10.0	23.5	
Total Split (%)	39.1%	39.1%		39.1%	39.1%		18.2%	42.7%		18.2%	42.7%	
Maximum Green (s)	16.0	16.0		16.0	16.0		6.5	18.0		6.5	18.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		5.5	5.5		3.5	5.5		3.5	5.5	
Lead/Lag							Lead	Lag		Lead	Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effect Green (s)	7.1	7.1		7.1	7.1		28.8	23.0		28.6	22.9	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.64	0.51		0.64	0.51	
v/c Ratio	0.01	0.24		0.13	0.43		0.25	0.35		0.18	0.28	
Control Delay	16.0	10.9		17.9	10.3		4.7	10.4		4.3	10.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	16.0	10.9		17.9	10.3		4.7	10.4		4.3	10.2	
LOS	B	B		B	B		A	B		A	B	
Approach Delay		11.0			11.4			9.2			9.2	
Approach LOS		B			B			A			A	

Intersection Summary

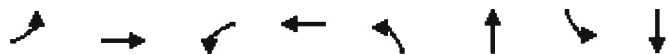
Area Type: Other
 Cycle Length: 55
 Actuated Cycle Length: 45
 Natural Cycle: 55
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.43
 Intersection Signal Delay: 9.5
 Intersection Capacity Utilization 43.8%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 11: High Street & 3rd Street

ø1	ø2	ø4
10 s	23.5 s	21.5 s
ø5	ø6	ø8
10 s	23.5 s	21.5 s

Queues
11: High Street & 3rd Street

2030 Total Traffic AM
12/18/2014
























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	2	74	26	155	166	618	110	507
v/c Ratio	0.01	0.24	0.13	0.43	0.25	0.35	0.18	0.28
Control Delay	16.0	10.9	17.9	10.3	4.7	10.4	4.3	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.0	10.9	17.9	10.3	4.7	10.4	4.3	10.2
Queue Length 50th (m)	0.2	1.8	1.9	2.3	3.7	17.4	2.4	14.1
Queue Length 95th (m)	1.4	9.6	6.6	13.6	10.8	32.1	7.5	26.5
Internal Link Dist (m)		237.0		53.6		544.8		126.0
Turn Bay Length (m)	20.0		20.0		30.0		30.0	
Base Capacity (vph)	455	626	467	660	676	1779	633	1782
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	0.00	0.12	0.06	0.23	0.25	0.35	0.17	0.28

Intersection Summary

Lanes, Volumes, Timings
14: High Street & 6th Street

2030 Total Traffic AM
12/18/2014

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	125	207	70	25	144	165	77	385	65	95	255	82	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (m)	200.0		0.0	20.0		0.0	100.0		0.0	40.0		0.0	
Storage Lanes	1		0	1		0	1		0	1		0	
Taper Length (m)	2.5			2.5			2.5			2.5			
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		0.962			0.920			0.978			0.964		
Flt Protected	0.950			0.950			0.950			0.950			
Satd. Flow (prot)	1750	1772	0	1750	1695	0	1750	3423	0	1750	3374	0	
Flt Permitted	0.427			0.485			0.541			0.467			
Satd. Flow (perm)	787	1772	0	893	1695	0	997	3423	0	860	3374	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		31			105			32			71		
Link Speed (k/h)		50			50			50			50		
Link Distance (m)		327.4			123.4			257.6			568.8		
Travel Time (s)		23.6			8.9			18.5			41.0		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Adj. Flow (vph)	130	216	73	26	150	172	80	401	68	99	266	85	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	130	289	0	26	322	0	80	469	0	99	351	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(m)		3.5			3.5			3.5			3.5		
Link Offset(m)		0.0			0.0			0.0			0.0		
Crosswalk Width(m)		1.6			1.6			1.6			1.6		
Two way Left Turn Lane													
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	
Turning Speed (k/h)	24		14	24		14	24		14	24		14	
Number of Detectors	1	2		1	2		1	2		1	2		
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru		
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5		
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8		
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(m)		28.7			28.7			28.7			28.7		
Detector 2 Size(m)		1.8			1.8			1.8			1.8		
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex		
Detector 2 Channel													
Detector 2 Extend (s)		0.0			0.0			0.0			0.0		
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA		
Protected Phases		4			8		5	2		1	6		
Permitted Phases	4			8			2			6			
Detector Phase	4	4		8	8		5	2		1	6		

Lanes, Volumes, Timings
14: High Street & 6th Street

2030 Total Traffic AM
12/18/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Minimum Split (s)	30.8	30.8		30.8	30.8		7.0	26.9		7.0	26.9	
Total Split (s)	30.8	30.8		30.8	30.8		7.0	27.2		7.0	27.2	
Total Split (%)	47.4%	47.4%		47.4%	47.4%		10.8%	41.8%		10.8%	41.8%	
Maximum Green (s)	25.5	25.5		25.5	25.5		4.0	21.9		4.0	21.9	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.0	3.3		3.0	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		3.0	5.3		3.0	5.3	
Lead/Lag							Lead	Lag		Lead	Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	15.0	15.0		15.0	15.0			13.0			13.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0			8.0			8.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	13.6	13.6		13.6	13.6		27.8	22.4		28.4	23.8	
Actuated g/C Ratio	0.26	0.26		0.26	0.26		0.53	0.43		0.55	0.46	
v/c Ratio	0.64	0.60		0.11	0.62		0.14	0.32		0.18	0.22	
Control Delay	32.1	20.4		15.3	16.8		7.0	11.5		7.3	9.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	32.1	20.4		15.3	16.8		7.0	11.5		7.3	9.1	
LOS	C	C		B	B		A	B		A	A	
Approach Delay		24.0			16.7			10.8			8.7	
Approach LOS		C			B			B			A	

Intersection Summary

Area Type: Other
 Cycle Length: 65
 Actuated Cycle Length: 52.1
 Natural Cycle: 65
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.64
 Intersection Signal Delay: 14.6
 Intersection Capacity Utilization 59.2%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 14: High Street & 6th Street

7 s	27.2 s	30.8 s
7 s	27.2 s	30.8 s

Queues
14: High Street & 6th Street

2030 Total Traffic AM
12/18/2014
























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	130	289	26	322	80	469	99	351
v/c Ratio	0.64	0.60	0.11	0.62	0.14	0.32	0.18	0.22
Control Delay	32.1	20.4	15.3	16.8	7.0	11.5	7.3	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.1	20.4	15.3	16.8	7.0	11.5	7.3	9.1
Queue Length 50th (m)	11.0	21.4	1.9	17.6	2.7	13.5	3.4	8.3
Queue Length 95th (m)	25.3	39.5	6.3	36.8	10.1	29.6	12.0	20.0
Internal Link Dist (m)		303.4		99.4		233.6		544.8
Turn Bay Length (m)	200.0		20.0		100.0		40.0	
Base Capacity (vph)	393	901	446	899	590	1487	538	1581
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	0.33	0.32	0.06	0.36	0.14	0.32	0.18	0.22

Intersection Summary

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2030 Total Traffic PM
12/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	126	590	209	301	576	61	243	331	354	36	285	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	80.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.961				0.850		0.922			0.952	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3363	0	1750	1842	1566	1750	1698	0	1750	1754	0
Flt Permitted	0.235			0.206			0.381			0.148		
Satd. Flow (perm)	433	3363	0	379	1842	1566	702	1698	0	273	1754	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		73				101		101			44	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		233.0			263.0			308.7			120.7	
Travel Time (s)		16.8			18.9			22.2			8.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	131	615	218	314	600	64	253	345	369	38	297	138
Shared Lane Traffic (%)												
Lane Group Flow (vph)	131	833	0	314	600	64	253	714	0	38	435	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	7	4		3	8	8	2	2		6	6	

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2030 Total Traffic PM
12/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	21.5	21.5		21.5	21.5	
Total Split (s)	9.5	21.8		10.7	23.0	23.0	32.5	32.5		32.5	32.5	
Total Split (%)	14.6%	33.5%		16.5%	35.4%	35.4%	50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	6.0	16.3		7.2	17.5	17.5	27.0	27.0		27.0	27.0	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	24.3	16.3		27.2	19.4	19.4	27.0	27.0		27.0	27.0	
Actuated g/C Ratio	0.37	0.25		0.42	0.30	0.30	0.42	0.42		0.42	0.42	
v/c Ratio	0.46	0.93		1.01	1.09	0.12	0.87	0.93		0.34	0.58	
Control Delay	16.8	40.6		74.8	94.0	2.5	50.0	38.3		23.1	16.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	16.8	40.6		74.8	94.0	2.5	50.0	38.3		23.1	16.7	
LOS	B	D		E	F	A	D	D		C	B	
Approach Delay		37.4			81.9			41.3			17.3	
Approach LOS		D			F			D			B	

Intersection Summary

Area Type: Other
 Cycle Length: 65
 Actuated Cycle Length: 65
 Natural Cycle: 90
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 1.09
 Intersection Signal Delay: 48.6
 Intersection Capacity Utilization 99.2%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service F

Splits and Phases: 3: Cambridge Street & 1st Street

ø2	ø3	ø4
32.5 s	10.7 s	21.8 s
ø6	ø7	ø8
32.5 s	9.5 s	23 s

Queues
3: Cambridge Street & 1st Street

2030 Total Traffic PM
12/18/2014
























Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	131	833	314	600	64	253	714	38	435
v/c Ratio	0.46	0.93	1.01	1.09	0.12	0.87	0.93	0.34	0.58
Control Delay	16.8	40.6	74.8	94.0	2.5	50.0	38.3	23.1	16.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.8	40.6	74.8	94.0	2.5	50.0	38.3	23.1	16.7
Queue Length 50th (m)	9.0	47.2	~25.2	~90.7	0.0	26.8	69.3	3.0	34.4
Queue Length 95th (m)	18.0	#80.6	#69.4	#144.9	4.1	#66.3	#136.4	11.0	59.6
Internal Link Dist (m)		209.0		239.0			284.7		96.7
Turn Bay Length (m)	30.0		80.0			50.0		30.0	
Base Capacity (vph)	283	898	310	549	538	291	764	113	754
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.93	1.01	1.09	0.12	0.87	0.93	0.34	0.58

Intersection Summary

- ~ 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.

Lanes, Volumes, Timings
6: High Street & 1st Street

2030 Total Traffic PM
12/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	145	810	101	310	663	883	117	524	126	804	684	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	60.0		0.0	65.0		135.0	65.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.983				0.850		0.971			0.989	
Flt Protected	0.950			0.950			0.950			0.950	0.986	
Satd. Flow (prot)	1750	3440	0	1750	3500	1566	1750	3398	0	1592	3269	0
Flt Permitted	0.334			0.100			0.950			0.950	0.986	
Satd. Flow (perm)	615	3440	0	184	3500	1566	1750	3398	0	1592	3269	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8				691		17			5	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		263.0			517.2			308.8			272.0	
Travel Time (s)		18.9			37.2			22.2			19.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	151	844	105	323	691	920	122	546	131	838	712	78
Shared Lane Traffic (%)										36%		
Lane Group Flow (vph)	151	949	0	323	691	920	122	677	0	536	1092	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Split	NA		Split	NA	
Protected Phases	3	8		7	4		5	5		6	6	
Permitted Phases	8			4		4						
Detector Phase	3	8		7	4	4	5	5		6	6	

Lanes, Volumes, Timings
6: High Street & 1st Street

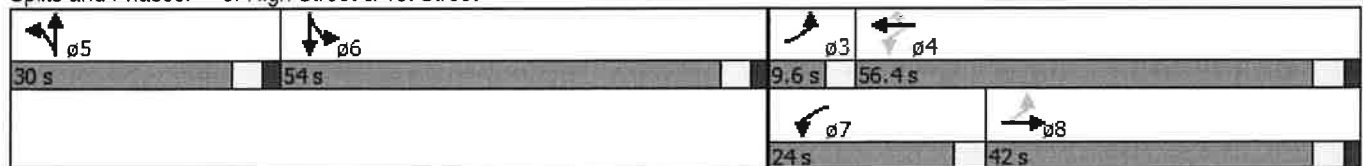
2030 Total Traffic PM
12/18/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	9.5	9.5		21.5	21.5	
Total Split (s)	9.6	42.0		24.0	56.4	56.4	30.0	30.0		54.0	54.0	
Total Split (%)	6.4%	28.0%		16.0%	37.6%	37.6%	20.0%	20.0%		36.0%	36.0%	
Maximum Green (s)	6.1	36.5		20.5	50.9	50.9	24.5	24.5		48.5	48.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	None		Max	Max	
Walk Time (s)		5.0			5.0	5.0				5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0				11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0				0	0	
Act Effct Green (s)	44.6	36.5		62.5	50.9	50.9	24.5	24.5		48.5	48.5	
Actuated g/C Ratio	0.30	0.24		0.42	0.34	0.34	0.16	0.16		0.32	0.32	
v/c Ratio	0.66	1.13		1.11	0.58	0.93	0.43	1.19		1.04	1.03	
Control Delay	50.0	121.8		127.0	43.2	28.2	61.7	152.9		99.8	84.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	50.0	121.8		127.0	43.2	28.2	61.7	152.9		99.8	84.5	
LOS	D	F		F	D	C	E	F		F	F	
Approach Delay		111.9			50.1			138.9			89.5	
Approach LOS		F			D			F			F	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Natural Cycle: 130
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 1.19
 Intersection Signal Delay: 87.3
 Intersection Capacity Utilization 108.2%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service G

Splits and Phases: 6: High Street & 1st Street



Queues
6: High Street & 1st Street

2030 Total Traffic PM
12/18/2014



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	151	949	323	691	920	122	677	536	1092
v/c Ratio	0.66	1.13	1.11	0.58	0.93	0.43	1.19	1.04	1.03
Control Delay	50.0	121.8	127.0	43.2	28.2	61.7	152.9	99.8	84.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.0	121.8	127.0	43.2	28.2	61.7	152.9	99.8	84.5
Queue Length 50th (m)	28.5	~170.6	~93.5	89.0	88.0	33.1	~125.4	~188.7	~189.8
Queue Length 95th (m)	44.4	#212.7	#154.8	109.5	#197.6	53.8	#165.2	#266.8	#234.5
Internal Link Dist (m)		239.0		493.2			284.8		248.0
Turn Bay Length (m)	60.0		65.0		135.0	65.0			
Base Capacity (vph)	229	843	290	1187	987	285	569	514	1060
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	1.13	1.11	0.58	0.93	0.43	1.19	1.04	1.03

Intersection Summary

- ~ 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.

Lanes, Volumes, Timings
 9: High Street & Home Depot Access

2030 Total Traffic PM
 12/18/2014























Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↓	
Volume (vph)	0	71	0	750	1008	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	10.0	55.0			0.0
Storage Lanes	0	0	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Fr _t		0.865			0.986	
Flt Protected						
Satd. Flow (prot)	0	1593	0	3500	3451	0
Flt Permitted						
Satd. Flow (perm)	0	1593	0	3500	3451	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	261.5			150.0	308.8	
Travel Time (s)	18.8			10.8	22.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	74	0	781	1050	113
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	74	0	781	1162	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Yield			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	42.4%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings
11: High Street & 3rd Street

2030 Total Traffic PM
12/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	106	213	41	102	180	263	622	44	134	918	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	30.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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		0.900			0.904			0.990				
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	1842	1658	0	1750	1665	0	1750	3465	0	1750	3500	0
Flt Permitted				0.367			0.185			0.388		
Satd. Flow (perm)	1842	1658	0	676	1665	0	341	3465	0	715	3500	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		165			145			14				
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		261.0			77.6			568.8			150.0	
Travel Time (s)		18.8			5.6			41.0			10.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	110	222	43	106	188	274	648	46	140	956	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	332	0	43	294	0	274	694	0	140	958	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	

Lanes, Volumes, Timings
11: High Street & 3rd Street

2030 Total Traffic PM
12/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.5	21.5		21.5	21.5		9.5	21.5		9.5	21.5	
Total Split (s)	21.5	21.5		21.5	21.5		11.0	28.3		10.2	27.5	
Total Split (%)	35.8%	35.8%		35.8%	35.8%		18.3%	47.2%		17.0%	45.8%	
Maximum Green (s)	16.0	16.0		16.0	16.0		7.5	22.8		6.7	22.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		5.5	5.5		3.5	5.5		3.5	5.5	
Lead/Lag							Lead	Lag		Lead	Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		10.9		10.9	10.9		33.1	25.2		30.5	22.1	
Actuated g/C Ratio		0.20		0.20	0.20		0.60	0.46		0.55	0.40	
v/c Ratio		0.72		0.32	0.66		0.69	0.44		0.27	0.68	
Control Delay		19.8		25.1	17.9		19.4	12.8		6.5	17.5	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		19.8		25.1	17.9		19.4	12.8		6.5	17.5	
LOS		B		C	B		B	B		A	B	
Approach Delay		19.8			18.8			14.6			16.1	
Approach LOS		B			B			B			B	

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 55.1
 Natural Cycle: 60
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.72
 Intersection Signal Delay: 16.4
 Intersection Capacity Utilization 79.1%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service D

Splits and Phases: 11: High Street & 3rd Street

10.2 s	28.3 s	21.5 s
11 s	27.5 s	21.5 s

Queues
11: High Street & 3rd Street

2030 Total Traffic PM
12/18/2014
























Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	332	43	294	274	694	140	958
v/c Ratio	0.72	0.32	0.66	0.69	0.44	0.27	0.68
Control Delay	19.8	25.1	17.9	19.4	12.8	6.5	17.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.8	25.1	17.9	19.4	12.8	6.5	17.5
Queue Length 50th (m)	14.9	3.7	13.1	9.8	24.8	4.6	40.1
Queue Length 95th (m)	36.7	11.0	32.5	#43.7	43.0	12.4	66.3
Internal Link Dist (m)	237.0		53.6		544.8		126.0
Turn Bay Length (m)		20.0		30.0		30.0	
Base Capacity (vph)	600	197	588	397	1594	526	1403
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.22	0.50	0.69	0.44	0.27	0.68

Intersection Summary

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

Lanes, Volumes, Timings
14: High Street & 6th Street

2030 Total Traffic PM
12/18/2014

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	157	172	100	52	214	229	101	437	27	284	657	222	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (m)	200.0		0.0	20.0		0.0	100.0		0.0	40.0		0.0	
Storage Lanes	1		0	1		0	1		0	1		0	
Taper Length (m)	2.5			2.5			2.5			2.5			
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		0.945			0.922			0.991			0.962		
Flt Protected	0.950			0.950			0.950			0.950			
Satd. Flow (prot)	1750	1741	0	1750	1698	0	1750	3468	0	1750	3367	0	
Flt Permitted	0.276			0.518			0.216			0.442			
Satd. Flow (perm)	508	1741	0	954	1698	0	398	3468	0	814	3367	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		53			98			10			77		
Link Speed (k/h)		50			50			50			50		
Link Distance (m)		327.4			123.4			257.6			568.8		
Travel Time (s)		23.6			8.9			18.5			41.0		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Adj. Flow (vph)	164	179	104	54	223	239	105	455	28	296	684	231	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	164	283	0	54	462	0	105	483	0	296	915	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(m)		3.5			3.5			3.5			3.5		
Link Offset(m)		0.0			0.0			0.0			0.0		
Crosswalk Width(m)		1.6			1.6			1.6			1.6		
Two way Left Turn Lane													
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	
Turning Speed (k/h)	24		14	24		14	24		14	24		14	
Number of Detectors	1	2		1	2		1	2		1	2		
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru		
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5		
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8		
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(m)		28.7			28.7			28.7			28.7		
Detector 2 Size(m)		1.8			1.8			1.8			1.8		
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex		
Detector 2 Channel													
Detector 2 Extend (s)		0.0			0.0			0.0			0.0		
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA		
Protected Phases		4			8		5	2		1	6		
Permitted Phases	4			8			2			6			
Detector Phase	4	4		8	8		5	2		1	6		

Lanes, Volumes, Timings
14: High Street & 6th Street

2030 Total Traffic PM
12/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Minimum Split (s)	30.8	30.8		30.8	30.8		7.0	26.9		7.0	26.9	
Total Split (s)	30.8	30.8		30.8	30.8		7.0	27.2		7.0	27.2	
Total Split (%)	47.4%	47.4%		47.4%	47.4%		10.8%	41.8%		10.8%	41.8%	
Maximum Green (s)	25.5	25.5		25.5	25.5		4.0	21.9		4.0	21.9	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.0	3.3		3.0	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		3.0	5.3		3.0	5.3	
Lead/Lag							Lead	Lag		Lead	Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	15.0	15.0		15.0	15.0			13.0			13.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0			8.0			8.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	19.5	19.5		19.5	19.5		28.5	22.1		29.2	23.8	
Actuated g/C Ratio	0.33	0.33		0.33	0.33		0.48	0.37		0.49	0.40	
v/c Ratio	0.99	0.47		0.17	0.74		0.37	0.37		0.64	0.66	
Control Delay	90.4	14.8		14.8	21.3		12.9	15.6		20.1	18.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	90.4	14.8		14.8	21.3		12.9	15.6		20.1	18.0	
LOS	F	B		B	C		B	B		C	B	
Approach Delay		42.5			20.7			15.1			18.5	
Approach LOS		D			C			B			B	

Intersection Summary

Area Type: Other
 Cycle Length: 65
 Actuated Cycle Length: 59.4
 Natural Cycle: 65
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.99
 Intersection Signal Delay: 22.1
 Intersection Capacity Utilization 81.4%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service D

Splits and Phases: 14: High Street & 6th Street

$\phi 1$	$\phi 2$	$\phi 4$
7 s	27.2 s	30.8 s
$\phi 5$	$\phi 6$	$\phi 8$
7 s	27.2 s	30.8 s

Queues
14: High Street & 6th Street

2030 Total Traffic PM
12/18/2014


























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	164	283	54	462	105	483	296	915
v/c Ratio	0.99	0.47	0.17	0.74	0.37	0.37	0.64	0.66
Control Delay	90.4	14.8	14.8	21.3	12.9	15.6	20.1	18.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	90.4	14.8	14.8	21.3	12.9	15.6	20.1	18.0
Queue Length 50th (m)	17.1	18.8	4.1	33.7	5.8	20.5	18.5	42.6
Queue Length 95th (m)	#48.8	35.8	10.7	61.8	13.8	34.1	#43.1	67.1
Internal Link Dist (m)		303.4		99.4		233.6		544.8
Turn Bay Length (m)	200.0		20.0		100.0		40.0	
Base Capacity (vph)	220	785	413	791	282	1297	463	1394
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	0.75	0.36	0.13	0.58	0.37	0.37	0.64	0.66

Intersection Summary

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

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2030 Total Traffic Saturday
12/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	552	224	423	712	86	305	391	524	54	430	94
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	80.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.957				0.850		0.914			0.973	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3349	0	1750	1842	1566	1750	1684	0	1750	1792	0
Flt Permitted	0.143			0.127			0.299			0.062		
Satd. Flow (perm)	263	3349	0	234	1842	1566	551	1684	0	114	1792	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43				56		74			12	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		233.0			263.0			308.7			120.7	
Travel Time (s)		16.8			18.9			22.2			8.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	83	575	233	441	742	90	318	407	546	56	448	98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	83	808	0	441	742	90	318	953	0	56	546	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	7	4		3	8	8	2	2		6	6	

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2030 Total Traffic Saturday
12/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	21.5	21.5		21.5	21.5	
Total Split (s)	9.5	33.5		26.0	50.0	50.0	70.5	70.5		70.5	70.5	
Total Split (%)	7.3%	25.8%		20.0%	38.5%	38.5%	54.2%	54.2%		54.2%	54.2%	
Maximum Green (s)	6.0	28.0		22.5	44.5	44.5	65.0	65.0		65.0	65.0	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)		5.0			5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	36.0	28.0		56.0	44.5	44.5	65.0	65.0		65.0	65.0	
Actuated g/C Ratio	0.28	0.22		0.43	0.34	0.34	0.50	0.50		0.50	0.50	
v/c Ratio	0.59	1.07		1.21	1.18	0.16	1.16	1.08		0.98	0.61	
Control Delay	42.7	98.7		153.0	134.3	13.7	135.0	85.5		152.0	26.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	42.7	98.7		153.0	134.3	13.7	135.0	85.5		152.0	26.3	
LOS	D	F		F	F	B	F	F		F	C	
Approach Delay		93.5			132.2			97.9			38.0	
Approach LOS		F			F			F			D	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Natural Cycle: 130
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 1.21
 Intersection Signal Delay: 98.8
 Intersection LOS: F
 Intersection Capacity Utilization 119.0%
 ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 3: Cambridge Street & 1st Street

70.5 s	26 s	33.5 s
70.5 s	9.5 s	50 s

Queues

2030 Total Traffic Saturday

3: Cambridge Street & 1st Street

12/18/2014



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	83	808	441	742	90	318	953	56	546
v/c Ratio	0.59	1.07	1.21	1.18	0.16	1.16	1.08	0.98	0.61
Control Delay	42.7	98.7	153.0	134.3	13.7	135.0	85.5	152.0	26.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.7	98.7	153.0	134.3	13.7	135.0	85.5	152.0	26.3
Queue Length 50th (m)	12.5	~115.9	~122.2	~227.1	5.8	~95.9	~263.8	13.7	95.5
Queue Length 95th (m)	#23.5	#156.0	#187.0	#300.6	17.8	#152.9	#342.1	#42.9	131.6
Internal Link Dist (m)		209.0		239.0			284.7		96.7
Turn Bay Length (m)	30.0		80.0			50.0		30.0	
Base Capacity (vph)	141	755	363	630	572	275	879	57	902
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	1.07	1.21	1.18	0.16	1.16	1.08	0.98	0.61

Intersection Summary

~ 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.

Lanes, Volumes, Timings
6: High Street & 1st Street

2030 Total Traffic Saturday
12/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	210	912	114	288	795	890	146	459	161	963	581	137
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	60.0		0.0	65.0		135.0	65.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.983				0.850		0.961			0.982	
Flt Protected	0.950			0.950			0.950			0.950	0.982	
Satd. Flow (prot)	1750	3440	0	1750	3500	1566	1750	3363	0	1592	3233	0
Flt Permitted	0.147			0.093			0.950			0.950	0.982	
Satd. Flow (perm)	271	3440	0	171	3500	1566	1750	3363	0	1592	3233	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9				681		27			10	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		263.0			517.2			308.8			272.0	
Travel Time (s)		18.9			37.2			22.2			19.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	219	950	119	300	828	927	152	478	168	1003	605	143
Shared Lane Traffic (%)										42%		
Lane Group Flow (vph)	219	1069	0	300	828	927	152	646	0	582	1169	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Split	NA		Split	NA	
Protected Phases	3	8		7	4		5	5		6	6	
Permitted Phases	8			4		4						
Detector Phase	3	8		7	4	4	5	5		6	6	

Lanes, Volumes, Timings
6: High Street & 1st Street

2030 Total Traffic Saturday
12/18/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.5	21.5		9.5	21.5	21.5	9.5	9.5		21.5	21.5	
Total Split (s)	16.4	45.0		22.0	50.6	50.6	26.0	26.0		57.0	57.0	
Total Split (%)	10.9%	30.0%		14.7%	33.7%	33.7%	17.3%	17.3%		38.0%	38.0%	
Maximum Green (s)	12.9	39.5		18.5	45.1	45.1	20.5	20.5		51.5	51.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.5		3.5	5.5	5.5	5.5	5.5		5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	None	None		Max	Max	
Walk Time (s)		5.0			5.0	5.0				5.0	5.0	
Flash Dont Walk (s)		11.0			11.0	11.0				11.0	11.0	
Pedestrian Calls (#/hr)		0			0	0				0	0	
Act Effct Green (s)	54.4	39.5		63.5	45.1	45.1	20.5	20.5		51.5	51.5	
Actuated g/C Ratio	0.36	0.26		0.42	0.30	0.30	0.14	0.14		0.34	0.34	
v/c Ratio	0.97	1.17		1.12	0.79	0.98	0.64	1.34		1.07	1.05	
Control Delay	86.5	136.3		131.8	54.4	38.4	74.2	212.0		103.7	87.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	86.5	136.3		131.8	54.4	38.4	74.2	212.0		103.7	87.0	
LOS	F	F		F	D	D	E	F		F	F	
Approach Delay		127.9			58.5			185.8			92.5	
Approach LOS		F			E			F			F	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Natural Cycle: 130
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 1.34
 Intersection Signal Delay: 101.0
 Intersection Capacity Utilization 112.0%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service H

Splits and Phases: 6: High Street & 1st Street

ø5 26 s	ø6 57 s	ø3 16.4 s	ø4 50.6 s
		ø7 22 s	ø8 45 s

Queues
6: High Street & 1st Street

2030 Total Traffic Saturday
12/18/2014



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	219	1069	300	828	927	152	646	582	1169
v/c Ratio	0.97	1.17	1.12	0.79	0.98	0.64	1.34	1.07	1.05
Control Delay	86.5	136.3	131.8	54.4	38.4	74.2	212.0	103.7	87.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	86.5	136.3	131.8	54.4	38.4	74.2	212.0	103.7	87.0
Queue Length 50th (m)	42.5	~198.4	~86.7	119.2	105.1	43.4	~128.1	~209.2	~206.0
Queue Length 95th (m)	#94.9	#241.2	#146.7	144.2	#208.7	67.7	#167.6	#287.8	#251.3
Internal Link Dist (m)		239.0		493.2			284.8		248.0
Turn Bay Length (m)	60.0		65.0		135.0	65.0			
Base Capacity (vph)	225	912	267	1052	947	239	482	546	1116
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	1.17	1.12	0.79	0.98	0.64	1.34	1.07	1.05

Intersection Summary

- ~ 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.

Lanes, Volumes, Timings
 9: High Street & Home Depot Access

2030 Total Traffic Saturday
 12/18/2014
























Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↘	
Volume (vph)	0	122	0	714	798	192
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	10.0	55.0			0.0
Storage Lanes	0	0	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Fr _t		0.865			0.971	
Flt Protected						
Satd. Flow (prot)	0	1593	0	3500	3398	0
Flt Permitted						
Satd. Flow (perm)	0	1593	0	3500	3398	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	261.5			150.0	308.8	
Travel Time (s)	18.8			10.8	22.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	127	0	744	831	200
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	127	0	744	1031	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Yield			Free	Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 42.4% ICU Level of Service A
 Analysis Period (min) 15

Lanes, Volumes, Timings
11: High Street & 3rd Street

2030 Total Traffic Saturday
12/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	138	269	25	155	181	419	631	26	138	774	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	30.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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		0.901			0.919			0.994			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1660	0	1750	1693	0	1750	3479	0	1750	3496	0
Flt Permitted	0.336			0.294			0.185			0.392		
Satd. Flow (perm)	619	1660	0	542	1693	0	341	3479	0	722	3496	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		159			96			8			1	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		261.0			77.6			568.8			150.0	
Travel Time (s)		18.8			5.6			41.0			10.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	2	144	280	26	161	189	436	657	27	144	806	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	424	0	26	350	0	436	684	0	144	812	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8			5	2		1	6
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	

Lanes, Volumes, Timings
11: High Street & 3rd Street

2030 Total Traffic Saturday
12/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.5	21.5		21.5	21.5		9.5	21.5		9.5	21.5	
Total Split (s)	21.5	21.5		21.5	21.5		15.0	28.3		10.2	23.5	
Total Split (%)	35.8%	35.8%		35.8%	35.8%		25.0%	47.2%		17.0%	39.2%	
Maximum Green (s)	16.0	16.0		16.0	16.0		11.5	22.8		6.7	18.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		5.5	5.5		3.5	5.5		3.5	5.5	
Lead/Lag							Lead	Lag		Lead	Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	13.6	13.6		13.6	13.6		35.1	25.1		26.5	18.0	
Actuated g/C Ratio	0.24	0.24		0.24	0.24		0.61	0.44		0.46	0.31	
v/c Ratio	0.01	0.83		0.20	0.74		0.89	0.45		0.32	0.74	
Control Delay	16.5	28.4		21.7	25.2		36.3	14.1		8.3	23.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	16.5	28.4		21.7	25.2		36.3	14.1		8.3	23.6	
LOS	B	C		C	C		D	B		A	C	
Approach Delay		28.4			25.0			22.7			21.3	
Approach LOS		C			C			C			C	

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 57.7
 Natural Cycle: 60
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 23.4
 Intersection Capacity Utilization 81.1%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service D

Splits and Phases: 11: High Street & 3rd Street

Ø1	Ø2	Ø4
10.2 s	28.3 s	21.5 s
Ø5	Ø6	Ø8
15 s	23.5 s	21.5 s

Queues
11: High Street & 3rd Street

2030 Total Traffic Saturday
12/18/2014
























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	2	424	26	350	436	684	144	812
v/c Ratio	0.01	0.83	0.20	0.74	0.89	0.45	0.32	0.74
Control Delay	16.5	28.4	21.7	25.2	36.3	14.1	8.3	23.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.5	28.4	21.7	25.2	36.3	14.1	8.3	23.6
Queue Length 50th (m)	0.2	25.9	2.2	24.2	29.5	29.1	6.3	42.2
Queue Length 95th (m)	1.5	#65.6	7.8	#50.1	#78.5	42.6	12.7	#61.4
Internal Link Dist (m)		237.0		53.6		544.8		126.0
Turn Bay Length (m)	20.0		20.0		30.0		30.0	
Base Capacity (vph)	172	576	150	539	488	1518	454	1093
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	0.01	0.74	0.17	0.65	0.89	0.45	0.32	0.74

Intersection Summary

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

Lanes, Volumes, Timings
14: High Street & 6th Street

2030 Total Traffic Saturday
12/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	231	192	87	48	207	265	85	479	87	252	555	247
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	200.0		0.0	20.0		0.0	100.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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
Frnt		0.953			0.916			0.977			0.954	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1755	0	1750	1687	0	1750	3419	0	1750	3339	0
Flt Permitted	0.317			0.530			0.210			0.335		
Satd. Flow (perm)	584	1755	0	976	1687	0	387	3419	0	617	3339	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		41			114			31			107	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		327.4			123.4			257.6			568.8	
Travel Time (s)		23.6			8.9			18.5			41.0	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	241	200	91	50	216	276	89	499	91	262	578	257
Shared Lane Traffic (%)												
Lane Group Flow (vph)	241	291	0	50	492	0	89	590	0	262	835	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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
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(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	

Lanes, Volumes, Timings
14: High Street & 6th Street

2030 Total Traffic Saturday
12/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Minimum Split (s)	30.8	30.8		30.8	30.8		7.0	26.9		7.0	26.9	
Total Split (s)	35.0	35.0		35.0	35.0		7.0	28.0		7.0	28.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		10.0%	40.0%		10.0%	40.0%	
Maximum Green (s)	29.7	29.7		29.7	29.7		4.0	22.7		4.0	22.7	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.0	3.3		3.0	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		3.0	5.3		3.0	5.3	
Lead/Lag							Lead	Lag		Lead	Lag	
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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	15.0	15.0		15.0	15.0			13.0			13.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0			8.0			8.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	29.3	29.3		29.3	29.3		29.0	22.7		29.6	24.1	
Actuated g/C Ratio	0.42	0.42		0.42	0.42		0.42	0.33		0.43	0.35	
v/c Ratio	0.98	0.38		0.12	0.63		0.37	0.52		0.80	0.68	
Control Delay	78.6	13.6		13.3	16.3		15.7	20.0		36.6	20.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	78.6	13.6		13.3	16.3		15.7	20.0		36.6	20.8	
LOS	E	B		B	B		B	C		D	C	
Approach Delay		43.0			16.1			19.5			24.6	
Approach LOS		D			B			B			C	

Intersection Summary

Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 69.6
 Natural Cycle: 70
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.98
 Intersection Signal Delay: 25.2
 Intersection Capacity Utilization 86.5%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service E

Splits and Phases: 14: High Street & 6th Street

Ø1	Ø2	Ø4
7 s	28 s	35 s
Ø5	Ø6	Ø8
7 s	28 s	35 s

Queues
14: High Street & 6th Street

2030 Total Traffic Saturday
12/18/2014


























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	241	291	50	492	89	590	262	835
v/c Ratio	0.98	0.38	0.12	0.63	0.37	0.52	0.80	0.68
Control Delay	78.6	13.6	13.3	16.3	15.7	20.0	36.6	20.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.6	13.6	13.3	16.3	15.7	20.0	36.6	20.8
Queue Length 50th (m)	29.7	21.1	3.8	36.6	6.4	30.7	20.8	43.5
Queue Length 95th (m)	#72.0	38.3	9.9	66.1	13.6	44.9	#50.3	62.8
Internal Link Dist (m)		303.4		99.4		233.6		544.8
Turn Bay Length (m)	200.0		20.0		100.0		40.0	
Base Capacity (vph)	248	772	416	785	239	1135	327	1227
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	0.97	0.38	0.12	0.63	0.37	0.52	0.80	0.68

Intersection Summary

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

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2030 Total Traffic (Improvements)
Collingwood Transportation Study

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	552	224	423	712	86	305	391	524	54	430	94
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	80.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.957				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3349	0	1750	1842	1566	1750	1842	1566	1750	1842	1566
Flt Permitted	0.250			0.205			0.360			0.405		
Satd. Flow (perm)	461	3349	0	378	1842	1566	663	1842	1566	746	1842	1566
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		89				90			409			101
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		233.0			263.0			308.7			120.7	
Travel Time (s)		16.8			18.9			22.2			8.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	83	575	233	441	742	90	318	407	546	56	448	98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	83	808	0	441	742	90	318	407	546	56	448	98
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(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8		8	2		2	6		6
Detector Phase	4	4		3	8	8	2	2	2	6	6	6

Lanes, Volumes, Timings
3: Cambridge Street & 1st Street

2030 Total Traffic (Improvements)
Collingwood Transportation Study



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.5	21.5		9.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Total Split (s)	21.5	21.5		12.0	33.5	33.5	31.5	31.5	31.5	31.5	31.5	31.5
Total Split (%)	33.1%	33.1%		18.5%	51.5%	51.5%	48.5%	48.5%	48.5%	48.5%	48.5%	48.5%
Maximum Green (s)	16.0	16.0		8.5	28.0	28.0	26.0	26.0	26.0	26.0	26.0	26.0
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0		0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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
Total Lost Time (s)	5.5	5.5		3.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
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	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	Max	Max	Max	Max	Max	Max
Walk Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0	0	0	0	0
Act Effct Green (s)	16.0	16.0		30.0	28.0	28.0	26.0	26.0	26.0	26.0	26.0	26.0
Actuated g/C Ratio	0.25	0.25		0.46	0.43	0.43	0.40	0.40	0.40	0.40	0.40	0.40
v/c Ratio	0.73	0.91		1.25	0.94	0.12	1.20	0.55	0.63	0.19	0.61	0.14
Control Delay	63.2	37.5		152.8	40.0	3.5	144.7	18.6	7.7	14.8	19.8	3.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.2	37.5		152.8	40.0	3.5	144.7	18.6	7.7	14.8	19.8	3.6
LOS	E	D		F	D	A	F	B	A	B	B	A
Approach Delay		39.9			76.5			45.5			16.7	
Approach LOS		D			E			D			B	

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 65

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.25

Intersection Signal Delay: 49.7

Intersection LOS: D

Intersection Capacity Utilization 102.5%

ICU Level of Service G












Analysis Period (min) 15

Splits and Phases: 3: Cambridge Street & 1st Street

31.5 s	12 s	21.5 s
31.5 s	33.5 s	

Queues
3: Cambridge Street & 1st Street

2030 Total Traffic (Improvements)
Collingwood Transportation Study

											
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	83	808	441	742	90	318	407	546	56	448	98
v/c Ratio	0.73	0.91	1.25	0.94	0.12	1.20	0.55	0.63	0.19	0.61	0.14
Control Delay	63.2	37.5	152.8	40.0	3.5	144.7	18.6	7.7	14.8	19.8	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.2	37.5	152.8	40.0	3.5	144.7	18.6	7.7	14.8	19.8	3.6
Queue Length 50th (m)	9.2	44.4	~51.6	81.4	0.0	~47.8	36.4	10.5	4.2	41.3	0.0
Queue Length 95th (m)	#30.7	#76.4	#101.4	#147.3	6.6	#90.1	60.4	35.5	11.3	67.7	7.1
Internal Link Dist (m)		209.0		239.0			284.7			96.7	
Turn Bay Length (m)	30.0		80.0			50.0			30.0		
Base Capacity (vph)	113	891	353	793	725	265	736	871	298	736	687
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.91	1.25	0.94	0.12	1.20	0.55	0.63	0.19	0.61	0.14

Intersection Summary


- ~ 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.

FIGURES



SITE LOCATION

Legend


 = SUBJECT LANDS

Project

3RD STREET AND HIGH STREET

Drawing

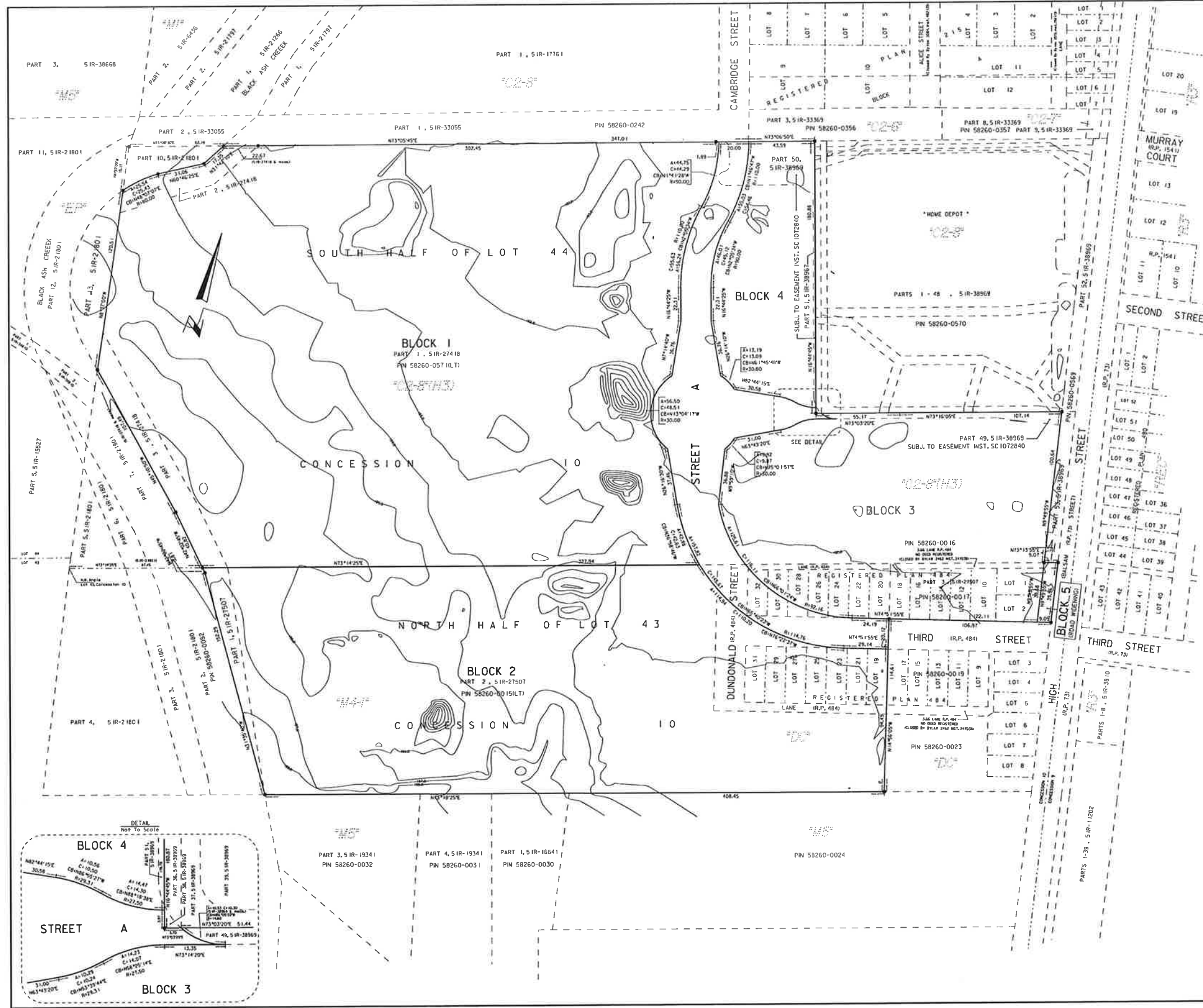
SITE LOCATION

 **CROZIER & ASSOCIATES**
Consulting Engineers

THE HARBOUREDGE BUILDING,
40 HURON STREET, SUITE 301,
COLLINGWOOD, ON L9Y 4R3
705 446-3510 T
705 446-3520 F
www.ccrozier.ca
info@ccrozier.ca

Drawn By	L.W.	Design By	L.W.	Project	183-2697
Scale	N.T.S.	Date	2014/10/15	Check By	A.F.

Drawing **FIG. 1**



DRAFT PLAN OF SUBDIVISION
 PART OF THE SOUTH HALF OF LOT 44
 CONCESSION 10
 PART OF THE NORTH HALF LOT 43
 CONCESSION 10
 (FORMERLY TOWNSHIP OF NOTTARASAGA)
 AND LOTS 1, 2, 10, 12, 14, 16
 AND 18 TO 32 BOTH INCLUSIVE
 AND DUNDONALD STREET AND
 PART OF THIRD STREET AND
 PART OF THE LANES ADJACENT THERETO
 REGISTERED PLAN 484
 TOWN OF COLLINGWOOD
 COUNTY OF SIMCOE

SCALE 1:1250
 ZUBEK, EMO, PATTEN & THOMSEN LTD.
 2015
 METRIC
 DISTANCES ON THIS PLAN ARE IN METRES AND CAN
 BE CONVERTED TO FEET BY DIVIDING BY 0.3048

- ADDITIONAL INFORMATION REQUIRED
 UNDER SECTION 51(17) OF THE
 PLANNING ACT**
- A. AS SHOWN
 - B. AS SHOWN
 - C. AS SHOWN
 - D. AS SHOWN
 - E. AS SHOWN
 - F. AS SHOWN
 - G. AS SHOWN
 - H. MUNICIPAL WATER SUPPLY
 - I. CLAY LOAM
 - J. AS SHOWN
 - K. MUNICIPAL SANITARY SEWERS
 - L. AS SHOWN

LAND USE SCHEDULE

PROPOSED LAND USE	AREA (ha)
BLOCKS	
1 COMMERCIAL	10.072
2 COMMERCIAL	5.964
3 COMMERCIAL	2.708
4 COMMERCIAL	1.019
5 ROAD WIDENING	0.057
ROADS	
STREET A	1.215
TOTAL	21.035

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:
 THE BOUNDARIES OF THE LANDS TO BE SUBDIVIDED AND
 THEIR RELATIONSHIP TO THE ADJACENT LANDS ARE
 ACCURATELY SHOWN ON THIS PLAN.

APRIL 2015 O.L.S.
 LYNN H. PATTEN
 ONTARIO LAND SURVEYOR
 COLLINGWOOD

OWNER'S CERTIFICATE

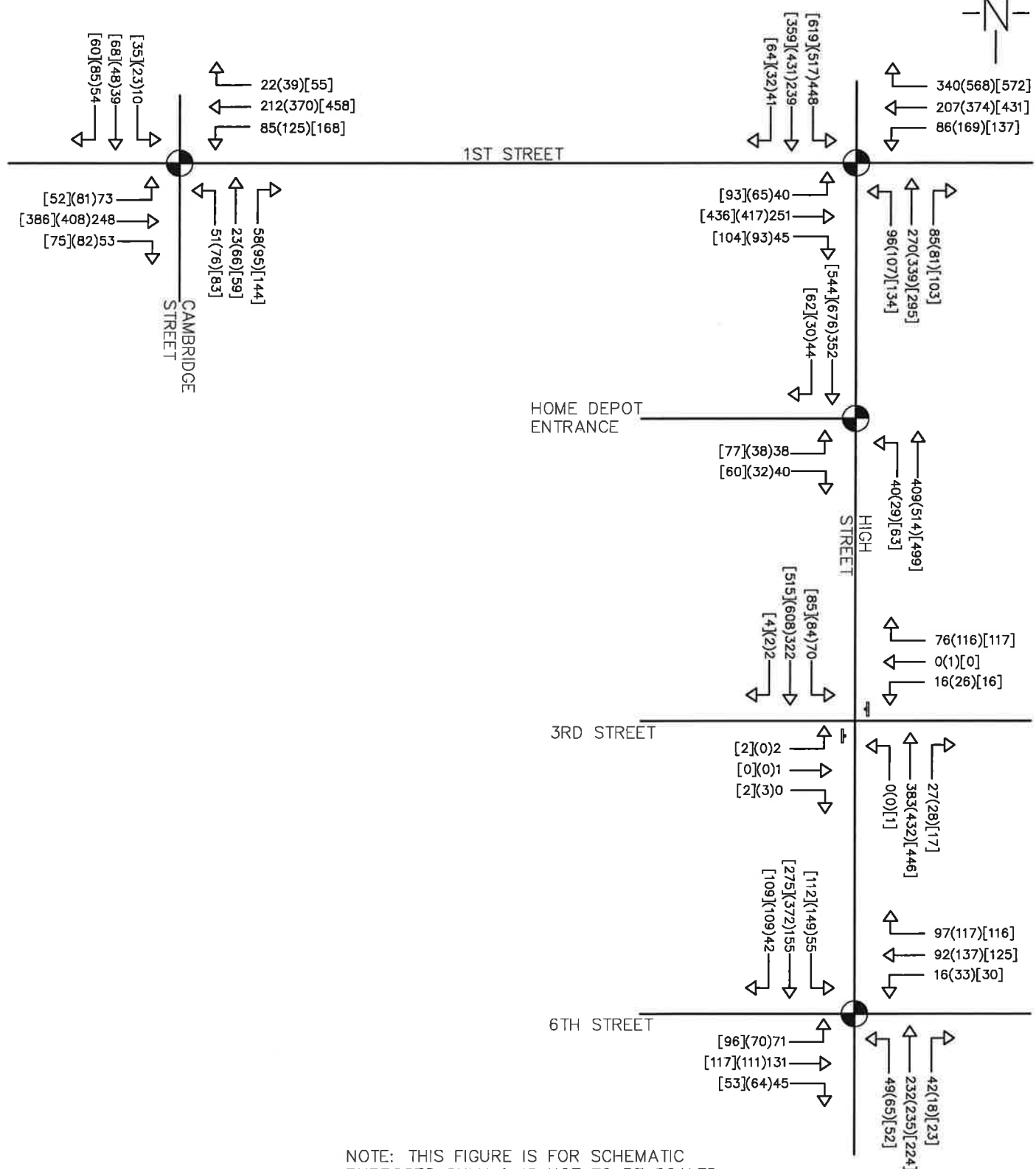
LANDEX EQUITY CORPORATION HEREBY AUTHORIZES
 THE SUBMISSION OF THIS DRAFT PLAN OF SUBDIVISION
 TO THE TOWN OF COLLINGWOOD PLANNING DEPARTMENT

APRIL 2015

PER _____
 LARRY DUNN

ZUBEK, EMO, PATTEN & THOMSEN
PATTEN & THOMSEN
 LIMITED
 39 STEWART ROAD
 COLLINGWOOD, ONTARIO L9Y 4W7
 PHONE: (705) 445-9910 FAX: (705) 445-5866
 SURVEY FOR: LANDEX EQUITY CORP.

FIGURE 2



	SIGNAL CONTROL
	STOP CONTROL
XX(YY)[ZZ]	WEEKDAY A.M. (WEEKDAY P.M.) [SATURDAY] PEAK HOUR TRAFFIC VOLUMES

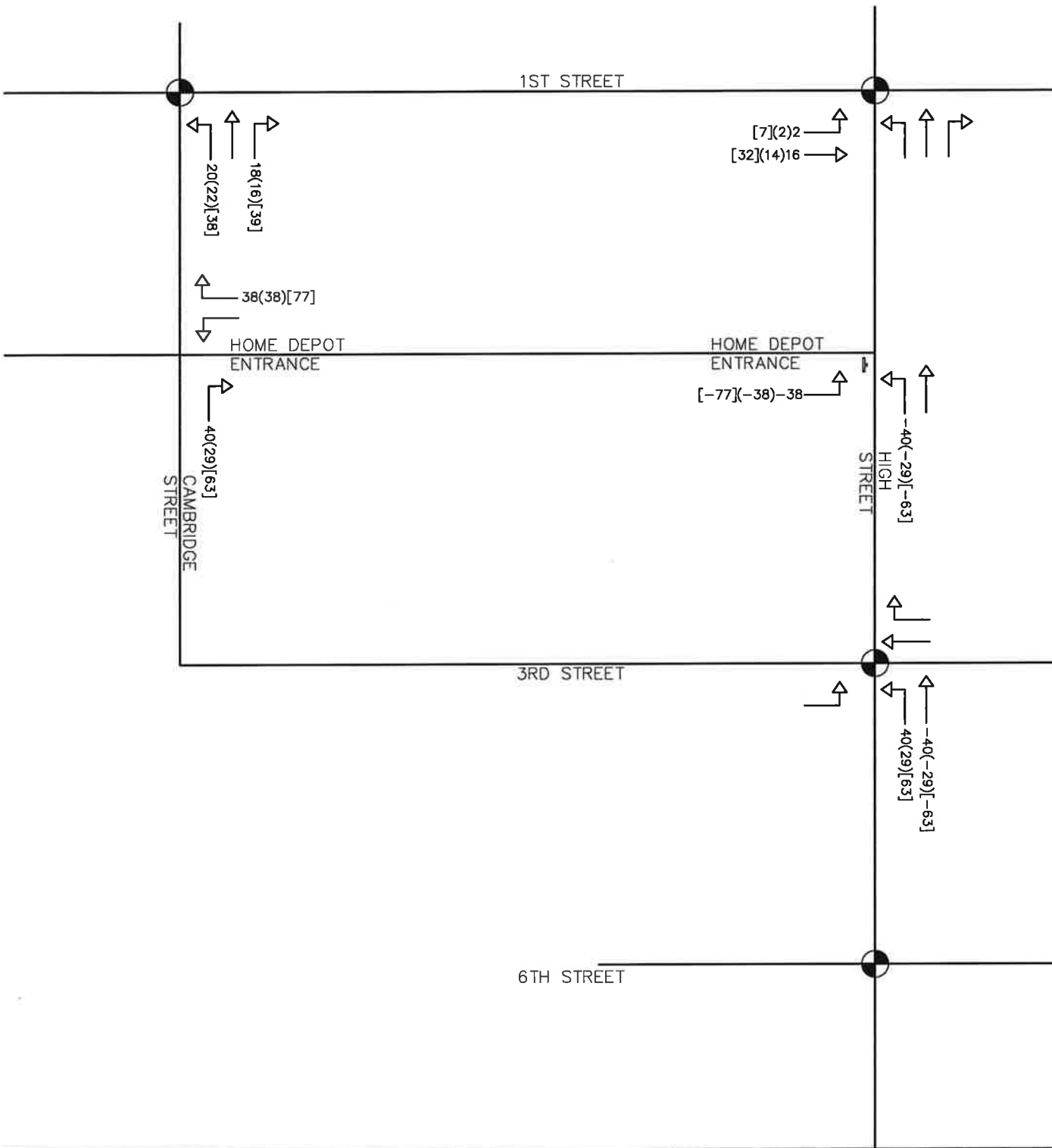
Project	3RD STREET AND HIGH STREET	
Drawing	2014 EXISTING TRAFFIC VOLUMES	

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Drawn By	D.D.	Design By	A.W.	Project	183-2697
Scale	N.T.S.	Date	2014/10/15	Check By	A.F.

FIG. 3



Legend		SIGNAL CONTROL
		STOP CONTROL
		WEEKDAY A.M. (WEEKDAY P.M.) [SATURDAY] PEAK HOUR TRAFFIC VOLUMES

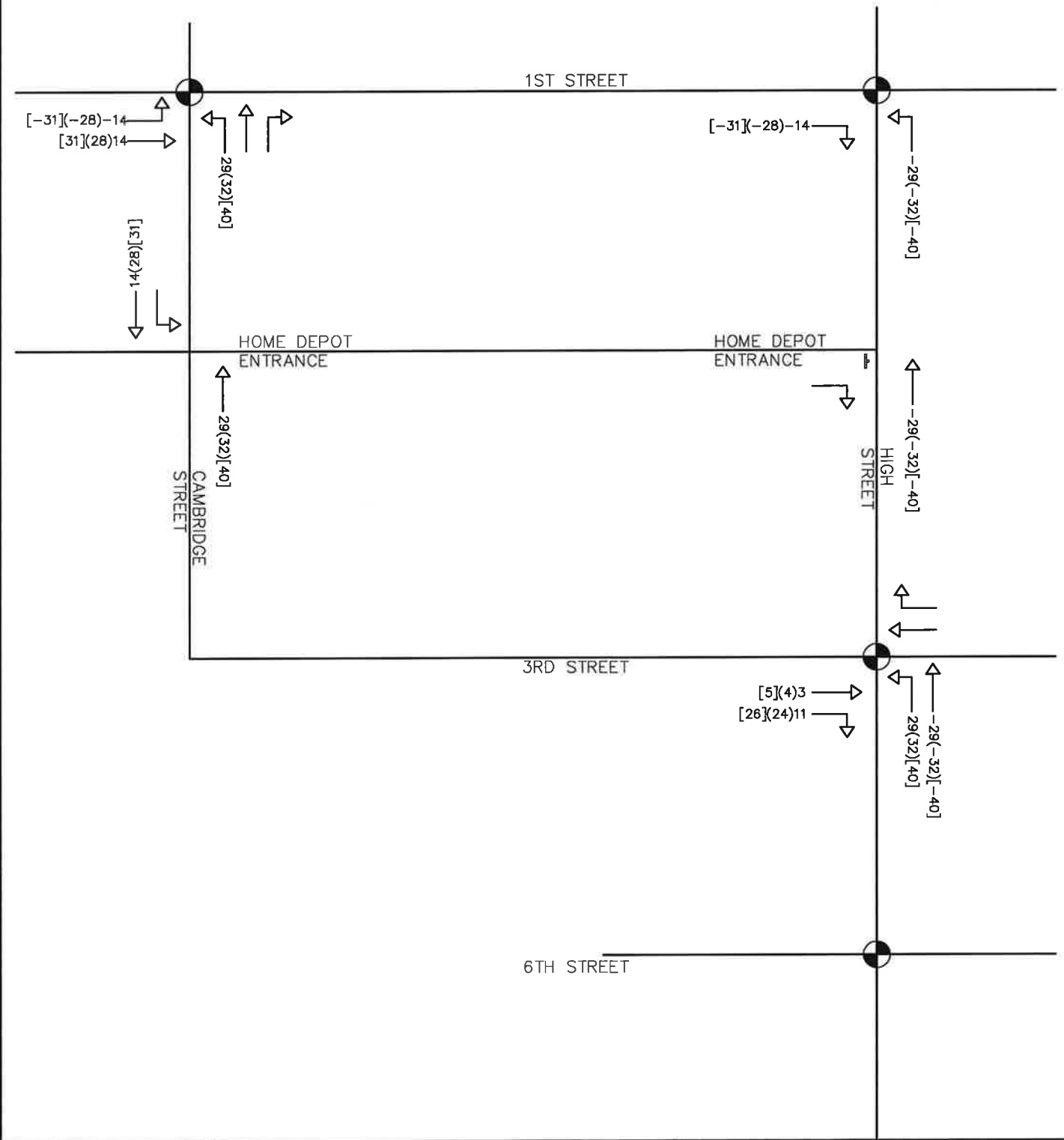
Project	3RD STREET AND HIGH STREET		
Drawing	HOME DEPOT DIVERTED TRIPS		

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Scale	N.T.S.	Date	2014/10/15	Check By	A.F.

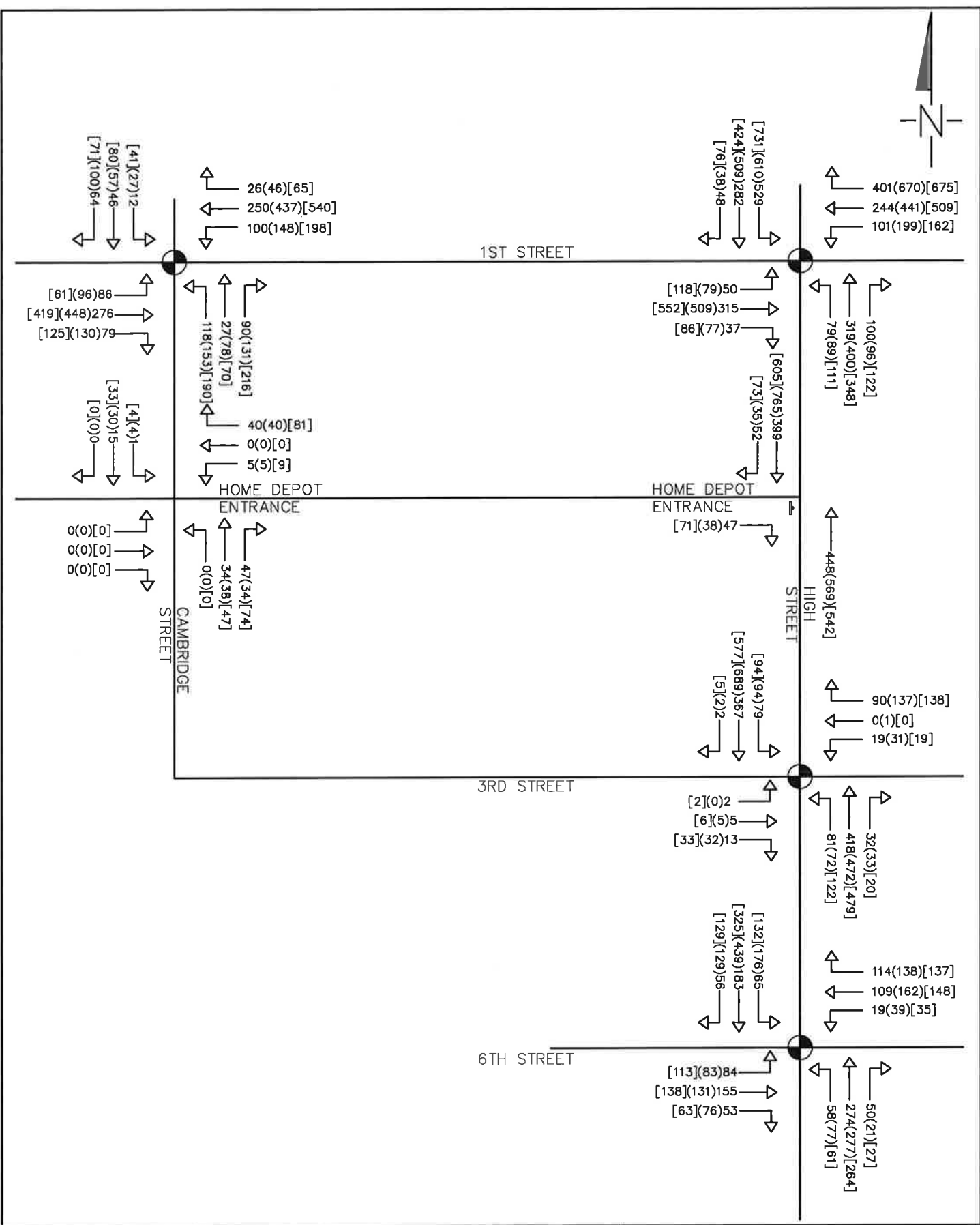
FIG. 4



SIGNAL CONTROL STOP CONTROL WEEKDAY A.M. (WEEKDAY P.M.) [SATURDAY] PEAK HOUR TRAFFIC VOLUMES XX(YY)[ZZ]	Project
	3RD STREET AND HIGH STREET
	Drawing
	CAMBRIDGE STREET AND 3RD STREET DIVERTED TRIPS

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Drawn By	D.D.	Design By	A.W.	Project	183-2697	
Scale	N.T.S.	Date	2014/10/15	Check By	A.F.	
					Drawing	FIG. 5

SIGNAL CONTROL STOP CONTROL WEEKDAY A.M. (WEEKDAY P.M.) [SATURDAY] PEAK HOUR TRAFFIC VOLUMES XX(YY)[ZZ]		Project				
3RD STREET AND HIGH STREET		Drawing				
CAMBRIDGE STREET AND 3RD STREET DIVERTED TRIPS		Project				
		183-2697				
Scale	N.T.S.	Date	2014/10/15	Check By	A.F.	
					Drawing	FIG. 5



	SIGNAL CONTROL
	STOP CONTROL
	WEEKDAY A.M. (WEEKDAY P.M.)
	[SATURDAY] PEAK HOUR TRAFFIC VOLUMES

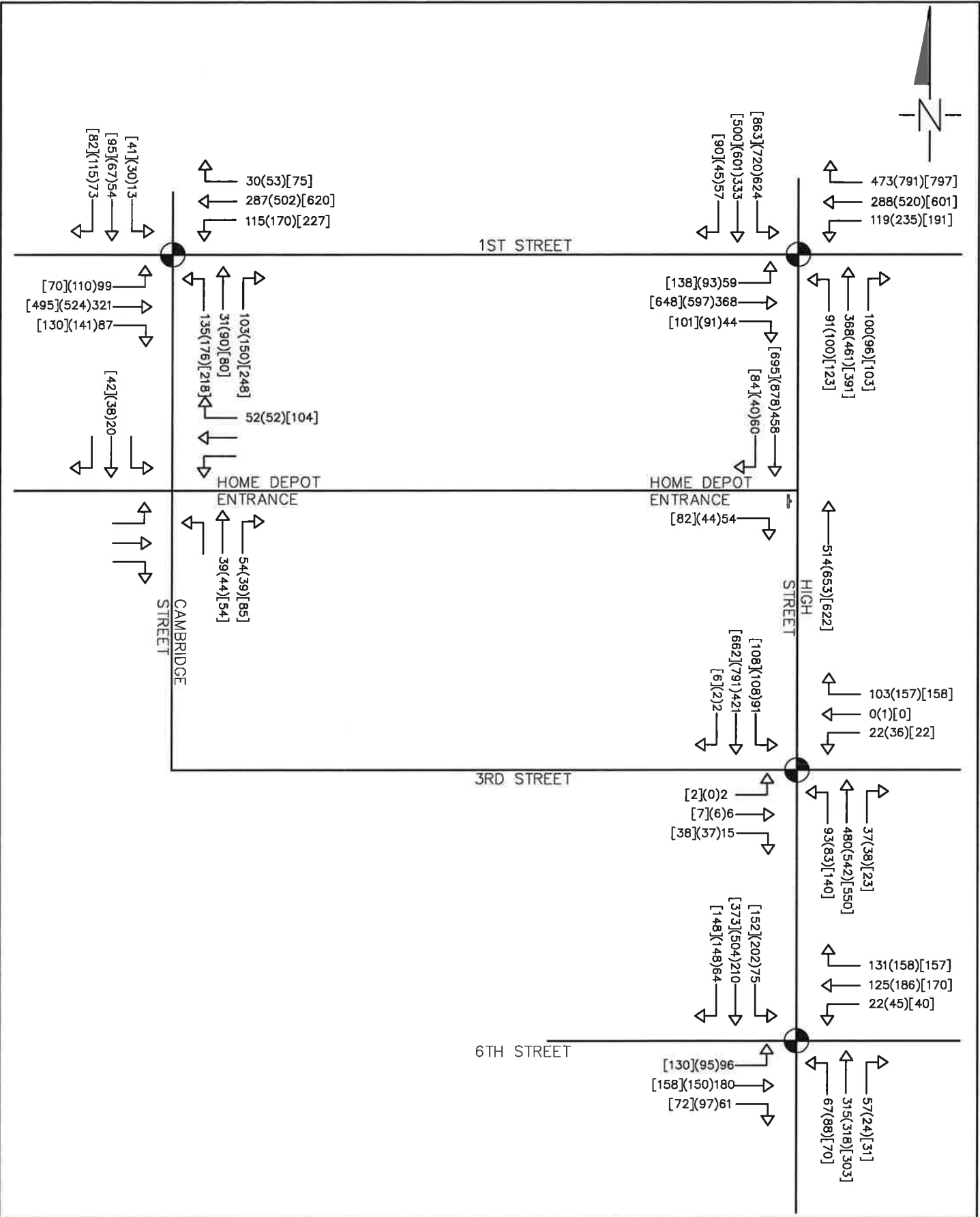
Project	3RD STREET AND HIGH STREET	
Drawing	2020 FUTURE BACKGROUND	

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Scale	N.T.S.	Date	2014/10/15	Check By	A.F.

FIG. 6



Legend

- SIGNAL CONTROL
- STOP CONTROL

WEEKDAY A.M.
WEEKDAY P.M.)
[SATURDAY] PEAK
HOUR TRAFFIC
VOLUMES

XX(YY)[ZZ]

Project
3RD STREET AND HIGH STREET

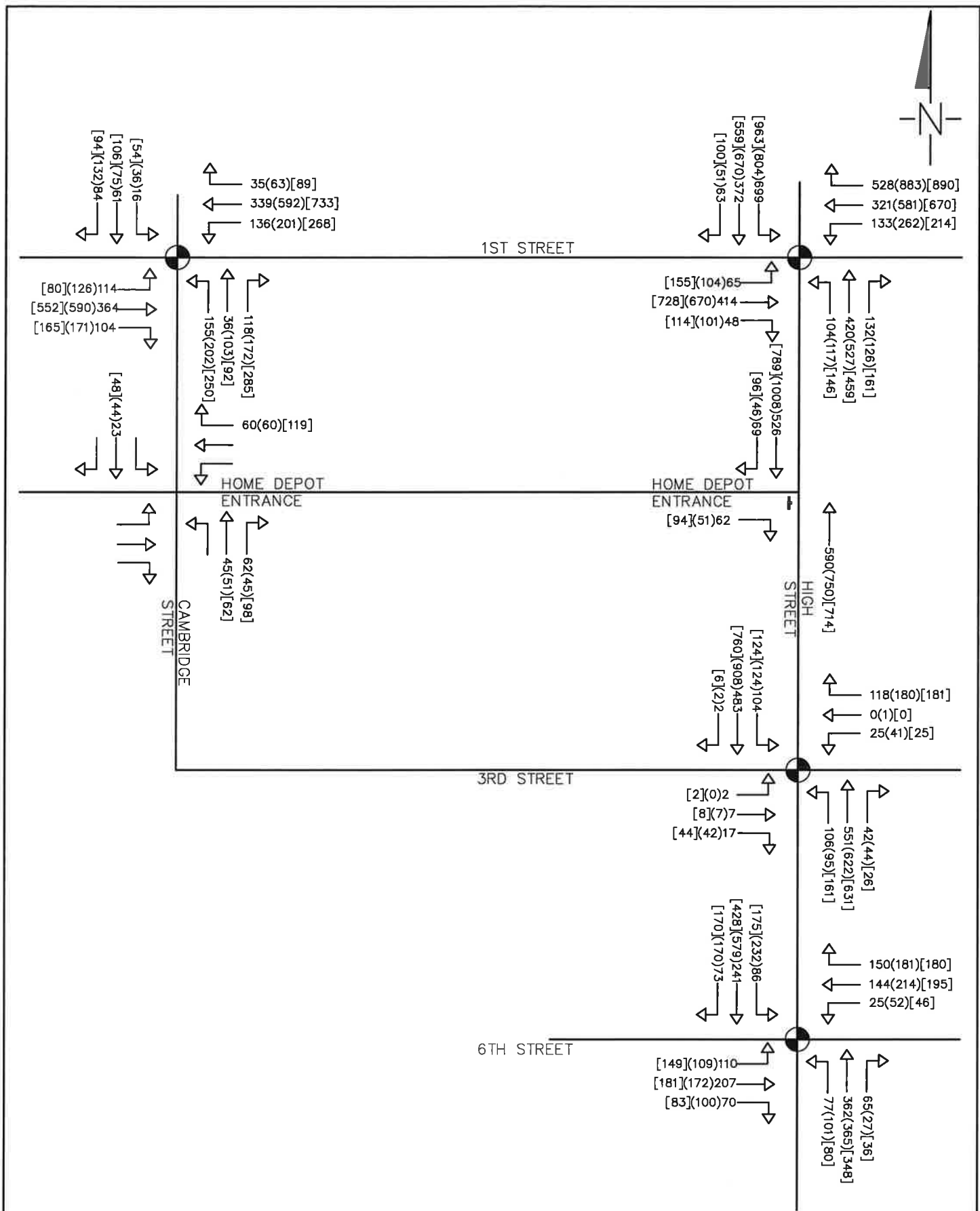
Drawing
2025 FUTURE BACKGROUND

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Scale	N.T.S.	Date	2014/10/15	Check By	A.F.

Drawing **FIG. 7**



Legend SIGNAL CONTROL STOP CONTROL WEEKDAY A.M. (WEEKDAY P.M.) [SATURDAY] PEAK HOUR TRAFFIC VOLUMES XX(YY)[ZZ]	Project
	Drawing

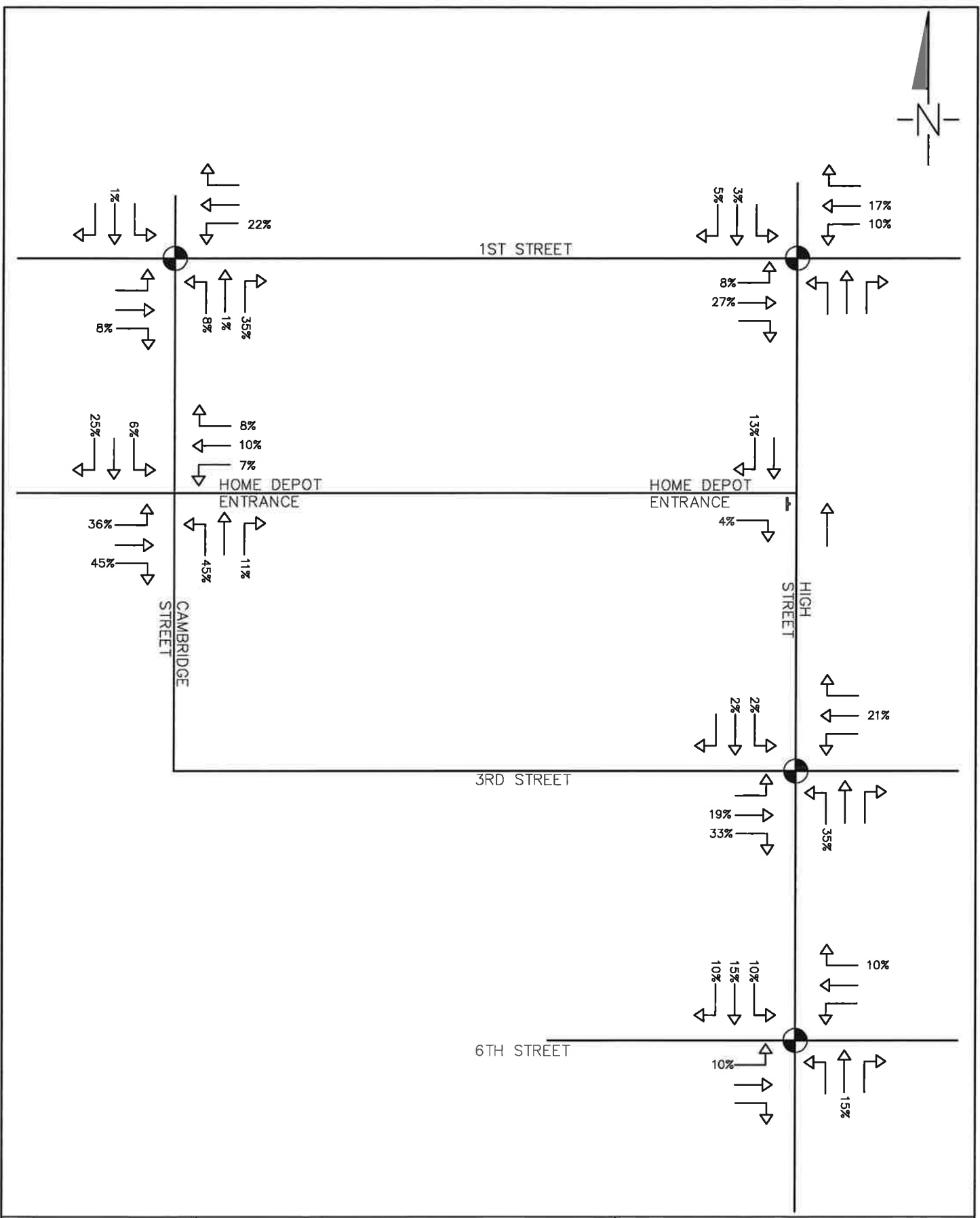
3RD STREET AND HIGH STREET	
2030 FUTURE BACKGROUND	

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Drawn By	D.D.	Design By	A.W.	Project	183-2697
Scale	N.T.S.	Date	2014/10/15	Check By	A.F.

FIG. 8



Legend
 SIGNAL CONTROL
 STOP CONTROL
 WEEKDAY A.M.
 (WEEKDAY P.M.)
 [SATURDAY] PEAK
 HOUR TRAFFIC
 VOLUMES
 XX(YY)[ZZ]

Project
3RD STREET AND HIGH STREET
 Drawing
TRIP DISTRIBUTION

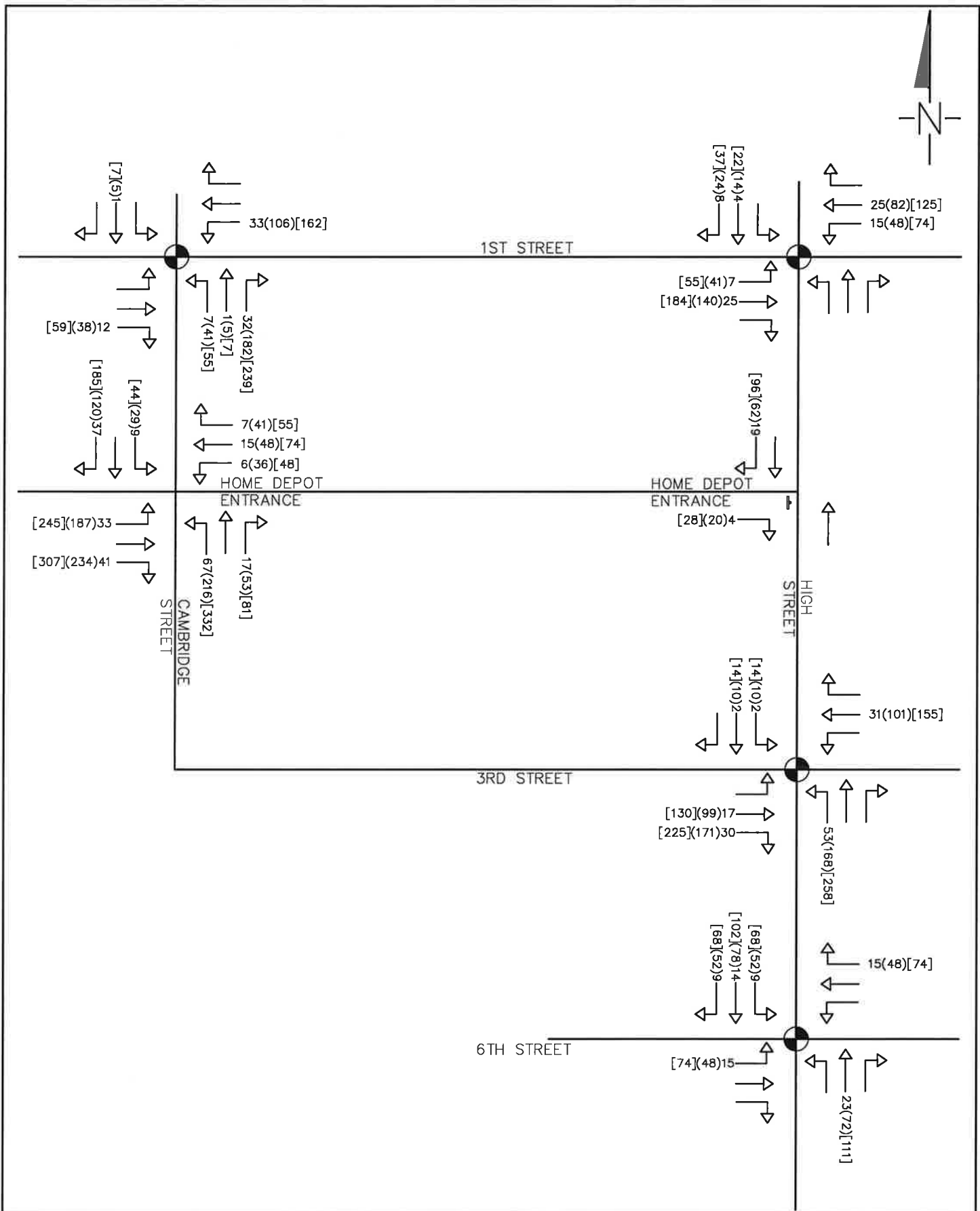


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Scale	N.T.S.	Date	2014/10/15	Check By	A.F.

FIG. 9



Legend SIGNAL CONTROL STOP CONTROL WEEKDAY A.M. (WEEKDAY P.M.) [SATURDAY] PEAK HOUR TRAFFIC VOLUMES	Project
	Drawing
	Scale
	Date

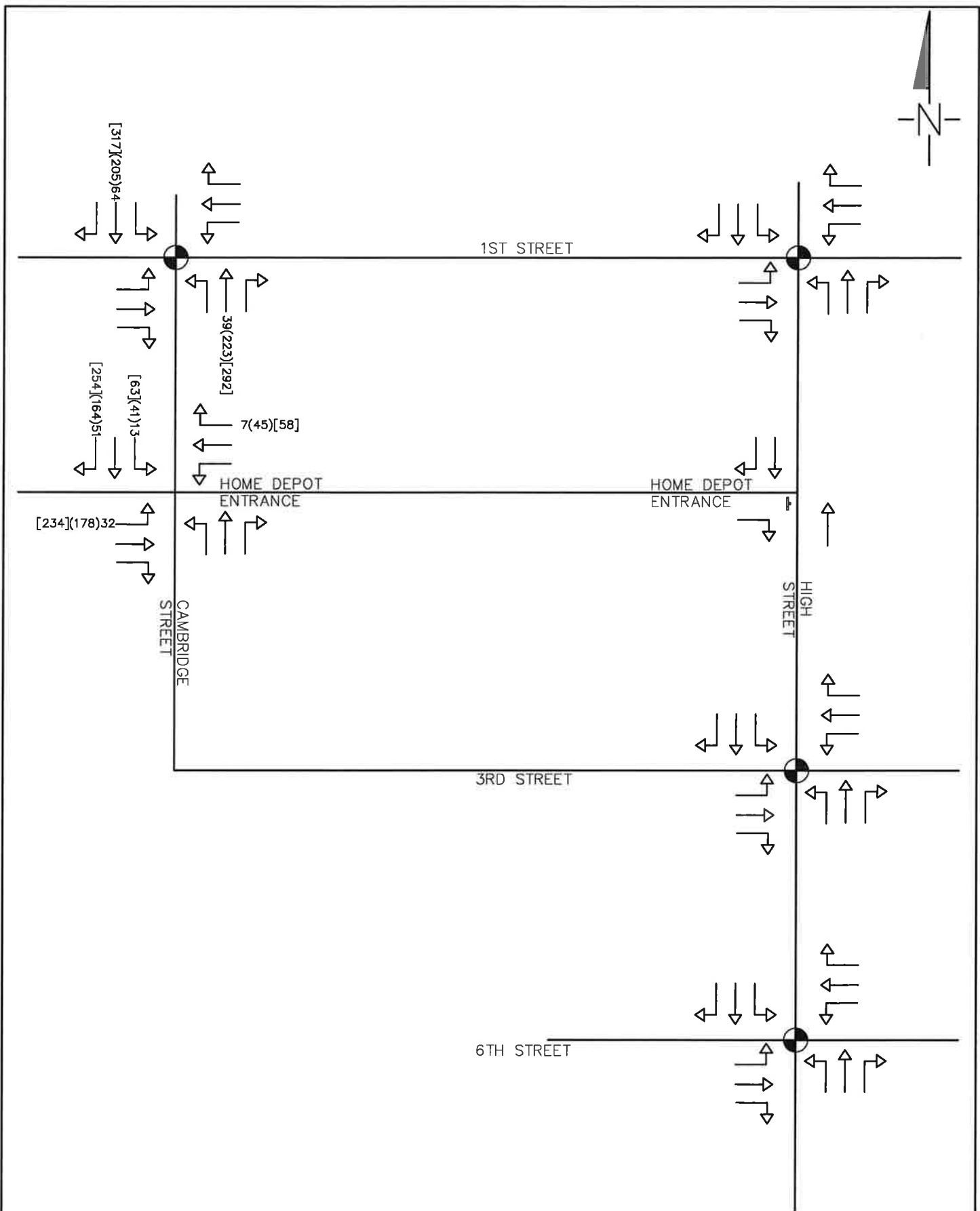
Project	3RD STREET AND HIGH STREET
Drawing	PRIMARY TRIP ASSIGNMENT

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Scale	N.T.S.	Date	2014/10/15	Check By	A.F.

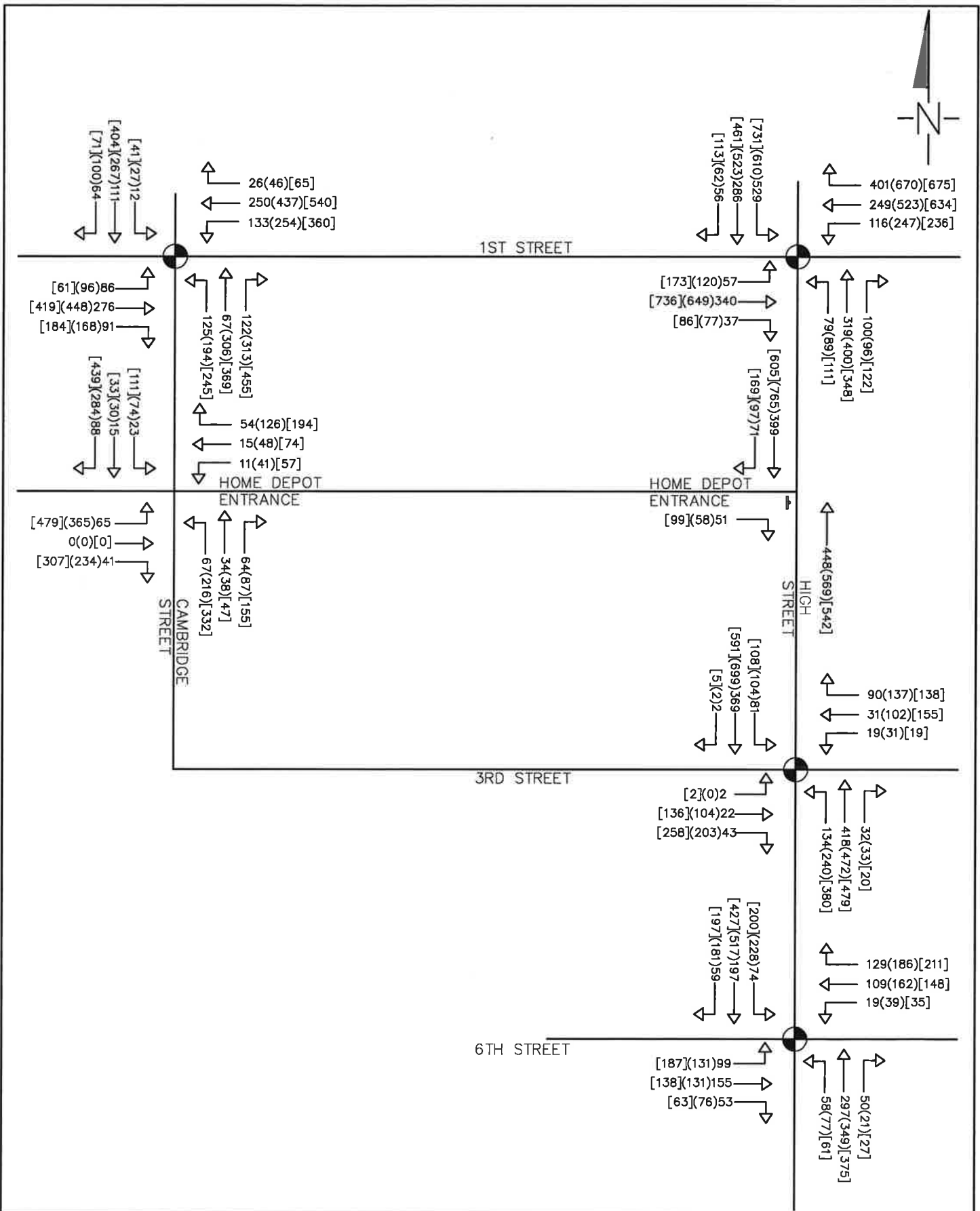
FIG. 10



Legend SIGNAL CONTROL STOP CONTROL WEEKDAY A.M. (WEEKDAY P.M.) [SATURDAY] PEAK HOUR TRAFFIC VOLUMES XX(YY)[ZZ]	Project	
	Drawing	
	3RD STREET AND HIGH STREET SYNERGY TRIPS TO THE COLLINGWOOD CENTRE	
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Drawn By	D.D.	Design By	A.W.	Project	183-2697
Scale	N.T.S.	Date	2014/10/15	Check By	A.F.
					FIG. 11



Legend

- SIGNAL CONTROL
- STOP CONTROL
- WEEKDAY A.M.
(WEEKDAY P.M.)
XX(YY)[ZZ] [SATURDAY] PEAK
HOUR TRAFFIC
VOLUMES

Project
3RD STREET AND HIGH STREET

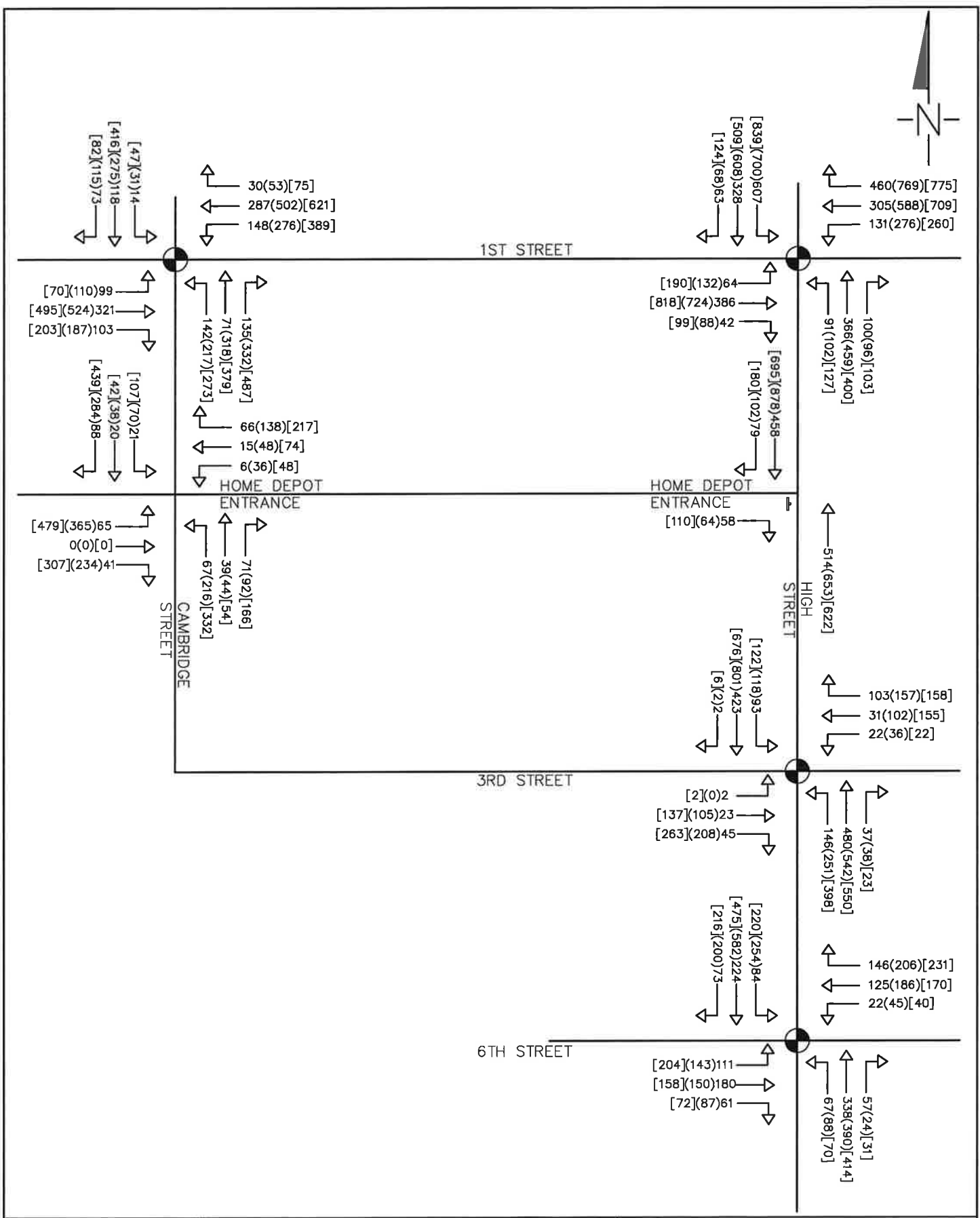
Drawing
2020 TOTAL TRAFFIC

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Scale	N.T.S.	Date	2014/10/15	Check By	A.F.

FIG. 12



Legend

- SIGNAL CONTROL
- STOP CONTROL

WEEKDAY A.M.
(WEEKDAY P.M.)
[SATURDAY] PEAK
HOUR TRAFFIC
VOLUMES

XX(YY)[ZZ]

Project
3RD STREET AND HIGH STREET

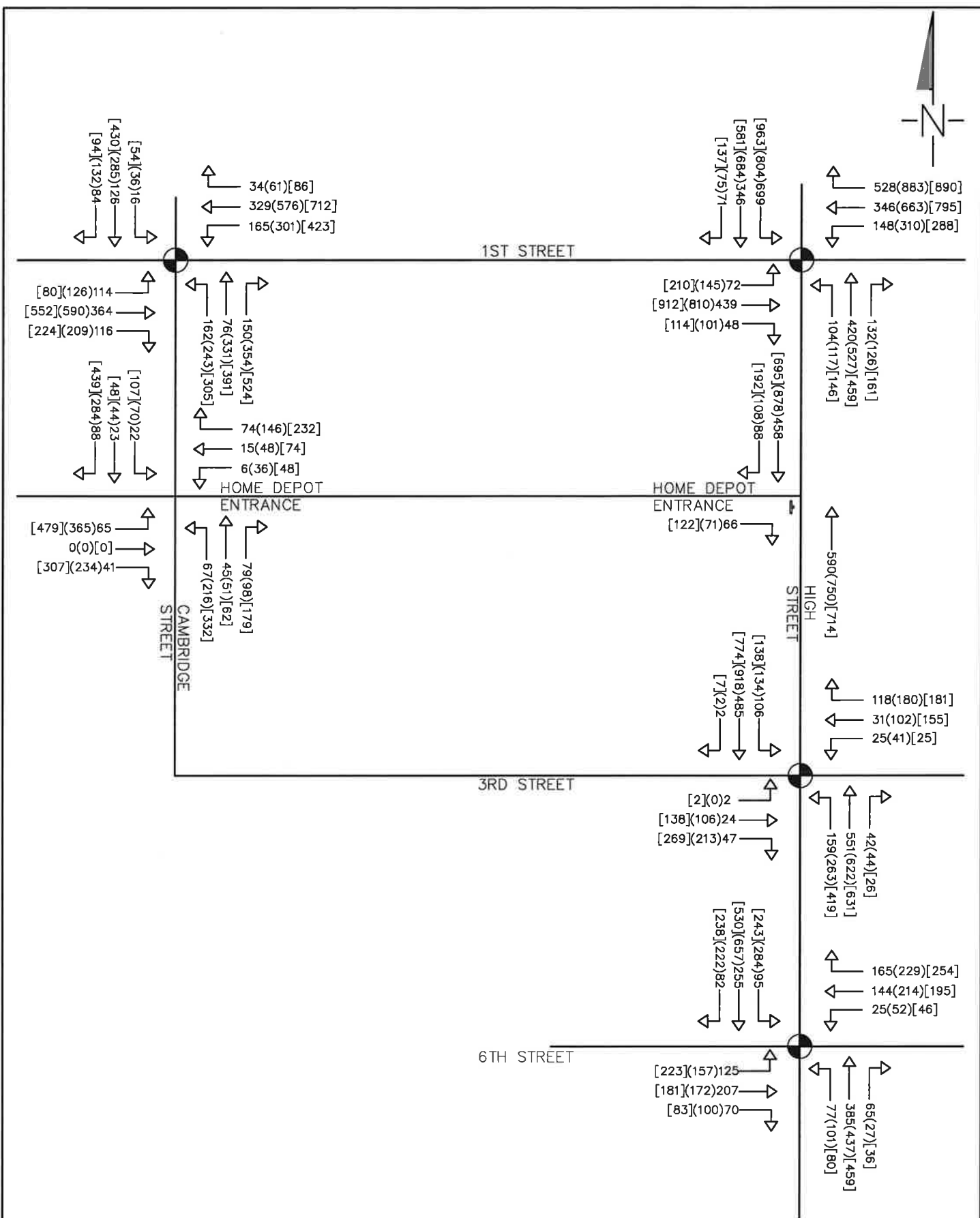
Drawing
2025 TOTAL TRAFFIC

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Scale:	N.T.S.	Date:	2014/10/15	Check By:	A.F.

Drawing FIG. 13



Legend

SIGNAL CONTROL

STOP CONTROL

WEEKDAY A.M.
(WEEKDAY P.M.)
[SATURDAY] PEAK
HOUR TRAFFIC
VOLUMES

XX(YY)[ZZ]

Project

3RD STREET AND HIGH STREET

Drawing

2030 TOTAL TRAFFIC

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Scale	N.T.S.	Date	2014/10/15	Check By
				A.F.
				183-2697
				FIG. 14