THE CITY OF WALTHAM
MASSACHUSETTS

PURCHASING DEPARTMENT

SALE OF CONDOMINIUMS (PHASE 3) (12 UNITS)
THE NATHANIEL AT BANKS SQUARE CONDOMINIUM
948 MAIN STREET

A D D E N D U M N O. 1 September 21, 2016

CHANGES, CORRECTIONS AND CLARIFICATIONS

The attention of bidders submitting proposals for the above subject project is called to the following addendum to the specifications. The items set forth herein, whether of omission, addition, substitution or clarification are all to be included in and form a part of the proposal submitted.

THE NUMBER OF THIS ADDENDUM (NO. 1)

ITEM 1: ANSWERS TO POSED QUESTIONS

1. Is there a specific format for the construction specifications that the City of Waltham requires or can the Designer refer to the Massachusetts Highway Department's Standard Specifications for Highways and Bridges (1998) and provide special provisions as necessary?

Answer: Complete the Commonwealth of Massachusetts DSB Application Form found at: http://www.mass.gov/anf/docs/dcam/dlforms/dsb/13-2-5-dsb-application-form.pdf In addition please include additional information that you wish the DSB to consider about your company and capability. In addition you must address Article 4 section 4.5 of the bid document. Be aware that although the City is using the DSB format it is not using its process since this is a Public Works project and Not a Public Building Project.

2. Will the Consultant be responsible for the preparation of the bid documents or will the City prepare the bid documents and the consultant will provide the plans, specs and material quantities only to the City in support of the City's preparation of the bid documents?

Answer: The Consultant is required to provide plans, specs and material quantities, Form for General Bid (all in Calibri font size 11), participate in the pre bid meeting, answer questions in writing for the City to prepare necessary addenda, review all bids fo

mathematical accuracy, check vendor references, recommend to the City's CPO award to the lowest responsive and responsible bidder.

3. Is the Contract contained in the RFP to be signed and included as part of the proposal submission?

Answer: Yes

4. Will traffic and turning movement counts be provided or should we plan to have them taken for use in the design?

Answer: See following Item 2

5. How many copies of the price proposal and technical proposal should be submitted?

Answer: 4 copies**.**

6. Should Attachment D - Certified Hourly Rates be included with the price proposal or as part of the technical proposal?

Answer: Please ignore attachment D

7. How many meetings and submissions are required for the project?

Answer: The City is not able to forecast how many meetings and submissions are required for the project

8. Will the City provide the survey or will the consultant be expected to complete the survey?

Answer: we have not been able to locate the survey as it was conducted by the developer of the multi-unit structure. However, we will work with the selected Designer to obtain the survey from the building owner. In the meantime, the lack of this information should have no bearing in the preparation of your response.

9. It appears that the "forms" included within the contract Article 20 are to be completed after a firm is selected – can you confirm?

Answer: Please complete and submit, among the other required documents, Sect. 20.1, 20.2, 20.3 and 20.7

10. It appears that firms need to include Attachments B, C (Personnel List), D (Hourly Rates), F (Variety of Forms), and Price Sheet. Can you confirm? If so, should Form D be included with the Price Sheet in a separate envelope?

Answer: Complete attachments A, B, C D, F, Price Sheet and all forms in the pages following.

ITEM 2: TRAFFIC STUDIES

Attached are:

- The traffic study for 36 River Street apartments (2010)
- Traffic Counts for River/Farwell/Seyon
- Traffic Counts for River/Willow
- Summer traffic count for River/Farwell/Seyon
- Summer traffic count for River/Willow

Note that during the non-summer counts, the AM peak hour was influenced by a traffic detour on that day, so those AM numbers should be disregarded. Use the summer counts for the AM peak. For the PM peak, the non-summer counts should be used.

ITEM 3: DELETE

In Article 4 Paragraph 4.2, page 11 and in any other section, **DELETE:** "Uniformat II Level 3 format".

End of Addendum 1

CONLEY
ASSOCIATES

TRAFFIC IMPACT STUDY

TC SARACEN, LLC
36 RIVER STREET
WALTHAM, MASSACHUSETTS

OCTOBER 2010

40 Warren St #346, 3rd Floor, Boston, MA 02129 (617) 742-5111
349 Lakewood Drive, Killington, VT 05751 (802) 345-2321
www.ConleyAssociates.com

Introduction

Conley Associates, Inc. has assessed the traffic impacts associated with the development of the southeast corner of the intersection of River Street at Farwell Street and Seyon Street in Waltham, Massachusetts. The site currently used as a parking facility for school buses and a car dealership. The proposed development consists of 200 residential apartment units. Access to the site will be provided via the existing Right of Way (ROW) easement that provides the rear access to the Stop & Shop Site (Stop & Shop ROW). The existing Stop & Shop ROW alignment will be modified to provide access to the site while still providing full access to the Stop & Shop site. There will also be an egress only driveway onto River Street on the east end of the site.

The analysis conducted for this Traffic Impact Study (TIS) concentrates on the weekday AM peak period (7:00 AM to 9:00 AM) and the weekday PM peak period (4:00 PM to 6:00 PM). The study area consists of the intersections of River Street at Farwell Street and Seyon Street, River Street at Willow Street and the Shaw's Site Driveway, and Farwell Street at the Stop & Shop ROW. Please see Figure 1 for a map of the local area.

Existing Conditions

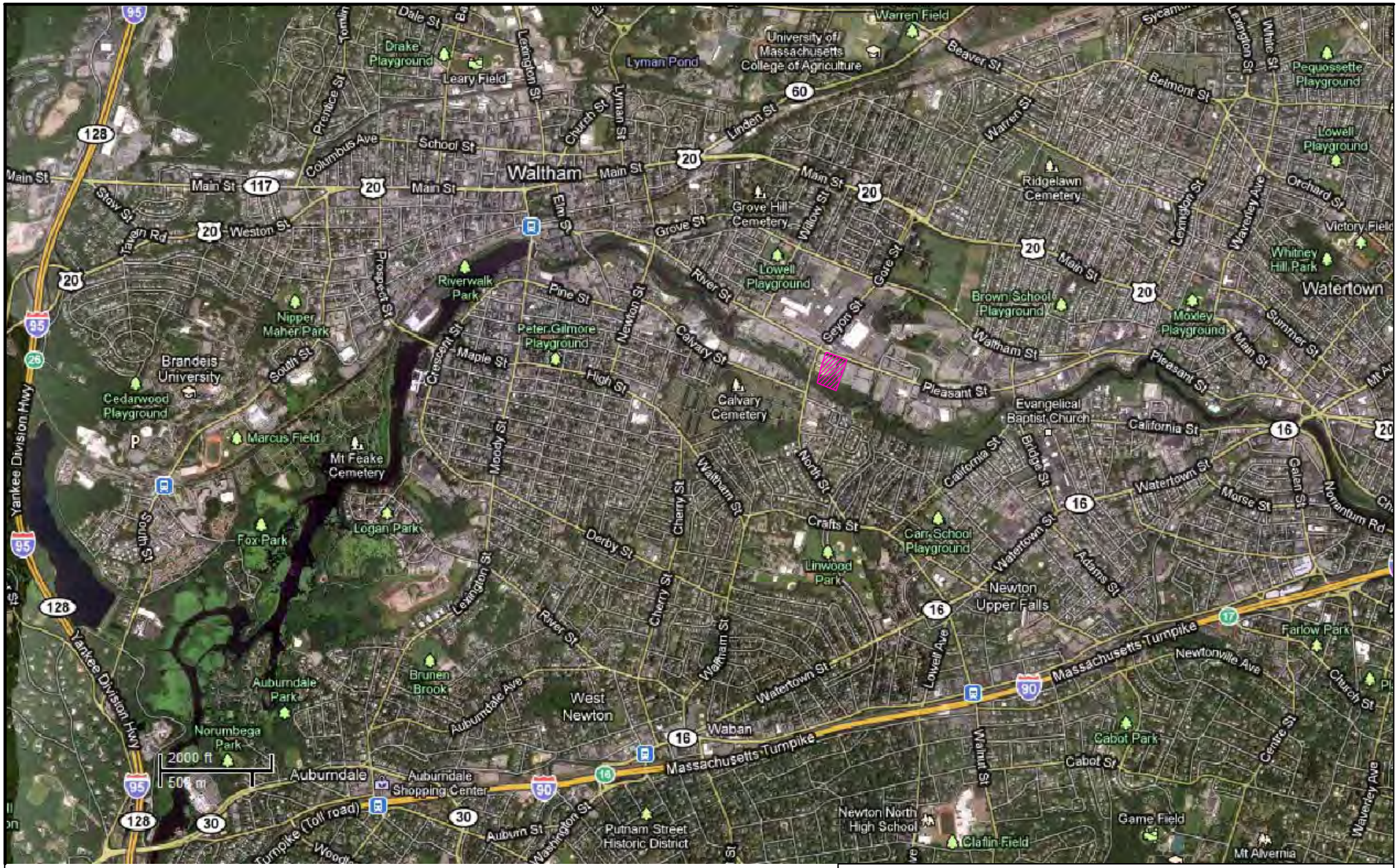
The existing transportation conditions in the study area were assessed in September 2010. Conley Associates, Inc. conducted a field visit to inventory the existing roadway geometry, existing traffic volume data was collected at the study area intersections, and seasonal variations in traffic volume data were researched.

Roadway Geometry

River Street runs from the City line with Watertown to the east through the study area to the west. It generally consists of one lane in each direction, however it widens for turning lanes at intersections and driveways throughout the study area. Farwell Street approaches from Newton to the south. This roadway changes name to Seyon Street at the River Street intersection. The roadways consist of one lane in each direction through the study area except at the River Street intersection where widenening occurs for left turn lanes.

The River Street at Farwell Street and Seyon Street intersection is a four way signalized intersection. Each approach consists of two lanes. The eastbound and westbound River Street approaches and the northbound Farwell Street approach consist of a left turn lane and a shared through and right turn lane. The southbound Seyon Street approach consists of a shared left and through lane and a right turn lane. There are sidewalks, crosswalks, and full pedestrian signalization on all four approaches of the intersection.

The River Street at Willow Street and Shaw's Site Driveway intersection is a four way signalized intersection. The River Street eastbound and westbound approaches consist of a left turn lane



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1422cadNocus.dwg

FIGURE 1

LOCUS MAP

WALTHAM, MA

PROJ. NO. 1422 DATE: 10/2010 NOT TO SCALE

and a shared through and right turn lane. The Willow Street southbound and Shaw's Site Driveway approaches consist of one all purpose lane. There are sidewalks, crosswalks, and full pedestrian signalization on all four approaches of the intersection; however, some of the pavement markings were faded at the time of the site visit.

The intersection of Farwell Street at the Stop & Shop ROW is a three way unsignalized intersection with the westbound exiting Stop & Shop ROW operating under stop control. Each approach consists of one all purpose lane. There are sidewalks on east and west side of Farwell Street.

Traffic Volume Data

Conley Associates, Inc. collected traffic volume data on Tuesday, September 14, 2010 and on Monday, September 20, 2010. Automatic Traffic Recorders (ATRs) collected traffic volume and speed data on River Street in front of the proposed site and on Farwell Street south of the Stop & Shop ROW. Turning Movement Counts (TMCs) were conducted at all of the study area intersections during the peak periods.

The ATR collected traffic volume data for a 24 hour period. The ATR data determined the weekday Average Daily Traffic (ADT) on River Street to be approximately 12,000 vehicles with approximately 6,160 vehicles traveling eastbound (with a 34 mph 85th percentile speed) and 5,840 vehicles traveling westbound (with a 30 mph 85th percentile speed).

The traffic data collection equipment on Farwell Street was found to have malfunctioned and did not collect accurate data on Tuesday, September 14, 2010. Therefore, the ATR data collection was repeated on Monday, September 20, 2010. The ATR data determined the weekday ADT on Farwell Street was approximately 13,245 vehicles with approximately 7,510 vehicles traveling northbound (with a 33 mph 85th percentile speed) and 5,735 vehicles traveling southbound (with a 32 mph 85th percentile speed).

Turning Movement Counts (TMCs) were conducted at the study area intersections during the peak periods on September 14, 2010. The data indicates that the weekday AM peak hour occurred from 8:00 AM to 9:00 AM when there were approximately 1,140 vehicles traveling on River Street passing the proposed site. The weekday PM peak hour occurred from 5:00 PM to 6:00 PM when there were approximately 1,120 vehicles passing the proposed site on River Street.

Seasonal Adjustment

The traffic volumes collected were evaluated to determine monthly variations in traffic volumes. The counts were conducted when all local colleges and Waltham schools were in session. Conley Associates, Inc. researched traffic volume data from MassHighway permanent count stations within the area to determine an appropriate seasonal traffic volume adjustment. Continuous counting data were taken from count station #4119 and #4120 located on Route 128 in Waltham, Massachusetts. The data indicates that the September traffic volumes are

approximately three percent higher than the average month traffic volumes. Therefore, the traffic volumes collected were not adjusted for seasonality as they represent higher than average traffic volumes. The MassHighway seasonal traffic volume data can be found in the Appendix.

Existing Traffic Volumes

The weekday AM and weekday PM peak hour traffic volumes at the study area intersections were balanced to determine the 2010 Existing Condition peak hour traffic volumes. The 2010 Existing weekday AM and weekday PM peak hour traffic volumes can be found in the Appendix.

No Build Condition

The transportation conditions expected in the study area in 2015 without the development of the proposed project were determined. Background traffic growth was projected and site specific traffic was researched. This traffic was added to the 2010 Existing condition traffic volumes to determine the 2015 No Build condition traffic volumes.

Background Traffic Growth

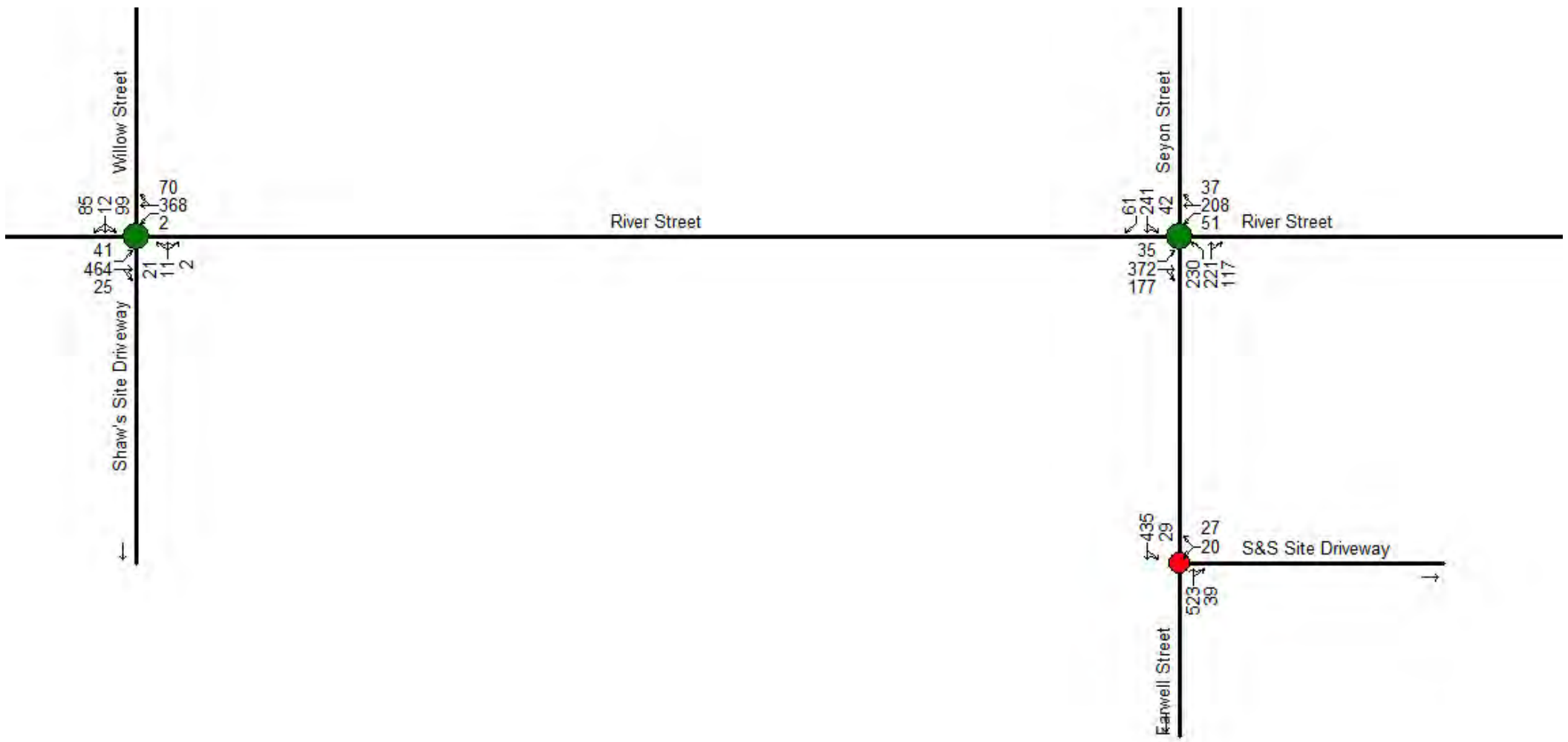
Conley Associates, Inc. researched traffic growth rates for the City of Waltham. Traffic volume growth data were obtained from Station No. 4155 located on Plant Road south of Trapelo Road; Station No. 4873 located on Totten Pond Road west of Lexington Street; Station No. 4911 located on Route 60 west of Trapelo Road; and Station No. 4925 located on Route 60 west of Beaver Street. Based on the MassHighway traffic volume data, traffic volumes have decreased approximately two percent per year over the past 10 years. However, in order to be conservatively high with our analysis, Conley Associates, Inc. applied an annual average growth rate of one percent per year compounded for five years to the Existing peak hour traffic volumes. The MassHighway annual traffic volume data can be found in the Appendix.

Specific Development Traffic

Conley Associates, Inc. contacted the City of Waltham Transportation Department to determine if there were any approved developments or planned roadway improvement projects located near the study area that would affect 2015 traffic volumes. Conley Associates, Inc. was informed that there are no other planned developments or projects that will affect the traffic volumes within the study area.

No Build Traffic Volumes

The Existing peak hour traffic volumes were increased by one percent per year compounded for five years (5.1 percent total) in order to determine the 2015 No Build Condition peak hour traffic volumes. The 2015 No Build weekday AM and weekday PM peak hour traffic volumes can be found in the Appendix.



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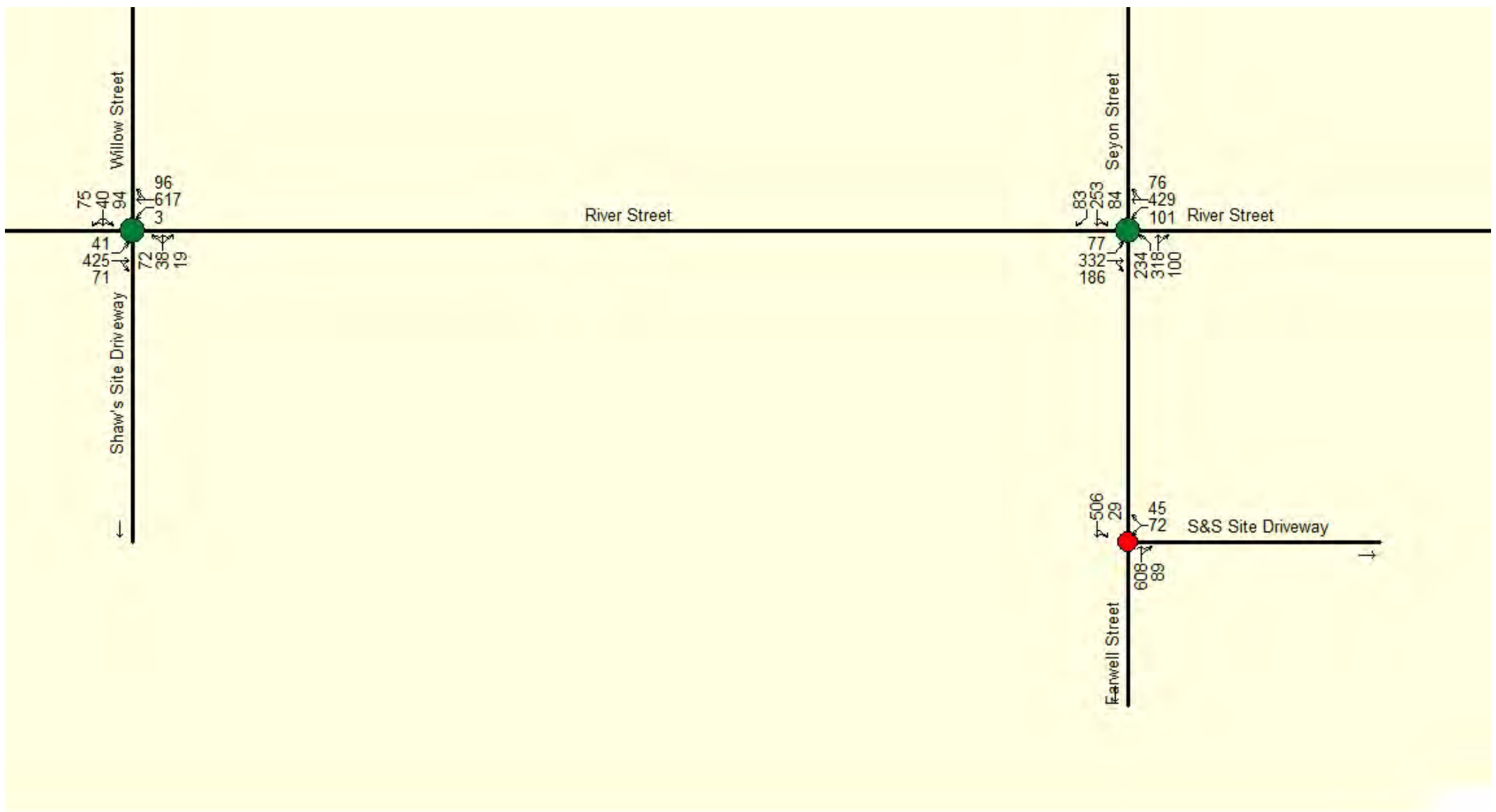
2010 Existing
Weekday AM Peak Hour



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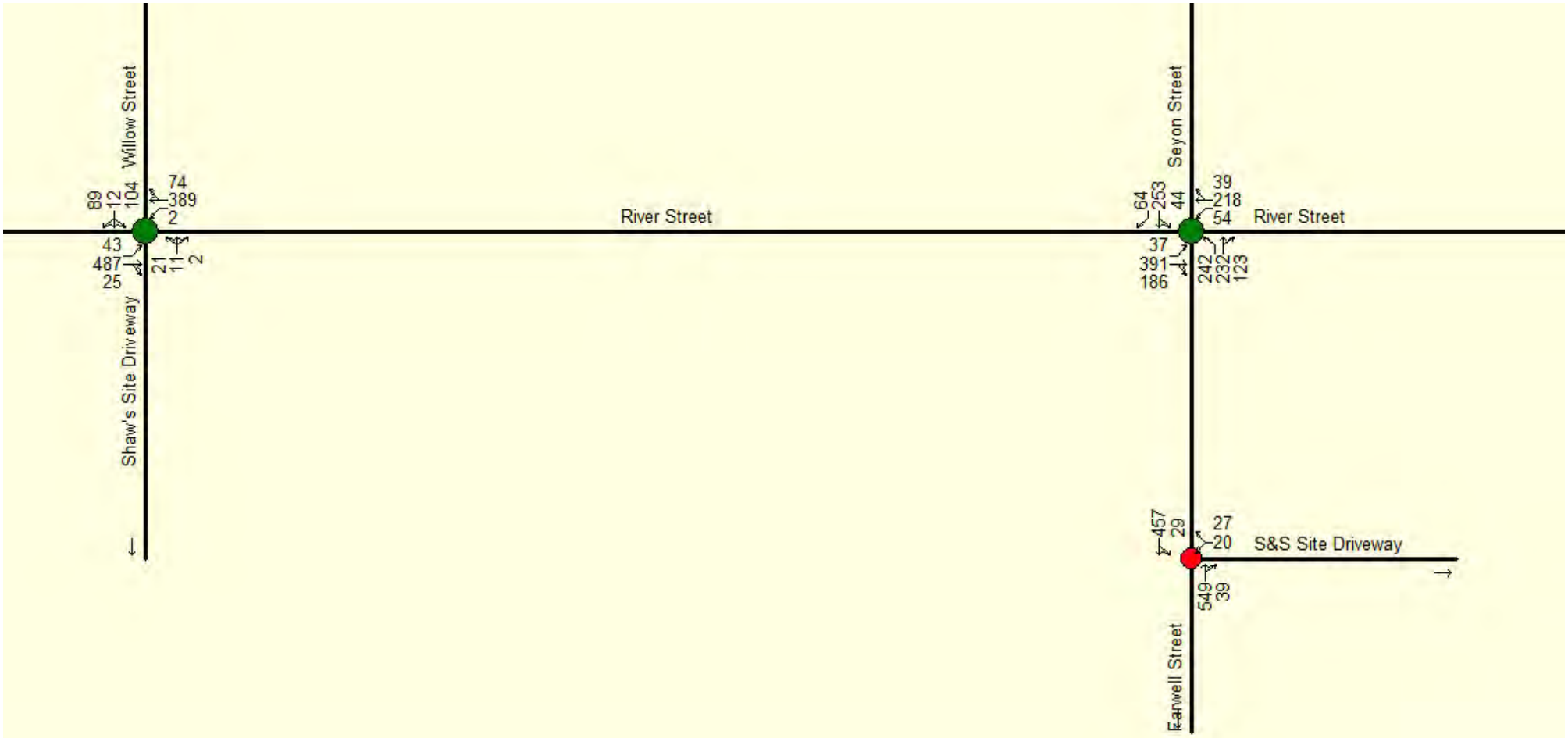
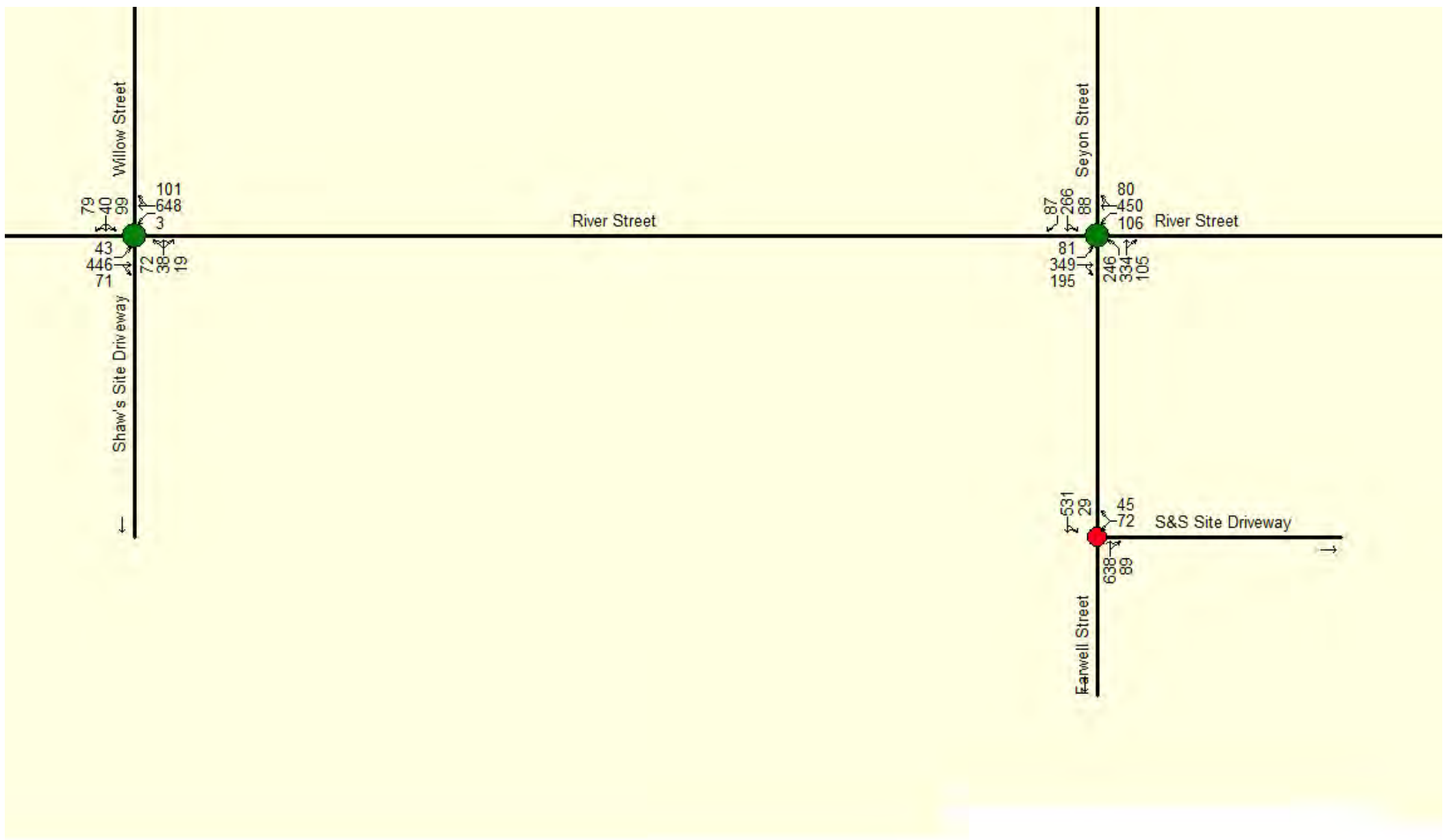
2010 Existing
Weekday PM Peak Hour



1422 Saracen

2015 No Build
Weekday AM Peak Hour



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2015 No Build
Weekday PM Peak Hour

Build Condition

The transportation conditions expected in the study area in 2015 with the development of the site were determined. The anticipated traffic generated from the proposed development was calculated and added to the 2015 No Build condition traffic volumes to determine the 2015 Build condition traffic volumes.

As mentioned previously, the proposed development consists of 200 units of residential apartments. Access to and egress from the site will be provided via a realigned Stop & Shop ROW (ROW Site Driveway) and an egress only driveway onto River Street on the east end of the proposed site (Egress Site Driveway).

The existing Stop & Shop ROW alignment will be modified to provide access to the proposed site while still providing full access to the Stop & Shop site. The realignment will move the intersection with Farwell Street approximately 80 feet to the south. As part of the realignment the six curb cuts on both sides of the ROW will be closed and there will only be three curb cuts on the north side and none on the south side. The relocation is also favorable because it pulls this intersection further away from the signalized intersection of River Street at Farwell Street; however, it decreases the amount of sight distance available due to the vertical crest in Farwell Street as it crosses the Charles River (Sight Distance discussed on Page 5).

Trip Generation

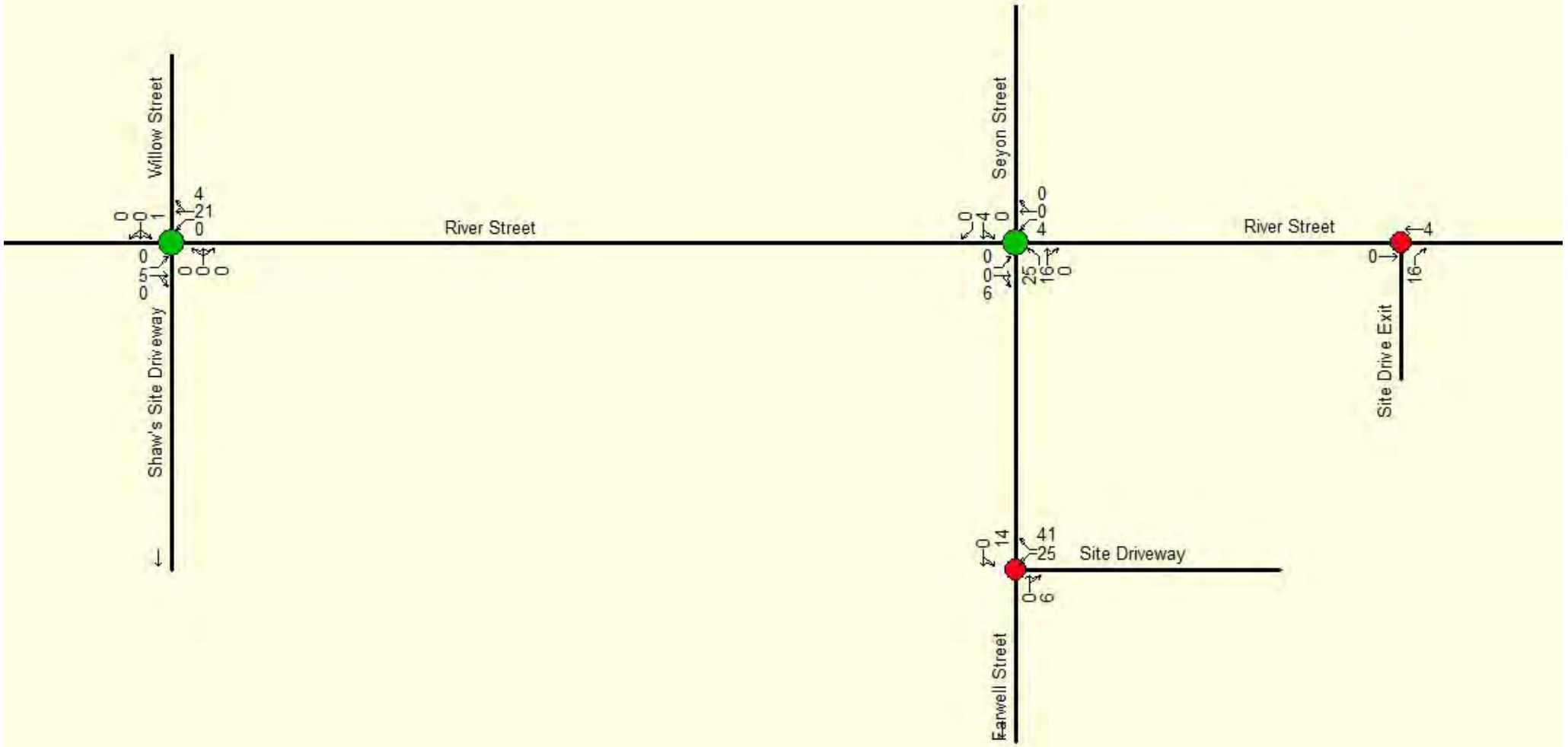
As per industry standard, Conley Associates, Inc. determined the trip generation of the proposed use based on the Institute of Transportation Engineer's (ITE) manual, Trip Generation, 8th Edition, 2008. Land Use Code (LUC) 220, Apartment was used in order to determine the trip generation of the proposed use. The trip generation of the proposed use is summarized in Table 1.

Table 1: ITE Trip Generation Summary[1]

	In	Out	Total
Weekday Daily	665	665	1,330
Weekday AM Peak Hour	20	82	102
Weekday PM Peak Hour	81	43	124

1. Trip generation based on Trip Generation, 8th Edition, published by Institute of Transportation Engineers, 2008. Assumes 200 units of ITE LUC 220, Apartments.

As shown in Table 1, the proposed development is expected to generate 1,330 vehicle trips during the course of a typical weekday. During the weekday AM peak hour the proposed development is expected to generate 102 vehicle trips (20 trips in and 82 trips out). During the weekday PM peak hour the proposed development is expected to generate 124 vehicle trips (81 trips in and 43 trips out). The ITE trip generation data can be found in the Appendix.



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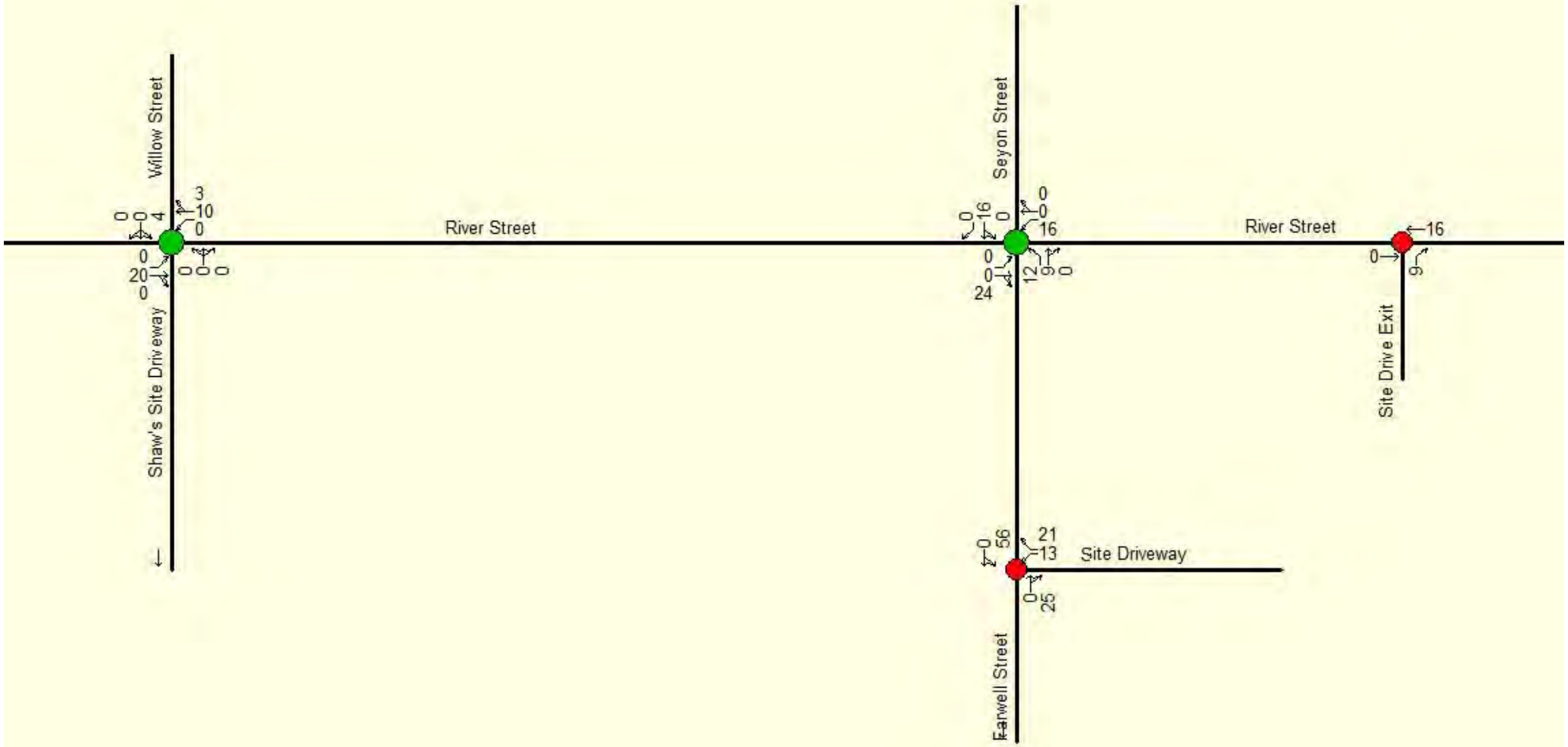
2015 Trip Generation
Weekday AM Peak Hour



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2015 Trip Generation
Weekday PM Peak Hour

Trip Distribution

The trip generation generated by the development was distributed through the study area based on existing traffic patterns and engineering judgment based on known "Journey to Work" travel routes in the area. Table 2 summarizes the trip distribution expected for the site generated trips.

Table 2: Trip Distribution

Direction	Percentage
To/From the East on River Street	20
To/From the South on Farwell Street	30
To/From the West on River Street	30
To/From the North on Seyon Street	20

As shown in Table 2, approximately 20 percent of the site trips are expected to be oriented to and from points east on River Street towards Watertown. Thirty percent of the trips are expected to be oriented to and from points south along Farwell Street towards Newton. The remaining 50 percent of the site trips are expected to be oriented to and from points through Waltham with 30 percent expected to utilize River Street to the west of the site and 20 percent expected to utilize Seyon Street to the north.

Mass Transit

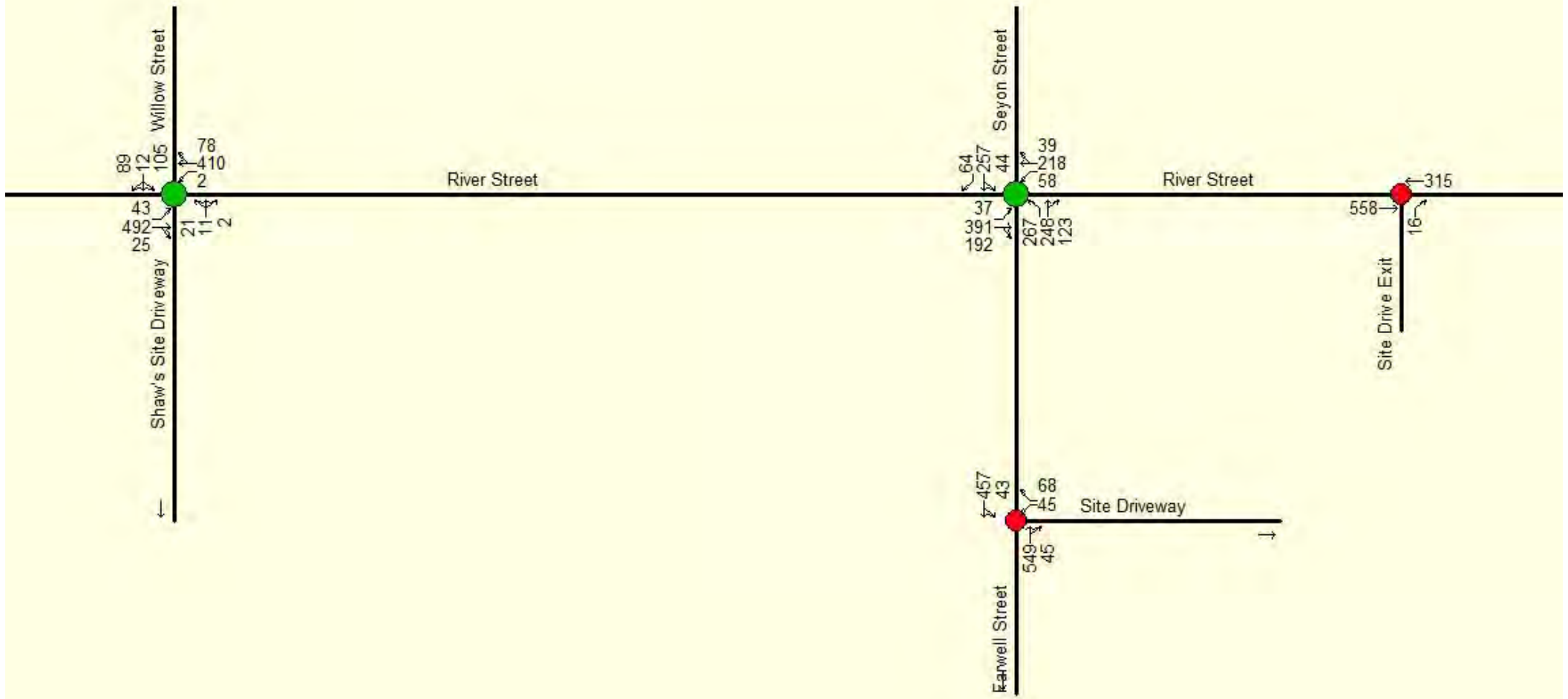
The MBTA runs several bus lines in the vicinity of the proposed project. Route 558 travels along River Street and there is a bus stop located adjacent to the proposed development. In addition Routes 70 and 70A travel along Main Street to the north and Route 556 runs to the south in Newton. Although there are several viable bus routes in and near the study area, Conley Associates, Inc. has assumed for the purposes of this study that all of the traffic generated by the proposed site will use personal vehicles and not use mass transit. This will result in a conservatively high vehicle trip generation for the proposed development.

Build Traffic Volumes

The expected trip generation associated with proposed development was added to the 2015 No Build peak hour traffic volumes to determine the 2015 Build condition peak hour traffic volumes. The 2015 Build weekday AM and weekday PM peak hour traffic volumes can be found in the Appendix.

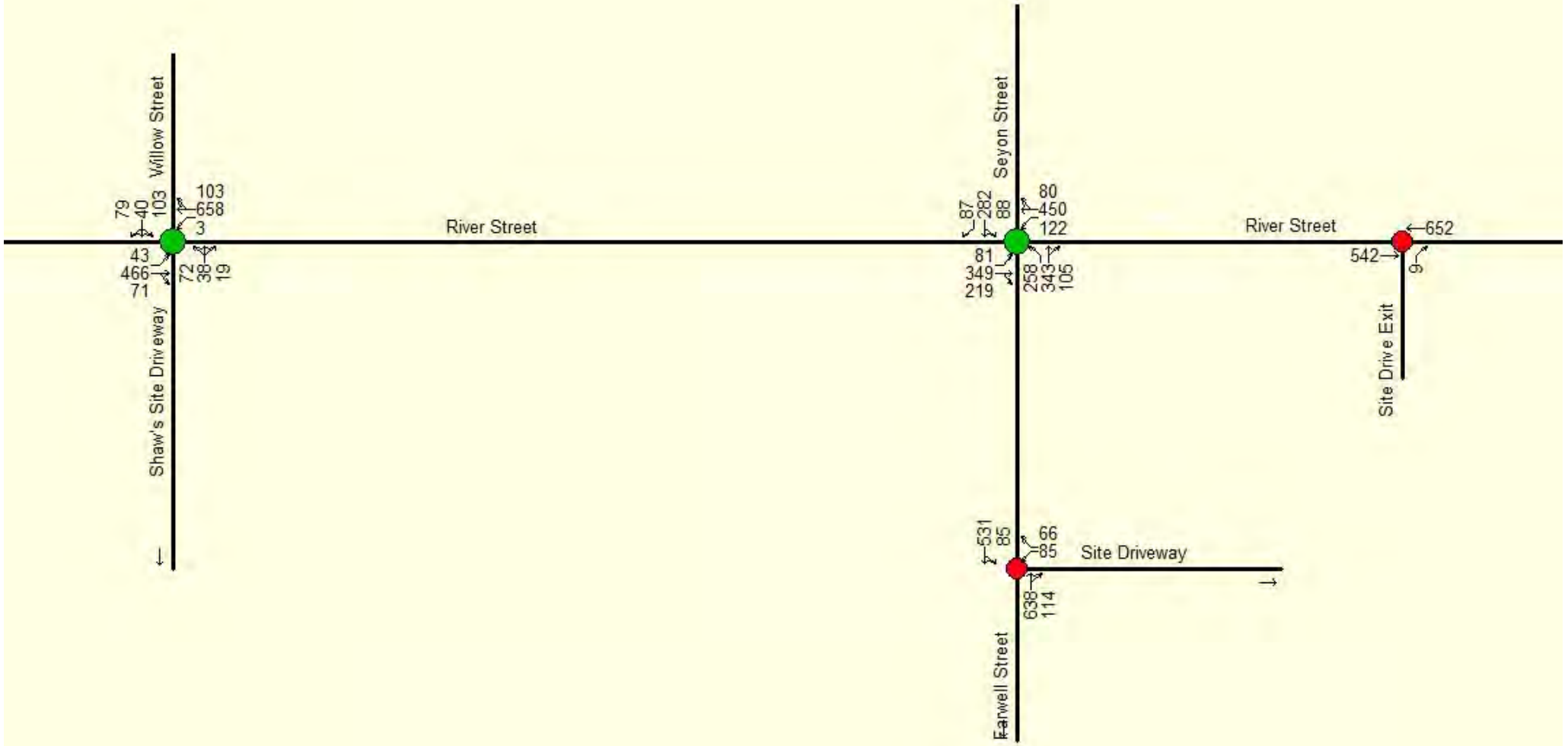
Sight Distance

As discussed previously, the existing Stop & Shop ROW will be relocated as part of the proposed development. The new intersection with Farwell Street will be approximately 80 feet south of the existing intersection.



1422 Saracen

2015 Build
Weekday AM Peak Hour



1422 Saracen

2015 Build
Weekday PM Peak Hour

In order to determine if vehicles will be able to safely exit the ROW Site Driveway onto Farwell Street, Conley Associates, Inc. calculated the appropriate Stopping Sight Distance (SSD). SSD is the distance needed for an approaching motorist to perceive an obstruction ahead and be able to stop prior to reaching the obstruction. The minimum SSD at an intersection is a requirement necessary to determine the safety of an intersection as outlined in A Policy on Geometric Design of Highways and Streets, 5th Edition.

Conley Associates, Inc. collected speed data along Farwell Street in the vicinity of the modified easement location. Currently, the 85th percentile speed, or the speed 85 percent of vehicles are traveling at or below, is 33 mph in the northbound direction (from Newton) and 32 mph in the southbound direction (from River Street). The minimum SSD required is 200 feet for a roadway with a 30 mph 85th percentile speed and 250 feet for a roadway with a 35 mph 85th percentile speed. The speed data can be found attached to this memorandum.

The available sight distances at the relocated ROW were measured. There was found to be approximately 280 feet of available sight distance as motorists approach from the south (from Newton) due to the crest in the roadway as it crosses the Charles River. This distance is greater than the minimum requirement for SSD. The available sight distance from the north is through the River Street intersection, which will be approximately 360 feet away. As with the approach from the south, this distance is greater than the minimum SSD requirement.

None of the other existing or proposed study area intersections were found to have restricted sight distances. The complete SSD data can be found in the Appendix.

Traffic Operations Analysis

The traffic operations of the study area intersections were determined. Analysis was based on methodologies outlined in the Highway Capacity Manual (HCM). Level of Service (LOS) and delays were calculated and are summarized below.

Level of Service

Level of service (LOS) is a calculation of control delay for an intersection. LOS is an indication of driver discomfort, frustration, fuel consumption, and lost time. LOS is defined by an index from A (free flow) to F (long delays). LOS control delay values are given in Table 3.

Signalized intersection analysis is based upon the capacity of each lane group and the correlating control delay associated with the intersection. Capacity is a measurement of the ability of an intersection design to accommodate all movements within the intersection and is a function of physical geometry and signalization conditions. Delay is the measure of the user quality of the capacity conditions that exist.

For unsignalized intersections, delay values apply only to the controlled movements, since the main street movements are not restricted. Control delay is the elapsed time for deceleration,

queue time, stopped delay, and final acceleration. Average control delay for unsignalized intersections is a function of the capacity of the approach and the degree of saturation.

Table 3: Level of Service Criteria

	Average Delay (seconds)	
Level of Service	**Unsignalized Intersections**	**Signalized Intersections**
A	≤ 10	≤ 10
B	>10 and ≤15	>10 and ≤ 20
C	>15 and ≤ 25	>20 and ≤ 35
D	>25 and ≤ 35	>35 and ≤ 55
E	>35 and ≤ 50	>55 and ≤ 80
F	>50	>80

Source: 2000 Highway Capacity Manual

Synchro 6 software was used as the analysis tool for determining the unsignalized LOS at the study area intersections. Synchro implements the methods of the 2000 Highway Capacity Manual to analyze intersection capacity and determine Level of Service.

Intersection Operations Analysis

The level of service procedures described above were used to determine peak hour operating levels of service at the study area intersections. Table 4 shows the LOS, average delay per vehicle, v/c ratio, and 95th percentile queue length for each movement approaching the signalized intersections during the weekday AM peak hour.

Table 4: Weekday AM Peak Hour Signalized Intersections LOS Summary

	2010 Existing				2015 No Build				2015 Build			
	LOS[1]	Delay[2]	v/c[3]	95[4]	LOS	Delay	v/c	95th	LOS	Delay	v/c	95th
River Street at Farwell Street and Seyon Street												
EB-L	B	10.7	.08	23	B	10.7	.09	24	B	10.6	.09	24
EB-T/R	C	33.8	.83	469	D	37.7	.87	505	D	43.6	.91	512
WB-L	B	12.2	.20	30	B	12.4	.21	31	B	11.7	.22	32
WB-T/R	B	18.9	.36	155	B	19.2	.37	162	B	18.7	.36	162
NB-L	D	39.1	.79	198	D	44.0	.83	215	E	65.0	.95	250
NB-T/R	B	19.4	.48	208	B	19.9	.51	220	C	21.8	.55	233
SB-L/T	D	51.5	.85	295	E	69.0	.95	335	E	70.0	.95	34
SB-R	A	8.3	.17	29	A	8.2	.17	30	A	8.2	.18	30
OVERALL	C	30.9	N/A		D	36.0	N/A		D	40.8	N/A	
River Street at Willow Street and the Shaw's Site Driveway												
EB-L	A	5.6	.10	18	A	5.8	.11	19	A	5.9	.12	19
EB-T/R	A	9.9	.46	292	B	10.4	.48	311	B	10.5	.49	316
WB-L	A	6.5	.01	2	A	6.5	.01	2	A	6.5	.01	2
WB-T/R	B	12.7	.45	244	B	13.3	.48	262	B	13.8	.51	283
NB-L/T/R	C	23.9	.11	35	C	23.7	.14	35	C	23.7	.14	35
SB-L/T/R	C	31.7	.50	149	C	32.5	.66	156	C	32.5	.66	157
OVERALL	B	14.8	N/A		B	15.3	N/A		B	15.5	N/A	

1. LOS = Level of Service.
2. Delay is measured in seconds per vehicle.
3. v/c = volume to capacity ratio
4. 95th percentile queue measured in feet.

As shown in Table 4, the signalized intersection of River Street at Farwell Street and Seyon Street is currently operating at LOS C during the weekday AM peak hour. This intersection is expected to degrade to LOS D due to the growth rate that was utilized to determine the future condition. The proposed development would not be expected to cause a degradation in LOS during the weekday AM peak hour.

The signalized intersection of River Street at Willow Street and the Shaw's Site Driveway is currently operating at LOS B during the weekday AM peak hour. It is expected to continue to operate at LOS B in the future, both with and without the proposed development. The proposed development is not expected to cause a degradation in LOS during the weekday AM peak hour. Table 5 shows the LOS, average delay per vehicle, v/c ratio, and 95th percentile queue length for each movement approaching the signalized intersections during the weekday PM peak hour.

Table 5: Weekday PM Peak Hour Signalized Intersections LOS Summary

	2010 Existing				2015 No Build				2015 Build			
	LOS	**Delay**	**v/c**	**95th**	**LOS**	**Delay**	**v/c**	**95th**	**LOS**	**Delay**	**v/c**	**95th**
River Street at Farwell Street and Seyon Street												
EB-L	B	16.0	.32	49	B	16.2	.33	51	B	16.2	.33	51
EB-T/R	E	72.1	1.02	506	F	87.9	1.07	543	F	119.3	1.16	574
WB-L	B	17.7	.40	61	B	18.2	.42	64	B	18.8	.47	72
WB-T/R	E	59.1	.96	496	E	70.6	1.01	532	E	56.3	.95	532
NB-L	D	43.5	.85	210	D	52.7	.90	232	E	70.6	.98	248
NB-T/R	B	19.0	.55	253	B	19.6	.58	270	C	21.0	.61	278
SB-L/T	F	88.0	1.03	372	F	147.5	1.20	415	F	206.2	1.35	441
SB-R	A	6.4	.17	33	A	6.3	.18	33	A	6.3	.18	33
OVERALL	D	52.2	N/A		E	68.2	N/A		F	83.4	N/A	
River Street at Willow Street and the Shaw's Site Driveway												
EB-L	A	5.7	.15	15	A	5.8	.16	15	A	5.8	.16	15
EB-T/R	A	8.9	.44	248	A	9.3	.46	263	A	9.6	.49	278
WB-L	A	5.3	.01	3	A	5.3	.01	3	A	5.3	.01	3
WB-T/R	B	17.0	.70	429	B	18.7	.74	472	B	19.5	.75	503
NB-L/T/R	D	36.5	.56	121	D	35.9	.55	121	D	35.3	.54	121
SB-L/T/R	D	42.1	.74	206	D	43.3	.75	222	D	43.8	.76	227
OVERALL	B	19.1	N/A		C	20.1	N/A		C	20.4	N/A	

As shown in Table 5, the signalized intersection of River Street at Farwell Street and Seyon Street is currently operating at LOS D during the weekday PM peak hour. This intersection is expected to degrade to LOS E due to the growth rate that was utilized and LOS F due to the trips associated with the proposed development.

The signalized intersection of River Street at Willow Street and the Shaw's Site Driveway is currently operating at LOS B during the weekday PM peak hour. It is expected to degrade to LOS C due to the applied growth rate in the 2015 No Build condition. Table 6 summarizes the LOS, average delay per vehicle, v/c ratio, and 95th percentile queue for the stop controlled approaches at the unsignalized study area intersections.

Table 6: Unsignalized Intersections LOS Summary

	2010 Existing				2015 No Build				2015 Build			
	LOS	**Delay**	**v/c**	**95th**	**LOS**	**Delay**	**v/c**	**95th**	**LOS**	**Delay**	**v/c**	**95th**
Farwell Street at the Stop & Shop ROW (WB-L/R ROW Approach)												
AM	C	22.6	.29	30	C	24.7	.32	33	N/A			
PM	F	81.6	.83	145	F	110.4	.93	170	N/A			
Farwell Street at the ROW Site Driveway (WB-R Site Driveway Approach)												
AM	N/A				N/A				C	15.1	.04	3
PM	N/A				N/A				B	12.2	.02	1
Farwell Street at the ROW Site Driveway (WB-L Site Driveway Approach)												
AM	N/A				N/A				C	16.2	.53	65
PM	N/A				N/A				F	316.6	1.36	209
River Street at the Egress Site Driveway (NB-R Site Driveway Approach)												
AM	N/A				N/A				B	13.5	.04	3
PM	N/A				N/A				B	12.2	.02	1

The Egress Site Driveway approach to River Street is expected to operate at LOS B during both peak hours. During the weekday AM peak hour, the Stop & Shop ROW approach to Farwell Street is currently operating a LOS C and is expected to operate at LOS D in the 2015 No Build condition. During the weekday PM peak hour, the Stop & Shop ROW approach to Farwell Street is currently operating at unacceptable Levels of Service and is expected to operate with increased delays in the 2015 No Build condition.

As with the 2015 No Build condition during the weekday PM peak hour, the ROW Site Driveway approach to Farwell Street was analyzed to operate with lengthy delays. The ROW currently provides access to the Stop & Shop as well as the parking lots that are used by a car dealership and school bus parking. These two parking lots will no longer exist and the traffic in and out of this ROW is expected to drastically reduce without the lots as it would primarily only be used by Stop & Shop deliveries. However, Conley Associates, Inc. did not remove the trips associated with the parking spaces. Therefore, it is not likely that the lengthy delays analyzed will be experienced during the weekday PM peak hour in the 2015 Build condition. In fact, during the weekday PM peak hour, the ROW Site Driveway approach to Farwell Street would be expected to operate with only 26 seconds of delay per vehicle if only the proposed site related trips were egressing.

Mitigation

Due to the negative impact the proposed development is expected to have on the operations of the River Street at Farwell Street and Seyon Street during the weekday PM peak hour, Conley Associates, Inc. has investigated potential measures to alleviate the impact.

Three of the approaches to this intersection operate with a left turn lane advance. The Seyon Street roadway width is approximately 35 feet wide with 21 feet of roadway for the southbound approach between the curbing and double yellow centerline. A left turn lane and a shared through and right turn lane could be accommodated within this space. However, the southbound approach does not currently have the signal equipment to permit a left turn advance. The proponent has agreed to fund the restriping of the roadway along with the signal equipment upgrades necessary to accommodate a southbound left turn advance. Through the updating of the southbound approach signal equipment and retiming of the intersection to allow southbound left turn protected movements this intersection would be expected to operate at LOS D with less than 50 seconds of delay during both the weekday AM and weekday PM peak hours in the 2015 Build condition.

Conclusion

Conley Associates, Inc. has analyzed the traffic impacts of the development of the proposed residential development on the southeast corner of the intersection of River Street at Farwell Street in Waltham, Massachusetts. The proposed development is expected to generate approximately 102 vehicle trips (20 trips in and 82 trips out) during the weekday AM peak hour. During the weekday PM peak hour the development is expected to generate 124 trips (81 trips in and 43 trips out). The intersection operations analysis shows the signalized study area intersections are currently operating at acceptable Levels of Service and will continue to operate at acceptable Levels of Service with the implementation of the proposed mitigation.

PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
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Email: datarequests@pdillc.com

Pleasant Street between
Farwell Street and Repton Street
City,State: Watertown, MA
Client: Conley Associates/ B. Beisel

102298 A Volume
Site Code: TBA

Start	EB				WB				Combined				14-Sep-10
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Tue
12:00	7		95		12		100		19		195		
12:15	3		97		9		113		12		210		
12:30	7		119		9		100		16		219		
12:45	5	22	102	413	7	37	111	424	12	59	213	837	
01:00	1		91		4		124		5		215		
01:15	4		115		2		93		6		208		
01:30	5		100		5		87		10		187		
01:45	4	14	89	395	1	12	87	391	5	26	176	786	
02:00	3		112		3		100		6		212		
02:15	3		91		3		107		6		198		
02:30	1		89		1		101		2		190		
02:45	7	14	96	388	3	10	122	430	10	24	218	818	
03:00	2		86		4		119		6		205		
03:15	3		91		4		122		7		213		
03:30	2		104		5		116		7		220		
03:45	4	11	102	383	4	17	119	476	8	28	221	859	
04:00	4		93		6		135		10		228		
04:15	2		89		7		131		9		220		
04:30	11		124		3		113		14		237		
04:45	14	31	117	423	6	22	117	496	20	53	234	919	
05:00	15		84		6		129		21		213		
05:15	20		114		5		145		25		259		
05:30	13		125		12		111		25		236		
05:45	42	90	84	407	21	44	155	540	63	134	239	947	
06:00	32		116		17		138		49		254		
06:15	57		132		21		111		78		243		
06:30	71		119		43		119		114		238		
06:45	83	243	93	460	43	124	109	477	126	367	202	937	
07:00	94		97		37		118		131		215		
07:15	108		83		44		91		152		174		
07:30	113		74		60		91		173		165		
07:45	118	433	72	326	50	191	70	370	168	624	142	696	
08:00	142		59		72		55		214		114		
08:15	144		58		79		57		223		115		
08:30	89		48		72		58		161		106		
08:45	125	500	52	217	66	289	30	200	191	789	82	417	
09:00	102		43		63		55		165		98		
09:15	85		32		61		29		146		61		
09:30	96		35		76		34		172		69		
09:45	91	374	32	142	72	272	36	154	163	646	68	296	
10:00	91		21		74		40		165		61		
10:15	101		28		80		40		181		68		
10:30	95		17		85		18		180		35		
10:45	95	382	11	77	76	315	21	119	171	697	32	196	
11:00	89		16		81		22		170		38		
11:15	95		14		78		21		173		35		
11:30	80		15		86		22		166		37		
11:45	95	359	11	56	110	355	12	77	205	714	23	133	
Total	2473		3687		1688		4154		4161		7841		
Percent	59.4%		47.0%		40.6%		53.0%						
Day Total		6160				5842				12002			
Peak	07:30		06:00		11:00		05:15		08:00		05:15		
Vol.	517		460		355		549		789		988		
P.H.F.	0.898		0.871		0.807		0.885		0.885		0.954		

PRECISION
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Pleasant Street between
Farwell Street and Repton Street
City,State: Watertown, MA
Client: Conley Associates/ B. Beisel

102298 A Speed
Site Code: TBA

EB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
9/14/1																
0	0	0	2	3	11	6	0	0	0	0	0	0	0	22	36	32
01:00	0	**2**	1	4	5	1	1	0	0	0	0	0	0	14	34	29
02:00	0	0	2	6	5	0	1	0	0	0	0	0	0	14	33	29
03:00	0	0	0	4	4	2	0	0	**1**	0	0	0	0	11	35	32
04:00	0	0	1	8	15	6	1	0	0	0	0	0	0	31	35	32
05:00	1	0	8	42	32	4	3	0	0	0	0	0	0	90	33	29
06:00	3	1	19	100	99	19	2	0	0	0	0	0	0	243	34	29
07:00	**13**	0	5	132	**213**	**62**	**8**	0	0	0	0	0	0	433	35	30
08:00	13	2	**23**	**197**	202	60	2	**1**	0	0	0	0	0	**500**	34	30
09:00	10	2	23	145	151	42	1	0	0	0	0	0	0	374	34	29
10:00	15	2	52	155	134	22	2	0	0	0	0	0	0	382	33	28
11:00	17	1	29	147	136	**27**	2	0	0	0	0	0	0	359	34	28
12 PM	**27**	1	**36**	169	**156**	24	0	0	0	0	0	0	0	**413**	33	28
13:00	19	0	31	**203**	113	26	**3**	0	0	0	0	0	0	395	33	28
14:00	25	**4**	34	163	138	22	0	**2**	0	0	0	0	0	388	33	28
15:00	37	6	41	170	114	13	**2**	0	0	0	0	0	0	383	33	26
16:00	41	**12**	36	171	135	**26**	1	**1**	0	0	0	0	0	423	33	27
17:00	**56**	3	26	162	135	25	0	0	0	0	0	0	0	407	33	26
18:00	30	1	39	**208**	**155**	26	1	0	0	0	0	0	0	**460**	33	28
19:00	13	4	**46**	139	106	18	0	0	0	0	0	0	0	326	33	28
20:00	10	0	12	94	83	17	1	0	0	0	0	0	0	217	34	28
21:00	5	0	12	60	50	15	0	0	0	0	0	0	0	142	34	29
22:00	3	4	4	27	27	11	1	0	0	0	0	0	0	77	34	29
23:00	2	0	5	18	21	8	2	0	0	0	0	0	0	56	35	29
Total	340	45	487	2527	2240	482	34	4	1	0	0	0	0	6160		
%	5.5%	0.7%	7.9%	41.0%	36.4%	7.8%	0.6%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	07:00	01:00	08:00	08:00	07:00	07:00	07:00	08:00	03:00					08:00		
Vol.	13	2	23	197	213	62	8	1	1					500		
Midday Peak	12:00	14:00	12:00	13:00	12:00	11:00	13:00	14:00						12:00		
Vol.	27	4	36	203	156	27	3	2						413		
PM Peak	17:00	16:00	19:00	18:00	18:00	16:00	15:00	16:00						18:00		
Vol.	56	12	46	208	155	26	2	1						460		

% iles

15th Percentile : 25 MPH
50th Percentile : 29 MPH
85th Percentile : 34 MPH
95th Percentile : 37 MPH

Stats

10 MPH Pace Speed : 25-34 MPH
Number in Pace : 4767
Percent in Pace : 77.4%
Number of Vehicles > 30 MPH : 2313
Percent of Vehicles > 30 MPH : 37.5%
Mean Speed(Average) : 28 MPH

PRECISION
D A T A
INDUSTRIES, LLC
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Pleasant Street between
Farwell Street and Repton Street
City,State: Watertown, MA
Client: Conley Associates/ B. Beisel

102298 A Speed
Site Code: TBA

WB

Start	1	15	20	25	30	35	40	45	50	55	60	65	70	Total	85th	Ave
Time	14	19	24	29	34	39	44	49	54	59	64	69	9999		% ile	Speed
9/14/1																
0	0	0	4	20	10	3	0	0	0	0	0	0	0	37	33	29
01:00	0	0	0	9	1	1	1	0	0	0	0	0	0	12	34	30
02:00	0	2	2	3	2	1	0	0	0	0	0	0	0	10	30	26
03:00	1	1	0	5	6	2	**2**	0	0	0	0	0	0	17	38	30
04:00	2	0	4	11	4	1	0	0	0	0	0	0	0	22	31	25
05:00	1	0	3	24	13	2	1	0	0	0	0	0	0	44	32	28
06:00	6	2	8	56	41	9	2	0	0	0	0	0	0	124	33	28
07:00	12	3	26	80	60	10	0	0	0	0	0	0	0	191	33	27
08:00	**19**	5	**71**	**127**	62	5	0	0	0	0	0	0	0	**289**	31	25
09:00	8	**11**	56	109	**76**	**12**	0	0	0	0	0	0	0	272	33	27
10:00	14	5	80	147	60	8	1	0	0	0	0	0	0	315	31	26
11:00	32	9	130	137	42	**5**	0	0	0	0	0	0	0	355	29	24
12 PM	37	**48**	**160**	141	37	1	0	0	0	0	0	0	0	424	29	23
13:00	31	24	128	**161**	44	3	0	0	0	0	0	0	0	391	29	24
14:00	**41**	27	147	153	**57**	3	**1**	0	0	0	**1**	0	0	**430**	29	24
15:00	78	42	154	**160**	38	4	0	0	0	0	0	0	0	476	29	22
16:00	79	77	167	149	23	1	0	0	0	0	0	0	0	496	28	21
17:00	**131**	**100**	155	127	25	2	0	0	0	0	0	0	0	**540**	27	19
18:00	44	42	**190**	156	41	3	**1**	0	0	0	0	0	0	477	29	23
19:00	19	24	140	147	35	5	0	0	0	0	0	0	0	370	29	24
20:00	7	3	43	107	27	**11**	1	0	**1**	0	0	0	0	200	31	26
21:00	2	0	18	85	**47**	2	0	0	0	0	0	0	0	154	32	28
22:00	5	1	10	57	42	3	0	**1**	0	0	0	0	0	119	33	28
23:00	2	0	10	34	24	6	1	0	0	0	0	0	0	77	33	28
Total	571	426	1706	2205	817	103	11	1	1	0	1	0	0	5842		
%	9.8%	7.3%	29.2%	37.7%	14.0%	1.8%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	09:00	08:00	08:00	09:00	09:00	03:00							08:00		
Vol.	19	11	71	127	76	12	2							289		
Midday Peak	14:00	12:00	12:00	13:00	14:00	11:00	14:00				14:00			14:00		
Vol.	41	48	160	161	57	5	1				1			430		
PM Peak	17:00	17:00	18:00	15:00	21:00	20:00	18:00	22:00	20:00					17:00		
Vol.	131	100	190	160	47	11	1	1	1					540		

% iles

15th Percentile :	18 MPH
50th Percentile :	25 MPH
85th Percentile :	30 MPH
95th Percentile :	33 MPH

Stats

10 MPH Pace Speed :	20-29 MPH
Number in Pace :	3911
Percent in Pace :	66.9%
Number of Vehicles > 30 MPH :	770
Percent of Vehicles > 30 MPH :	13.2%
Mean Speed(Average) :	24 MPH

PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
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Farwell Street south of
Stop & Shop Driveway
City,State: Waltham, MA
Client: Conley Associates/ B. Beisel

102298 BB Volume
Site Code: TBA

Start	NB				SB				Combined				20-Sep-10
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Mon
12:00	4		97		3		75		7		172		
12:15	9		106		5		84		14		190		
12:30	8		89		5		81		13		170		
12:45	3	24	106	398	4	17	87	327	7	41	193	725	
01:00	5		106		3		84		8		190		
01:15	5		108		1		89		6		197		
01:30	1		103		2		105		3		208		
01:45	3	14	119	436	0	6	72	350	3	20	191	786	
02:00	4		127		2		90		6		217		
02:15	4		117		2		86		6		203		
02:30	0		140		1		98		1		238		
02:45	1	9	103	487	3	8	100	374	4	17	203	861	
03:00	1		133		1		114		2		247		
03:15	1		156		0		89		1		245		
03:30	2		137		0		84		2		221		
03:45	0	4	129	555	0	1	107	394	0	5	236	949	
04:00	1		153		0		120		1		273		
04:15	2		155		2		101		4		256		
04:30	6		163		3		129		9		292		
04:45	9	18	164	635	4	9	105	455	13	27	269	1090	
05:00	19		170		6		105		25		275		
05:15	22		174		8		117		30		291		
05:30	21		174		14		127		35		301		
05:45	22	84	141	659	23	51	121	470	45	135	262	1129	
06:00	42		176		32		112		74		288		
06:15	44		181		31		107		75		288		
06:30	68		128		38		122		106		250		
06:45	67	221	146	631	72	173	88	429	139	394	234	1060	
07:00	97		118		81		106		178		224		
07:15	96		112		84		88		180		200		
07:30	110		110		101		71		211		181		
07:45	109	412	97	437	99	365	86	351	208	777	183	788	
08:00	140		69		99		60		239		129		
08:15	119		66		133		80		252		146		
08:30	147		56		121		54		268		110		
08:45	158	564	55	246	110	463	53	247	268	1027	108	493	
09:00	133		42		86		44		219		86		
09:15	130		50		86		49		216		99		
09:30	95		53		69		22		164		75		
09:45	105	463	42	187	70	311	24	139	175	774	66	326	
10:00	114		29		72		32		186		61		
10:15	97		26		61		15		158		41		
10:30	88		29		73		19		161		48		
10:45	115	414	29	113	97	303	15	81	212	717	44	194	
11:00	103		13		82		21		185		34		
11:15	96		25		79		18		175		43		
11:30	118		15		105		10		223		25		
11:45	112	429	17	70	91	357	7	56	203	786	24	126	
Total	2656		4854		2064		3673		4720		8527		
Percent	56.3%		56.9%		43.7%		43.1%						
Day Total		7510				5737				13247			
Peak	08:30		04:45		08:00		05:15		08:00		05:15		
Vol.	568		682		463		477		1027		1142		
P.H.F.	0.899		0.980		0.870		0.939		0.958		0.949		

PRECISION
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Farwell Street south of
Stop & Shop Driveway
City,State: Waltham, MA
Client: Conley Associates/ B. Beisel

102298 BB Speed
Site Code: TBA

NB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
9/20/1																
0	0	0	2	4	13	4	1	0	0	0	0	0	0	24	35	32
01:00	0	0	1	3	7	1	2	0	0	0	0	0	0	14	39	32
02:00	0	0	0	6	3	0	0	0	0	0	0	0	0	9	31	28
03:00	0	1	1	1	0	0	1	0	0	0	0	0	0	4	25	27
04:00	0	0	2	3	7	5	0	**1**	0	0	0	0	0	18	37	32
05:00	0	3	10	23	37	9	1	1	0	0	0	0	0	84	34	30
06:00	0	5	35	88	69	20	4	0	0	0	0	0	0	221	34	29
07:00	1	6	43	180	144	35	3	0	0	0	0	0	0	412	34	29
08:00	**5**	**18**	**102**	**258**	**150**	23	**8**	0	0	0	0	0	0	**564**	33	28
09:00	0	14	82	212	118	**36**	1	0	0	0	0	0	0	463	33	28
10:00	0	9	90	193	99	21	2	0	0	0	0	0	0	414	32	27
11:00	1	7	73	184	**134**	**24**	**5**	**1**	0	0	0	0	0	429	33	28
12 PM	0	6	53	207	107	24	1	0	0	0	0	0	0	398	33	28
13:00	**3**	6	93	201	113	19	1	0	0	0	0	0	0	436	32	27
14:00	2	**8**	**103**	**247**	108	18	1	0	0	0	0	0	0	**487**	32	27
15:00	14	38	115	248	110	**28**	2	0	0	0	0	0	0	555	32	26
16:00	10	35	180	**295**	99	16	0	0	0	0	0	0	0	635	30	26
17:00	**36**	**75**	**246**	234	66	2	0	0	0	0	0	0	0	**659**	29	23
18:00	7	37	145	293	**128**	21	0	0	0	0	0	0	0	631	32	26
19:00	0	5	84	230	97	21	0	0	0	0	0	0	0	437	32	28
20:00	0	4	43	96	84	16	2	**1**	0	0	0	0	0	246	33	28
21:00	0	2	27	75	69	9	**5**	0	0	0	0	0	0	187	33	29
22:00	0	1	14	31	55	9	3	0	0	0	0	0	0	113	34	30
23:00	0	1	6	23	27	12	1	0	0	0	0	0	0	70	35	30
Total	79	281	1550	3335	1844	373	44	4	0	0	0	0	0	7510		
%	1.1%	3.7%	20.6%	44.4%	24.6%	5.0%	0.6%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	08:00	08:00	08:00	09:00	08:00	04:00						08:00		
Vol.	5	18	102	258	150	36	8	1						564		
Midday Peak	13:00	14:00	14:00	14:00	11:00	11:00	11:00	11:00						14:00		
Vol.	3	8	103	247	134	24	5	1						487		
PM Peak	17:00	17:00	17:00	16:00	18:00	15:00	21:00	20:00						17:00		
Vol.	36	75	246	295	128	28	5	1						659		

% iles

15th Percentile : 22 MPH
50th Percentile : 27 MPH
85th Percentile : 33 MPH
95th Percentile : 35 MPH

Stats

10 MPH Pace Speed : 25-34 MPH
Number in Pace : 5179
Percent in Pace : 69.0%
Number of Vehicles > 30 MPH : 1896
Percent of Vehicles > 30 MPH : 25.2%
Mean Speed(Average) : 27 MPH

PRECISION
D A T A
INDUSTRIES, LLC
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Email: datarequests@pdillc.com

Farwell Street south of
Stop & Shop Driveway
City,State: Waltham, MA
Client: Conley Associates/ B. Beisel

102298 BB Speed
Site Code: TBA

SB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
9/20/1																
0	0	1	2	7	5	1	**1**	0	0	0	0	0	0	17	33	29
01:00	0	0	0	4	2	0	0	0	0	0	0	0	0	6	30	28
02:00	0	0	0	0	6	2	0	0	0	0	0	0	0	8	35	33
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1	20	20
04:00	0	0	0	5	4	0	0	0	0	0	0	0	0	9	32	29
05:00	0	3	7	20	17	3	1	0	0	0	0	0	0	51	33	28
06:00	0	5	25	83	52	7	1	0	0	0	0	0	0	173	33	28
07:00	**1**	**13**	58	186	92	**14**	1	0	0	0	0	0	0	365	32	27
08:00	0	7	**88**	**247**	**110**	11	0	0	0	0	0	0	0	**463**	32	27
09:00	0	2	40	153	103	11	1	**1**	0	0	0	0	0	311	33	28
10:00	1	12	55	168	55	12	0	0	0	0	0	0	0	303	31	27
11:00	**1**	5	66	200	**76**	7	**2**	0	0	0	0	0	0	357	31	27
12 PM	0	5	51	200	67	3	0	**1**	0	0	0	0	0	327	31	27
13:00	0	5	70	196	76	2	1	0	0	0	0	0	0	350	31	27
14:00	0	**9**	**81**	**205**	68	**9**	2	0	0	0	0	0	0	**374**	31	27
15:00	0	9	63	**259**	55	8	0	0	0	0	0	0	0	394	30	27
16:00	0	8	**125**	249	68	4	**1**	0	0	0	0	0	0	455	30	26
17:00	**1**	7	114	257	88	3	0	0	0	0	0	0	0	**470**	31	27
18:00	0	**11**	73	245	**91**	**9**	0	0	0	0	0	0	0	429	31	27
19:00	0	0	60	217	72	2	0	0	0	0	0	0	0	351	31	27
20:00	0	1	63	142	37	4	0	0	0	0	0	0	0	247	30	27
21:00	0	1	27	78	29	3	1	0	0	0	0	0	0	139	31	27
22:00	0	1	15	36	25	3	1	0	0	0	0	0	0	81	33	28
23:00	0	0	9	25	21	1	0	0	0	0	0	0	0	56	33	28
Total	4	105	1093	3182	1219	119	13	2	0	0	0	0	0	5737		
%	0.1%	1.8%	19.1%	55.5%	21.2%	2.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	07:00	07:00	08:00	08:00	08:00	07:00	00:00	09:00						08:00		
Vol.	1	13	88	247	110	14	1	1						463		
Midday Peak	11:00	14:00	14:00	14:00	11:00	14:00	11:00	12:00						14:00		
Vol.	1	9	81	205	76	9	2	1						374		
PM Peak	17:00	18:00	16:00	15:00	18:00	18:00	16:00							17:00		
Vol.	1	11	125	259	91	9	1							470		

% iles	
15th Percentile :	23 MPH
50th Percentile :	27 MPH
85th Percentile :	32 MPH
95th Percentile :	34 MPH

Stats	
10 MPH Pace Speed :	25-34 MPH
Number in Pace :	4401
Percent in Pace :	76.7%
Number of Vehicles > 30 MPH :	1109
Percent of Vehicles > 30 MPH :	19.3%
Mean Speed(Average) :	27 MPH

PRECISION
D A T A
INDUSTRIES, LLC
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Email: datarequests@pdillc.com

N/S: Seyon Street/ Farwell Street
E/W: River Street
City, State: Waltham, MA
Client: Conley Associates/ B. Beisel

File Name : 102298 B
Site Code : TBA
Start Date : 9/14/2010
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Seyon Street From North			River Street From East			Farwell Street From South			River Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	5	64	11	3	27	6	25	43	40	39	65	2	330
07:15 AM	6	72	10	4	35	2	29	48	49	27	71	9	362
07:30 AM	9	70	18	6	47	7	19	49	45	40	86	5	401
07:45 AM	1	50	19	5	48	9	23	67	44	42	95	8	411
Total	21	256	58	18	157	24	96	207	178	148	317	24	1504
08:00 AM	13	65	12	9	56	10	43	55	52	40	108	5	468
08:15 AM	10	66	24	11	56	13	25	50	62	44	105	5	471
08:30 AM	8	55	12	6	48	13	21	63	57	57	54	12	406
08:45 AM	11	55	13	11	48	15	28	53	59	36	105	13	447
Total	42	241	61	37	208	51	117	221	230	177	372	35	1792
Grand Total	63	497	119	55	365	75	213	428	408	325	689	59	3296
Apprch %	9.3	73.2	17.5	11.1	73.7	15.2	20.3	40.8	38.9	30.3	64.2	5.5	
Total %	1.9	15.1	3.6	1.7	11.1	2.3	6.5	13	12.4	9.9	20.9	1.8	
Cars	60	470	108	48	330	64	205	407	363	287	654	53	3049
% Cars	95.2	94.6	90.8	87.3	90.4	85.3	96.2	95.1	89	88.3	94.9	89.8	92.5
Heavy Vehicles	3	27	11	7	35	11	8	21	45	38	35	6	247
% Heavy Vehicles	4.8	5.4	9.2	12.7	9.6	14.7	3.8	4.9	11	11.7	5.1	10.2	7.5

	Seyon Street From North				River Street From East				Farwell Street From South				River Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	**13**	65	12	90	9	**56**	10	75	**43**	55	52	**150**	40	**108**	5	153	468
08:15 AM	10	**66**	**24**	**100**	**11**	56	13	**80**	25	50	**62**	137	44	105	5	**154**	**471**
08:30 AM	8	55	12	75	6	48	13	67	21	**63**	57	141	**57**	54	12	123	406
08:45 AM	11	55	13	79	11	48	**15**	74	28	53	59	140	36	105	**13**	154	447
Total Volume	42	241	61	344	37	208	51	296	117	221	230	568	177	372	35	584	1792
% App. Total	12.2	70.1	17.7		12.5	70.3	17.2		20.6	38.9	40.5		30.3	63.7	6		
PHF	.808	.913	.635	.860	.841	.929	.850	.925	.680	.877	.927	.947	.776	.861	.673	.948	.951
Cars	41	230	58	329	34	194	42	270	115	210	204	529	154	354	31	539	1667
% Cars	97.6	95.4	95.1	95.6	91.9	93.3	82.4	91.2	98.3	95.0	88.7	93.1	87.0	95.2	88.6	92.3	93.0
Heavy Vehicles	1	11	3	15	3	14	9	26	2	11	26	39	23	18	4	45	125
% Heavy Vehicles	2.4	4.6	4.9	4.4	8.1	6.7	17.6	8.8	1.7	5.0	11.3	6.9	13.0	4.8	11.4	7.7	7.0

PRECISION
D A T A
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N/S: Seyon Street/ Farwell Street
E/W: River Street
City, State: Waltham, MA
Client: Conley Associates/ B. Beisel

File Name : 102298 B
Site Code : TBA
Start Date : 9/14/2010
Page No : 1

Groups Printed- Peds and Bicycles

	Seyon Street From North				River Street From East				Farwell Street From South				River Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	1	4
07:15 AM	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	1	4
07:30 AM	0	1	0	1	0	0	0	0	0	2	1	0	0	1	0	0	6
07:45 AM	0	1	0	0	0	1	0	3	0	0	1	1	1	1	0	2	11
Total	0	2	0	1	0	2	0	5	0	2	2	3	1	3	0	4	25
08:00 AM	0	0	0	2	0	0	0	4	0	1	0	2	0	3	0	0	12
08:15 AM	0	1	0	1	0	1	0	0	1	1	0	2	0	0	0	1	8
08:30 AM	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	3
08:45 AM	0	0	0	0	0	1	0	0	0	0	1	0	0	2	0	0	4
Total	0	1	0	3	0	3	0	4	2	2	1	4	0	5	0	2	27
Grand Total	0	3	0	4	0	5	0	9	2	4	3	7	1	8	0	6	52
Apprch %	0	42.9	0	57.1	0	35.7	0	64.3	12.5	25	18.8	43.8	6.7	53.3	0	40	
Total %	0	5.8	0	7.7	0	9.6	0	17.3	3.8	7.7	5.8	13.5	1.9	15.4	0	11.5	

	Seyon Street From North					River Street From East					Farwell Street From South					River Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	**1**	0	1	**2**	0	0	0	0	0	0	**2**	**1**	0	3	0	1	0	0	1	6
07:45 AM	0	1	0	0	1	0	**1**			**4**	0	0	1	1	2	**1**			**2**	**4**	11
08:00 AM	0	0	0	**2**					**4**	4	0	1	0	**2**			**3**	0	0	3	**12**
08:15 AM	0	1	0	1	2	0	1	0	0	1	**1**				**4**	0	0	0	1	1	8
Total Volume	0	3	0	4	7	0	2	0	7	9	1	4	2	5	12	1	5	0	3	9	37
% App. Total	0	42.9	0	57.1		0	22.2	0	77.8		8.3	33.3	16.7	41.7		11.1	55.6	0	33.3		
PHF	.000	.750	.000	.500	.875	.000	.500	.000	.438	.563	.250	.500	.500	.625	.750	.250	.417	.000	.375	.563	.771

PRECISION
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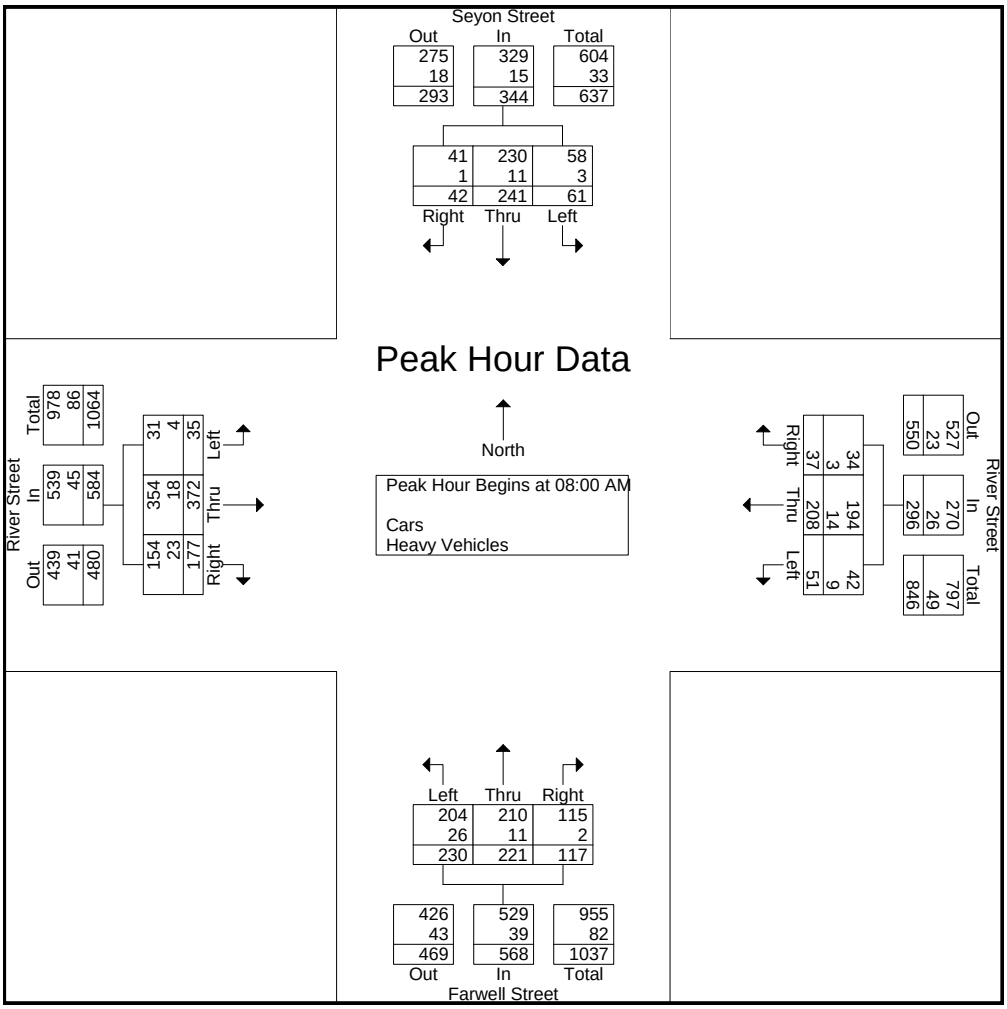
N/S: Seyon Street/ Farwell Street
E/W: River Street
City, State: Waltham, MA
Client: Conley Associates/ B. Beisel

File Name : 102298 B
Site Code : TBA
Start Date : 9/14/2010
Page No : 1

	Seyon Street From North				River Street From East				Farwell Street From South				River Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	**13**	65	12	90	9	**56**	10	75	**43**	55	52	**150**	40	**108**	5	153	468
08:15 AM	10	**66**	**24**	**100**	**11**	56	13	**80**	25	50	**62**	137	44	105	5	**154**	**471**
08:30 AM	8	55	12	75	6	48	13	67	21	**63**	57	141	**57**	54	12	123	406
08:45 AM	11	55	13	79	11	48	**15**	74	28	53	59	140	36	105	**13**	154	447
Total Volume	42	241	61	344	37	208	51	296	117	221	230	568	177	372	35	584	1792
% App. Total	12.2	70.1	17.7		12.5	70.3	17.2		20.6	38.9	40.5		30.3	63.7	6		
PHF	.808	.913	.635	.860	.841	.929	.850	.925	.680	.877	.927	.947	.776	.861	.673	.948	.951
Cars	41	230	58	329	34	194	42	270	115	210	204	529	154	354	31	539	1667
% Cars	97.6	95.4	95.1	95.6	91.9	93.3	82.4	91.2	98.3	95.0	88.7	93.1	87.0	95.2	88.6	92.3	93.0
Heavy Vehicles	1	11	3	15	3	14	9	26	2	11	26	39	23	18	4	45	125
% Heavy Vehicles	2.4	4.6	4.9	4.4	8.1	6.7	17.6	8.8	1.7	5.0	11.3	6.9	13.0	4.8	11.4	7.7	7.0



PRECISION
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N/S: Seyon Street/ Farwell Street
E/W: River Street
City, State: Waltham, MA
Client: Conley Associates/ B. Beisel

File Name : 102298 BB
Site Code : TBA
Start Date : 9/14/2010
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Seyon Street From North			River Street From East			Farwell Street From South			River Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
04:00 PM	20	48	18	17	90	23	21	72	63	40	61	24	497
04:15 PM	15	45	18	25	90	35	20	69	63	40	70	23	513
04:30 PM	24	71	20	21	74	23	29	89	72	38	79	18	558
04:45 PM	21	58	28	26	89	16	21	78	57	43	80	19	536
Total	80	222	84	89	343	97	91	308	255	161	290	84	2104
05:00 PM	19	70	18	19	111	19	23	84	58	45	69	24	559
05:15 PM	22	62	15	22	100	27	27	93	57	55	83	15	578
05:30 PM	22	65	26	9	103	27	23	82	64	41	111	17	590
05:45 PM	21	56	24	26	115	28	27	59	55	45	69	21	546
Total	84	253	83	76	429	101	100	318	234	186	332	77	2273
Grand Total	164	475	167	165	772	198	191	626	489	347	622	161	4377
Apprch %	20.3	58.9	20.7	14.5	68	17.4	14.6	47.9	37.4	30.7	55	14.2	
Total %	3.7	10.9	3.8	3.8	17.6	4.5	4.4	14.3	11.2	7.9	14.2	3.7	
Cars	162	468	164	157	752	191	186	610	466	336	604	161	4257
% Cars	98.8	98.5	98.2	95.2	97.4	96.5	97.4	97.4	95.3	96.8	97.1	100	97.3
Heavy Vehicles	2	7	3	8	20	7	5	16	23	11	18	0	120
% Heavy Vehicles	1.2	1.5	1.8	4.8	2.6	3.5	2.6	2.6	4.7	3.2	2.9	0	2.7

	Seyon Street From North				River Street From East				Farwell Street From South				River Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	19	**70**	18	107	19	111	19	149	23	84	58	165	45	69	**24**	138	559
05:15 PM	**22**	62	15	99	22	100	27	149	**27**	**93**	57	**177**	**55**	83	15	153	578
05:30 PM	22	65	**26**	**113**	9	103	27	139	23	82	**64**	169	41	**111**	17	**169**	**590**
05:45 PM	21	56	24	101	**26**	**115**	**28**	**169**	27	59	55	141	45	69	21	135	546
Total Volume	84	253	83	420	76	429	101	606	100	318	234	652	186	332	77	595	2273
% App. Total	20	60.2	19.8		12.5	70.8	16.7		15.3	48.8	35.9		31.3	55.8	12.9		
PHF	.955	.904	.798	.929	.731	.933	.902	.896	.926	.855	.914	.921	.845	.748	.802	.880	.963
Cars	83	248	80	411	74	420	99	593	97	313	230	640	185	323	77	585	2229
% Cars	98.8	98.0	96.4	97.9	97.4	97.9	98.0	97.9	97.0	98.4	98.3	98.2	99.5	97.3	100	98.3	98.1
Heavy Vehicles	1	5	3	9	2	9	2	13	3	5	4	12	1	9	0	10	44
% Heavy Vehicles	1.2	2.0	3.6	2.1	2.6	2.1	2.0	2.1	3.0	1.6	1.7	1.8	0.5	2.7	0	1.7	1.9

PRECISION
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N/S: Seyon Street/ Farwell Street
E/W: River Street
City, State: Waltham, MA
Client: Conley Associates/ B. Beisel

File Name : 102298 BB
Site Code : TBA
Start Date : 9/14/2010
Page No : 1

Groups Printed- Peds and Bicycles

	Seyon Street From North				River Street From East				Farwell Street From South				River Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
04:00 PM	0	0	0	0	0	0	1	3	0	2	0	1	0	0	0	3	10
04:15 PM	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	25	27
04:30 PM	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	3
04:45 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	1	4
Total	0	0	0	0	0	1	1	5	1	2	0	3	0	1	0	30	44
05:00 PM	0	0	0	0	0	3	0	0	0	0	0	1	0	1	0	1	6
05:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	6	7
05:30 PM	0	2	0	0	0	2	0	0	0	1	0	1	1	0	0	1	8
05:45 PM	0	0	0	0	0	0	0	5	0	0	0	3	0	0	0	4	12
Total	0	3	0	0	0	5	0	5	0	1	0	5	1	1	0	12	33
Grand Total	0	3	0	0	0	6	1	10	1	3	0	8	1	2	0	42	77
Apprch %	0	100	0	0	0	35.3	5.9	58.8	8.3	25	0	66.7	2.2	4.4	0	93.3	
Total %	0	3.9	0	0	0	7.8	1.3	13	1.3	3.9	0	10.4	1.3	2.6	0	54.5	

	Seyon Street From North					River Street From East					Farwell Street From South					River Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	0	0	0	0	0	**1**	**3**	**4**	0	**2**	**0**	**1**	**3**	0	0	0	3	3	10
04:15 PM	0	0	0	0	0	0	**1**												**25**	**25**	**27**
04:30 PM	0	0	0	0	0	0	0	0	1	1	**1**										
04:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**1**	**0**	**1**	0	1	2	4
Total Volume	0	0	0	0	0	0	1	1	5	7	1	2	0	3	6	0	1	0	30	31	44
% App. Total	0	0	0	0		0	14.3	14.3	71.4		16.7	33.3	0	50		0	3.2	0	96.8		
PHF	.000	.000	.000	.000	.000	.000	.250	.250	.417	.438	.250	.250	.000	.750	.500	.000	.250	.000	.300	.310	.407

PRECISION
D A T A
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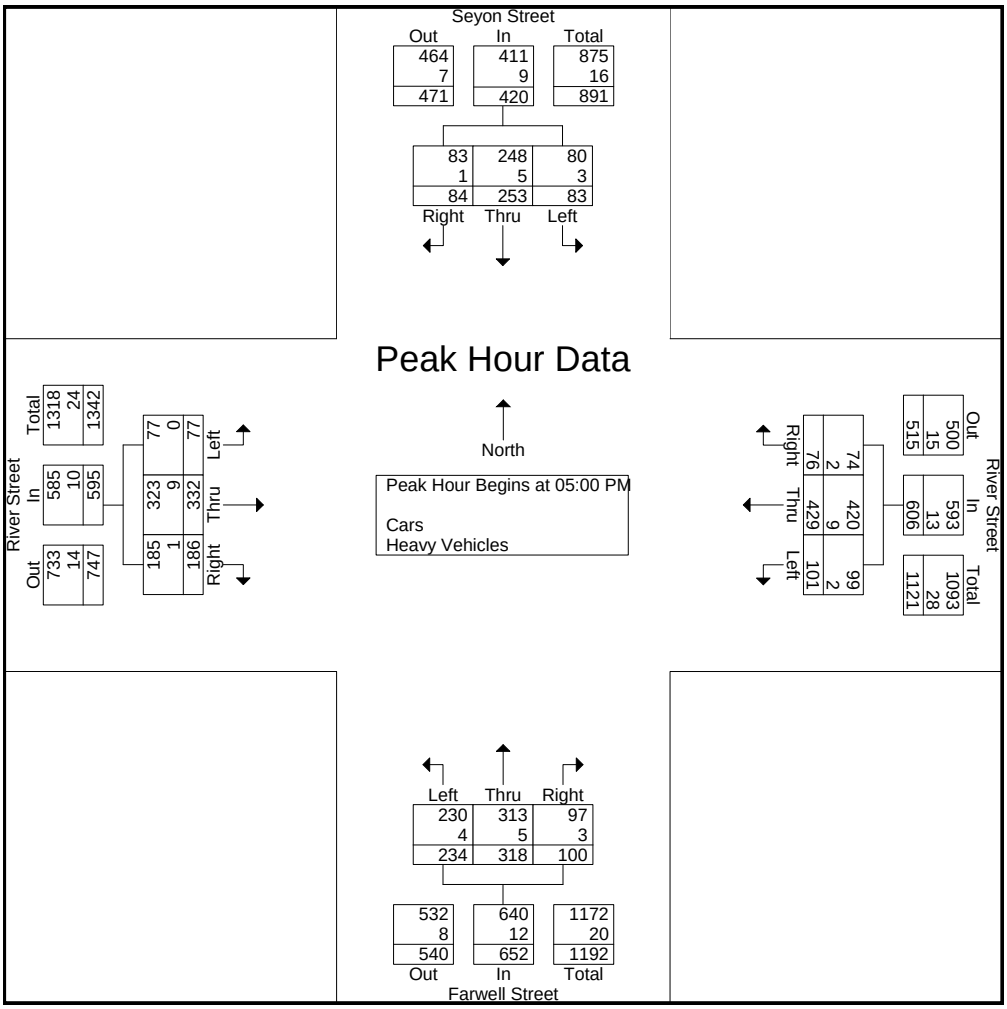
N/S: Seyon Street/ Farwell Street
E/W: River Street
City, State: Waltham, MA
Client: Conley Associates/ B. Beisel

File Name : 102298 BB
Site Code : TBA
Start Date : 9/14/2010
Page No : 1

	Seyon Street From North				River Street From East				Farwell Street From South				River Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	19	**70**	18	107	19	111	19	149	23	84	58	165	45	69	**24**	138	559
05:15 PM	**22**	62	15	99	22	100	27	149	**27**	**93**	57	**177**	**55**	83	15	153	578
05:30 PM	22	65	**26**	**113**	9	103	27	139	23	82	**64**	169	41	**111**	17	**169**	**590**
05:45 PM	21	56	24	101	**26**	**115**	**28**	**169**	27	59	55	141	45	69	21	135	546
Total Volume	84	253	83	420	76	429	101	606	100	318	234	652	186	332	77	595	2273
% App. Total	20	60.2	19.8		12.5	70.8	16.7		15.3	48.8	35.9		31.3	55.8	12.9		
PHF	.955	.904	.798	.929	.731	.933	.902	.896	.926	.855	.914	.921	.845	.748	.802	.880	.963
Cars	83	248	80	411	74	420	99	593	97	313	230	640	185	323	77	585	2229
% Cars	98.8	98.0	96.4	97.9	97.4	97.9	98.0	97.9	97.0	98.4	98.3	98.2	99.5	97.3	100	98.3	98.1
Heavy Vehicles	1	5	3	9	2	9	2	13	3	5	4	12	1	9	0	10	44
% Heavy Vehicles	1.2	2.0	3.6	2.1	2.6	2.1	2.0	2.1	3.0	1.6	1.7	1.8	0.5	2.7	0	1.7	1.9



PRECISION DATA INDUSTRIES, LLC
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N/S: Willow Street/ Shaws Driveway
E/W: River Street
City, State: Waltham, MA
Client: Conley Associates/ B. Beisel

File Name : 102298 C
Site Code : TBA
Start Date : 9/14/2010
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Willow Street From North			River Street From East			Shaws Driveway From South			River Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	23	1	22	7	72	0	0	1	2	5	90	10	233
07:15 AM	17	3	19	15	79	1	0	2	2	7	88	9	242
07:30 AM	24	2	27	17	84	3	0	3	3	3	125	9	300
07:45 AM	26	4	23	9	74	0	1	4	4	6	116	10	277
Total	90	10	91	48	309	4	1	10	11	21	419	38	1052
08:00 AM	21	3	26	17	83	0	0	4	7	8	126	14	309
08:15 AM	24	3	27	15	105	0	0	3	4	5	109	8	303
08:30 AM	20	4	23	17	89	1	2	2	7	4	121	11	301
08:45 AM	20	2	23	21	91	1	0	2	3	8	108	8	287
Total	85	12	99	70	368	2	2	11	21	25	464	41	1200
Grand Total	175	22	190	118	677	6	3	21	32	46	883	79	2252
Apprch %	45.2	5.7	49.1	14.7	84.5	0.7	5.4	37.5	57.1	4.6	87.6	7.8	
Total %	7.8	1	8.4	5.2	30.1	0.3	0.1	0.9	1.4	2	39.2	3.5	
Cars	150	19	170	96	604	5	2	18	29	43	832	62	2030
% Cars	85.7	86.4	89.5	81.4	89.2	83.3	66.7	85.7	90.6	93.5	94.2	78.5	90.1
Heavy Vehicles	25	3	20	22	73	1	1	3	3	3	51	17	222
% Heavy Vehicles	14.3	13.6	10.5	18.6	10.8	16.7	33.3	14.3	9.4	6.5	5.8	21.5	9.9

	Willow Street From North				River Street From East				Shaws Driveway From South				River Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	21	3	26	50	17	83	0	100	0	**4**	**7**	**11**	**8**	**126**	**14**	**148**	**309**
08:15 AM	**24**	3	**27**	**54**	15	**105**	0	**120**	0	3	4	7	5	109	8	122	303
08:30 AM	20	**4**	23	47	17	89	**1**	107	**2**	2	7	11	4	121	11	136	301
08:45 AM	20	2	23	45	**21**	91	1	113	0	2	3	5	8	108	8	124	287
Total Volume	85	12	99	196	70	368	2	440	2	11	21	34	25	464	41	530	1200
% App. Total	43.4	6.1	50.5		15.9	83.6	0.5		5.9	32.4	61.8		4.7	87.5	7.7		
PHF	.885	.750	.917	.907	.833	.876	.500	.917	.250	.688	.750	.773	.781	.921	.732	.895	.971
Cars	73	9	86	168	56	331	2	389	1	8	20	29	22	427	33	482	1068
% Cars	85.9	75.0	86.9	85.7	80.0	89.9	100	88.4	50.0	72.7	95.2	85.3	88.0	92.0	80.5	90.9	89.0
Heavy Vehicles	12	3	13	28	14	37	0	51	1	3	1	5	3	37	8	48	132
% Heavy Vehicles	14.1	25.0	13.1	14.3	20.0	10.1	0	11.6	50.0	27.3	4.8	14.7	12.0	8.0	19.5	9.1	11.0

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N/S: Willow Street/ Shaws Driveway
E/W: River Street
City, State: Waltham, MA
Client: Conley Associates/ B. Beisel

File Name : 102298 C
Site Code : TBA
Start Date : 9/14/2010
Page No : 1

Groups Printed- Peds and Bicycles

	Willow Street From North				River Street From East				Shaws Driveway From South				River Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	1	0	0	0	0	0	0	0	3	0	1	0	2	7
07:15 AM	0	1	0	0	0	1	0	1	0	0	0	1	0	0	0	0	4
07:30 AM	0	0	0	2	0	0	0	0	0	1	0	0	0	1	0	0	4
07:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	0	4
Total	0	1	0	3	0	2	0	2	0	1	0	4	0	4	0	2	19
08:00 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	3	0	0	5
08:15 AM	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	3
08:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
08:45 AM	0	0	0	2	0	2	0	3	1	0	0	3	0	0	0	1	12
Total	0	0	0	3	0	4	0	5	1	0	0	4	0	4	0	1	22
Grand Total	0	1	0	6	0	6	0	7	1	1	0	8	0	8	0	3	41
Apprch %	0	14.3	0	85.7	0	46.2	0	53.8	10	10	0	80	0	72.7	0	27.3	
Total %	0	2.4	0	14.6	0	14.6	0	17.1	2.4	2.4	0	19.5	0	19.5	0	7.3	

	Willow Street From North					River Street From East					Shaws Driveway From South					River Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	**3**	0	0	**3**	5
08:15 AM	0	0	0	1	1	0	1	0	0	1	0	0	0	1	1	0	0	0	0	0	3
08:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
08:45 AM	0	0	0	**2**	**2**	0	**2**		**3**	**5**	**1**			**3**	**4**	0	0	0	**1**		**12**
Total Volume	0	0	0	3	3	0	4	0	5	9	1	0	0	4	5	0	4	0	1	5	22
% App. Total	0	0	0	100		0	44.4	0	55.6		20	0	0	80		0	80	0	20		
PHF	.000	.000	.000	.375	.375	.000	.500	.000	.417	.450	.250	.000	.000	.333	.313	.000	.333	.000	.250	.417	.458

PRECISION
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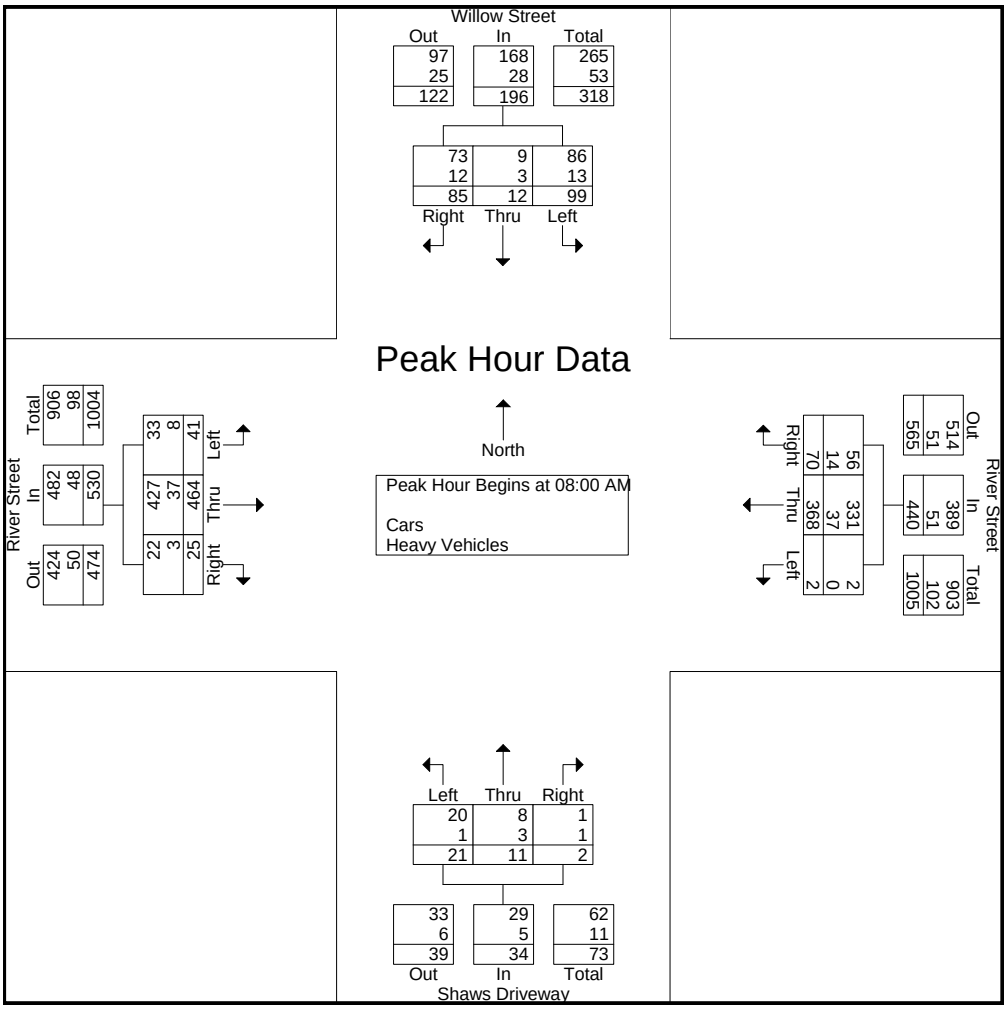
N/S: Willow Street/ Shaws Driveway
E/W: River Street
City, State: Waltham, MA
Client: Conley Associates/ B. Beisel

File Name : 102298 C
Site Code : TBA
Start Date : 9/14/2010
Page No : 1

	Willow Street From North				River Street From East				Shaws Driveway From South				River Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	21	3	26	50	17	83	0	100	0	**4**	**7**	**11**	**8**	**126**	**14**	**148**	**309**
08:15 AM	**24**	3	**27**	**54**	15	**105**	0	**120**	0	3	4	7	5	109	8	122	303
08:30 AM	20	**4**	23	47	17	89	**1**	107	**2**	2	7	11	4	121	11	136	301
08:45 AM	20	2	23	45	**21**	91	1	113	0	2	3	5	8	108	8	124	287
Total Volume	85	12	99	196	70	368	2	440	2	11	21	34	25	464	41	530	1200
% App. Total	43.4	6.1	50.5		15.9	83.6	0.5		5.9	32.4	61.8		4.7	87.5	7.7		
PHF	.885	.750	.917	.907	.833	.876	.500	.917	.250	.688	.750	.773	.781	.921	.732	.895	.971
Cars	73	9	86	168	56	331	2	389	1	8	20	29	22	427	33	482	1068
% Cars	85.9	75.0	86.9	85.7	80.0	89.9	100	88.4	50.0	72.7	95.2	85.3	88.0	92.0	80.5	90.9	89.0
Heavy Vehicles	12	3	13	28	14	37	0	51	1	3	1	5	3	37	8	48	132
% Heavy Vehicles	14.1	25.0	13.1	14.3	20.0	10.1	0	11.6	50.0	27.3	4.8	14.7	12.0	8.0	19.5	9.1	11.0



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N/S: Willow Street/ Shaws Driveway
E/W: River Street
City, State: Waltham, MA
Client: Conley Associates/ B. Beisel

File Name : 102298 CC
Site Code : TBA
Start Date : 9/14/2010
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Willow Street From North			River Street From East			Shaws Driveway From South			River Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
04:00 PM	12	7	20	30	125	2	6	10	17	25	100	12	366
04:15 PM	14	11	14	30	124	0	6	13	27	16	90	6	351
04:30 PM	18	7	22	32	130	0	3	6	21	23	104	13	379
04:45 PM	12	5	15	24	148	0	4	13	20	16	105	11	373
Total	56	30	71	116	527	2	19	42	85	80	399	42	1469
05:00 PM	16	9	20	17	156	2	2	9	21	18	102	15	387
05:15 PM	17	13	27	24	146	1	5	10	20	18	111	9	401
05:30 PM	22	11	23	34	147	0	6	9	13	12	120	11	408
05:45 PM	20	7	24	21	168	0	6	10	18	23	92	6	395
Total	75	40	94	96	617	3	19	38	72	71	425	41	1591
Grand Total	131	70	165	212	1144	5	38	80	157	151	824	83	3060
Apprch %	35.8	19.1	45.1	15.6	84.1	0.4	13.8	29.1	57.1	14.3	77.9	7.8	
Total %	4.3	2.3	5.4	6.9	37.4	0.2	1.2	2.6	5.1	4.9	26.9	2.7	
Cars	123	70	155	203	1114	5	38	79	155	150	804	80	2976
% Cars	93.9	100	93.9	95.8	97.4	100	100	98.8	98.7	99.3	97.6	96.4	97.3
Heavy Vehicles	8	0	10	9	30	0	0	1	2	1	20	3	84
% Heavy Vehicles	6.1	0	6.1	4.2	2.6	0	0	1.2	1.3	0.7	2.4	3.6	2.7

	Willow Street From North				River Street From East				Shaws Driveway From South				River Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	16	9	20	45	17	156	**2**	175	2	9	**21**	32	18	102	**15**	135	387
05:15 PM	17	**13**	**27**	**57**	24	146	1	171	5	**10**	20	**35**	18	111	9	138	401
05:30 PM	**22**	11	23	56	**34**	147	0	181	**6**	9	13	28	12	**120**	11	**143**	**408**
05:45 PM	20	7	24	51	21	**168**	0	**189**	6	10	18	34	**23**	92	6	121	395
Total Volume	75	40	94	209	96	617	3	716	19	38	72	129	71	425	41	537	1591
% App. Total	35.9	19.1	45		13.4	86.2	0.4		14.7	29.5	55.8		13.2	79.1	7.6		
PHF	.852	.769	.870	.917	.706	.918	.375	.947	.792	.950	.857	.921	.772	.885	.683	.939	.975
Cars	72	40	88	200	93	607	3	703	19	37	70	126	70	418	41	529	1558
% Cars	96.0	100	93.6	95.7	96.9	98.4	100	98.2	100	97.4	97.2	97.7	98.6	98.4	100	98.5	97.9
Heavy Vehicles	3	0	6	9	3	10	0	13	0	1	2	3	1	7	0	8	33
% Heavy Vehicles	4.0	0	6.4	4.3	3.1	1.6	0	1.8	0	2.6	2.8	2.3	1.4	1.6	0	1.5	2.1

PRECISION
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E/W: River Street
City, State: Waltham, MA
Client: Conley Associates/ B. Beisel

File Name : 102298 CC
Site Code : TBA
Start Date : 9/14/2010

Groups Printed- Peds and Bicycles

	Willow Street From North				River Street From East				Shaws Driveway From South				River Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
04:00 PM	0	0	0	1	0	0	0	3	0	1	0	6	0	0	0	0	11
04:15 PM	0	0	0	1	0	1	0	2	0	0	0	1	0	0	1	0	6
04:30 PM	0	0	0	1	0	0	0	3	0	0	0	1	0	0	0	0	5
04:45 PM	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	3
Total	0	0	0	5	0	1	0	9	0	1	0	8	0	0	1	0	25
05:00 PM	0	1	0	2	0	3	0	2	0	0	1	4	0	1	0	2	16
05:15 PM	0	0	0	1	0	2	0	4	0	1	0	1	0	0	0	3	12
05:30 PM	0	0	0	3	0	1	0	3	0	0	0	1	0	0	0	0	8
05:45 PM	0	0	0	0	0	0	0	3	0	0	0	5	0	0	0	0	8
Total	0	1	0	6	0	6	0	12	0	1	1	11	0	1	0	5	44
Grand Total	0	1	0	11	0	7	0	21	0	2	1	19	0	1	1	5	69
Apprch %	0	8.3	0	91.7	0	25	0	75	0	9.1	4.5	86.4	0	14.3	14.3	71.4	
Total %	0	1.4	0	15.9	0	10.1	0	30.4	0	2.9	1.4	27.5	0	1.4	1.4	7.2	

	Willow Street From North					River Street From East					Shaws Driveway From South					River Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	**1**	0	2	**3**	0	**3**	**0**	**2**	**5**	**0**	**0**	**1**	4	**5**	0	**1**	0	2	**3**	**16**
05:15 PM	0	0	0	1	1	0	2	0	**4**	**6**	0	**1**							**3**		
05:30 PM	**0**	**0**	**0**	**3**	**3**	**0**	**1**	**0**	**3**	**4**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**8**
05:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**3**	**0**	**0**	**0**	**5**	**5**	**0**	**0**	**0**	**0**	**0**	**8**
Total Volume	0	1	0	6	7	0	6	0	12	18	0	1	1	11	13	0	1	0	5	6	44
% App. Total	0	14.3	0	85.7		0	33.3	0	66.7		0	7.7	7.7	84.6		0	16.7	0	83.3		
PHF	.000	.250	.000	.500	.583	.000	.500	.000	.750	.750	.000	.250	.250	.550	.650	.000	.250	.000	.417	.500	.688

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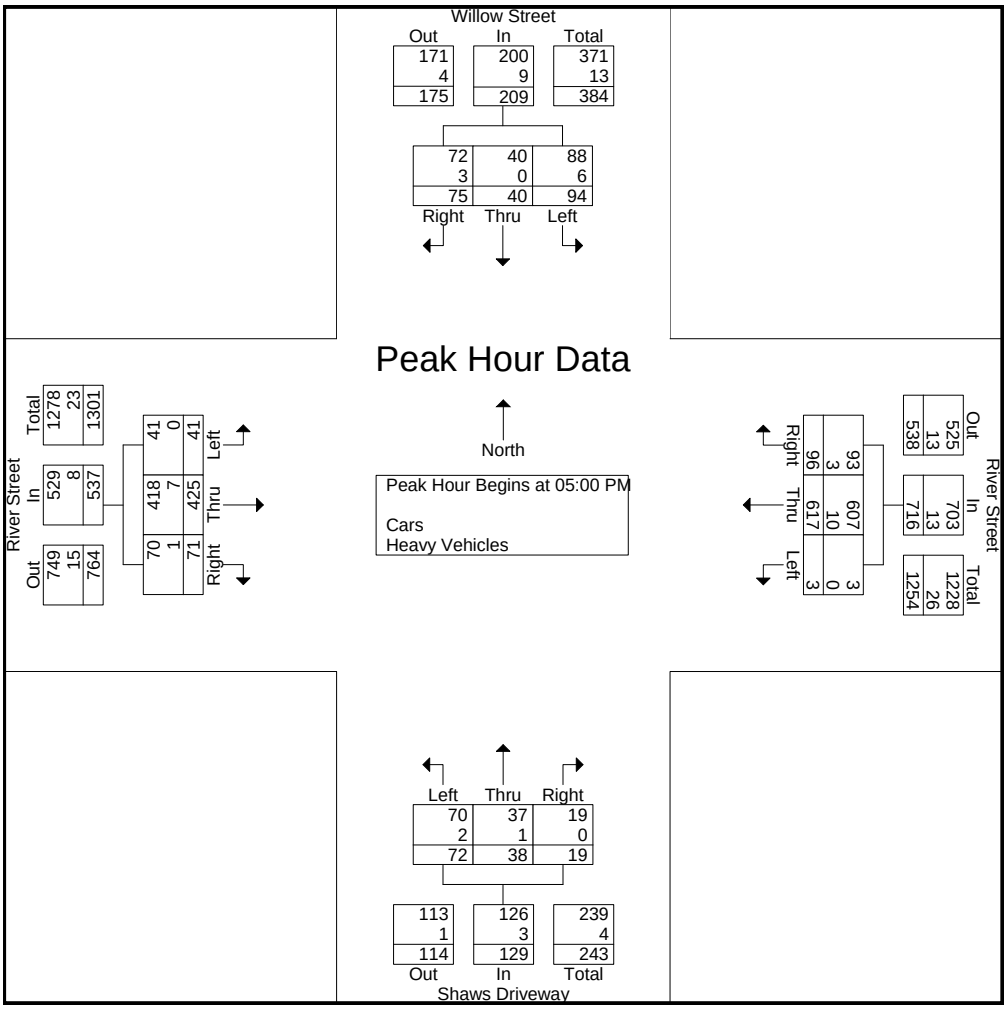
N/S: Willow Street/ Shaws Driveway
E/W: River Street
City, State: Waltham, MA
Client: Conley Associates/ B. Beisel

File Name : 102298 CC
Site Code : TBA
Start Date : 9/14/2010
Page No : 1

	Willow Street From North				River Street From East				Shaws Driveway From South				River Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	16	9	20	45	17	156	**2**	175	2	9	**21**	32	18	102	**15**	135	387
05:15 PM	17	**13**	**27**	**57**	24	146	1	171	5	**10**	20	**35**	18	111	9	138	401
05:30 PM	**22**	11	23	56	**34**	147	0	181	**6**	9	13	28	12	**120**	11	**143**	**408**
05:45 PM	20	7	24	51	21	**168**	0	**189**	6	10	18	34	**23**	92	6	121	395
Total Volume	75	40	94	209	96	617	3	716	19	38	72	129	71	425	41	537	1591
% App. Total	35.9	19.1	45		13.4	86.2	0.4		14.7	29.5	55.8		13.2	79.1	7.6		
PHF	.852	.769	.870	.917	.706	.918	.375	.947	.792	.950	.857	.921	.772	.885	.683	.939	.975
Cars	72	40	88	200	93	607	3	703	19	37	70	126	70	418	41	529	1558
% Cars	96.0	100	93.6	95.7	96.9	98.4	100	98.2	100	97.4	97.2	97.7	98.6	98.4	100	98.5	97.9
Heavy Vehicles	3	0	6	9	3	10	0	13	0	1	2	3	1	7	0	8	33
% Heavy Vehicles	4.0	0	6.4	4.3	3.1	1.6	0	1.8	0	2.6	2.8	2.3	1.4	1.6	0	1.5	2.1



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N/S: Farwell Street
E: Stop & Shop Rear Driveway
City, State: Waltham, MA
Client: Conley Associates/ B. Beisel

File Name : 102298 D
Site Code : TBA
Start Date : 9/14/2010
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Farwell Street From North		Stop & Shop Rear Driveway From East		Farwell Street From South		
Start Time	Thru	Left	Right	Left	Right	Thru	Int. Total
07:00 AM	93	8	9	1	3	99	213
07:15 AM	92	5	9	1	3	115	225
07:30 AM	109	5	2	4	6	107	233
07:45 AM	96	2	1	5	9	142	255
Total	390	20	21	11	21	463	926
08:00 AM	106	3	3	1	8	148	269
08:15 AM	121	2	1	6	8	125	263
08:30 AM	106	17	9	6	11	128	277
08:45 AM	102	7	14	7	12	122	264
Total	435	29	27	20	39	523	1073
Grand Total	825	49	48	31	60	986	1999
Apprch %	94.4	5.6	60.8	39.2	5.7	94.3	
Total %	41.3	2.5	2.4	1.6	3	49.3	
Cars	781	23	32	30	46	935	1847
% Cars	94.7	46.9	66.7	96.8	76.7	94.8	92.4
Heavy Vehicles	44	26	16	1	14	51	152
% Heavy Vehicles	5.3	53.1	33.3	3.2	23.3	5.2	7.6

	Farwell Street From North			Stop & Shop Rear Driveway From East			Farwell Street From South			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	106	3	109	3	1	4	8	**148**	**156**	269
08:15 AM	**121**	2	**123**	1	6	7	8	125	133	263
08:30 AM	106	**17**	123	9	6	15	11	128	139	**277**
08:45 AM	**102**	**7**	**109**	**14**	**7**	**21**	**12**	122	134	264
Total Volume	435	29	464	27	20	47	39	523	562	1073
% App. Total	93.8	6.2		57.4	42.6		6.9	93.1		
PHF	.899	.426	.943	.482	.714	.560	.813	.883	.901	.968
Cars	414	10	424	19	19	38	27	495	522	984
% Cars	95.2	34.5	91.4	70.4	95.0	80.9	69.2	94.6	92.9	91.7
Heavy Vehicles	21	19	40	8	1	9	12	28	40	89
% Heavy Vehicles	4.8	65.5	8.6	29.6	5.0	19.1	30.8	5.4	7.1	8.3

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N/S: Farwell Street
E: Stop & Shop Rear Driveway
City, State: Waltham, MA
Client: Conley Associates/ B. Beisel

File Name : 102298 D
Site Code : TBA
Start Date : 9/14/2010
Page No : 1

Groups Printed- Peds and Bicycles

	Farwell Street From North			Stop & Shop Rear Driveway From East			Farwell Street From South			
Start Time	Thru	Left	Peds	Right	Left	Peds	Right	Thru	Peds	Int. Total
07:00 AM	0	0	0	0	0	4	1	1	0	6
07:15 AM	1	0	0	0	0	5	0	1	0	7
07:30 AM	0	1	0	0	0	2	0	4	0	7
07:45 AM	3	0	0	0	0	9	0	2	0	14
Total	4	1	0	0	0	20	1	8	0	34
08:00 AM	0	0	0	0	0	6	0	1	0	7
08:15 AM	1	0	0	0	0	3	0	2	0	6
08:30 AM	0	0	0	0	0	4	0	1	0	5
08:45 AM	0	0	0	0	0	6	0	1	0	7
Total	1	0	0	0	0	19	0	5	0	25
Grand Total	5	1	0	0	0	39	1	13	0	59
Apprch %	83.3	16.7	0	0	0	100	7.1	92.9	0	
Total %	8.5	1.7	0	0	0	66.1	1.7	22	0	

	Farwell Street From North				Stop & Shop Rear Driveway From East				Farwell Street From South				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:15 AM													
07:15 AM	1	0	0	1	0	0	5	5	0	1	0	1	7
07:30 AM	0	**1**	**0**	**1**	**0**	**0**	**2**	**2**	**0**	**4**	**0**	**4**	7
07:45 AM	**3**	0	0	**3**	0	0	**9**	**9**	0	2	0	2	**14**
08:00 AM	0	0	0	0	0	0	6	6	0	1	0	1	7
Total Volume	4	1	0	5	0	0	22	22	0	8	0	8	35
% App. Total	80	20	0		0	0	100		0	100	0		
PHF	.333	.250	.000	.417	.000	.000	.611	.611	.000	.500	.000	.500	.625

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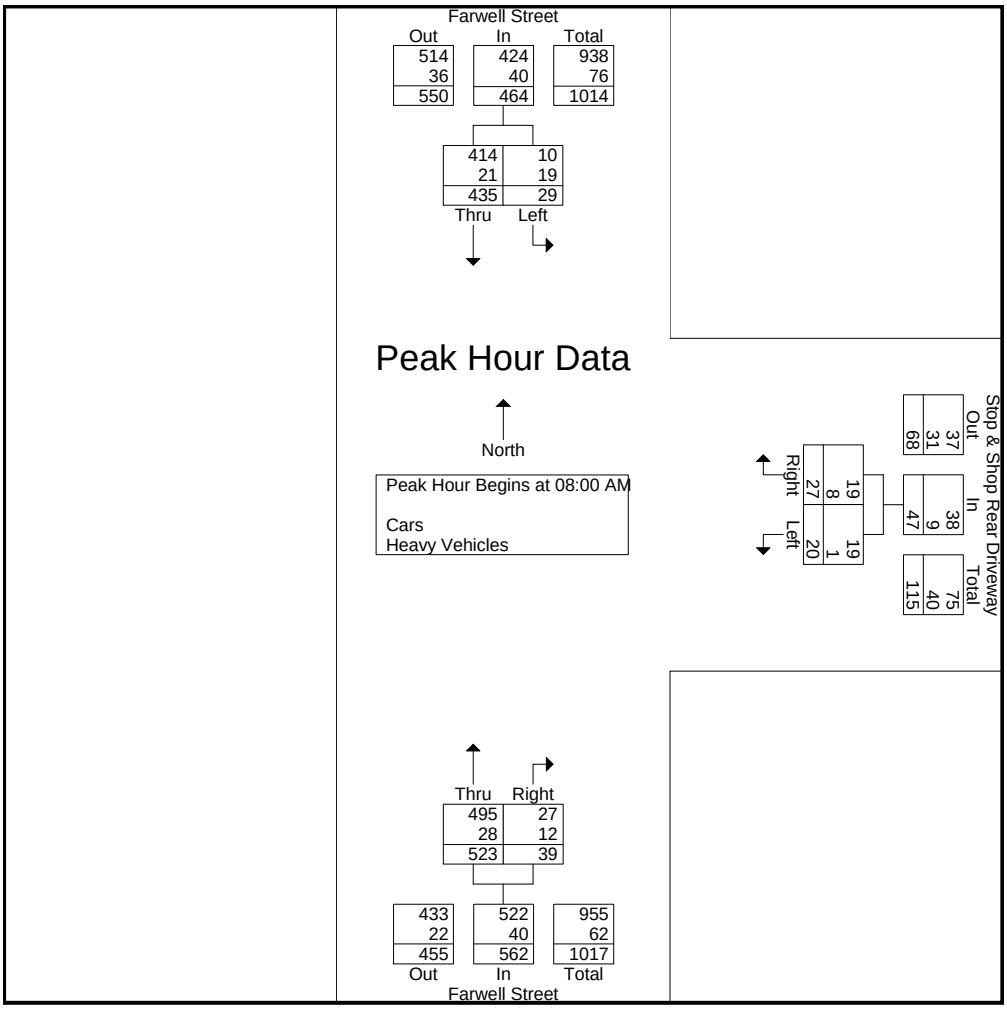
City, State: Waltham, MA
Client: Conley Associates/ B. Beisel

File Name : 102298 D
Site Code : TBA
Start Date : 9/14/2010
Page No : 1

	Farwell Street From North			Stop & Shop Rear Driveway From East			Farwell Street From South			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	106	3	109	3	1	4	8	**148**	**156**	269
08:15 AM	**121**	2	**123**	1	6	7	8	125	133	263
08:30 AM	106	**17**	123	9	6	15	11	128	139	**277**
08:45 AM	**102**	**7**	**109**	**14**	**7**	**21**	**12**	122	134	264
Total Volume	435	29	464	27	20	47	39	523	562	1073
% App. Total	93.8	6.2		57.4	42.6		6.9	93.1		
PHF	.899	.426	.943	.482	.714	.560	.813	.883	.901	.968
Cars	414	10	424	19	19	38	27	495	522	984
% Cars	95.2	34.5	91.4	70.4	95.0	80.9	69.2	94.6	92.9	91.7
Heavy Vehicles	21	19	40	8	1	9	12	28	40	89
% Heavy Vehicles	4.8	65.5	8.6	29.6	5.0	19.1	30.8	5.4	7.1	8.3



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City, State: Waltham, MA
Client: Conley Associates/ B. Beisel

File Name : 102298 DD
Site Code : TBA
Start Date : 9/14/2010
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Farwell Street From North		Stop & Shop Rear Driveway From East		Farwell Street From South		
Start Time	Thru	Left	Right	Left	Right	Thru	Int. Total
04:00 PM	98	8	20	17	22	122	287
04:15 PM	111	12	10	19	17	150	319
04:30 PM	111	15	14	17	21	156	334
04:45 PM	99	8	11	13	19	150	300
Total	419	43	55	66	79	578	1240
05:00 PM	132	5	8	14	30	157	346
05:15 PM	120	4	12	16	21	170	343
05:30 PM	132	12	14	16	15	146	335
05:45 PM	122	8	11	26	23	135	325
Total	506	29	45	72	89	608	1349
Grand Total	925	72	100	138	168	1186	2589
Apprch %	92.8	7.2	42	58	12.4	87.6	
Total %	35.7	2.8	3.9	5.3	6.5	45.8	
Cars	907	67	99	136	164	1144	2517
% Cars	98.1	93.1	99	98.6	97.6	96.5	97.2
Heavy Vehicles	18	5	1	2	4	42	72
% Heavy Vehicles	1.9	6.9	1	1.4	2.4	3.5	2.8

	Farwell Street From North			Stop & Shop Rear Driveway From East			Farwell Street From South			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	**132**	5	137	8	14	22	**30**	157	187	**346**
05:15 PM	**120**	**4**	**124**	**12**	**16**	**28**	**21**	**170**	**191**	343
05:30 PM	132	**12**	**144**	**14**	16	30	15	146	161	335
05:45 PM	122	8	130	11	**26**	**37**	23	135	158	325
Total Volume	506	29	535	45	72	117	89	608	697	1349
% App. Total	94.6	5.4		38.5	61.5		12.8	87.2		
PHF	.958	.604	.929	.804	.692	.791	.742	.894	.912	.975
Cars	499	29	528	45	70	115	89	596	685	1328
% Cars	98.6	100	98.7	100	97.2	98.3	100	98.0	98.3	98.4
Heavy Vehicles	7	0	7	0	2	2	0	12	12	21
% Heavy Vehicles	1.4	0	1.3	0	2.8	1.7	0	2.0	1.7	1.6

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N/S: Farwell Street
E: Stop & Shop Rear Driveway
City, State: Waltham, MA
Client: Conley Associates/ B. Beisel

File Name : 102298 DD
Site Code : TBA
Start Date : 9/14/2010
Page No : 1

Groups Printed- Peds and Bicycles

	Farwell Street From North			Stop & Shop Rear Driveway From East			Farwell Street From South			
Start Time	Thru	Left	Peds	Right	Left	Peds	Right	Thru	Peds	Int. Total
04:00 PM	4	0	0	0	0	5	0	2	0	11
04:15 PM	1	0	0	0	0	27	0	0	0	28
04:30 PM	0	0	0	0	0	2	0	1	0	3
04:45 PM	0	0	0	0	0	2	0	1	0	3
Total	5	0	0	0	0	36	0	4	0	45
05:00 PM	0	0	0	0	1	2	0	0	0	3
05:15 PM	1	0	1	0	0	2	0	1	0	5
05:30 PM	3	1	0	0	0	1	0	2	0	7
05:45 PM	1	1	1	0	1	8	0	0	0	12
Total	5	2	2	0	2	13	0	3	0	27
Grand Total	10	2	2	0	2	49	0	7	0	72
Apprch %	71.4	14.3	14.3	0	3.9	96.1	0	100	0	
Total %	13.9	2.8	2.8	0	2.8	68.1	0	9.7	0	

	Farwell Street From North				Stop & Shop Rear Driveway From East				Farwell Street From South				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:00 PM													
04:00 PM	**4**	0	0	**4**	0	0	5	5	0	**2**	**0**	**2**	11
04:15 PM	1	0	0	1	0	0	**27**	**27**	0	0	0	0	**28**
04:30 PM	0	0	0	0	0	0	2	2	0	1	0	1	3
04:45 PM	0	0	0	0	0	0	2	2	0	1	0	1	3
Total Volume	5	0	0	5	0	0	36	36	0	4	0	4	45
% App. Total	100	0	0		0	0	100		0	100	0		
PHF	.313	.000	.000	.313	.000	.000	.333	.333	.000	.500	.000	.500	.402

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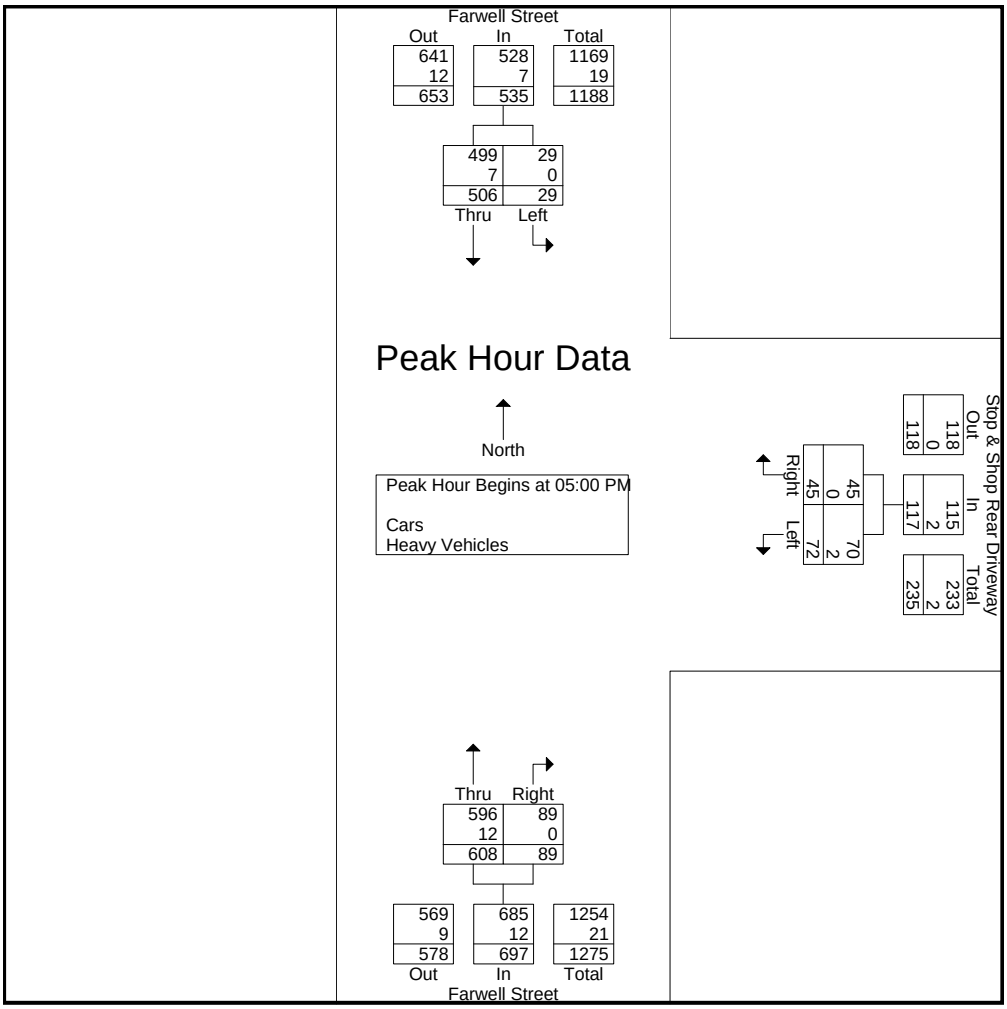
	Farwell Street From North			Stop & Shop Rear Driveway From East			Farwell Street From South			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	**132**	5	137	8	14	22	**30**	157	187	**346**
05:15 PM	**120**	**4**	**124**	**12**	**16**	**28**	**21**	**170**	**191**	343
05:30 PM	132	**12**	**144**	**14**	16	30	15	146	161	335
05:45 PM	122	8	130	11	**26**	**37**	23	135	158	325
Total Volume	506	29	535	45	72	117	89	608	697	1349
% App. Total	94.6	5.4		38.5	61.5		12.8	87.2		
PHF	.958	.604	.929	.804	.692	.791	.742	.894	.912	.975
Cars	499	29	528	45	70	115	89	596	685	1328
% Cars	98.6	100	98.7	100	97.2	98.3	100	98.0	98.3	98.4
Heavy Vehicles	7	0	7	0	2	2	0	12	12	21
% Heavy Vehicles	1.4	0	1.3	0	2.8	1.7	0	2.0	1.7	1.6



MassHighway Seasonal Traffic Volume Data

STATION 4119 - WALTHAM - RTE.I-95 (128) - SOUTH OF WINTER ST.

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
98	154,139	164,836	168,601	179,121	177,061	181,966	179,768	170,751	175,500	180,581	167,907	168,960	172,433
	-2%	-1%	2%	1%	3%	5%	1%	9%	5%	2%	5%	1%	3%
99	150,397	162,765	172,080	181,415	182,440	191,725	181,601	186,069	183,959	183,792	176,295	170,934	176,956
	3%	3%	3%	-1%	1%	0%	-2%	2%	1%	1%	0%	-1%	1%
00	155,337	168,035	176,843	179,163	185,163	191,114	178,430	190,173	184,987	185,761	176,236	168,875	178,343
	5%	-3%	-11%	-2%	-3%	-6%	-4%	-8%	-4%	-2%	0%	-1%	-3%
01	163,137	162,745	158,070	175,470	178,917	178,851	171,880	174,988	177,180	181,684	175,812	168,026	172,230
									SEP				**YEAR**
	Average								**180,407**				**174,990**

STATION 4120 - WALTHAM - RTE.I-95 (128) - NORTH OF WINTER ST.

YR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
97	159,355	163,016	163,855	169,858	179,996	185,926	181,285	182,559	182,905	185,308	164,001	165,576	173,637
	-3%	2%	4%	7%	0%	-3%	1%	0%	-3%	-2%	2%	1%	0%
98	155,226	166,369	170,137	181,167	179,174	180,697	183,116	182,568	176,532	182,501	167,070	167,487	174,337
	-5%	-1%	3%	2%	3%	8%	1%	3%	5%	2%	6%	4%	3%
99	147,283	164,662	174,462	184,489	185,324	194,328	184,164	188,630	185,437	186,324	177,233	173,683	178,835
					2%	0%	-1%	3%	1%	1%			6%
00					188,346	194,201	181,831	193,525	187,613	188,190			188,951
									SEP				**YEAR**
	Average								**183,122**				**178,940**

Seasonal Adjustment Calculation

Station 4119		**Station 4120**	
Month of count	Sept	**Month of count**	Sept
Volume	180,407	**Volume**	183,122
Yearly Average Volume	174,990	**Yearly Average Volume**	178,940
Seasonality Rate =	3.00%	**Seasonality Rate =**	2.28%

Average
2.64%

CONLEY ASSOCIATES

MassHighway Annual Traffic Volume Data

STA.	ROUTE/STREET	LOCATION	1999	2000	2001	2002	2003	2004	2005	2006	2007
Waltham											
4155	PLANT RD.	SOUTH OF TRAPELO RD.	240			190			160		
4873	TOTTEN POND RD.	WEST OF LEXINGTON ST.			21,300			19,600			17,900
4911	RTE. 60	WEST OF TRAPELO RD.			14,500			12,800			13,000
4925	RTE. 60	WEST OF BEAVER ST.			8,000						8,100

Annual Growth Rate Calculation

Station #:	4155	4873	4911	4925
First Date (year)	1999	2001	2001	2001
Volume	240	21,300	14,500	8,000
Last Date (year)	2005	2007	2007	2007
Volume	160	17,900	13,000	8,100
Annual Growth Rate =	-6.53%	-2.86%	-1.80%	0.21%

Average
-2.75%

CONLEY ASSOCIATES

TRIP GENERATION WORKSHEET

x= 200 Dwelling Units LUC: Apartment (220)

WEEKDAY

Average Rate =	6.65	Fitted Curve Equation =	T = 6.06(X)+123.56
Total Trips =	1330	Total Trips =	1335.56

AM PEAK HOUR of ADJACENT STREET

Average Rate =	0.51	Fitted Curve Equation =	T = 0.49(X) +3.73
Total Trips =	102	Total Trips =	101.73
20% of Trips In =	20	20% of Trips In =	20
80% of Trips Out =	82	80% of Trips Out =	81

PM PEAK HOUR of ADJACENT STREET

Average Rate =	0.62	Fitted Curve Equation =	T = 0.55(X) +17.65
Total Trips =	124	Total Trips =	127.65
65% of Trips In =	81	65% of Trips In =	83
35% of Trips Out =	43	35% of Trips Out =	45

AM PEAK HOUR of GENERATOR

Average Rate =	0.55	Fitted Curve Equation =	T = 0.54(X) +2.45
Total Trips =	110	Total Trips =	110.45
29% of Trips In =	32	29% of Trips In =	32
71% of Trips Out =	78	71% of Trips Out =	78

PM PEAK HOUR of GENERATOR

Average Rate =	0.67	Fitted Curve Equation =	T = 0.60(X) +14.91
Total Trips =	134	Total Trips =	134.91
61% of Trips In =	82	61% of Trips In =	82
39% of Trips Out =	52	39% of Trips Out =	53

SATURDAY

Average Rate =	6.39	Fitted Curve Equation =	T = 7.85(X) -256.19
Total Trips =	1278	Total Trips =	1313.81

PEAK HOUR of GENERATOR

Average Rate =	0.52	Fitted Curve Equation =	T = 0.41(X) +19.23
Total Trips =	104	Total Trips =	101.23
50% of Trips In =	52	50% of Trips In =	NA
50% of Trips Out =	52	50% of Trips Out =	NA

SUNDAY

Average Rate =	5.86	Fitted Curve Equation =	T = 6.42(X) -101.12
Total Trips =	1172	Total Trips =	1182.88

PEAK HOUR of GENERATOR

Average Rate =	0.51	Fitted Curve Equation =	NA
Total Trips =	102		
50% of Trips In =	51		
50% of Trips Out =	51		

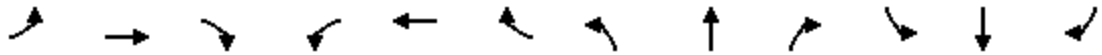
ITE TRIP GENERATION
8TH EDITION

CONLEY ASSOCIATES

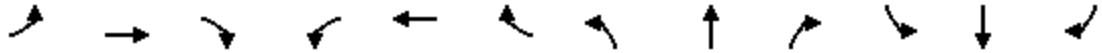
Metric					US Customary				
Design speed (km/h)	Break reaction distance (m)	Breaking distance on level (m)	Stopping sight distance		Design speed (mph)	Break reaction distance (ft)	Breaking distance on level (ft)	Stopping sight distance	
			Calculated (m)	Design (m)				Calculated (ft)	Design (ft)
20	13.9	4.6	18.5	20	15	55.1	21.6	76.7	80
30	20.9	10.3	31.2	35	20	73.5	38.4	111.9	115
40	27.8	18.4	46.2	50	25	91.9	60.0	151.9	155
50	34.8	28.7	63.5	65	30	110.3	86.4	196.7	200
60	41.7	41.3	83.0	85	35	128.6	117.6	246.2	250
70	48.7	56.2	104.9	105	40	147.0	153.6	300.6	305
80	55.6	73.4	129.0	130	45	165.4	194.4	359.8	360
90	62.6	92.9	155.5	160	50	183.8	240.0	423.8	425
100	69.5	114.7	184.2	185	55	202.1	290.3	492.4	495
110	76.5	138.8	215.3	220	60	220.5	345.5	566.0	570
120	83.4	165.2	248.6	250	65	238.9	405.5	644.4	645
130	90.4	193.8	284.2	285	70	257.3	470.3	727.6	730
					75	275.6	539.9	815.5	820
					80	294.0	614.3	908.3	910

Note: Brake reaction distance predicated on a time of 2.5 s; deceleration rate of 3.4 m/s2 [11.2 ft/s2] used to determine calculated sight distance.

Exhibit 3-1. Stopping Sight Distance



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.952			0.977			0.948				0.850	
Flt Protected	0.950			0.950			0.950				0.993		
Satd. Flow (prot)	1770	1773	0	1770	1820	0	1770	1766	0	0	1850	1583	
Flt Permitted	0.445			0.133			0.182				0.886		
Satd. Flow (perm)	829	1773	0	248	1820	0	339	1766	0	0	1650	1583	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		24			9			28				71	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1150			800			360			500		
Travel Time (s)		26.1			18.2			8.2			11.4		
Volume (vph)	35	372	177	51	208	37	230	221	117	42	241	61	
Peak Hour Factor	0.93	0.93	0.93	0.95	0.95	0.95	0.95	0.95	0.95	0.86	0.86	0.86	
Adj. Flow (vph)	38	400	190	54	219	39	242	233	123	49	280	71	
Lane Group Flow (vph)	38	590	0	54	258	0	242	356	0	0	329	71	
Turn Type	pm+pt			pm+pt			pm+pt			Perm		Perm	
Protected Phases	5	2		1	6		3	8			4		9
Permitted Phases	2			6			8			4		4	
Detector Phases	5	2		1	6		3	8		4	4	4	
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	8.0	1.0
Minimum Split (s)	13.0	21.0		13.0	21.0		13.0	21.0		21.0	21.0	21.0	18.0
Total Split (s)	13.0	34.0	0.0	13.0	34.0	0.0	13.0	35.0	0.0	22.0	22.0	22.0	18.0
Total Split (%)	13.0%	34.0%	0.0%	13.0%	34.0%	0.0%	13.0%	35.0%	0.0%	22.0%	22.0%	22.0%	18%
Maximum Green (s)	8.0	29.0		8.0	29.0		8.0	30.0		17.0	17.0	17.0	16.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0	2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0	0.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lag	



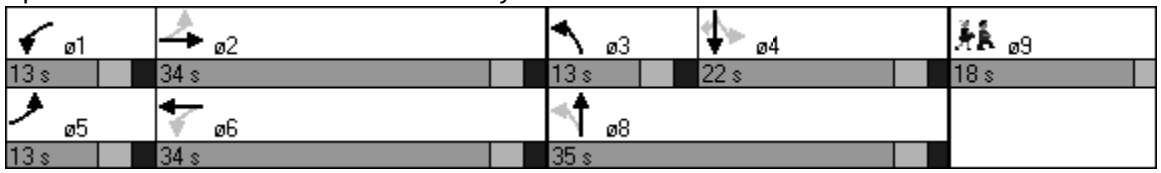
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min		Min	Min	Min	None
Walk Time (s)													5.0
Flash Dont Walk (s)													11.0
Pedestrian Calls (#/hr)													0
Act Effct Green (s)	35.4	30.2		35.4	30.2		31.2	31.2			18.1	18.1	
Actuated g/C Ratio	0.43	0.39		0.43	0.39		0.41	0.41			0.24	0.24	
v/c Ratio	0.08	0.83		0.20	0.36		0.79	0.48			0.85	0.17	
Control Delay	10.7	33.8		12.2	18.9		39.1	19.4			51.5	8.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0	
Total Delay	10.7	33.8		12.2	18.9		39.1	19.4			51.5	8.3	
LOS	B	C		B	B		D	B			D	A	
Approach Delay		32.4			17.8			27.4			43.8		
Approach LOS		C			B			C			D		
Queue Length 50th (ft)	9	269		13	92		88	127			166	0	
Queue Length 95th (ft)	23	#469		30	155		#198	208			#295	29	
Internal Link Dist (ft)		1070			720			280			420		
Turn Bay Length (ft)													
Base Capacity (vph)	462	712		274	722		307	735			389	428	
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	0.08	0.83		0.20	0.36		0.79	0.48			0.85	0.17	

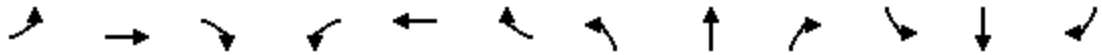
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 76.8			
Natural Cycle: 110			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 30.9		Intersection LOS: C	
Intersection Capacity Utilization 84.1%		ICU Level of Service E	

Analysis Period (min) 15

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

Splits and Phases: 1: River Street & Seyon Street





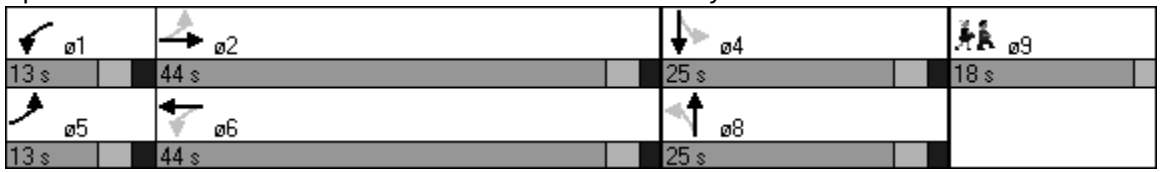
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.992			0.976			0.991			0.942		
Flt Protected	0.950			0.950				0.970			0.975		
Satd. Flow (prot)	1770	1848	0	1770	1818	0	0	1791	0	0	1711	0	
Flt Permitted	0.275			0.208				0.781			0.833		
Satd. Flow (perm)	512	1848	0	387	1818	0	0	1442	0	0	1462	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		3			11			3			35		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		450			1150			360			500		
Travel Time (s)		10.2			26.1			8.2			11.4		
Volume (vph)	41	464	25	2	368	70	21	11	2	99	12	85	
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.77	0.77	0.77	0.91	0.91	0.91	
Adj. Flow (vph)	46	516	28	2	400	76	27	14	3	109	13	93	
Lane Group Flow (vph)	46	544	0	2	476	0	0	44	0	0	215	0	
Turn Type	pm+pt			pm+pt			Perm			Perm			
Protected Phases	5	2		1	6			8			4		9
Permitted Phases	2			6			8			4			
Detector Phases	5	2		1	6		8	8		4	4		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		1.0
Minimum Split (s)	13.0	20.0		13.0	20.0		20.0	20.0		20.0	20.0		18.0
Total Split (s)	13.0	44.0	0.0	13.0	44.0	0.0	25.0	25.0	0.0	25.0	25.0	0.0	18.0
Total Split (%)	13.0%	44.0%	0.0%	13.0%	44.0%	0.0%	25.0%	25.0%	0.0%	25.0%	25.0%	0.0%	18%
Maximum Green (s)	8.0	39.0		8.0	39.0		20.0	20.0		20.0	20.0		16.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lag		Lead	Lag								

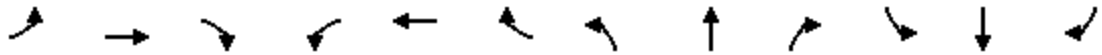
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	None	Max		None	Max		None	None		None	None		None
Walk Time (s)													5.0
Flash Dont Walk (s)													11.0
Pedestrian Calls (#/hr)													0
Act Effct Green (s)	46.9	45.7		45.5	41.0			14.9			14.9		
Actuated g/C Ratio	0.62	0.64		0.56	0.58			0.21			0.21		
v/c Ratio	0.10	0.46		0.01	0.45			0.14			0.64		
Control Delay	5.6	9.9		6.5	12.7			23.9			31.7		
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0		
Total Delay	5.6	9.9		6.5	12.7			23.9			31.7		
LOS	A	A		A	B			C			C		
Approach Delay		9.6			12.7			23.9			31.7		
Approach LOS		A			B			C			C		
Queue Length 50th (ft)	6	95		0	134			16			79		
Queue Length 95th (ft)	18	292		2	244			35			149		
Internal Link Dist (ft)		370			1070			280			420		
Turn Bay Length (ft)													
Base Capacity (vph)	464	1190		371	1054			400			428		
Starvation Cap Reductn	0	0		0	0			0			0		
Spillback Cap Reductn	0	0		0	0			0			0		
Storage Cap Reductn	0	0		0	0			0			0		
Reduced v/c Ratio	0.10	0.46		0.01	0.45			0.11			0.50		

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 71			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 14.8		Intersection LOS: B	
Intersection Capacity Utilization 53.4%		ICU Level of Service A	

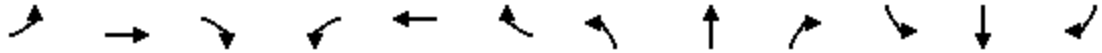
Analysis Period (min) 15

Splits and Phases: 2: River Street & Shaw's Site Driveway





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.946			0.978			0.964				0.850	
Flt Protected	0.950			0.950			0.950				0.988		
Satd. Flow (prot)	1770	1762	0	1770	1822	0	1770	1796	0	0	1840	1583	
Flt Permitted	0.160			0.160			0.154				0.648		
Satd. Flow (perm)	298	1762	0	298	1822	0	287	1796	0	0	1207	1583	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		27			8			18				89	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1150			800			360			500		
Travel Time (s)		26.1			18.2			8.2			11.4		
Volume (vph)	77	332	186	101	429	76	234	318	100	84	253	83	
Peak Hour Factor	0.88	0.88	0.88	0.90	0.90	0.90	0.92	0.92	0.92	0.93	0.93	0.93	
Adj. Flow (vph)	88	377	211	112	477	84	254	346	109	90	272	89	
Lane Group Flow (vph)	88	588	0	112	561	0	254	455	0	0	362	89	
Turn Type	pm+pt			pm+pt			pm+pt			Perm		Perm	
Protected Phases	5	2		1	6		7	4			8		9
Permitted Phases	2			6			4			8		8	
Detector Phases	5	2		1	6		7	4		8	8	8	
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	8.0	1.0
Minimum Split (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	13.0	13.0	18.0
Total Split (s)	13.0	29.0	0.0	13.0	29.0	0.0	13.0	40.0	0.0	27.0	27.0	27.0	18.0
Total Split (%)	13.0%	29.0%	0.0%	13.0%	29.0%	0.0%	13.0%	40.0%	0.0%	27.0%	27.0%	27.0%	18%
Maximum Green (s)	8.0	24.0		8.0	24.0		8.0	35.0		22.0	22.0	22.0	16.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0	2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0	0.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lag	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min		Min	Min	Min	None
Walk Time (s)													5.0
Flash Dont Walk (s)													11.0
Pedestrian Calls (#/hr)													0
Act Effct Green (s)	32.2	25.1		32.2	25.1		36.2	36.2			23.1	23.1	
Actuated g/C Ratio	0.39	0.32		0.39	0.32		0.46	0.46			0.29	0.29	
v/c Ratio	0.32	1.02		0.40	0.96		0.85	0.55			1.03	0.17	
Control Delay	16.0	72.1		17.7	59.1		43.5	19.0			88.0	6.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0	
Total Delay	16.0	72.1		17.7	59.1		43.5	19.0			88.0	6.4	
LOS	B	E		B	E		D	B			F	A	
Approach Delay		64.8			52.2			27.8			71.9		
Approach LOS		E			D			C			E		
Queue Length 50th (ft)	25	~326		32	283		82	162			~209	0	
Queue Length 95th (ft)	49	#506		61	#496		#210	253			#372	33	
Internal Link Dist (ft)		1070			720			280			420		
Turn Bay Length (ft)													
Base Capacity (vph)	278	576		278	582		300	828			352	524	
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	0.32	1.02		0.40	0.96		0.85	0.55			1.03	0.17	

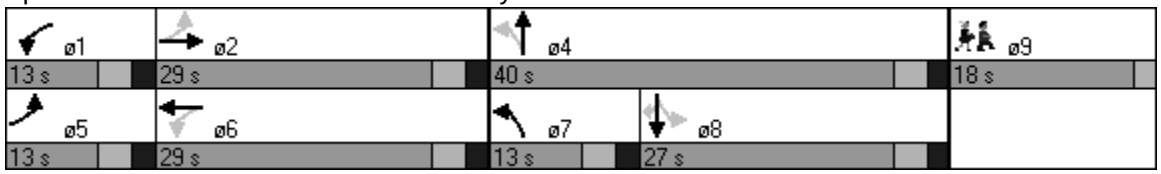
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 79.4			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.03			
Intersection Signal Delay: 52.2		Intersection LOS: D	
Intersection Capacity Utilization 89.6%		ICU Level of Service E	

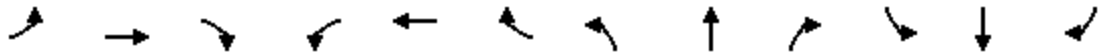
Analysis Period (min) 15

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

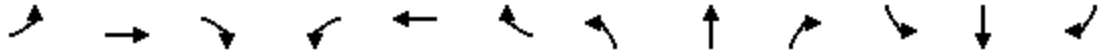
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: River Street & Seyon Street





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.978			0.980			0.980			0.951		
Flt Protected	0.950			0.950				0.973			0.978		
Satd. Flow (prot)	1770	1822	0	1770	1825	0	0	1776	0	0	1732	0	
Flt Permitted	0.091			0.263				0.632			0.776		
Satd. Flow (perm)	170	1822	0	490	1825	0	0	1154	0	0	1375	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		11			10			8			25		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		450			1150			360			500		
Travel Time (s)		10.2			26.1			8.2			11.4		
Volume (vph)	41	425	71	3	617	96	72	38	19	94	40	75	
Peak Hour Factor	0.94	0.94	0.94	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	44	452	76	3	649	101	78	41	21	102	43	82	
Lane Group Flow (vph)	44	528	0	3	750	0	0	140	0	0	227	0	
Turn Type	pm+pt			pm+pt			Perm			Perm			
Protected Phases	5	2		1	6			8			4		9
Permitted Phases	2			6			8			4			
Detector Phases	5	2		1	6		8	8		4	4		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		1.0
Minimum Split (s)	13.0	20.0		13.0	20.0		20.0	20.0		20.0	20.0		18.0
Total Split (s)	13.0	48.0	0.0	13.0	48.0	0.0	21.0	21.0	0.0	21.0	21.0	0.0	18.0
Total Split (%)	13.0%	48.0%	0.0%	13.0%	48.0%	0.0%	21.0%	21.0%	0.0%	21.0%	21.0%	0.0%	18%
Maximum Green (s)	8.0	43.0		8.0	43.0		16.0	16.0		16.0	16.0		16.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lag		Lead	Lag								



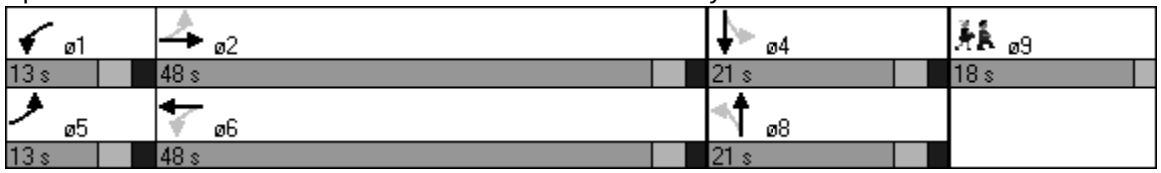
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	None	Max		None	Max		None	None		None	None		None
Walk Time (s)													5.0
Flash Dont Walk (s)													11.0
Pedestrian Calls (#/hr)													0
Act Effct Green (s)	50.9	49.3		49.5	44.5			15.9			15.9		
Actuated g/C Ratio	0.63	0.65		0.57	0.59			0.21			0.21		
v/c Ratio	0.15	0.44		0.01	0.70			0.56			0.74		
Control Delay	5.7	8.9		5.3	17.0			36.5			42.1		
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0		
Total Delay	5.7	8.9		5.3	17.0			36.5			42.1		
LOS	A	A		A	B			D			D		
Approach Delay		8.6			17.0			36.5			42.1		
Approach LOS		A			B			D			D		
Queue Length 50th (ft)	6	96		1	278			61			98		
Queue Length 95th (ft)	15	248		3	429			121			#206		
Internal Link Dist (ft)		370			1070			280			420		
Turn Bay Length (ft)													
Base Capacity (vph)	285	1191		417	1078			264			326		
Starvation Cap Reductn	0	0		0	0			0			0		
Spillback Cap Reductn	0	0		0	0			0			0		
Storage Cap Reductn	0	0		0	0			0			0		
Reduced v/c Ratio	0.15	0.44		0.01	0.70			0.53			0.70		

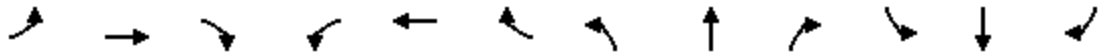
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 75.7			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 19.1		Intersection LOS: B	
Intersection Capacity Utilization 58.6%		ICU Level of Service B	

Analysis Period (min) 15

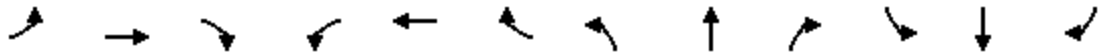
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: River Street & Shaw's Site Driveway





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.952			0.977			0.948				0.850	
Flt Protected	0.950			0.950			0.950				0.993		
Satd. Flow (prot)	1770	1773	0	1770	1820	0	1770	1766	0	0	1850	1583	
Flt Permitted	0.428			0.133			0.182				0.882		
Satd. Flow (perm)	797	1773	0	248	1820	0	339	1766	0	0	1643	1583	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		24			9			28				74	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1150			800			360			500		
Travel Time (s)		26.1			18.2			8.2			11.4		
Volume (vph)	37	391	186	54	218	39	242	232	123	44	253	64	
Peak Hour Factor	0.93	0.93	0.93	0.95	0.95	0.95	0.95	0.95	0.95	0.86	0.86	0.86	
Adj. Flow (vph)	40	420	200	57	229	41	255	244	129	51	294	74	
Lane Group Flow (vph)	40	620	0	57	270	0	255	373	0	0	345	74	
Turn Type	pm+pt			pm+pt			pm+pt			Perm		Perm	
Protected Phases	5	2		1	6		3	8			4		9
Permitted Phases	2			6			8			4		4	
Detector Phases	5	2		1	6		3	8		4	4	4	
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	8.0	1.0
Minimum Split (s)	13.0	21.0		13.0	21.0		13.0	21.0		21.0	21.0	21.0	18.0
Total Split (s)	13.0	34.0	0.0	13.0	34.0	0.0	13.0	35.0	0.0	22.0	22.0	22.0	18.0
Total Split (%)	13.0%	34.0%	0.0%	13.0%	34.0%	0.0%	13.0%	35.0%	0.0%	22.0%	22.0%	22.0%	18%
Maximum Green (s)	8.0	29.0		8.0	29.0		8.0	30.0		17.0	17.0	17.0	16.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0	2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0	0.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lag	



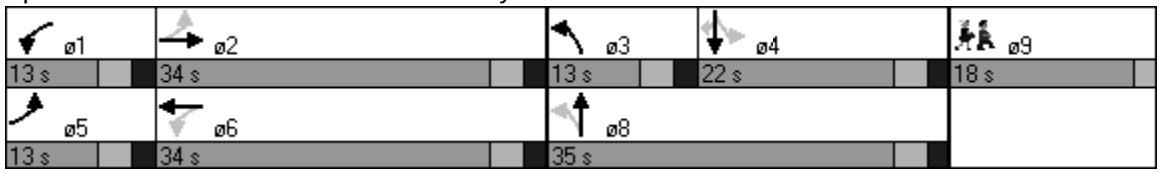
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min		Min	Min	Min	None
Walk Time (s)													5.0
Flash Dont Walk (s)													11.0
Pedestrian Calls (#/hr)													0
Act Effct Green (s)	35.4	30.2		35.4	30.2		31.2	31.2			18.1	18.1	
Actuated g/C Ratio	0.43	0.39		0.43	0.39		0.41	0.41			0.24	0.24	
v/c Ratio	0.09	0.87		0.21	0.37		0.83	0.51			0.89	0.17	
Control Delay	10.7	37.7		12.4	19.2		44.0	19.9			57.2	8.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0	
Total Delay	10.7	37.7		12.4	19.2		44.0	19.9			57.2	8.2	
LOS	B	D		B	B		D	B			E	A	
Approach Delay		36.1			18.0			29.7			48.6		
Approach LOS		D			B			C			D		
Queue Length 50th (ft)	9	291		13	98		93	135			176	0	
Queue Length 95th (ft)	24	#505		31	162		#215	220			#314	30	
Internal Link Dist (ft)		1070			720			280			420		
Turn Bay Length (ft)													
Base Capacity (vph)	451	712		274	722		307	735			388	430	
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	0.09	0.87		0.21	0.37		0.83	0.51			0.89	0.17	

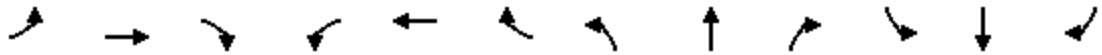
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 76.8			
Natural Cycle: 130			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 33.8		Intersection LOS: C	
Intersection Capacity Utilization 87.4%		ICU Level of Service E	

Analysis Period (min) 15

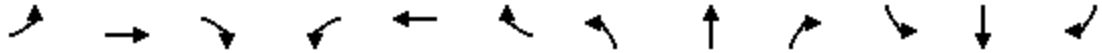
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: River Street & Seyon Street





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.993			0.976			0.991			0.941		
Flt Protected	0.950			0.950				0.970			0.975		
Satd. Flow (prot)	1770	1850	0	1770	1818	0	0	1791	0	0	1709	0	
Flt Permitted	0.248			0.183				0.775			0.833		
Satd. Flow (perm)	462	1850	0	341	1818	0	0	1431	0	0	1460	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		3			11			3			35		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		450			1150			360			500		
Travel Time (s)		10.2			26.1			8.2			11.4		
Volume (vph)	43	487	25	2	389	74	21	11	2	104	12	89	
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.77	0.77	0.77	0.91	0.91	0.91	
Adj. Flow (vph)	48	541	28	2	423	80	27	14	3	114	13	98	
Lane Group Flow (vph)	48	569	0	2	503	0	0	44	0	0	225	0	
Turn Type	pm+pt			pm+pt			Perm			Perm			
Protected Phases	5	2		1	6			8			4		9
Permitted Phases	2			6			8			4			
Detector Phases	5	2		1	6		8	8		4	4		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		1.0
Minimum Split (s)	13.0	20.0		13.0	20.0		20.0	20.0		20.0	20.0		18.0
Total Split (s)	13.0	44.0	0.0	13.0	44.0	0.0	25.0	25.0	0.0	25.0	25.0	0.0	18.0
Total Split (%)	13.0%	44.0%	0.0%	13.0%	44.0%	0.0%	25.0%	25.0%	0.0%	25.0%	25.0%	0.0%	18%
Maximum Green (s)	8.0	39.0		8.0	39.0		20.0	20.0		20.0	20.0		16.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lag		Lead	Lag								

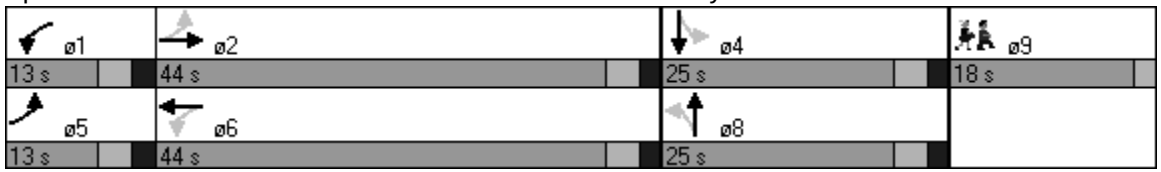


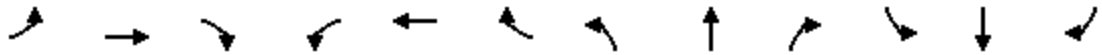
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	None	Max		None	Max		None	None		None	None		None
Walk Time (s)													5.0
Flash Dont Walk (s)													11.0
Pedestrian Calls (#/hr)													0
Act Effct Green (s)	46.9	45.7		45.5	41.0			15.2			15.2		
Actuated g/C Ratio	0.61	0.64		0.56	0.57			0.21			0.21		
v/c Ratio	0.11	0.48		0.01	0.48			0.14			0.66		
Control Delay	5.8	10.4		6.5	13.3			23.7			32.5		
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0		
Total Delay	5.8	10.4		6.5	13.3			23.7			32.5		
LOS	A	B		A	B			C			C		
Approach Delay		10.0			13.3			23.7			32.5		
Approach LOS		B			B			C			C		
Queue Length 50th (ft)	6	105		0	148			16			84		
Queue Length 95th (ft)	19	311		2	262			35			156		
Internal Link Dist (ft)		370			1070			280			420		
Turn Bay Length (ft)													
Base Capacity (vph)	437	1185		349	1049			397			428		
Starvation Cap Reductn	0	0		0	0			0			0		
Spillback Cap Reductn	0	0		0	0			0			0		
Storage Cap Reductn	0	0		0	0			0			0		
Reduced v/c Ratio	0.11	0.48		0.01	0.48			0.11			0.53		

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 71.4			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 15.3		Intersection LOS: B	
Intersection Capacity Utilization 55.7%		ICU Level of Service B	

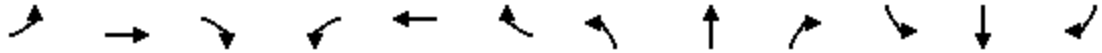
Analysis Period (min) 15

Splits and Phases: 2: River Street & Shaw's Site Driveway





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.946			0.977			0.964				0.850	
Flt Protected	0.950			0.950			0.950				0.988		
Satd. Flow (prot)	1770	1762	0	1770	1820	0	1770	1796	0	0	1840	1583	
Flt Permitted	0.160			0.160			0.148				0.584		
Satd. Flow (perm)	298	1762	0	298	1820	0	276	1796	0	0	1088	1583	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		27			9			18				94	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1150			800			360			500		
Travel Time (s)		26.1			18.2			8.2			11.4		
Volume (vph)	81	349	195	106	450	80	246	334	105	88	266	87	
Peak Hour Factor	0.88	0.88	0.88	0.90	0.90	0.90	0.92	0.92	0.92	0.93	0.93	0.93	
Adj. Flow (vph)	92	397	222	118	500	89	267	363	114	95	286	94	
Lane Group Flow (vph)	92	619	0	118	589	0	267	477	0	0	381	94	
Turn Type	pm+pt			pm+pt			pm+pt			Perm		Perm	
Protected Phases	5	2		1	6		7	4			8		9
Permitted Phases	2			6			4			8		8	
Detector Phases	5	2		1	6		7	4		8	8	8	
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	8.0	1.0
Minimum Split (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	13.0	13.0	18.0
Total Split (s)	13.0	29.0	0.0	13.0	29.0	0.0	13.0	40.0	0.0	27.0	27.0	27.0	18.0
Total Split (%)	13.0%	29.0%	0.0%	13.0%	29.0%	0.0%	13.0%	40.0%	0.0%	27.0%	27.0%	27.0%	18%
Maximum Green (s)	8.0	24.0		8.0	24.0		8.0	35.0		22.0	22.0	22.0	16.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0	2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0	0.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lag	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min		Min	Min	Min	None
Walk Time (s)													5.0
Flash Dont Walk (s)													11.0
Pedestrian Calls (#/hr)													0
Act Effct Green (s)	32.2	25.1		32.2	25.1		36.2	36.2			23.1	23.1	
Actuated g/C Ratio	0.39	0.32		0.39	0.32		0.46	0.46			0.29	0.29	
v/c Ratio	0.33	1.07		0.42	1.01		0.90	0.58			1.20	0.18	
Control Delay	16.2	87.9		18.2	70.6		52.7	19.6			147.5	6.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0	
Total Delay	16.2	87.9		18.2	70.6		52.7	19.6			147.5	6.3	
LOS	B	F		B	E		D	B			F	A	
Approach Delay		78.6			61.8			31.5			119.6		
Approach LOS		E			E			C			F		
Queue Length 50th (ft)	26	~361		33	~332		87	173			~248	0	
Queue Length 95th (ft)	51	#543		64	#532		#232	270			#415	33	
Internal Link Dist (ft)		1070			720			280			420		
Turn Bay Length (ft)													
Base Capacity (vph)	278	576		278	582		296	828			317	528	
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	1.07		0.42	1.01		0.90	0.58			1.20	0.18	

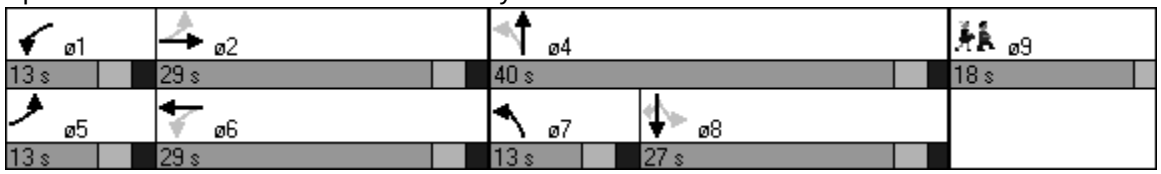
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 79.4			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.20			
Intersection Signal Delay: 68.2		Intersection LOS: E	
Intersection Capacity Utilization 93.1%		ICU Level of Service F	

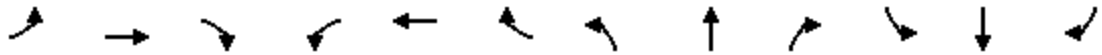
Analysis Period (min) 15

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

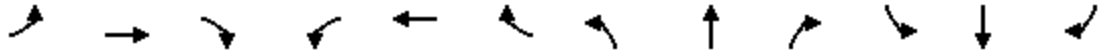
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: River Street & Seyon Street





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.979			0.980			0.980			0.951		
Flt Protected	0.950			0.950				0.973			0.978		
Satd. Flow (prot)	1770	1824	0	1770	1825	0	0	1776	0	0	1732	0	
Flt Permitted	0.091			0.243				0.630			0.773		
Satd. Flow (perm)	170	1824	0	453	1825	0	0	1150	0	0	1369	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		10			10			8			25		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		450			1150			360			500		
Travel Time (s)		10.2			26.1			8.2			11.4		
Volume (vph)	43	446	71	3	648	101	72	38	19	99	40	79	
Peak Hour Factor	0.94	0.94	0.94	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	46	474	76	3	682	106	78	41	21	108	43	86	
Lane Group Flow (vph)	46	550	0	3	788	0	0	140	0	0	237	0	
Turn Type	pm+pt			pm+pt			Perm			Perm			
Protected Phases	5	2		1	6			8			4		9
Permitted Phases	2			6			8			4			
Detector Phases	5	2		1	6		8	8		4	4		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		1.0
Minimum Split (s)	13.0	20.0		13.0	20.0		20.0	20.0		20.0	20.0		18.0
Total Split (s)	13.0	48.0	0.0	13.0	48.0	0.0	21.0	21.0	0.0	21.0	21.0	0.0	18.0
Total Split (%)	13.0%	48.0%	0.0%	13.0%	48.0%	0.0%	21.0%	21.0%	0.0%	21.0%	21.0%	0.0%	18%
Maximum Green (s)	8.0	43.0		8.0	43.0		16.0	16.0		16.0	16.0		16.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lag		Lead	Lag								



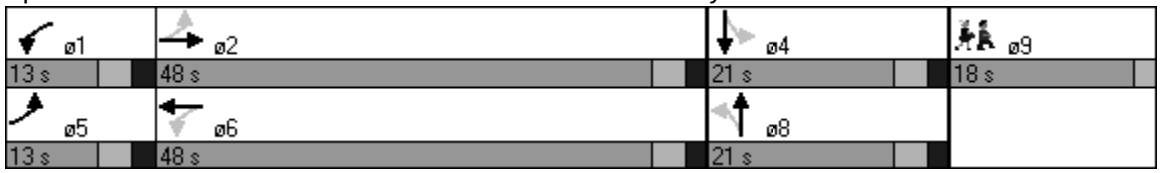
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	None	Max		None	Max		None	None		None	None		None
Walk Time (s)													5.0
Flash Dont Walk (s)													11.0
Pedestrian Calls (#/hr)													0
Act Effct Green (s)	51.0	49.3		49.5	44.4			16.4			16.4		
Actuated g/C Ratio	0.63	0.65		0.57	0.58			0.22			0.22		
v/c Ratio	0.16	0.46		0.01	0.74			0.55			0.75		
Control Delay	5.8	9.3		5.3	18.7			35.9			43.3		
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0		
Total Delay	5.8	9.3		5.3	18.7			35.9			43.3		
LOS	A	A		A	B			D			D		
Approach Delay		9.0			18.7			35.9			43.3		
Approach LOS		A			B			D			D		
Queue Length 50th (ft)	6	102		1	304			61			104		
Queue Length 95th (ft)	15	263		3	#472			121			#222		
Internal Link Dist (ft)		370			1070			280			420		
Turn Bay Length (ft)													
Base Capacity (vph)	283	1183		396	1068			263			325		
Starvation Cap Reductn	0	0		0	0			0			0		
Spillback Cap Reductn	0	0		0	0			0			0		
Storage Cap Reductn	0	0		0	0			0			0		
Reduced v/c Ratio	0.16	0.46		0.01	0.74			0.53			0.73		

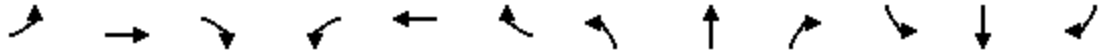
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 76.2			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 20.1		Intersection LOS: C	
Intersection Capacity Utilization 61.1%		ICU Level of Service B	

Analysis Period (min) 15

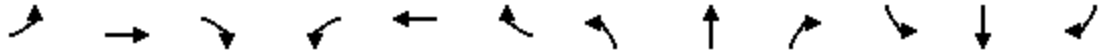
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: River Street & Shaw's Site Driveway





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.951			0.977			0.950				0.850	
Flt Protected	0.950			0.950			0.950				0.993		
Satd. Flow (prot)	1770	1771	0	1770	1820	0	1770	1770	0	0	1850	1583	
Flt Permitted	0.428			0.133			0.182				0.867		
Satd. Flow (perm)	797	1771	0	248	1820	0	339	1770	0	0	1615	1583	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		25			9			26				74	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1150			425			360			500		
Travel Time (s)		26.1			9.7			8.2			11.4		
Volume (vph)	37	391	192	58	218	39	267	248	123	44	257	64	
Peak Hour Factor	0.93	0.93	0.93	0.95	0.95	0.95	0.95	0.95	0.95	0.86	0.86	0.86	
Adj. Flow (vph)	40	420	206	61	229	41	281	261	129	51	299	74	
Lane Group Flow (vph)	40	626	0	61	270	0	281	390	0	0	350	74	
Turn Type	pm+pt			pm+pt			pm+pt			Perm		Perm	
Protected Phases	5	2		1	6		3	8			4		9
Permitted Phases	2			6			8			4		4	
Detector Phases	5	2		1	6		3	8		4	4	4	
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	8.0	1.0
Minimum Split (s)	13.0	21.0		13.0	21.0		13.0	21.0		21.0	21.0	21.0	18.0
Total Split (s)	13.0	34.0	0.0	13.0	34.0	0.0	13.0	35.0	0.0	22.0	22.0	22.0	18.0
Total Split (%)	13.0%	34.0%	0.0%	13.0%	34.0%	0.0%	13.0%	35.0%	0.0%	22.0%	22.0%	22.0%	18%
Maximum Green (s)	8.0	29.0		8.0	29.0		8.0	30.0		17.0	17.0	17.0	16.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0	2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0	0.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lag	



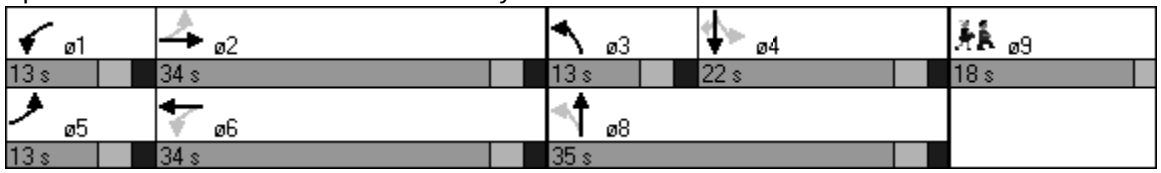
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min		Min	Min	Min	None
Walk Time (s)													5.0
Flash Dont Walk (s)													11.0
Pedestrian Calls (#/hr)													0
Act Effct Green (s)	37.3	30.1		38.0	32.7		31.1	31.1			18.1	18.1	
Actuated g/C Ratio	0.44	0.38		0.46	0.41		0.39	0.39			0.23	0.23	
v/c Ratio	0.09	0.91		0.22	0.36		0.95	0.55			0.95	0.18	
Control Delay	10.6	43.6		11.7	18.7		65.0	21.8			70.0	8.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0	
Total Delay	10.6	43.6		11.7	18.7		65.0	21.8			70.0	8.2	
LOS	B	D		B	B		E	C			E	A	
Approach Delay		41.6			17.4			39.9			59.2		
Approach LOS		D			B			D			E		
Queue Length 50th (ft)	9	296		14	98		104	145			180	0	
Queue Length 95th (ft)	24	#512		32	162		#250	233			#324	30	
Internal Link Dist (ft)		1070			345			280			420		
Turn Bay Length (ft)													
Base Capacity (vph)	455	688		282	754		296	710			368	418	
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	0.09	0.91		0.22	0.36		0.95	0.55			0.95	0.18	

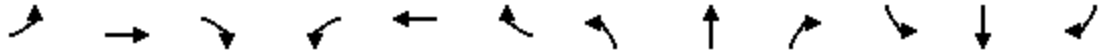
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 79.4			
Natural Cycle: 130			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 40.8		Intersection LOS: D	
Intersection Capacity Utilization 88.8%		ICU Level of Service E	

Analysis Period (min) 15

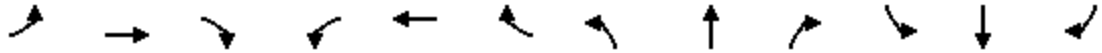
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: River Street & Seyon Street





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.993			0.976			0.991			0.941		
Flt Protected	0.950			0.950				0.970			0.975		
Satd. Flow (prot)	1770	1850	0	1770	1818	0	0	1791	0	0	1709	0	
Flt Permitted	0.220			0.177				0.774			0.833		
Satd. Flow (perm)	410	1850	0	330	1818	0	0	1429	0	0	1460	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		3			11			3			35		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		450			1150			360			500		
Travel Time (s)		10.2			26.1			8.2			11.4		
Volume (vph)	43	492	25	2	410	78	21	11	2	105	12	89	
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.77	0.77	0.77	0.91	0.91	0.91	
Adj. Flow (vph)	48	547	28	2	446	85	27	14	3	115	13	98	
Lane Group Flow (vph)	48	575	0	2	531	0	0	44	0	0	226	0	
Turn Type	pm+pt			pm+pt			Perm			Perm			
Protected Phases	5	2		1	6			8			4		9
Permitted Phases	2			6			8			4			
Detector Phases	5	2		1	6		8	8		4	4		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		1.0
Minimum Split (s)	13.0	20.0		13.0	20.0		20.0	20.0		20.0	20.0		18.0
Total Split (s)	13.0	44.0	0.0	13.0	44.0	0.0	25.0	25.0	0.0	25.0	25.0	0.0	18.0
Total Split (%)	13.0%	44.0%	0.0%	13.0%	44.0%	0.0%	25.0%	25.0%	0.0%	25.0%	25.0%	0.0%	18%
Maximum Green (s)	8.0	39.0		8.0	39.0		20.0	20.0		20.0	20.0		16.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lag		Lead	Lag								

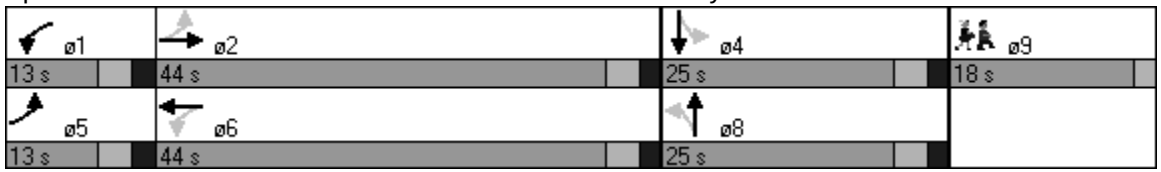


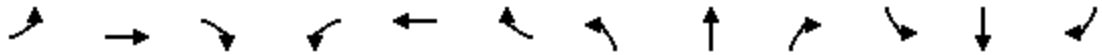
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	None	Max		None	Max		None	None		None	None		None
Walk Time (s)													5.0
Flash Dont Walk (s)													11.0
Pedestrian Calls (#/hr)													0
Act Effct Green (s)	46.9	45.7		45.6	41.0			15.3			15.3		
Actuated g/C Ratio	0.61	0.64		0.56	0.57			0.21			0.21		
v/c Ratio	0.12	0.49		0.01	0.51			0.14			0.66		
Control Delay	5.9	10.5		6.5	13.8			23.7			32.5		
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0		
Total Delay	5.9	10.5		6.5	13.8			23.7			32.5		
LOS	A	B		A	B			C			C		
Approach Delay		10.1			13.8			23.7			32.5		
Approach LOS		B			B			C			C		
Queue Length 50th (ft)	6	107		0	161			16			85		
Queue Length 95th (ft)	19	316		2	283			35			157		
Internal Link Dist (ft)		370			1070			280			420		
Turn Bay Length (ft)													
Base Capacity (vph)	411	1184		344	1047			396			428		
Starvation Cap Reductn	0	0		0	0			0			0		
Spillback Cap Reductn	0	0		0	0			0			0		
Storage Cap Reductn	0	0		0	0			0			0		
Reduced v/c Ratio	0.12	0.49		0.01	0.51			0.11			0.53		

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 71.5			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 15.5		Intersection LOS: B	
Intersection Capacity Utilization 55.8%		ICU Level of Service B	

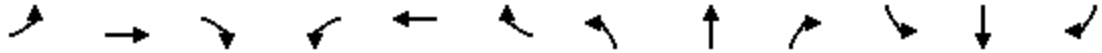
Analysis Period (min) 15

Splits and Phases: 2: River Street & Shaw's Site Driveway





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.942			0.977			0.965				0.850	
Flt Protected	0.950			0.950			0.950				0.988		
Satd. Flow (prot)	1770	1755	0	1770	1820	0	1770	1798	0	0	1840	1583	
Flt Permitted	0.160			0.160			0.148				0.565		
Satd. Flow (perm)	298	1755	0	298	1820	0	276	1798	0	0	1052	1583	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		30			9			17				94	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1150			800			360			500		
Travel Time (s)		26.1			18.2			8.2			11.4		
Volume (vph)	81	349	219	122	450	80	258	343	105	88	282	87	
Peak Hour Factor	0.88	0.88	0.88	0.90	0.90	0.90	0.92	0.92	0.92	0.93	0.93	0.93	
Adj. Flow (vph)	92	397	249	136	500	89	280	373	114	95	303	94	
Lane Group Flow (vph)	92	646	0	136	589	0	280	487	0	0	398	94	
Turn Type	pm+pt			pm+pt			pm+pt			Perm		Perm	
Protected Phases	5	2		1	6		7	4			8		9
Permitted Phases	2			6			4			8		8	
Detector Phases	5	2		1	6		7	4		8	8	8	
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	8.0	1.0
Minimum Split (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	13.0	13.0	18.0
Total Split (s)	13.0	29.0	0.0	13.0	29.0	0.0	13.0	40.0	0.0	27.0	27.0	27.0	18.0
Total Split (%)	13.0%	29.0%	0.0%	13.0%	29.0%	0.0%	13.0%	40.0%	0.0%	27.0%	27.0%	27.0%	18%
Maximum Green (s)	8.0	24.0		8.0	24.0		8.0	35.0		22.0	22.0	22.0	16.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0	2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0	0.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lag	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min		Min	Min	Min	None
Walk Time (s)													5.0
Flash Dont Walk (s)													11.0
Pedestrian Calls (#/hr)													0
Act Effct Green (s)	34.1	25.0		34.8	27.6		36.0	36.0			23.0	23.0	
Actuated g/C Ratio	0.40	0.30		0.42	0.34		0.44	0.44			0.28	0.28	
v/c Ratio	0.33	1.16		0.47	0.95		0.98	0.61			1.35	0.18	
Control Delay	16.2	119.3		18.8	56.3		70.6	21.0			206.2	6.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0	
Total Delay	16.2	119.3		18.8	56.3		70.6	21.0			206.2	6.3	
LOS	B	F		B	E		E	C			F	A	
Approach Delay		106.5			49.3			39.1			168.0		
Approach LOS		F			D			D			F		
Queue Length 50th (ft)	26	~390		39	~332		93	178			~272	0	
Queue Length 95th (ft)	51	#574		72	#532		#248	278			#441	33	
Internal Link Dist (ft)		1070			720			280			420		
Turn Bay Length (ft)													
Base Capacity (vph)	277	556		288	618		285	799			295	512	
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	1.16		0.47	0.95		0.98	0.61			1.35	0.18	

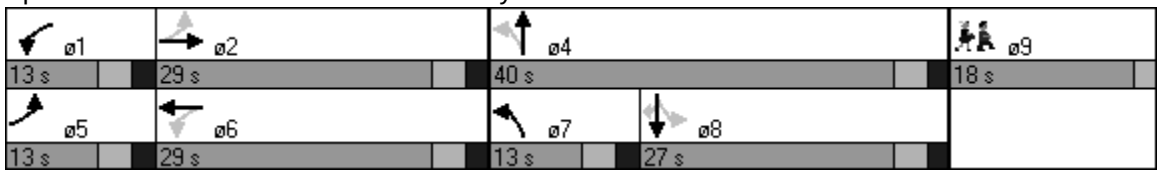
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 82			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.35			
Intersection Signal Delay: 83.4		Intersection LOS: F	
Intersection Capacity Utilization 96.0%		ICU Level of Service F	

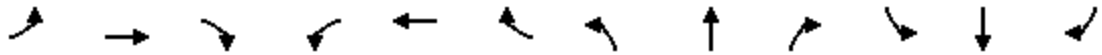
Analysis Period (min) 15

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

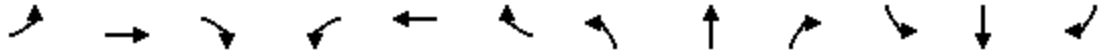
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: River Street & Seyon Street





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.980			0.980			0.980			0.952		
Flt Protected	0.950			0.950				0.973			0.977		
Satd. Flow (prot)	1770	1825	0	1770	1825	0	0	1776	0	0	1733	0	
Flt Permitted	0.091			0.224				0.634			0.770		
Satd. Flow (perm)	170	1825	0	417	1825	0	0	1157	0	0	1365	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		10			10			8			24		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		450			1150			360			500		
Travel Time (s)		10.2			26.1			8.2			11.4		
Volume (vph)	43	466	71	3	658	103	72	38	19	103	40	79	
Peak Hour Factor	0.94	0.94	0.94	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	46	496	76	3	693	108	78	41	21	112	43	86	
Lane Group Flow (vph)	46	572	0	3	801	0	0	140	0	0	241	0	
Turn Type	pm+pt			pm+pt			Perm			Perm			
Protected Phases	5	2		1	6			8			4		9
Permitted Phases	2			6			8			4			
Detector Phases	5	2		1	6		8	8		4	4		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		1.0
Minimum Split (s)	13.0	20.0		13.0	20.0		20.0	20.0		20.0	20.0		18.0
Total Split (s)	13.0	48.0	0.0	13.0	48.0	0.0	21.0	21.0	0.0	21.0	21.0	0.0	18.0
Total Split (%)	13.0%	48.0%	0.0%	13.0%	48.0%	0.0%	21.0%	21.0%	0.0%	21.0%	21.0%	0.0%	18%
Maximum Green (s)	8.0	43.0		8.0	43.0		16.0	16.0		16.0	16.0		16.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lag		Lead	Lag								



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	None	Max		None	Max		None	None		None	None		None
Walk Time (s)													5.0
Flash Dont Walk (s)													11.0
Pedestrian Calls (#/hr)													0
Act Effct Green (s)	51.0	49.2		49.5	44.4			16.8			16.8		
Actuated g/C Ratio	0.62	0.64		0.57	0.58			0.22			0.22		
v/c Ratio	0.16	0.49		0.01	0.75			0.54			0.76		
Control Delay	5.8	9.6		5.3	19.5			35.3			43.8		
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0		
Total Delay	5.8	9.6		5.3	19.5			35.3			43.8		
LOS	A	A		A	B			D			D		
Approach Delay		9.3			19.4			35.3			43.8		
Approach LOS		A			B			D			D		
Queue Length 50th (ft)	6	108		1	312			61			107		
Queue Length 95th (ft)	15	278		3	#503			121			#227		
Internal Link Dist (ft)		370			1070			280			420		
Turn Bay Length (ft)													
Base Capacity (vph)	282	1178		378	1062			264			323		
Starvation Cap Reductn	0	0		0	0			0			0		
Spillback Cap Reductn	0	0		0	0			0			0		
Storage Cap Reductn	0	0		0	0			0			0		
Reduced v/c Ratio	0.16	0.49		0.01	0.75			0.53			0.75		

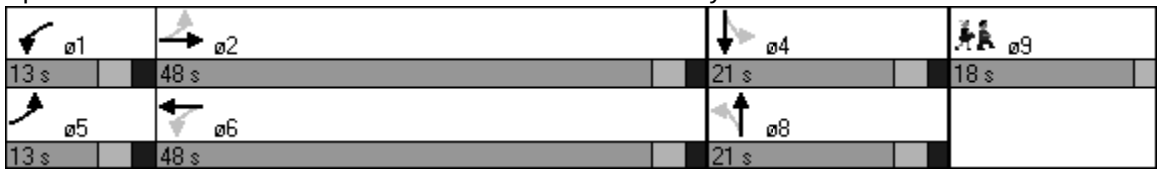
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 76.5			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 20.4		Intersection LOS: C	
Intersection Capacity Utilization 62.1%		ICU Level of Service B	

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 2: River Street & Shaw's Site Driveway



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	20	27	523	39	29	435
Peak Hour Factor	0.56	0.56	0.90	0.90	0.94	0.94
Hourly flow rate (vph)	36	48	581	43	31	463
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						360
pX, platoon unblocked	0.86					
vC, conflicting volume	1127	603			624	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1148	603			624	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	80	90			97	
cM capacity (veh/h)	183	499			957	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	84	624	494
Volume Left	36	0	31
Volume Right	48	43	0
cSH	288	1700	957
Volume to Capacity	0.29	0.37	0.03
Queue Length 95th (ft)	30	0	2
Control Delay (s)	22.6	0.0	0.9
Lane LOS	C		A
Approach Delay (s)	22.6	0.0	0.9
Approach LOS	C		

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	72	45	608	89	29	506
Peak Hour Factor	0.79	0.79	0.91	0.91	0.93	0.93
Hourly flow rate (vph)	91	57	668	98	31	544
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						360
pX, platoon unblocked	0.85					
vC, conflicting volume	1323	717			766	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1379	717			766	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	30	87			96	
cM capacity (veh/h)	131	430			847	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	148	766	575
Volume Left	91	0	31
Volume Right	57	98	0
cSH	179	1700	847
Volume to Capacity	0.83	0.45	0.04
Queue Length 95th (ft)	145	0	3
Control Delay (s)	81.6	0.0	1.0
Lane LOS	F		A
Approach Delay (s)	81.6	0.0	1.0
Approach LOS	F		

Intersection Summary			
Average Delay	8.5		
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	20	27	549	39	29	457
Peak Hour Factor	0.56	0.56	0.90	0.90	0.94	0.94
Hourly flow rate (vph)	36	48	610	43	31	486
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						360
pX, platoon unblocked	0.85					
vC, conflicting volume	1180	632			653	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1211	632			653	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	78	90			97	
cM capacity (veh/h)	166	481			933	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	84	653	517
Volume Left	36	0	31
Volume Right	48	43	0
cSH	266	1700	933
Volume to Capacity	0.32	0.38	0.03
Queue Length 95th (ft)	33	0	3
Control Delay (s)	24.7	0.0	0.9
Lane LOS	C		A
Approach Delay (s)	24.7	0.0	0.9
Approach LOS	C		

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	72	45	638	89	29	531
Peak Hour Factor	0.79	0.79	0.91	0.91	0.93	0.93
Hourly flow rate (vph)	91	57	701	98	31	571
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						360
pX, platoon unblocked	0.84					
vC, conflicting volume	1383	750			799	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1457	750			799	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	21	86			96	
cM capacity (veh/h)	115	411			824	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	148	799	602
Volume Left	91	0	31
Volume Right	57	98	0
cSH	159	1700	824
Volume to Capacity	0.93	0.47	0.04
Queue Length 95th (ft)	170	0	3
Control Delay (s)	110.4	0.0	1.0
Lane LOS	F		A
Approach Delay (s)	110.4	0.0	1.0
Approach LOS	F		

Intersection Summary			
Average Delay	10.9		
Intersection Capacity Utilization	65.0%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	45	68	549	45	43	457
Peak Hour Factor	0.56	0.56	0.90	0.90	0.94	0.94
Hourly flow rate (vph)	80	121	610	50	46	486
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						360
pX, platoon unblocked	0.84					
vC, conflicting volume	1213	635			660	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1252	635			660	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	47	75			95	
cM capacity (veh/h)	153	478			928	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	80	121	660	532
Volume Left	80	0	0	46
Volume Right	0	121	50	0
cSH	153	478	1700	928
Volume to Capacity	0.53	0.25	0.39	0.05
Queue Length 95th (ft)	65	25	0	4
Control Delay (s)	52.2	15.1	0.0	1.4
Lane LOS	F	C		A
Approach Delay (s)	29.8		0.0	1.4
Approach LOS	D			

Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	69.7%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	558	0	0	315	0	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	607	0	0	342	0	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	425					
pX, platoon unblocked			0.74		0.74	0.74
vC, conflicting volume			607		949	607
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			466		931	466
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	96
cM capacity (veh/h)			807		219	440

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	607	342	17
Volume Left	0	0	0
Volume Right	0	0	17
cSH	1700	1700	440
Volume to Capacity	0.36	0.20	0.04
Queue Length 95th (ft)	0	0	3
Control Delay (s)	0.0	0.0	13.5
Lane LOS			B
Approach Delay (s)	0.0	0.0	13.5
Approach LOS			B

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization	39.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	85	66	638	114	85	531
Peak Hour Factor	0.79	0.79	0.91	0.91	0.93	0.93
Hourly flow rate (vph)	108	84	701	125	91	571
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						360
pX, platoon unblocked	0.81					
vC, conflicting volume	1517	764			826	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1639	764			826	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	79			89	
cM capacity (veh/h)	79	404			804	

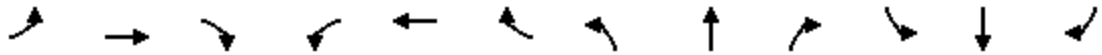
Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	108	84	826	662
Volume Left	108	0	0	91
Volume Right	0	84	125	0
cSH	79	404	1700	804
Volume to Capacity	1.36	0.21	0.49	0.11
Queue Length 95th (ft)	209	19	0	10
Control Delay (s)	316.6	16.2	0.0	2.9
Lane LOS	F	C		A
Approach Delay (s)	185.3		0.0	2.9
Approach LOS	F			

Intersection Summary			
Average Delay	22.2		
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		

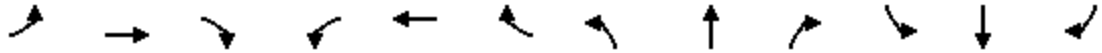
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	542	0	0	652	0	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	589	0	0	709	0	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			589		1298	589
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			589		1298	589
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	98
cM capacity (veh/h)			986		178	508

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	589	709	10
Volume Left	0	0	0
Volume Right	0	0	10
cSH	1700	1700	508
Volume to Capacity	0.35	0.42	0.02
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	12.2
Lane LOS			B
Approach Delay (s)	0.0	0.0	12.2
Approach LOS			B

Intersection Summary			
Average Delay		0.1	
Intersection Capacity Utilization		38.5%	ICU Level of Service A
Analysis Period (min)		15	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12	
Grade (%)		0%			0%			0%			0%		
Storage Length (ft)	0		0	0		0	0		0	0		0	
Storage Lanes	1		0	1		0	1		0	1		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor													
Frt		0.951			0.977			0.950			0.970		
Flt Protected	0.950			0.950			0.950			0.950			
Satd. Flow (prot)	1770	1771	0	1770	1820	0	1770	1770	0	1770	1807	0	
Flt Permitted	0.419			0.138			0.211			0.222			
Satd. Flow (perm)	780	1771	0	257	1820	0	393	1770	0	414	1807	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		25			9			22			11		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1150			425			360			500		
Travel Time (s)		26.1			9.7			8.2			11.4		
Volume (vph)	37	391	192	58	218	39	267	248	123	44	257	64	
Confl. Peds. (#/hr)													
Confl. Bikes (#/hr)													
Peak Hour Factor	0.93	0.93	0.93	0.95	0.95	0.95	0.95	0.95	0.95	0.86	0.86	0.86	
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0	
Parking (#/hr)													
Mid-Block Traffic (%)		0%			0%			0%			0%		
Adj. Flow (vph)	40	420	206	61	229	41	281	261	129	51	299	74	
Lane Group Flow (vph)	40	626	0	61	270	0	281	390	0	51	373	0	



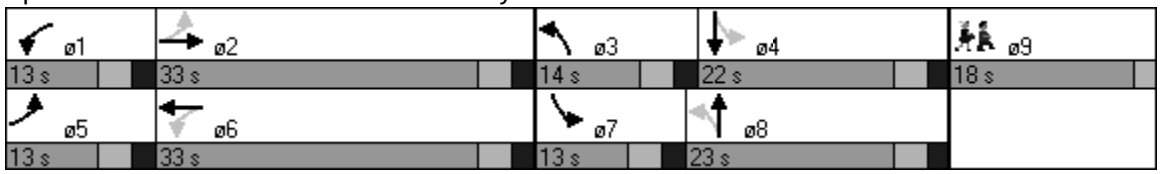
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt			
Protected Phases	5	2		1	6		3	8		7	4		9
Permitted Phases	2			6			8			4			
Detector Phases	5	2		1	6		3	8		7	4		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		1.0
Minimum Split (s)	13.0	21.0		13.0	21.0		13.0	21.0		13.0	21.0		18.0
Total Split (s)	13.0	33.0	0.0	13.0	33.0	0.0	14.0	23.0	0.0	13.0	22.0	0.0	18.0
Total Split (%)	13.0%	33.0%	0.0%	13.0%	33.0%	0.0%	14.0%	23.0%	0.0%	13.0%	22.0%	0.0%	18%
Maximum Green (s)	8.0	28.0		8.0	28.0		9.0	18.0		8.0	17.0		16.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Recall Mode	None	None		None	None		None	Min		None	Min		None
Walk Time (s)													5.0
Flash Dont Walk (s)													11.0
Pedestrian Calls (#/hr)													0
Act Effct Green (s)	36.3	29.1		37.0	31.7		30.4	24.6		27.1	18.1		
Actuated g/C Ratio	0.43	0.37		0.45	0.40		0.38	0.31		0.32	0.23		
v/c Ratio	0.09	0.94		0.22	0.37		0.86	0.69		0.18	0.89		
Control Delay	11.1	49.5		12.2	19.5		47.4	34.8		18.2	55.2		
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		
Total Delay	11.1	49.5		12.2	19.5		47.4	34.8		18.2	55.2		
LOS	B	D		B	B		D	C		B	E		
Approach Delay		47.2			18.2			40.1			50.8		
Approach LOS		D			B			D			D		
Queue Length 50th (ft)	10	302		15	100		102	186		16	183		
Queue Length 95th (ft)	25	#524		33	165		#238	#353		36	#322		
Internal Link Dist (ft)		1070			345			280			420		
Turn Bay Length (ft)													

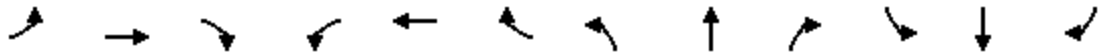
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Base Capacity (vph)	440	665		282	731		325	564		277	420		
Starvation Cap Reductn	0	0		0	0		0	0		0	0		
Spillback Cap Reductn	0	0		0	0		0	0		0	0		
Storage Cap Reductn	0	0		0	0		0	0		0	0		
Reduced v/c Ratio	0.09	0.94		0.22	0.37		0.86	0.69		0.18	0.89		

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 79.4			
Natural Cycle: 130			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 41.1		Intersection LOS: D	
Intersection Capacity Utilization 84.5%		ICU Level of Service E	
Analysis Period (min) 15			

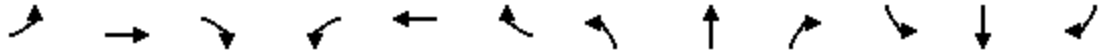
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: River Street & Seyon Street





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.942			0.977			0.965			0.964		
Flt Protected	0.950			0.950			0.950			0.950			
Satd. Flow (prot)	1770	1755	0	1770	1820	0	1770	1798	0	1770	1796	0	
Flt Permitted	0.133			0.133			0.182			0.211			
Satd. Flow (perm)	248	1755	0	248	1820	0	339	1798	0	393	1796	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		32			9			14			14		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1150			800			360			500		
Travel Time (s)		26.1			18.2			8.2			11.4		
Volume (vph)	81	349	219	122	450	80	258	343	105	88	282	87	
Peak Hour Factor	0.88	0.88	0.88	0.90	0.90	0.90	0.92	0.92	0.92	0.93	0.93	0.93	
Adj. Flow (vph)	92	397	249	136	500	89	280	373	114	95	303	94	
Lane Group Flow (vph)	92	646	0	136	589	0	280	487	0	95	397	0	
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt			
Protected Phases	5	2		1	6		7	4		3	8		9
Permitted Phases	2			6			4			8			
Detector Phases	5	2		1	6		7	4		3	8		
Minimum Initial (s)	6.0	8.0		6.0	8.0		6.0	8.0		6.0	8.0		1.0
Minimum Split (s)	11.0	13.0		11.0	13.0		11.0	13.0		11.0	13.0		18.0
Total Split (s)	11.0	34.0	0.0	11.0	34.0	0.0	14.0	26.0	0.0	11.0	23.0	0.0	18.0
Total Split (%)	11.0%	34.0%	0.0%	11.0%	34.0%	0.0%	14.0%	26.0%	0.0%	11.0%	23.0%	0.0%	18%
Maximum Green (s)	6.0	29.0		6.0	29.0		9.0	21.0		6.0	18.0		16.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag		



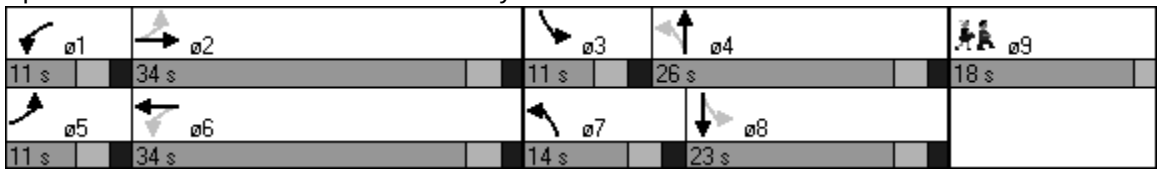
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	None	None		None	None		None	Min		None	Min		None
Walk Time (s)													5.0
Flash Dont Walk (s)													11.0
Pedestrian Calls (#/hr)													0
Act Effct Green (s)	37.1	30.0		37.8	32.2		32.2	24.2		26.1	19.0		
Actuated g/C Ratio	0.44	0.37		0.46	0.39		0.39	0.30		0.31	0.23		
v/c Ratio	0.39	0.98		0.56	0.82		0.91	0.90		0.40	0.93		
Control Delay	16.2	56.1		21.2	34.4		54.5	51.1		21.4	61.1		
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		
Total Delay	16.2	56.1		21.2	34.4		54.5	51.1		21.4	61.1		
LOS	B	E		C	C		D	D		C	E		
Approach Delay		51.1			32.0			52.3			53.4		
Approach LOS		D			C			D			D		
Queue Length 50th (ft)	24	309		36	273		99	243		30	194		
Queue Length 95th (ft)	47	#514		71	#469		#236	#442		60	#365		
Internal Link Dist (ft)		1070			720			280			420		
Turn Bay Length (ft)													
Base Capacity (vph)	236	662		244	721		308	541		236	427		
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	0.98		0.56	0.82		0.91	0.90		0.40	0.93		

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 82			
Natural Cycle: 140			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 46.8		Intersection LOS: D	
Intersection Capacity Utilization 86.2%		ICU Level of Service E	

Analysis Period (min) 15

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

Splits and Phases: 1: River Street & Seyon Street



INTERSECTION OF RIVER, SEYON, AND FARWELL STREETS CITY OF WALTHAM MASSACHUSETTS

DISCLAIMER:

This map is for reference and planning purposes only. It is prepared for the inventory of real property within the City of Waltham and is compiled from tax maps, recorded deeds and plats. Users of this tax map are hereby notified that the aforementioned public primary information sources should be consulted for the verification of the information contained on this map. The City of Waltham and its mapping contractors assume no legal responsibility for the information contained herein.

DATA SOURCE:

The digital planimetric base map data was developed by Chas H Sells, Inc. and is based on a spring 2008 1"= 40' scale color orthophotographs. The parcel data and are current as of January 2016. Map prepared by City of Waltham GIS.

Legend

- Area Drain
- Drain Manhole
- Catch Basin
- Clean-out
- Outfall, Outlet
- Stormceptor
- Sewer Manhole
- Blow-off Valve
- Gate Valve - Hydrant
- Gate valve
- Hydrant
- Pipe-End, Plug
- Reducer
- Catch Basin Lateral
- Gravity Drain
- Roof Drain
- Under Drain
- Sewer Force Main
- Sewer Gravity Main
- Service
- Domestic Service
- Fire Service
- Hydrant Lateral
- Water Main
- Stream
- Underground Basin
- Tax Map Grid
- Parcel Lines
- Swimming Pools
- Building Footprints
- Paved Area
- Unpaved Area
- Private Walkway
- City Boundary
- Water Bodies
- Upland
- Wetland Area
- Vegetated Area
- 22-1 Block & Lot Number
- 19 Address Number

N W E S

1 inch = 40 feet

0 20 40 80 Feet

		1	2	3					
		4	5	6	7	8			
9	10	11	12	13	14	15	16	17	
18	19	20	21	22	23	24	25	26	27
28	29	30	31	32	33	34	35	36	37
	38	39	40	41	42	43	44	45	46
	47	48	49	50	51	52	53	54	55
	56	57	58	59	60	61	62	63	64
	65	66	67	68	69	70	71	72	
	73	74	75	76	77	78			
		79	80	81					

Map No.:

71

Document Path: G:\Maps\Intersection Farwell @ Seyon Streets - Utilities.mxd

INTERSECTION OF RIVER, SEYON, AND FARWELL STREETS CITY OF WALTHAM MASSACHUSETTS

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Legend

- Stream
- Tax Map Grid
- Parcel Lines
- Swimming Pools
- Building Footprints
- Paved Area
- Unpaved Area
- Private Walkway
- City Boundary
- Water Bodies
- Upland
- Wetland Area
- Vegetated Area

22-1 Block & Lot Number

19 Address Number

N W E S

1 inch = 40 feet

0 20 40 80 Feet

Map No.:

71

Document Path: G:\Maps\Intersection Farwell @ Seyon Streets.mxd

CONLEY
ASSOCIATES

TRAFFIC IMPACT STUDY

TC SARACEN, LLC
36 RIVER STREET
WALTHAM, MASSACHUSETTS

OCTOBER 2010

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349 Lakewood Drive, Killington, VT 05751 (802) 345-2321
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Introduction

Conley Associates, Inc. has assessed the traffic impacts associated with the development of the southeast corner of the intersection of River Street at Farwell Street and Seyon Street in Waltham, Massachusetts. The site currently used as a parking facility for school buses and a car dealership. The proposed development consists of 200 residential apartment units. Access to the site will be provided via the existing Right of Way (ROW) easement that provides the rear access to the Stop & Shop Site (Stop & Shop ROW). The existing Stop & Shop ROW alignment will be modified to provide access to the site while still providing full access to the Stop & Shop site. There will also be an egress only driveway onto River Street on the east end of the site.

The analysis conducted for this Traffic Impact Study (TIS) concentrates on the weekday AM peak period (7:00 AM to 9:00 AM) and the weekday PM peak period (4:00 PM to 6:00 PM). The study area consists of the intersections of River Street at Farwell Street and Seyon Street, River Street at Willow Street and the Shaw's Site Driveway, and Farwell Street at the Stop & Shop ROW. Please see Figure 1 for a map of the local area.

Existing Conditions

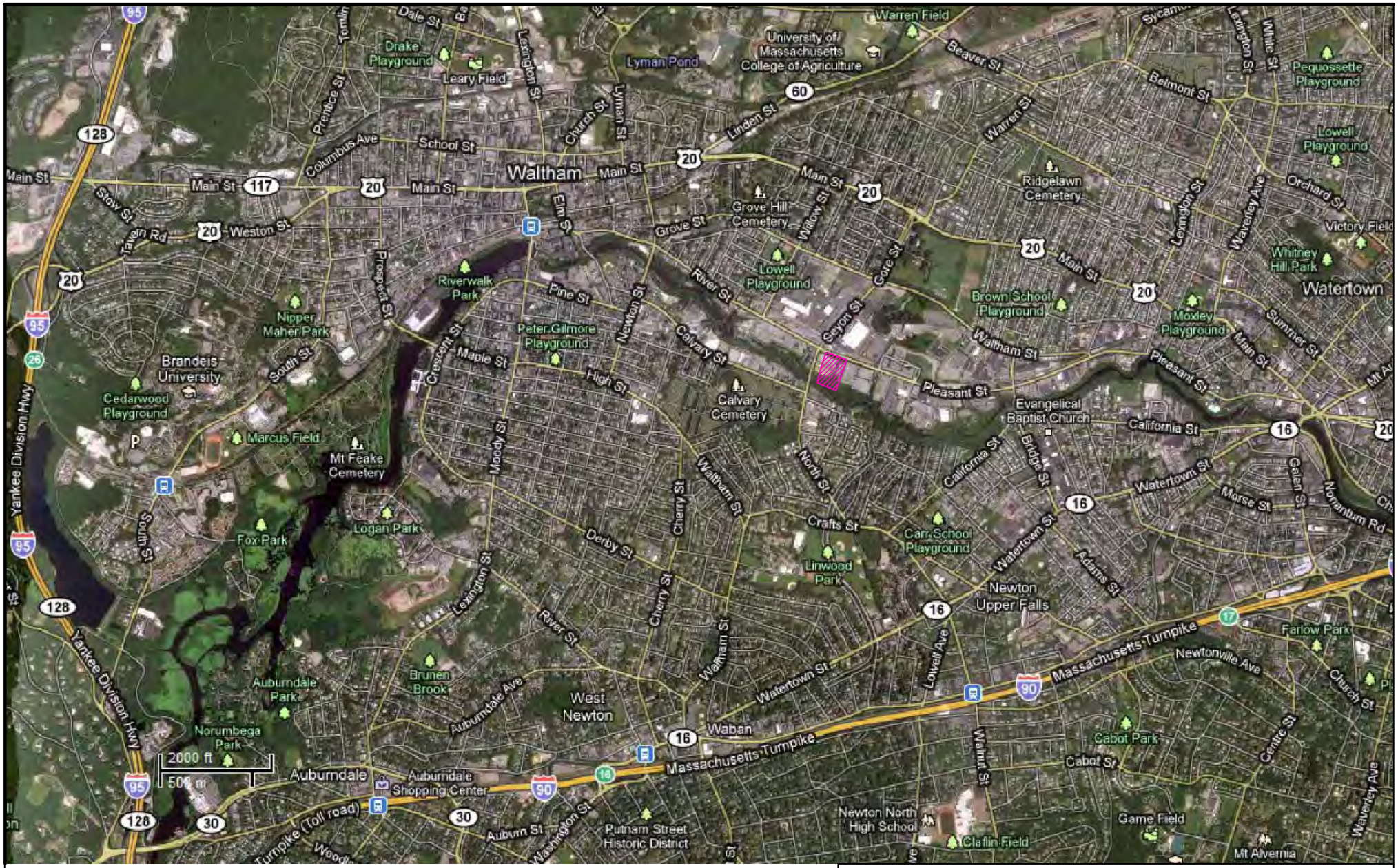
The existing transportation conditions in the study area were assessed in September 2010. Conley Associates, Inc. conducted a field visit to inventory the existing roadway geometry, existing traffic volume data was collected at the study area intersections, and seasonal variations in traffic volume data were researched.

Roadway Geometry

River Street runs from the City line with Watertown to the east through the study area to the west. It generally consists of one lane in each direction, however it widens for turning lanes at intersections and driveways throughout the study area. Farwell Street approaches from Newton to the south. This roadway changes name to Seyon Street at the River Street intersection. The roadways consist of one lane in each direction through the study area except at the River Street intersection where widenening occurs for left turn lanes.

The River Street at Farwell Street and Seyon Street intersection is a four way signalized intersection. Each approach consists of two lanes. The eastbound and westbound River Street approaches and the northbound Farwell Street approach consist of a left turn lane and a shared through and right turn lane. The southbound Seyon Street approach consists of a shared left and through lane and a right turn lane. There are sidewalks, crosswalks, and full pedestrian signalization on all four approaches of the intersection.

The River Street at Willow Street and Shaw's Site Driveway intersection is a four way signalized intersection. The River Street eastbound and westbound approaches consist of a left turn lane



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1422cadNocus.dwg

FIGURE 1

LOCUS MAP

WALTHAM, MA

PROJ. NO. 1422 DATE: 10/2010 NOT TO SCALE

and a shared through and right turn lane. The Willow Street southbound and Shaw's Site Driveway approaches consist of one all purpose lane. There are sidewalks, crosswalks, and full pedestrian signalization on all four approaches of the intersection; however, some of the pavement markings were faded at the time of the site visit.

The intersection of Farwell Street at the Stop & Shop ROW is a three way unsignalized intersection with the westbound exiting Stop & Shop ROW operating under stop control. Each approach consists of one all purpose lane. There are sidewalks on east and west side of Farwell Street.

Traffic Volume Data

Conley Associates, Inc. collected traffic volume data on Tuesday, September 14, 2010 and on Monday, September 20, 2010. Automatic Traffic Recorders (ATRs) collected traffic volume and speed data on River Street in front of the proposed site and on Farwell Street south of the Stop & Shop ROW. Turning Movement Counts (TMCs) were conducted at all of the study area intersections during the peak periods.

The ATR collected traffic volume data for a 24 hour period. The ATR data determined the weekday Average Daily Traffic (ADT) on River Street to be approximately 12,000 vehicles with approximately 6,160 vehicles traveling eastbound (with a 34 mph 85th percentile speed) and 5,840 vehicles traveling westbound (with a 30 mph 85th percentile speed).

The traffic data collection equipment on Farwell Street was found to have malfunctioned and did not collect accurate data on Tuesday, September 14, 2010. Therefore, the ATR data collection was repeated on Monday, September 20, 2010. The ATR data determined the weekday ADT on Farwell Street was approximately 13,245 vehicles with approximately 7,510 vehicles traveling northbound (with a 33 mph 85th percentile speed) and 5,735 vehicles traveling southbound (with a 32 mph 85th percentile speed).

Turning Movement Counts (TMCs) were conducted at the study area intersections during the peak periods on September 14, 2010. The data indicates that the weekday AM peak hour occurred from 8:00 AM to 9:00 AM when there were approximately 1,140 vehicles traveling on River Street passing the proposed site. The weekday PM peak hour occurred from 5:00 PM to 6:00 PM when there were approximately 1,120 vehicles passing the proposed site on River Street.

Seasonal Adjustment

The traffic volumes collected were evaluated to determine monthly variations in traffic volumes. The counts were conducted when all local colleges and Waltham schools were in session. Conley Associates, Inc. researched traffic volume data from MassHighway permanent count stations within the area to determine an appropriate seasonal traffic volume adjustment. Continuous counting data were taken from count station #4119 and #4120 located on Route 128 in Waltham, Massachusetts. The data indicates that the September traffic volumes are

approximately three percent higher than the average month traffic volumes. Therefore, the traffic volumes collected were not adjusted for seasonality as they represent higher than average traffic volumes. The MassHighway seasonal traffic volume data can be found in the Appendix.

Existing Traffic Volumes

The weekday AM and weekday PM peak hour traffic volumes at the study area intersections were balanced to determine the 2010 Existing Condition peak hour traffic volumes. The 2010 Existing weekday AM and weekday PM peak hour traffic volumes can be found in the Appendix.

No Build Condition

The transportation conditions expected in the study area in 2015 without the development of the proposed project were determined. Background traffic growth was projected and site specific traffic was researched. This traffic was added to the 2010 Existing condition traffic volumes to determine the 2015 No Build condition traffic volumes.

Background Traffic Growth

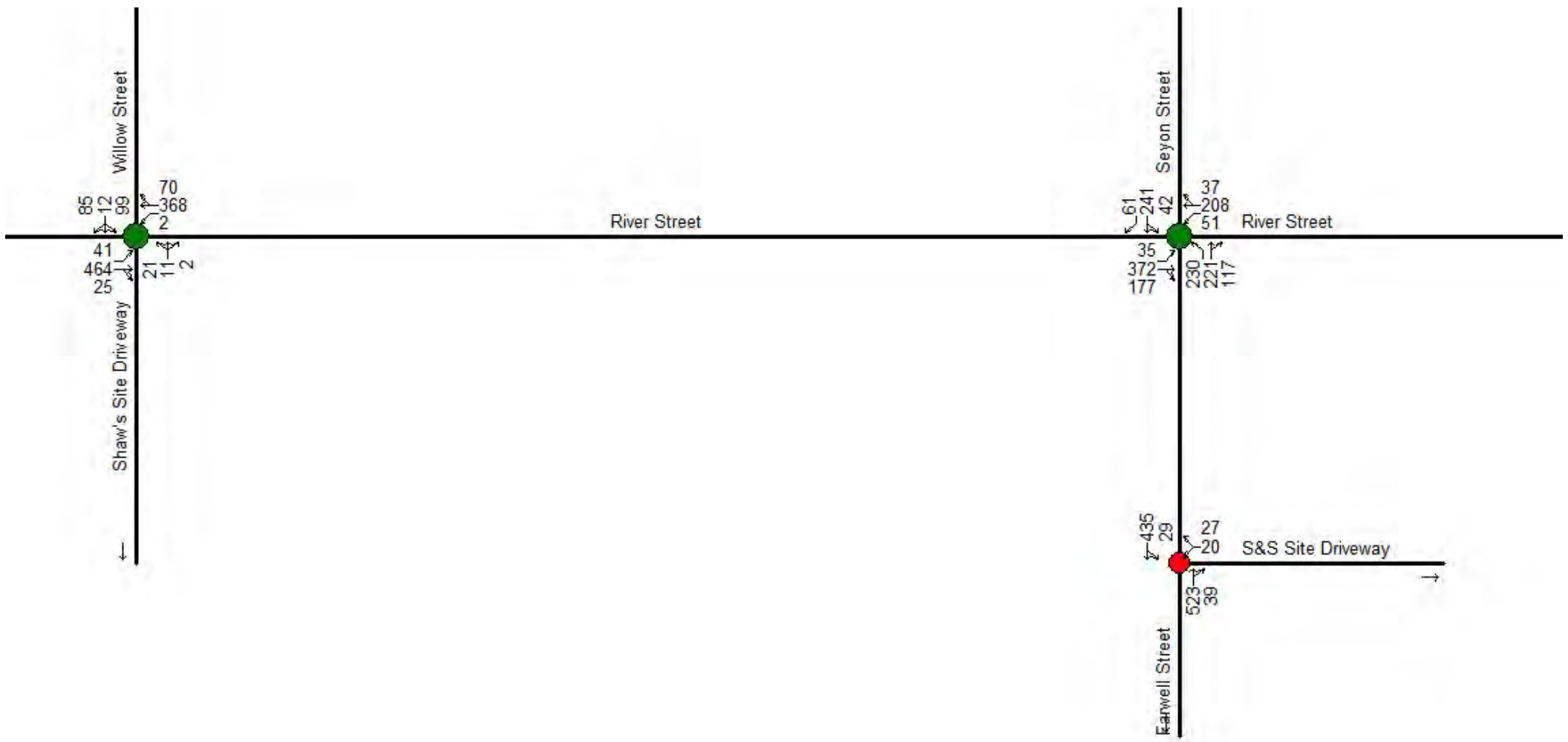
Conley Associates, Inc. researched traffic growth rates for the City of Waltham. Traffic volume growth data were obtained from Station No. 4155 located on Plant Road south of Trapelo Road; Station No. 4873 located on Totten Pond Road west of Lexington Street; Station No. 4911 located on Route 60 west of Trapelo Road; and Station No. 4925 located on Route 60 west of Beaver Street. Based on the MassHighway traffic volume data, traffic volumes have decreased approximately two percent per year over the past 10 years. However, in order to be conservatively high with our analysis, Conley Associates, Inc. applied an annual average growth rate of one percent per year compounded for five years to the Existing peak hour traffic volumes. The MassHighway annual traffic volume data can be found in the Appendix.

Specific Development Traffic

Conley Associates, Inc. contacted the City of Waltham Transportation Department to determine if there were any approved developments or planned roadway improvement projects located near the study area that would affect 2015 traffic volumes. Conley Associates, Inc. was informed that there are no other planned developments or projects that will affect the traffic volumes within the study area.

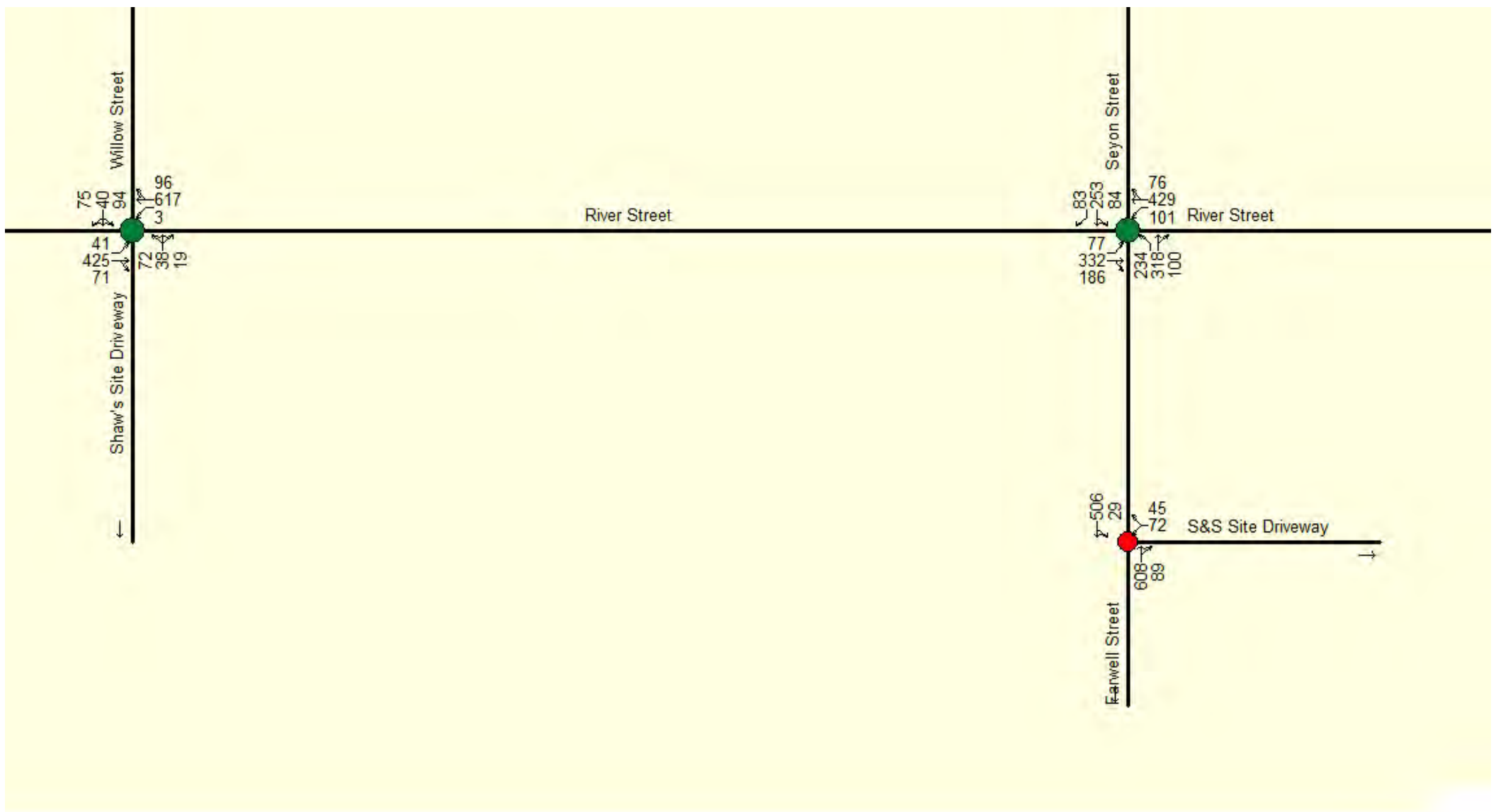
No Build Traffic Volumes

The Existing peak hour traffic volumes were increased by one percent per year compounded for five years (5.1 percent total) in order to determine the 2015 No Build Condition peak hour traffic volumes. The 2015 No Build weekday AM and weekday PM peak hour traffic volumes can be found in the Appendix.



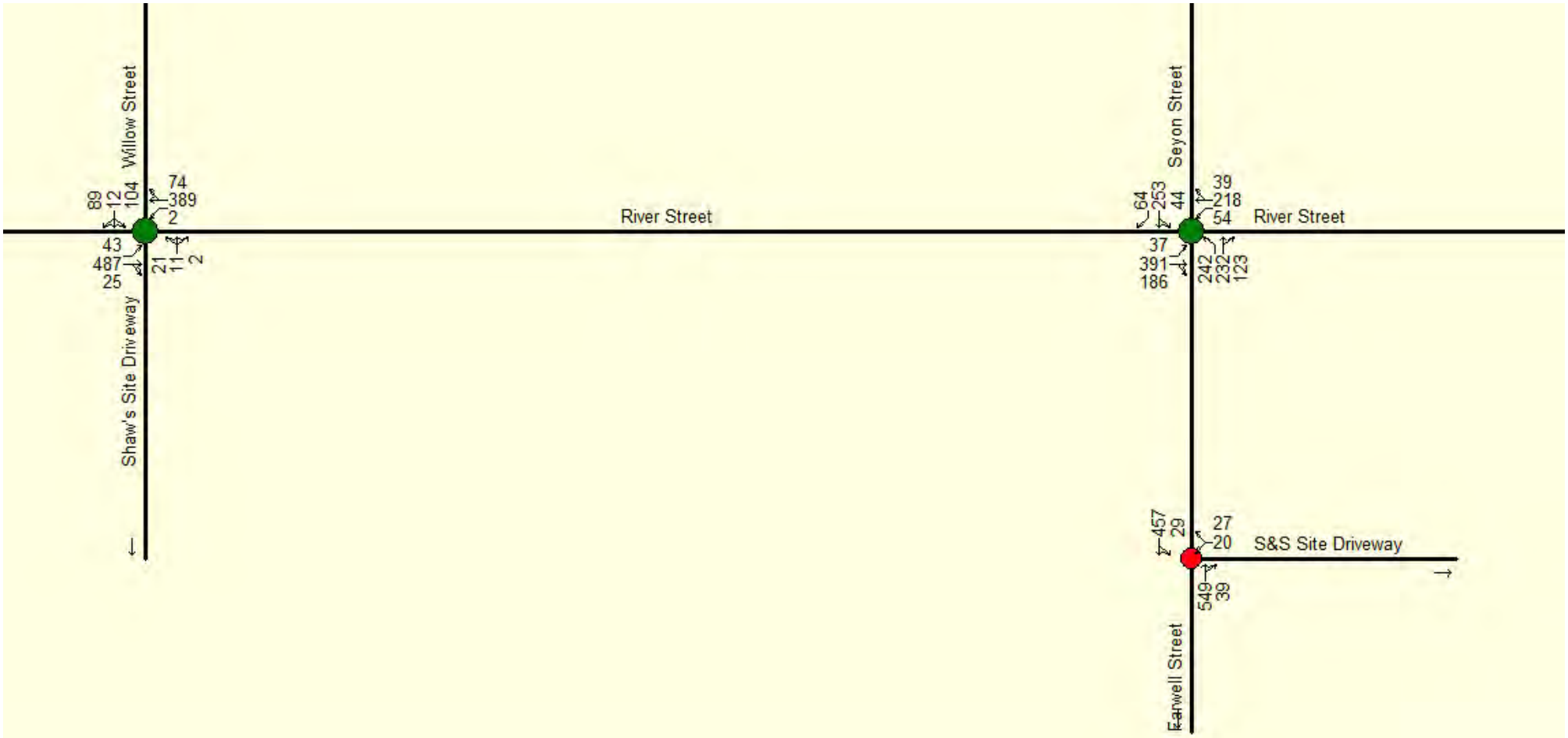
1422 Saracen

2010 Existing
Weekday AM Peak Hour



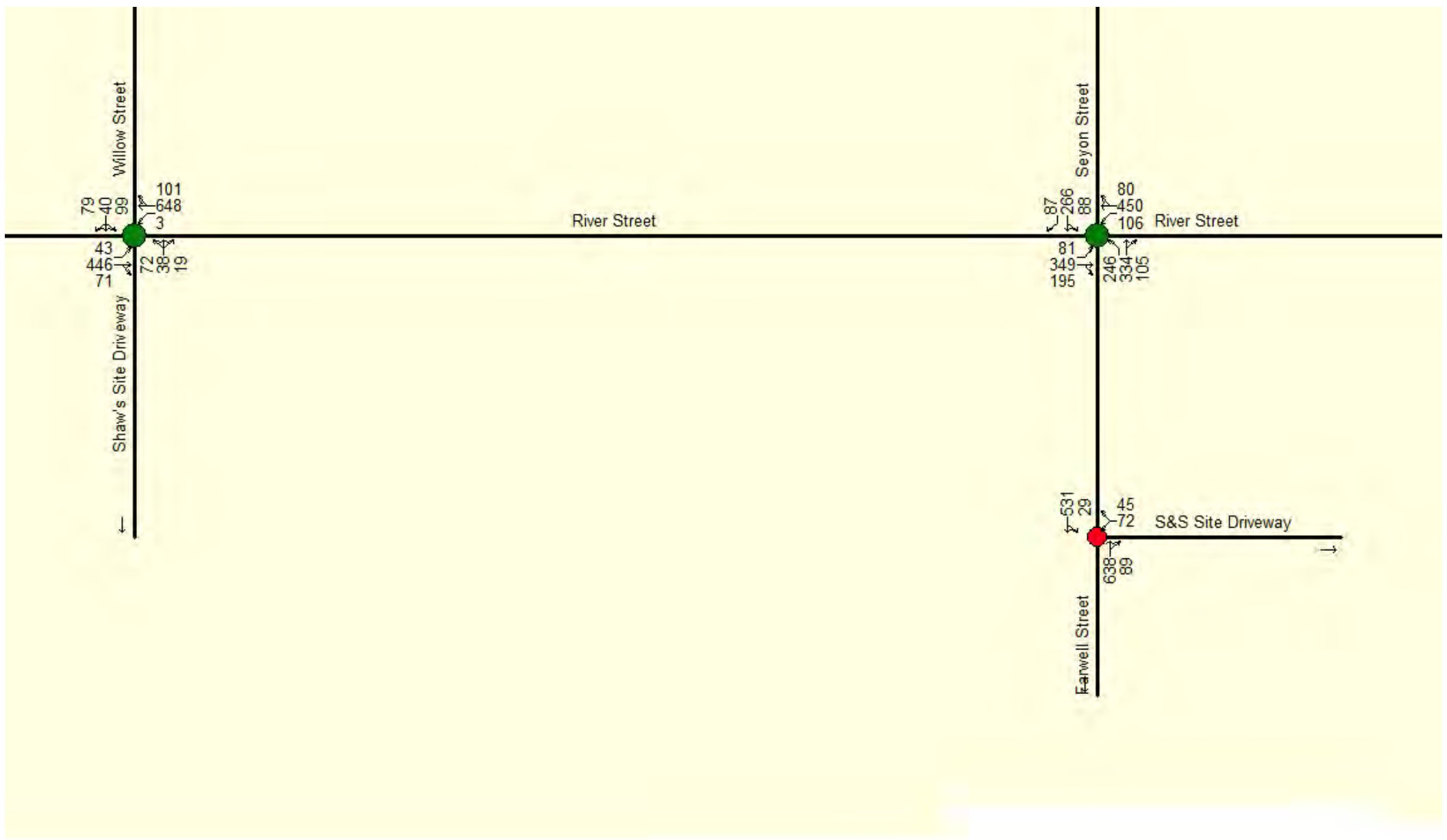
1422 Saracen

2010 Existing
Weekday PM Peak Hour



1422 Saracen

2015 No Build
Weekday AM Peak Hour



1422 Saracen

2015 No Build
Weekday PM Peak Hour

Build Condition

The transportation conditions expected in the study area in 2015 with the development of the site were determined. The anticipated traffic generated from the proposed development was calculated and added to the 2015 No Build condition traffic volumes to determine the 2015 Build condition traffic volumes.

As mentioned previously, the proposed development consists of 200 units of residential apartments. Access to and egress from the site will be provided via a realigned Stop & Shop ROW (ROW Site Driveway) and an egress only driveway onto River Street on the east end of the proposed site (Egress Site Driveway).

The existing Stop & Shop ROW alignment will be modified to provide access to the proposed site while still providing full access to the Stop & Shop site. The realignment will move the intersection with Farwell Street approximately 80 feet to the south. As part of the realignment the six curb cuts on both sides of the ROW will be closed and there will only be three curb cuts on the north side and none on the south side. The relocation is also favorable because it pulls this intersection further away from the signalized intersection of River Street at Farwell Street; however, it decreases the amount of sight distance available due to the vertical crest in Farwell Street as it crosses the Charles River (Sight Distance discussed on Page 5).

Trip Generation

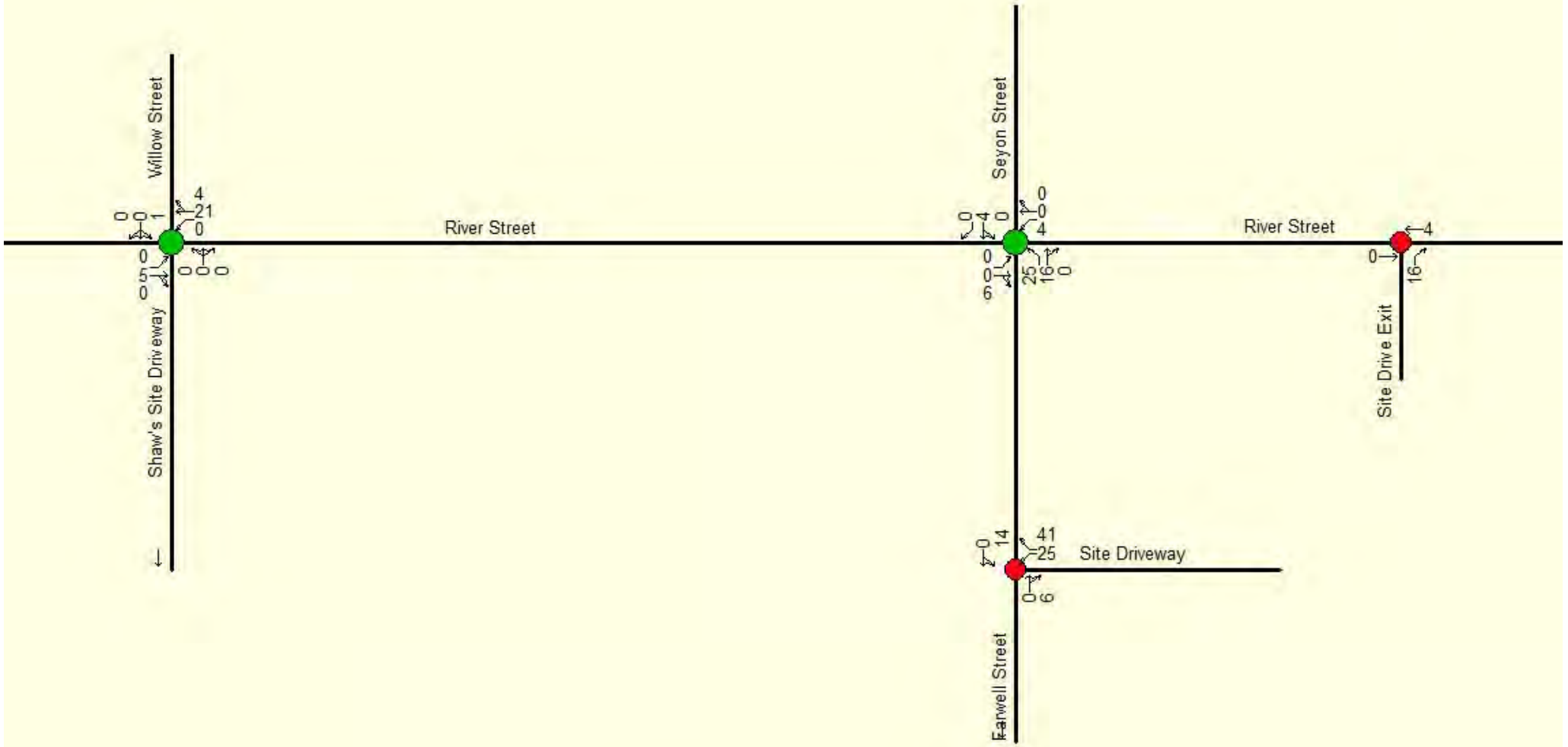
As per industry standard, Conley Associates, Inc. determined the trip generation of the proposed use based on the Institute of Transportation Engineer's (ITE) manual, Trip Generation, 8th Edition, 2008. Land Use Code (LUC) 220, Apartment was used in order to determine the trip generation of the proposed use. The trip generation of the proposed use is summarized in Table 1.

Table 1: ITE Trip Generation Summary[1]

	In	Out	Total
Weekday Daily	665	665	1,330
Weekday AM Peak Hour	20	82	102
Weekday PM Peak Hour	81	43	124

1. Trip generation based on Trip Generation, 8th Edition, published by Institute of Transportation Engineers, 2008. Assumes 200 units of ITE LUC 220, Apartments.

As shown in Table 1, the proposed development is expected to generate 1,330 vehicle trips during the course of a typical weekday. During the weekday AM peak hour the proposed development is expected to generate 102 vehicle trips (20 trips in and 82 trips out). During the weekday PM peak hour the proposed development is expected to generate 124 vehicle trips (81 trips in and 43 trips out). The ITE trip generation data can be found in the Appendix.



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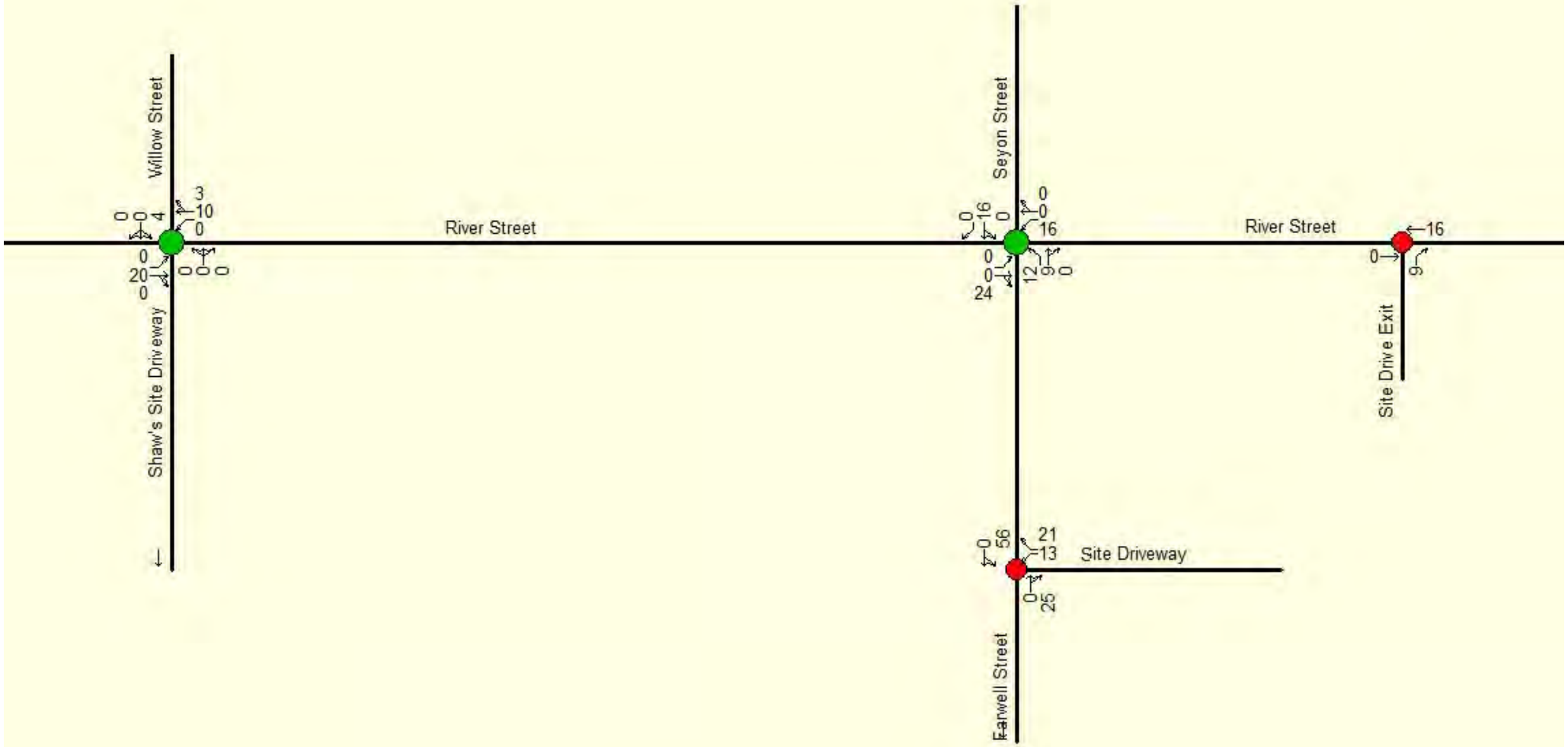
2015 Trip Generation
Weekday AM Peak Hour



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2015 Trip Generation
Weekday PM Peak Hour

Trip Distribution

The trip generation generated by the development was distributed through the study area based on existing traffic patterns and engineering judgment based on known "Journey to Work" travel routes in the area. Table 2 summarizes the trip distribution expected for the site generated trips.

Table 2: Trip Distribution

Direction	Percentage
To/From the East on River Street	20
To/From the South on Farwell Street	30
To/From the West on River Street	30
To/From the North on Seyon Street	20

As shown in Table 2, approximately 20 percent of the site trips are expected to be oriented to and from points east on River Street towards Watertown. Thirty percent of the trips are expected to be oriented to and from points south along Farwell Street towards Newton. The remaining 50 percent of the site trips are expected to be oriented to and from points through Waltham with 30 percent expected to utilize River Street to the west of the site and 20 percent expected to utilize Seyon Street to the north.

Mass Transit

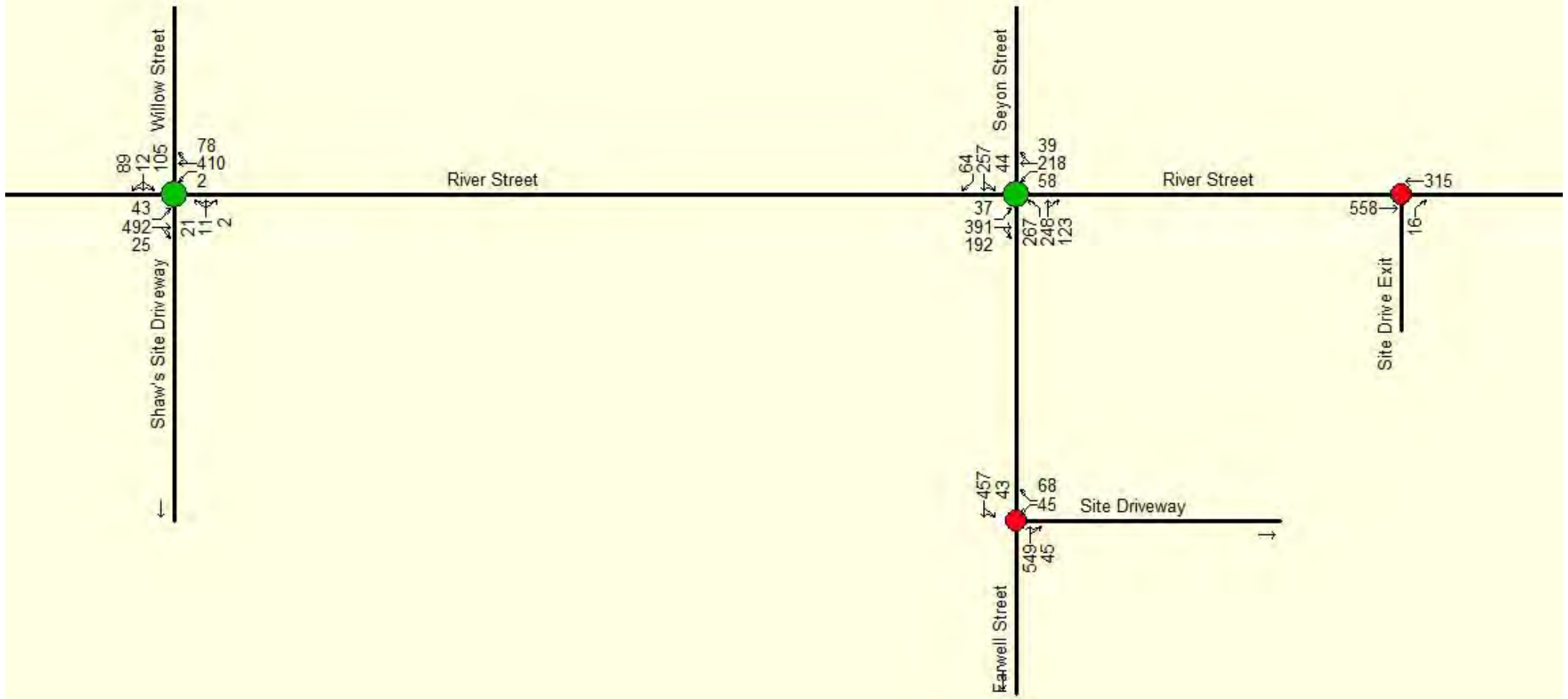
The MBTA runs several bus lines in the vicinity of the proposed project. Route 558 travels along River Street and there is a bus stop located adjacent to the proposed development. In addition Routes 70 and 70A travel along Main Street to the north and Route 556 runs to the south in Newton. Although there are several viable bus routes in and near the study area, Conley Associates, Inc. has assumed for the purposes of this study that all of the traffic generated by the proposed site will use personal vehicles and not use mass transit. This will result in a conservatively high vehicle trip generation for the proposed development.

Build Traffic Volumes

The expected trip generation associated with proposed development was added to the 2015 No Build peak hour traffic volumes to determine the 2015 Build condition peak hour traffic volumes. The 2015 Build weekday AM and weekday PM peak hour traffic volumes can be found in the Appendix.

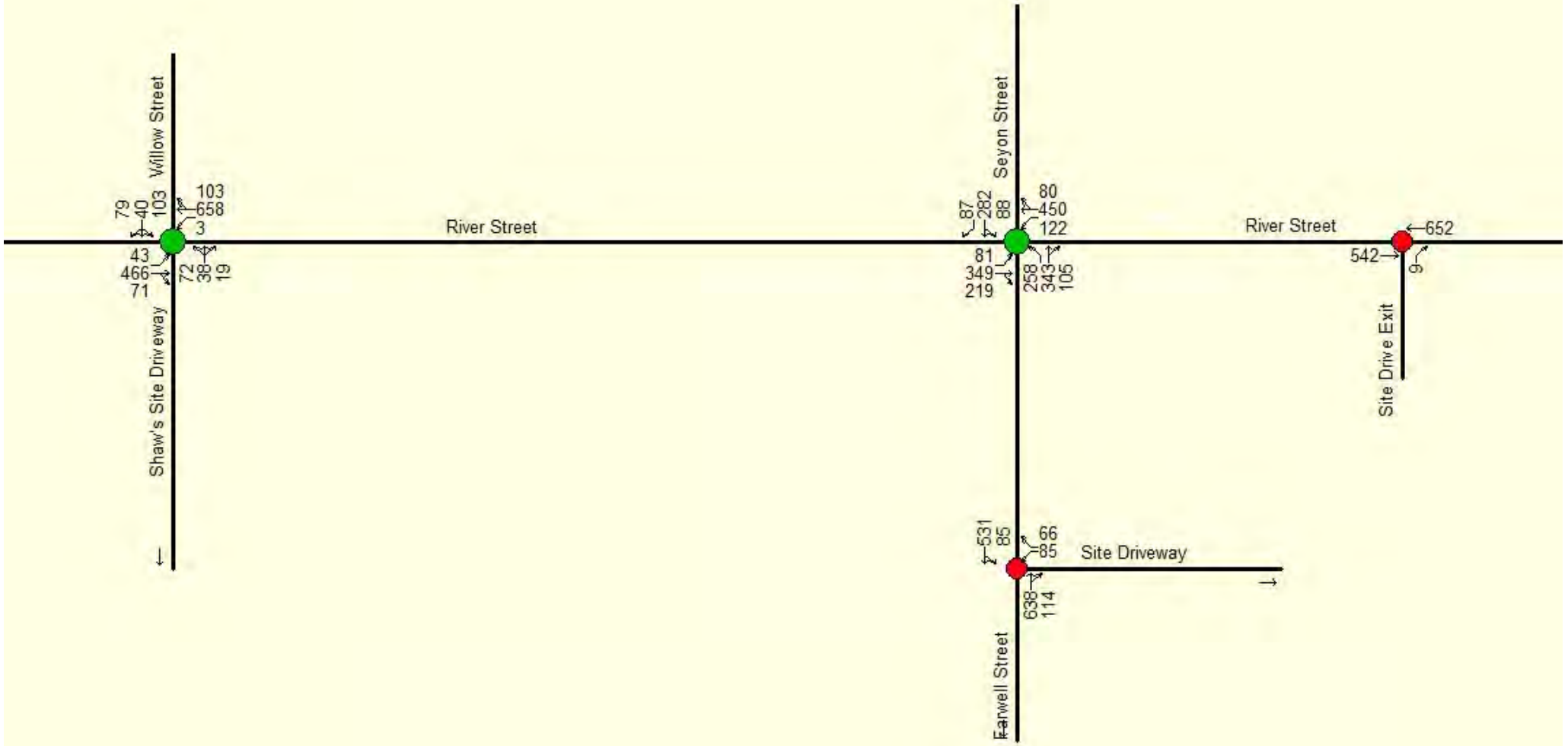
Sight Distance

As discussed previously, the existing Stop & Shop ROW will be relocated as part of the proposed development. The new intersection with Farwell Street will be approximately 80 feet south of the existing intersection.



1422 Saracen

2015 Build
Weekday AM Peak Hour



1422 Saracen

2015 Build
Weekday PM Peak Hour

In order to determine if vehicles will be able to safely exit the ROW Site Driveway onto Farwell Street, Conley Associates, Inc. calculated the appropriate Stopping Sight Distance (SSD). SSD is the distance needed for an approaching motorist to perceive an obstruction ahead and be able to stop prior to reaching the obstruction. The minimum SSD at an intersection is a requirement necessary to determine the safety of an intersection as outlined in A Policy on Geometric Design of Highways and Streets, 5th Edition.

Conley Associates, Inc. collected speed data along Farwell Street in the vicinity of the modified easement location. Currently, the 85th percentile speed, or the speed 85 percent of vehicles are traveling at or below, is 33 mph in the northbound direction (from Newton) and 32 mph in the southbound direction (from River Street). The minimum SSD required is 200 feet for a roadway with a 30 mph 85th percentile speed and 250 feet for a roadway with a 35 mph 85th percentile speed. The speed data can be found attached to this memorandum.

The available sight distances at the relocated ROW were measured. There was found to be approximately 280 feet of available sight distance as motorists approach from the south (from Newton) due to the crest in the roadway as it crosses the Charles River. This distance is greater than the minimum requirement for SSD. The available sight distance from the north is through the River Street intersection, which will be approximately 360 feet away. As with the approach from the south, this distance is greater than the minimum SSD requirement.

None of the other existing or proposed study area intersections were found to have restricted sight distances. The complete SSD data can be found in the Appendix.

Traffic Operations Analysis

The traffic operations of the study area intersections were determined. Analysis was based on methodologies outlined in the Highway Capacity Manual (HCM). Level of Service (LOS) and delays were calculated and are summarized below.

Level of Service

Level of service (LOS) is a calculation of control delay for an intersection. LOS is an indication of driver discomfort, frustration, fuel consumption, and lost time. LOS is defined by an index from A (free flow) to F (long delays). LOS control delay values are given in Table 3.

Signalized intersection analysis is based upon the capacity of each lane group and the correlating control delay associated with the intersection. Capacity is a measurement of the ability of an intersection design to accommodate all movements within the intersection and is a function of physical geometry and signalization conditions. Delay is the measure of the user quality of the capacity conditions that exist.

For unsignalized intersections, delay values apply only to the controlled movements, since the main street movements are not restricted. Control delay is the elapsed time for deceleration,

queue time, stopped delay, and final acceleration. Average control delay for unsignalized intersections is a function of the capacity of the approach and the degree of saturation.

Table 3: Level of Service Criteria

	Average Delay (seconds)	
Level of Service	**Unsignalized Intersections**	**Signalized Intersections**
A	≤ 10	≤ 10
B	>10 and ≤15	>10 and ≤ 20
C	>15 and ≤ 25	>20 and ≤ 35
D	>25 and ≤ 35	>35 and ≤ 55
E	>35 and ≤ 50	>55 and ≤ 80
F	>50	>80

Source: 2000 Highway Capacity Manual

Synchro 6 software was used as the analysis tool for determining the unsignalized LOS at the study area intersections. Synchro implements the methods of the 2000 Highway Capacity Manual to analyze intersection capacity and determine Level of Service.

Intersection Operations Analysis

The level of service procedures described above were used to determine peak hour operating levels of service at the study area intersections. Table 4 shows the LOS, average delay per vehicle, v/c ratio, and 95th percentile queue length for each movement approaching the signalized intersections during the weekday AM peak hour.

Table 4: Weekday AM Peak Hour Signalized Intersections LOS Summary

	2010 Existing				2015 No Build				2015 Build			
	LOS[1]	Delay[2]	v/c[3]	95[4]	LOS	Delay	v/c	95th	LOS	Delay	v/c	95th
River Street at Farwell Street and Seyon Street												
EB-L	B	10.7	.08	23	B	10.7	.09	24	B	10.6	.09	24
EB-T/R	C	33.8	.83	469	D	37.7	.87	505	D	43.6	.91	512
WB-L	B	12.2	.20	30	B	12.4	.21	31	B	11.7	.22	32
WB-T/R	B	18.9	.36	155	B	19.2	.37	162	B	18.7	.36	162
NB-L	D	39.1	.79	198	D	44.0	.83	215	E	65.0	.95	250
NB-T/R	B	19.4	.48	208	B	19.9	.51	220	C	21.8	.55	233
SB-L/T	D	51.5	.85	295	E	69.0	.95	335	E	70.0	.95	34
SB-R	A	8.3	.17	29	A	8.2	.17	30	A	8.2	.18	30
OVERALL	C	30.9	N/A		D	36.0	N/A		D	40.8	N/A	
River Street at Willow Street and the Shaw's Site Driveway												
EB-L	A	5.6	.10	18	A	5.8	.11	19	A	5.9	.12	19
EB-T/R	A	9.9	.46	292	B	10.4	.48	311	B	10.5	.49	316
WB-L	A	6.5	.01	2	A	6.5	.01	2	A	6.5	.01	2
WB-T/R	B	12.7	.45	244	B	13.3	.48	262	B	13.8	.51	283
NB-L/T/R	C	23.9	.11	35	C	23.7	.14	35	C	23.7	.14	35
SB-L/T/R	C	31.7	.50	149	C	32.5	.66	156	C	32.5	.66	157
OVERALL	B	14.8	N/A		B	15.3	N/A		B	15.5	N/A	

1. LOS = Level of Service.
2. Delay is measured in seconds per vehicle.
3. v/c = volume to capacity ratio
4. 95th percentile queue measured in feet.

As shown in Table 4, the signalized intersection of River Street at Farwell Street and Seyon Street is currently operating at LOS C during the weekday AM peak hour. This intersection is expected to degrade to LOS D due to the growth rate that was utilized to determine the future condition. The proposed development would not be expected to cause a degradation in LOS during the weekday AM peak hour.

The signalized intersection of River Street at Willow Street and the Shaw's Site Driveway is currently operating at LOS B during the weekday AM peak hour. It is expected to continue to operate at LOS B in the future, both with and without the proposed development. The proposed development is not expected to cause a degradation in LOS during the weekday AM peak hour. Table 5 shows the LOS, average delay per vehicle, v/c ratio, and 95th percentile queue length for each movement approaching the signalized intersections during the weekday PM peak hour.

Table 5: Weekday PM Peak Hour Signalized Intersections LOS Summary

	2010 Existing				2015 No Build				2015 Build			
	LOS	**Delay**	**v/c**	**95th**	**LOS**	**Delay**	**v/c**	**95th**	**LOS**	**Delay**	**v/c**	**95th**
River Street at Farwell Street and Seyon Street												
EB-L	B	16.0	.32	49	B	16.2	.33	51	B	16.2	.33	51
EB-T/R	E	72.1	1.02	506	F	87.9	1.07	543	F	119.3	1.16	574
WB-L	B	17.7	.40	61	B	18.2	.42	64	B	18.8	.47	72
WB-T/R	E	59.1	.96	496	E	70.6	1.01	532	E	56.3	.95	532
NB-L	D	43.5	.85	210	D	52.7	.90	232	E	70.6	.98	248
NB-T/R	B	19.0	.55	253	B	19.6	.58	270	C	21.0	.61	278
SB-L/T	F	88.0	1.03	372	F	147.5	1.20	415	F	206.2	1.35	441
SB-R	A	6.4	.17	33	A	6.3	.18	33	A	6.3	.18	33
OVERALL	D	52.2	N/A		E	68.2	N/A		F	83.4	N/A	
River Street at Willow Street and the Shaw's Site Driveway												
EB-L	A	5.7	.15	15	A	5.8	.16	15	A	5.8	.16	15
EB-T/R	A	8.9	.44	248	A	9.3	.46	263	A	9.6	.49	278
WB-L	A	5.3	.01	3	A	5.3	.01	3	A	5.3	.01	3
WB-T/R	B	17.0	.70	429	B	18.7	.74	472	B	19.5	.75	503
NB-L/T/R	D	36.5	.56	121	D	35.9	.55	121	D	35.3	.54	121
SB-L/T/R	D	42.1	.74	206	D	43.3	.75	222	D	43.8	.76	227
OVERALL	B	19.1	N/A		C	20.1	N/A		C	20.4	N/A	

As shown in Table 5, the signalized intersection of River Street at Farwell Street and Seyon Street is currently operating at LOS D during the weekday PM peak hour. This intersection is expected to degrade to LOS E due to the growth rate that was utilized and LOS F due to the trips associated with the proposed development.

The signalized intersection of River Street at Willow Street and the Shaw's Site Driveway is currently operating at LOS B during the weekday PM peak hour. It is expected to degrade to LOS C due to the applied growth rate in the 2015 No Build condition. Table 6 summarizes the LOS, average delay per vehicle, v/c ratio, and 95th percentile queue for the stop controlled approaches at the unsignalized study area intersections.

Table 6: Unsignalized Intersections LOS Summary

	2010 Existing				2015 No Build				2015 Build			
	LOS	**Delay**	**v/c**	**95th**	**LOS**	**Delay**	**v/c**	**95th**	**LOS**	**Delay**	**v/c**	**95th**
Farwell Street at the Stop & Shop ROW (WB-L/R ROW Approach)												
AM	C	22.6	.29	30	C	24.7	.32	33	N/A			
PM	F	81.6	.83	145	F	110.4	.93	170	N/A			
Farwell Street at the ROW Site Driveway (WB-R Site Driveway Approach)												
AM	N/A				N/A				C	15.1	.04	3
PM	N/A				N/A				B	12.2	.02	1
Farwell Street at the ROW Site Driveway (WB-L Site Driveway Approach)												
AM	N/A				N/A				C	16.2	.53	65
PM	N/A				N/A				F	316.6	1.36	209
River Street at the Egress Site Driveway (NB-R Site Driveway Approach)												
AM	N/A				N/A				B	13.5	.04	3
PM	N/A				N/A				B	12.2	.02	1

The Egress Site Driveway approach to River Street is expected to operate at LOS B during both peak hours. During the weekday AM peak hour, the Stop & Shop ROW approach to Farwell Street is currently operating a LOS C and is expected to operate at LOS D in the 2015 No Build condition. During the weekday PM peak hour, the Stop & Shop ROW approach to Farwell Street is currently operating at unacceptable Levels of Service and is expected to operate with increased delays in the 2015 No Build condition.

As with the 2015 No Build condition during the weekday PM peak hour, the ROW Site Driveway approach to Farwell Street was analyzed to operate with lengthy delays. The ROW currently provides access to the Stop & Shop as well as the parking lots that are used by a car dealership and school bus parking. These two parking lots will no longer exist and the traffic in and out of this ROW is expected to drastically reduce without the lots as it would primarily only be used by Stop & Shop deliveries. However, Conley Associates, Inc. did not remove the trips associated with the parking spaces. Therefore, it is not likely that the lengthy delays analyzed will be experienced during the weekday PM peak hour in the 2015 Build condition. In fact, during the weekday PM peak hour, the ROW Site Driveway approach to Farwell Street would be expected to operate with only 26 seconds of delay per vehicle if only the proposed site related trips were egressing.

Mitigation

Due to the negative impact the proposed development is expected to have on the operations of the River Street at Farwell Street and Seyon Street during the weekday PM peak hour, Conley Associates, Inc. has investigated potential measures to alleviate the impact.

Three of the approaches to this intersection operate with a left turn lane advance. The Seyon Street roadway width is approximately 35 feet wide with 21 feet of roadway for the southbound approach between the curbing and double yellow centerline. A left turn lane and a shared through and right turn lane could be accommodated within this space. However, the southbound approach does not currently have the signal equipment to permit a left turn advance. The proponent has agreed to fund the restriping of the roadway along with the signal equipment upgrades necessary to accommodate a southbound left turn advance. Through the updating of the southbound approach signal equipment and retiming of the intersection to allow southbound left turn protected movements this intersection would be expected to operate at LOS D with less than 50 seconds of delay during both the weekday AM and weekday PM peak hours in the 2015 Build condition.

Conclusion

Conley Associates, Inc. has analyzed the traffic impacts of the development of the proposed residential development on the southeast corner of the intersection of River Street at Farwell Street in Waltham, Massachusetts. The proposed development is expected to generate approximately 102 vehicle trips (20 trips in and 82 trips out) during the weekday AM peak hour. During the weekday PM peak hour the development is expected to generate 124 trips (81 trips in and 43 trips out). The intersection operations analysis shows the signalized study area intersections are currently operating at acceptable Levels of Service and will continue to operate at acceptable Levels of Service with the implementation of the proposed mitigation.

PRECISION
D A T A
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Email: datarequests@pdillc.com

Pleasant Street between
Farwell Street and Repton Street
City,State: Watertown, MA
Client: Conley Associates/ B. Beisel

102298 A Volume
Site Code: TBA

Start	EB				WB				Combined				14-Sep-10
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Tue
12:00	7		95		12		100		19		195		
12:15	3		97		9		113		12		210		
12:30	7		119		9		100		16		219		
12:45	5	22	102	413	7	37	111	424	12	59	213	837	
01:00	1		91		4		124		5		215		
01:15	4		115		2		93		6		208		
01:30	5		100		5		87		10		187		
01:45	4	14	89	395	1	12	87	391	5	26	176	786	
02:00	3		112		3		100		6		212		
02:15	3		91		3		107		6		198		
02:30	1		89		1		101		2		190		
02:45	7	14	96	388	3	10	122	430	10	24	218	818	
03:00	2		86		4		119		6		205		
03:15	3		91		4		122		7		213		
03:30	2		104		5		116		7		220		
03:45	4	11	102	383	4	17	119	476	8	28	221	859	
04:00	4		93		6		135		10		228		
04:15	2		89		7		131		9		220		
04:30	11		124		3		113		14		237		
04:45	14	31	117	423	6	22	117	496	20	53	234	919	
05:00	15		84		6		129		21		213		
05:15	20		114		5		145		25		259		
05:30	13		125		12		111		25		236		
05:45	42	90	84	407	21	44	155	540	63	134	239	947	
06:00	32		116		17		138		49		254		
06:15	57		132		21		111		78		243		
06:30	71		119		43		119		114		238		
06:45	83	243	93	460	43	124	109	477	126	367	202	937	
07:00	94		97		37		118		131		215		
07:15	108		83		44		91		152		174		
07:30	113		74		60		91		173		165		
07:45	118	433	72	326	50	191	70	370	168	624	142	696	
08:00	142		59		72		55		214		114		
08:15	144		58		79		57		223		115		
08:30	89		48		72		58		161		106		
08:45	125	500	52	217	66	289	30	200	191	789	82	417	
09:00	102		43		63		55		165		98		
09:15	85		32		61		29		146		61		
09:30	96		35		76		34		172		69		
09:45	91	374	32	142	72	272	36	154	163	646	68	296	
10:00	91		21		74		40		165		61		
10:15	101		28		80		40		181		68		
10:30	95		17		85		18		180		35		
10:45	95	382	11	77	76	315	21	119	171	697	32	196	
11:00	89		16		81		22		170		38		
11:15	95		14		78		21		173		35		
11:30	80		15		86		22		166		37		
11:45	95	359	11	56	110	355	12	77	205	714	23	133	
Total	2473		3687		1688		4154		4161		7841		
Percent	59.4%		47.0%		40.6%		53.0%						
Day Total		6160				5842				12002			
Peak	07:30		06:00		11:00		05:15		08:00		05:15		
Vol.	517		460		355		549		789		988		
P.H.F.	0.898		0.871		0.807		0.885		0.885		0.954		

PRECISION
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Pleasant Street between
Farwell Street and Repton Street
City,State: Watertown, MA
Client: Conley Associates/ B. Beisel

102298 A Speed
Site Code: TBA

EB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
9/14/1																
0	0	0	2	3	11	6	0	0	0	0	0	0	0	22	36	32
01:00	0	**2**	1	4	5	1	1	0	0	0	0	0	0	14	34	29
02:00	0	0	2	6	5	0	1	0	0	0	0	0	0	14	33	29
03:00	0	0	0	4	4	2	0	0	**1**	0	0	0	0	11	35	32
04:00	0	0	1	8	15	6	1	0	0	0	0	0	0	31	35	32
05:00	1	0	8	42	32	4	3	0	0	0	0	0	0	90	33	29
06:00	3	1	19	100	99	19	2	0	0	0	0	0	0	243	34	29
07:00	**13**	0	5	132	**213**	**62**	**8**	0	0	0	0	0	0	433	35	30
08:00	13	2	**23**	**197**	202	60	2	**1**	0	0	0	0	0	**500**	34	30
09:00	10	2	23	145	151	42	1	0	0	0	0	0	0	374	34	29
10:00	15	2	52	155	134	22	2	0	0	0	0	0	0	382	33	28
11:00	17	1	29	147	136	**27**	2	0	0	0	0	0	0	359	34	28
12 PM	**27**	1	**36**	169	**156**	24	0	0	0	0	0	0	0	**413**	33	28
13:00	19	0	31	**203**	113	26	**3**	0	0	0	0	0	0	395	33	28
14:00	25	**4**	34	163	138	22	0	**2**	0	0	0	0	0	388	33	28
15:00	37	6	41	170	114	13	**2**	0	0	0	0	0	0	383	33	26
16:00	41	**12**	36	171	135	**26**	1	**1**	0	0	0	0	0	423	33	27
17:00	**56**	3	26	162	135	25	0	0	0	0	0	0	0	407	33	26
18:00	30	1	39	**208**	**155**	26	1	0	0	0	0	0	0	**460**	33	28
19:00	13	4	**46**	139	106	18	0	0	0	0	0	0	0	326	33	28
20:00	10	0	12	94	83	17	1	0	0	0	0	0	0	217	34	28
21:00	5	0	12	60	50	15	0	0	0	0	0	0	0	142	34	29
22:00	3	4	4	27	27	11	1	0	0	0	0	0	0	77	34	29
23:00	2	0	5	18	21	8	2	0	0	0	0	0	0	56	35	29
Total	340	45	487	2527	2240	482	34	4	1	0	0	0	0	6160		
%	5.5%	0.7%	7.9%	41.0%	36.4%	7.8%	0.6%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	07:00	01:00	08:00	08:00	07:00	07:00	07:00	08:00	03:00					08:00		
Vol.	13	2	23	197	213	62	8	1	1					500		
Midday Peak	12:00	14:00	12:00	13:00	12:00	11:00	13:00	14:00						12:00		
Vol.	27	4	36	203	156	27	3	2						413		
PM Peak	17:00	16:00	19:00	18:00	18:00	16:00	15:00	16:00						18:00		
Vol.	56	12	46	208	155	26	2	1						460		

% iles

15th Percentile : 25 MPH
50th Percentile : 29 MPH
85th Percentile : 34 MPH
95th Percentile : 37 MPH

Stats

10 MPH Pace Speed : 25-34 MPH
Number in Pace : 4767
Percent in Pace : 77.4%
Number of Vehicles > 30 MPH : 2313
Percent of Vehicles > 30 MPH : 37.5%
Mean Speed(Average) : 28 MPH

PRECISION
D A T A
INDUSTRIES, LLC
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Pleasant Street between
Farwell Street and Repton Street
City,State: Watertown, MA
Client: Conley Associates/ B. Beisel

102298 A Speed
Site Code: TBA

WB

Start	1	15	20	25	30	35	40	45	50	55	60	65	70	Total	85th	Ave
Time	14	19	24	29	34	39	44	49	54	59	64	69	9999		% ile	Speed
9/14/1																
0	0	0	4	20	10	3	0	0	0	0	0	0	0	37	33	29
01:00	0	0	0	9	1	1	1	0	0	0	0	0	0	12	34	30
02:00	0	2	2	3	2	1	0	0	0	0	0	0	0	10	30	26
03:00	1	1	0	5	6	2	**2**	0	0	0	0	0	0	17	38	30
04:00	2	0	4	11	4	1	0	0	0	0	0	0	0	22	31	25
05:00	1	0	3	24	13	2	1	0	0	0	0	0	0	44	32	28
06:00	6	2	8	56	41	9	2	0	0	0	0	0	0	124	33	28
07:00	12	3	26	80	60	10	0	0	0	0	0	0	0	191	33	27
08:00	**19**	5	**71**	**127**	62	5	0	0	0	0	0	0	0	**289**	31	25
09:00	8	**11**	56	109	**76**	**12**	0	0	0	0	0	0	0	272	33	27
10:00	14	5	80	147	60	8	1	0	0	0	0	0	0	315	31	26
11:00	32	9	130	137	42	**5**	0	0	0	0	0	0	0	355	29	24
12 PM	37	**48**	**160**	141	37	1	0	0	0	0	0	0	0	424	29	23
13:00	31	24	128	**161**	44	3	0	0	0	0	0	0	0	391	29	24
14:00	**41**	27	147	153	**57**	3	**1**	0	0	0	**1**	0	0	**430**	29	24
15:00	78	42	154	**160**	38	4	0	0	0	0	0	0	0	476	29	22
16:00	79	77	167	149	23	1	0	0	0	0	0	0	0	496	28	21
17:00	**131**	**100**	155	127	25	2	0	0	0	0	0	0	0	**540**	27	19
18:00	44	42	**190**	156	41	3	**1**	0	0	0	0	0	0	477	29	23
19:00	19	24	140	147	35	5	0	0	0	0	0	0	0	370	29	24
20:00	7	3	43	107	27	**11**	1	0	**1**	0	0	0	0	200	31	26
21:00	2	0	18	85	**47**	2	0	0	0	0	0	0	0	154	32	28
22:00	5	1	10	57	42	3	0	**1**	0	0	0	0	0	119	33	28
23:00	2	0	10	34	24	6	1	0	0	0	0	0	0	77	33	28
Total	571	426	1706	2205	817	103	11	1	1	0	1	0	0	5842		
%	9.8%	7.3%	29.2%	37.7%	14.0%	1.8%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	09:00	08:00	08:00	09:00	09:00	03:00							08:00		
Vol.	19	11	71	127	76	12	2							289		
Midday Peak	14:00	12:00	12:00	13:00	14:00	11:00	14:00				14:00			14:00		
Vol.	41	48	160	161	57	5	1				1			430		
PM Peak	17:00	17:00	18:00	15:00	21:00	20:00	18:00	22:00	20:00					17:00		
Vol.	131	100	190	160	47	11	1	1	1					540		

% iles

15th Percentile :	18 MPH
50th Percentile :	25 MPH
85th Percentile :	30 MPH
95th Percentile :	33 MPH

Stats

10 MPH Pace Speed :	20-29 MPH
Number in Pace :	3911
Percent in Pace :	66.9%
Number of Vehicles > 30 MPH :	770
Percent of Vehicles > 30 MPH :	13.2%
Mean Speed(Average) :	24 MPH

PRECISION
D A T A
INDUSTRIES, LLC
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Farwell Street south of
Stop & Shop Driveway
City,State: Waltham, MA
Client: Conley Associates/ B. Beisel

102298 BB Volume
Site Code: TBA

Start	NB				SB				Combined				20-Sep-10
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Mon
12:00	4		97		3		75		7		172		
12:15	9		106		5		84		14		190		
12:30	8		89		5		81		13		170		
12:45	3	24	106	398	4	17	87	327	7	41	193	725	
01:00	5		106		3		84		8		190		
01:15	5		108		1		89		6		197		
01:30	1		103		2		105		3		208		
01:45	3	14	119	436	0	6	72	350	3	20	191	786	
02:00	4		127		2		90		6		217		
02:15	4		117		2		86		6		203		
02:30	0		140		1		98		1		238		
02:45	1	9	103	487	3	8	100	374	4	17	203	861	
03:00	1		133		1		114		2		247		
03:15	1		156		0		89		1		245		
03:30	2		137		0		84		2		221		
03:45	0	4	129	555	0	1	107	394	0	5	236	949	
04:00	1		153		0		120		1		273		
04:15	2		155		2		101		4		256		
04:30	6		163		3		129		9		292		
04:45	9	18	164	635	4	9	105	455	13	27	269	1090	
05:00	19		170		6		105		25		275		
05:15	22		174		8		117		30		291		
05:30	21		174		14		127		35		301		
05:45	22	84	141	659	23	51	121	470	45	135	262	1129	
06:00	42		176		32		112		74		288		
06:15	44		181		31		107		75		288		
06:30	68		128		38		122		106		250		
06:45	67	221	146	631	72	173	88	429	139	394	234	1060	
07:00	97		118		81		106		178		224		
07:15	96		112		84		88		180		200		
07:30	110		110		101		71		211		181		
07:45	109	412	97	437	99	365	86	351	208	777	183	788	
08:00	140		69		99		60		239		129		
08:15	119		66		133		80		252		146		
08:30	147		56		121		54		268		110		
08:45	158	564	55	246	110	463	53	247	268	1027	108	493	
09:00	133		42		86		44		219		86		
09:15	130		50		86		49		216		99		
09:30	95		53		69		22		164		75		
09:45	105	463	42	187	70	311	24	139	175	774	66	326	
10:00	114		29		72		32		186		61		
10:15	97		26		61		15		158		41		
10:30	88		29		73		19		161		48		
10:45	115	414	29	113	97	303	15	81	212	717	44	194	
11:00	103		13		82		21		185		34		
11:15	96		25		79		18		175		43		
11:30	118		15		105		10		223		25		
11:45	112	429	17	70	91	357	7	56	203	786	24	126	
Total	2656		4854		2064		3673		4720		8527		
Percent	56.3%		56.9%		43.7%		43.1%						
Day Total		7510				5737				13247			
Peak	08:30		04:45		08:00		05:15		08:00		05:15		
Vol.	568		682		463		477		1027		1142		
P.H.F.	0.899		0.980		0.870		0.939		0.958		0.949		

PRECISION
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Farwell Street south of
Stop & Shop Driveway
City,State: Waltham, MA
Client: Conley Associates/ B. Beisel

102298 BB Speed
Site Code: TBA

NB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
9/20/1																
0	0	0	2	4	13	4	1	0	0	0	0	0	0	24	35	32
01:00	0	0	1	3	7	1	2	0	0	0	0	0	0	14	39	32
02:00	0	0	0	6	3	0	0	0	0	0	0	0	0	9	31	28
03:00	0	1	1	1	0	0	1	0	0	0	0	0	0	4	25	27
04:00	0	0	2	3	7	5	0	**1**	0	0	0	0	0	18	37	32
05:00	0	3	10	23	37	9	1	1	0	0	0	0	0	84	34	30
06:00	0	5	35	88	69	20	4	0	0	0	0	0	0	221	34	29
07:00	1	6	43	180	144	35	3	0	0	0	0	0	0	412	34	29
08:00	**5**	**18**	**102**	**258**	**150**	23	**8**	0	0	0	0	0	0	**564**	33	28
09:00	0	14	82	212	118	**36**	1	0	0	0	0	0	0	463	33	28
10:00	0	9	90	193	99	21	2	0	0	0	0	0	0	414	32	27
11:00	1	7	73	184	**134**	**24**	**5**	**1**	0	0	0	0	0	429	33	28
12 PM	0	6	53	207	107	24	1	0	0	0	0	0	0	398	33	28
13:00	**3**	6	93	201	113	19	1	0	0	0	0	0	0	436	32	27
14:00	2	**8**	**103**	**247**	108	18	1	0	0	0	0	0	0	**487**	32	27
15:00	14	38	115	248	110	**28**	2	0	0	0	0	0	0	555	32	26
16:00	10	35	180	**295**	99	16	0	0	0	0	0	0	0	635	30	26
17:00	**36**	**75**	**246**	234	66	2	0	0	0	0	0	0	0	**659**	29	23
18:00	7	37	145	293	**128**	21	0	0	0	0	0	0	0	631	32	26
19:00	0	5	84	230	97	21	0	0	0	0	0	0	0	437	32	28
20:00	0	4	43	96	84	16	2	**1**	0	0	0	0	0	246	33	28
21:00	0	2	27	75	69	9	**5**	0	0	0	0	0	0	187	33	29
22:00	0	1	14	31	55	9	3	0	0	0	0	0	0	113	34	30
23:00	0	1	6	23	27	12	1	0	0	0	0	0	0	70	35	30
Total	79	281	1550	3335	1844	373	44	4	0	0	0	0	0	7510		
%	1.1%	3.7%	20.6%	44.4%	24.6%	5.0%	0.6%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	08:00	08:00	08:00	09:00	08:00	04:00						08:00		
Vol.	5	18	102	258	150	36	8	1						564		
Midday Peak	13:00	14:00	14:00	14:00	11:00	11:00	11:00	11:00						14:00		
Vol.	3	8	103	247	134	24	5	1						487		
PM Peak	17:00	17:00	17:00	16:00	18:00	15:00	21:00	20:00						17:00		
Vol.	36	75	246	295	128	28	5	1						659		

% iles

15th Percentile : 22 MPH
50th Percentile : 27 MPH
85th Percentile : 33 MPH
95th Percentile : 35 MPH

Stats

10 MPH Pace Speed : 25-34 MPH
Number in Pace : 5179
Percent in Pace : 69.0%
Number of Vehicles > 30 MPH : 1896
Percent of Vehicles > 30 MPH : 25.2%
Mean Speed(Average) : 27 MPH

PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

Farwell Street south of
Stop & Shop Driveway
City,State: Waltham, MA
Client: Conley Associates/ B. Beisel

102298 BB Speed
Site Code: TBA

SB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
9/20/1																
0	0	1	2	7	5	1	**1**	0	0	0	0	0	0	17	33	29
01:00	0	0	0	4	2	0	0	0	0	0	0	0	0	6	30	28
02:00	0	0	0	0	6	2	0	0	0	0	0	0	0	8	35	33
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1	20	20
04:00	0	0	0	5	4	0	0	0	0	0	0	0	0	9	32	29
05:00	0	3	7	20	17	3	1	0	0	0	0	0	0	51	33	28
06:00	0	5	25	83	52	7	1	0	0	0	0	0	0	173	33	28
07:00	**1**	**13**	58	186	92	**14**	1	0	0	0	0	0	0	365	32	27
08:00	0	7	**88**	**247**	**110**	11	0	0	0	0	0	0	0	**463**	32	27
09:00	0	2	40	153	103	11	1	**1**	0	0	0	0	0	311	33	28
10:00	1	12	55	168	55	12	0	0	0	0	0	0	0	303	31	27
11:00	**1**	5	66	200	**76**	7	**2**	0	0	0	0	0	0	357	31	27
12 PM	0	5	51	200	67	3	0	**1**	0	0	0	0	0	327	31	27
13:00	0	5	70	196	76	2	1	0	0	0	0	0	0	350	31	27
14:00	0	**9**	**81**	**205**	68	**9**	2	0	0	0	0	0	0	**374**	31	27
15:00	0	9	63	**259**	55	8	0	0	0	0	0	0	0	394	30	27
16:00	0	8	**125**	249	68	4	**1**	0	0	0	0	0	0	455	30	26
17:00	**1**	7	114	257	88	3	0	0	0	0	0	0	0	**470**	31	27
18:00	0	**11**	73	245	**91**	**9**	0	0	0	0	0	0	0	429	31	27
19:00	0	0	60	217	72	2	0	0	0	0	0	0	0	351	31	27
20:00	0	1	63	142	37	4	0	0	0	0	0	0	0	247	30	27
21:00	0	1	27	78	29	3	1	0	0	0	0	0	0	139	31	27
22:00	0	1	15	36	25	3	1	0	0	0	0	0	0	81	33	28
23:00	0	0	9	25	21	1	0	0	0	0	0	0	0	56	33	28
Total	4	105	1093	3182	1219	119	13	2	0	0	0	0	0	5737		
%	0.1%	1.8%	19.1%	55.5%	21.2%	2.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	07:00	07:00	08:00	08:00	08:00	07:00	00:00	09:00						08:00		
Vol.	1	13	88	247	110	14	1	1						463		
Midday Peak	11:00	14:00	14:00	14:00	11:00	14:00	11:00	12:00						14:00		
Vol.	1	9	81	205	76	9	2	1						374		
PM Peak	17:00	18:00	16:00	15:00	18:00	18:00	16:00							17:00		
Vol.	1	11	125	259	91	9	1							470		

% iles	
15th Percentile :	23 MPH
50th Percentile :	27 MPH
85th Percentile :	32 MPH
95th Percentile :	34 MPH

Stats	
10 MPH Pace Speed :	25-34 MPH
Number in Pace :	4401
Percent in Pace :	76.7%
Number of Vehicles > 30 MPH :	1109
Percent of Vehicles > 30 MPH :	19.3%
Mean Speed(Average) :	27 MPH

PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

N/S: Seyon Street/ Farwell Street
E/W: River Street
City, State: Waltham, MA
Client: Conley Associates/ B. Beisel

File Name : 102298 B
Site Code : TBA
Start Date : 9/14/2010
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Seyon Street From North			River Street From East			Farwell Street From South			River Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	5	64	11	3	27	6	25	43	40	39	65	2	330
07:15 AM	6	72	10	4	35	2	29	48	49	27	71	9	362
07:30 AM	9	70	18	6	47	7	19	49	45	40	86	5	401
07:45 AM	1	50	19	5	48	9	23	67	44	42	95	8	411
Total	21	256	58	18	157	24	96	207	178	148	317	24	1504
08:00 AM	13	65	12	9	56	10	43	55	52	40	108	5	468
08:15 AM	10	66	24	11	56	13	25	50	62	44	105	5	471
08:30 AM	8	55	12	6	48	13	21	63	57	57	54	12	406
08:45 AM	11	55	13	11	48	15	28	53	59	36	105	13	447
Total	42	241	61	37	208	51	117	221	230	177	372	35	1792
Grand Total	63	497	119	55	365	75	213	428	408	325	689	59	3296
Apprch %	9.3	73.2	17.5	11.1	73.7	15.2	20.3	40.8	38.9	30.3	64.2	5.5	
Total %	1.9	15.1	3.6	1.7	11.1	2.3	6.5	13	12.4	9.9	20.9	1.8	
Cars	60	470	108	48	330	64	205	407	363	287	654	53	3049
% Cars	95.2	94.6	90.8	87.3	90.4	85.3	96.2	95.1	89	88.3	94.9	89.8	92.5
Heavy Vehicles	3	27	11	7	35	11	8	21	45	38	35	6	247
% Heavy Vehicles	4.8	5.4	9.2	12.7	9.6	14.7	3.8	4.9	11	11.7	5.1	10.2	7.5

	Seyon Street From North				River Street From East				Farwell Street From South				River Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	**13**	65	12	90	9	**56**	10	75	**43**	55	52	**150**	40	**108**	5	153	468
08:15 AM	10	**66**	**24**	**100**	**11**	56	13	**80**	25	50	**62**	137	44	105	5	**154**	**471**
08:30 AM	8	55	12	75	6	48	13	67	21	**63**	57	141	**57**	54	12	123	406
08:45 AM	11	55	13	79	11	48	**15**	74	28	53	59	140	36	105	**13**	154	447
Total Volume	42	241	61	344	37	208	51	296	117	221	230	568	177	372	35	584	1792
% App. Total	12.2	70.1	17.7		12.5	70.3	17.2		20.6	38.9	40.5		30.3	63.7	6		
PHF	.808	.913	.635	.860	.841	.929	.850	.925	.680	.877	.927	.947	.776	.861	.673	.948	.951
Cars	41	230	58	329	34	194	42	270	115	210	204	529	154	354	31	539	1667
% Cars	97.6	95.4	95.1	95.6	91.9	93.3	82.4	91.2	98.3	95.0	88.7	93.1	87.0	95.2	88.6	92.3	93.0
Heavy Vehicles	1	11	3	15	3	14	9	26	2	11	26	39	23	18	4	45	125
% Heavy Vehicles	2.4	4.6	4.9	4.4	8.1	6.7	17.6	8.8	1.7	5.0	11.3	6.9	13.0	4.8	11.4	7.7	7.0

PRECISION
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INDUSTRIES, LLC
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N/S: Seyon Street/ Farwell Street
E/W: River Street
City, State: Waltham, MA
Client: Conley Associates/ B. Beisel

File Name : 102298 B
Site Code : TBA
Start Date : 9/14/2010
Page No : 1

Groups Printed- Peds and Bicycles

	Seyon Street From North				River Street From East				Farwell Street From South				River Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	1	4
07:15 AM	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	1	4
07:30 AM	0	1	0	1	0	0	0	0	0	2	1	0	0	1	0	0	6
07:45 AM	0	1	0	0	0	1	0	3	0	0	1	1	1	1	0	2	11
Total	0	2	0	1	0	2	0	5	0	2	2	3	1	3	0	4	25
08:00 AM	0	0	0	2	0	0	0	4	0	1	0	2	0	3	0	0	12
08:15 AM	0	1	0	1	0	1	0	0	1	1	0	2	0	0	0	1	8
08:30 AM	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	3
08:45 AM	0	0	0	0	0	1	0	0	0	0	1	0	0	2	0	0	4
Total	0	1	0	3	0	3	0	4	2	2	1	4	0	5	0	2	27
Grand Total	0	3	0	4	0	5	0	9	2	4	3	7	1	8	0	6	52
Apprch %	0	42.9	0	57.1	0	35.7	0	64.3	12.5	25	18.8	43.8	6.7	53.3	0	40	
Total %	0	5.8	0	7.7	0	9.6	0	17.3	3.8	7.7	5.8	13.5	1.9	15.4	0	11.5	

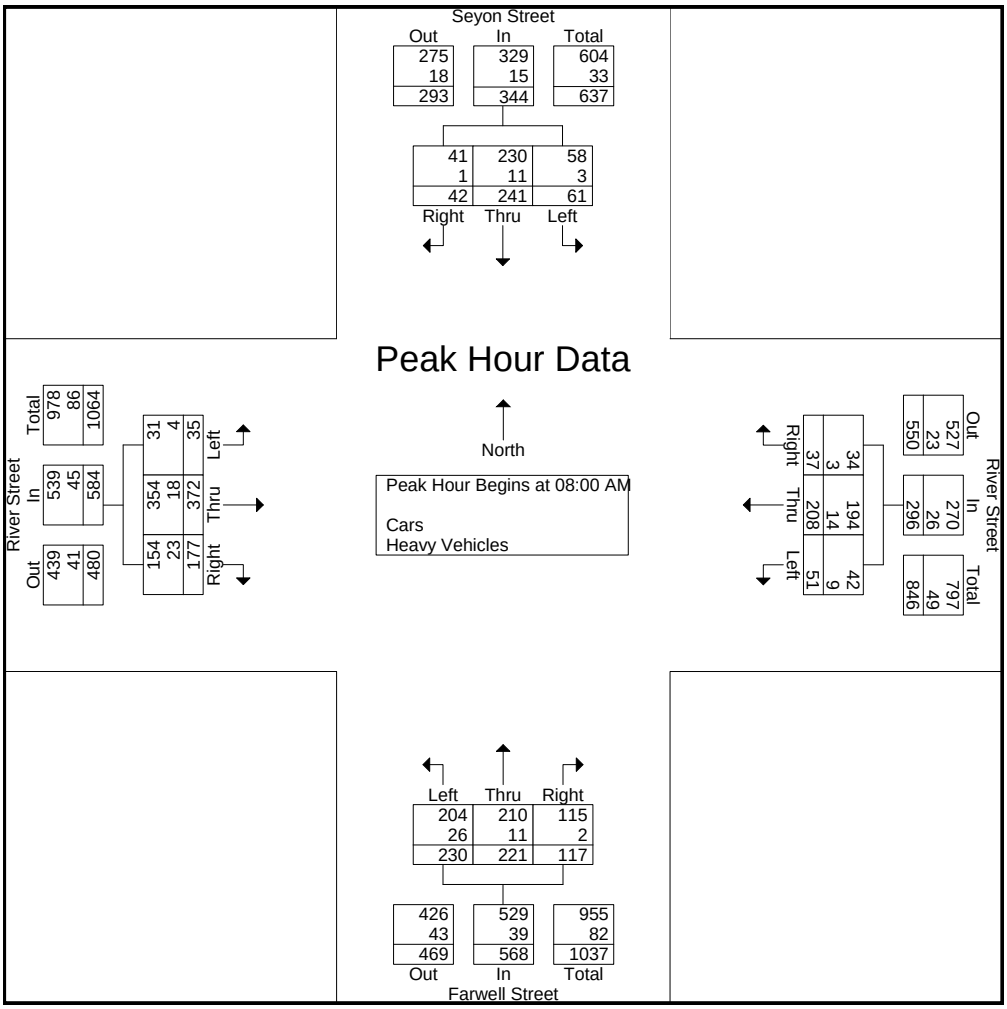
	Seyon Street From North					River Street From East					Farwell Street From South					River Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	**1**	0	1	**2**	0	0	0	0	0	0	**2**	**1**	0	3	0	1	0	0	1	6
07:45 AM	0	1	0	0	1	0	**1**			**4**	0	0	1	1	2	**1**			**2**	**4**	11
08:00 AM	0	0	0	**2**					**4**	4	0	1	0	**2**			**3**	0	0	3	**12**
08:15 AM	0	1	0	1	2	0	1	0	0	1	**1**				**4**	0	0	0	1	1	8
Total Volume	0	3	0	4	7	0	2	0	7	9	1	4	2	5	12	1	5	0	3	9	37
% App. Total	0	42.9	0	57.1		0	22.2	0	77.8		8.3	33.3	16.7	41.7		11.1	55.6	0	33.3		
PHF	.000	.750	.000	.500	.875	.000	.500	.000	.438	.563	.250	.500	.500	.625	.750	.250	.417	.000	.375	.563	.771

PRECISION DATA INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

N/S: Seyon Street/ Farwell Street
E/W: River Street
City, State: Waltham, MA
Client: Conley Associates/ B. Beisel

File Name : 102298 B
Site Code : TBA
Start Date : 9/14/2010
Page No : 1

	Seyon Street From North				River Street From East				Farwell Street From South				River Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	**13**	65	12	90	9	**56**	10	75	**43**	55	52	**150**	40	**108**	5	153	468
08:15 AM	10	**66**	**24**	**100**	**11**	56	13	**80**	25	50	**62**	137	44	105	5	**154**	**471**
08:30 AM	8	55	12	75	6	48	13	67	21	**63**	57	141	**57**	54	12	123	406
08:45 AM	11	55	13	79	11	48	**15**	74	28	53	59	140	36	105	**13**	154	447
Total Volume	42	241	61	344	37	208	51	296	117	221	230	568	177	372	35	584	1792
% App. Total	12.2	70.1	17.7		12.5	70.3	17.2		20.6	38.9	40.5		30.3	63.7	6		
PHF	.808	.913	.635	.860	.841	.929	.850	.925	.680	.877	.927	.947	.776	.861	.673	.948	.951
Cars	41	230	58	329	34	194	42	270	115	210	204	529	154	354	31	539	1667
% Cars	97.6	95.4	95.1	95.6	91.9	93.3	82.4	91.2	98.3	95.0	88.7	93.1	87.0	95.2	88.6	92.3	93.0
Heavy Vehicles	1	11	3	15	3	14	9	26	2	11	26	39	23	18	4	45	125
% Heavy Vehicles	2.4	4.6	4.9	4.4	8.1	6.7	17.6	8.8	1.7	5.0	11.3	6.9	13.0	4.8	11.4	7.7	7.0



PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
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N/S: Seyon Street/ Farwell Street
E/W: River Street
City, State: Waltham, MA
Client: Conley Associates/ B. Beisel

File Name : 102298 BB
Site Code : TBA
Start Date : 9/14/2010
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Seyon Street From North			River Street From East			Farwell Street From South			River Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
04:00 PM	20	48	18	17	90	23	21	72	63	40	61	24	497
04:15 PM	15	45	18	25	90	35	20	69	63	40	70	23	513
04:30 PM	24	71	20	21	74	23	29	89	72	38	79	18	558
04:45 PM	21	58	28	26	89	16	21	78	57	43	80	19	536
Total	80	222	84	89	343	97	91	308	255	161	290	84	2104
05:00 PM	19	70	18	19	111	19	23	84	58	45	69	24	559
05:15 PM	22	62	15	22	100	27	27	93	57	55	83	15	578
05:30 PM	22	65	26	9	103	27	23	82	64	41	111	17	590
05:45 PM	21	56	24	26	115	28	27	59	55	45	69	21	546
Total	84	253	83	76	429	101	100	318	234	186	332	77	2273
Grand Total	164	475	167	165	772	198	191	626	489	347	622	161	4377
Apprch %	20.3	58.9	20.7	14.5	68	17.4	14.6	47.9	37.4	30.7	55	14.2	
Total %	3.7	10.9	3.8	3.8	17.6	4.5	4.4	14.3	11.2	7.9	14.2	3.7	
Cars	162	468	164	157	752	191	186	610	466	336	604	161	4257
% Cars	98.8	98.5	98.2	95.2	97.4	96.5	97.4	97.4	95.3	96.8	97.1	100	97.3
Heavy Vehicles	2	7	3	8	20	7	5	16	23	11	18	0	120
% Heavy Vehicles	1.2	1.5	1.8	4.8	2.6	3.5	2.6	2.6	4.7	3.2	2.9	0	2.7

	Seyon Street From North				River Street From East				Farwell Street From South				River Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	19	**70**	18	107	19	111	19	149	23	84	58	165	45	69	**24**	138	559
05:15 PM	**22**	62	15	99	22	100	27	149	**27**	**93**	57	**177**	**55**	83	15	153	578
05:30 PM	22	65	**26**	**113**	9	103	27	139	23	82	**64**	169	41	**111**	17	**169**	**590**
05:45 PM	21	56	24	101	**26**	**115**	**28**	**169**	27	59	55	141	45	69	21	135	546
Total Volume	84	253	83	420	76	429	101	606	100	318	234	652	186	332	77	595	2273
% App. Total	20	60.2	19.8		12.5	70.8	16.7		15.3	48.8	35.9		31.3	55.8	12.9		
PHF	.955	.904	.798	.929	.731	.933	.902	.896	.926	.855	.914	.921	.845	.748	.802	.880	.963
Cars	83	248	80	411	74	420	99	593	97	313	230	640	185	323	77	585	2229
% Cars	98.8	98.0	96.4	97.9	97.4	97.9	98.0	97.9	97.0	98.4	98.3	98.2	99.5	97.3	100	98.3	98.1
Heavy Vehicles	1	5	3	9	2	9	2	13	3	5	4	12	1	9	0	10	44
% Heavy Vehicles	1.2	2.0	3.6	2.1	2.6	2.1	2.0	2.1	3.0	1.6	1.7	1.8	0.5	2.7	0	1.7	1.9

PRECISION
D A T A
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N/S: Seyon Street/ Farwell Street
E/W: River Street
City, State: Waltham, MA
Client: Conley Associates/ B. Beisel

File Name : 102298 BB
Site Code : TBA
Start Date : 9/14/2010
Page No : 1

Groups Printed- Peds and Bicycles

	Seyon Street From North				River Street From East				Farwell Street From South				River Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
04:00 PM	0	0	0	0	0	0	1	3	0	2	0	1	0	0	0	3	10
04:15 PM	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	25	27
04:30 PM	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	3
04:45 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	1	4
Total	0	0	0	0	0	1	1	5	1	2	0	3	0	1	0	30	44
05:00 PM	0	0	0	0	0	3	0	0	0	0	0	1	0	1	0	1	6
05:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	6	7
05:30 PM	0	2	0	0	0	2	0	0	0	1	0	1	1	0	0	1	8
05:45 PM	0	0	0	0	0	0	0	5	0	0	0	3	0	0	0	4	12
Total	0	3	0	0	0	5	0	5	0	1	0	5	1	1	0	12	33
Grand Total	0	3	0	0	0	6	1	10	1	3	0	8	1	2	0	42	77
Apprch %	0	100	0	0	0	35.3	5.9	58.8	8.3	25	0	66.7	2.2	4.4	0	93.3	
Total %	0	3.9	0	0	0	7.8	1.3	13	1.3	3.9	0	10.4	1.3	2.6	0	54.5	

	Seyon Street From North					River Street From East					Farwell Street From South					River Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	0	0	0	0	0	**1**	**3**	**4**	0	**2**	**0**	**1**	**3**	0	0	0	3	3	10
04:15 PM	0	0	0	0	0	0	**1**												**25**	**25**	**27**
04:30 PM	0	0	0	0	0	0	0	0	1	1	**1**										
04:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**1**	**0**	**1**	0	1	2	4
Total Volume	0	0	0	0	0	0	1	1	5	7	1	2	0	3	6	0	1	0	30	31	44
% App. Total	0	0	0	0		0	14.3	14.3	71.4		16.7	33.3	0	50		0	3.2	0	96.8		
PHF	.000	.000	.000	.000	.000	.000	.250	.250	.417	.438	.250	.250	.000	.750	.500	.000	.250	.000	.300	.310	.407

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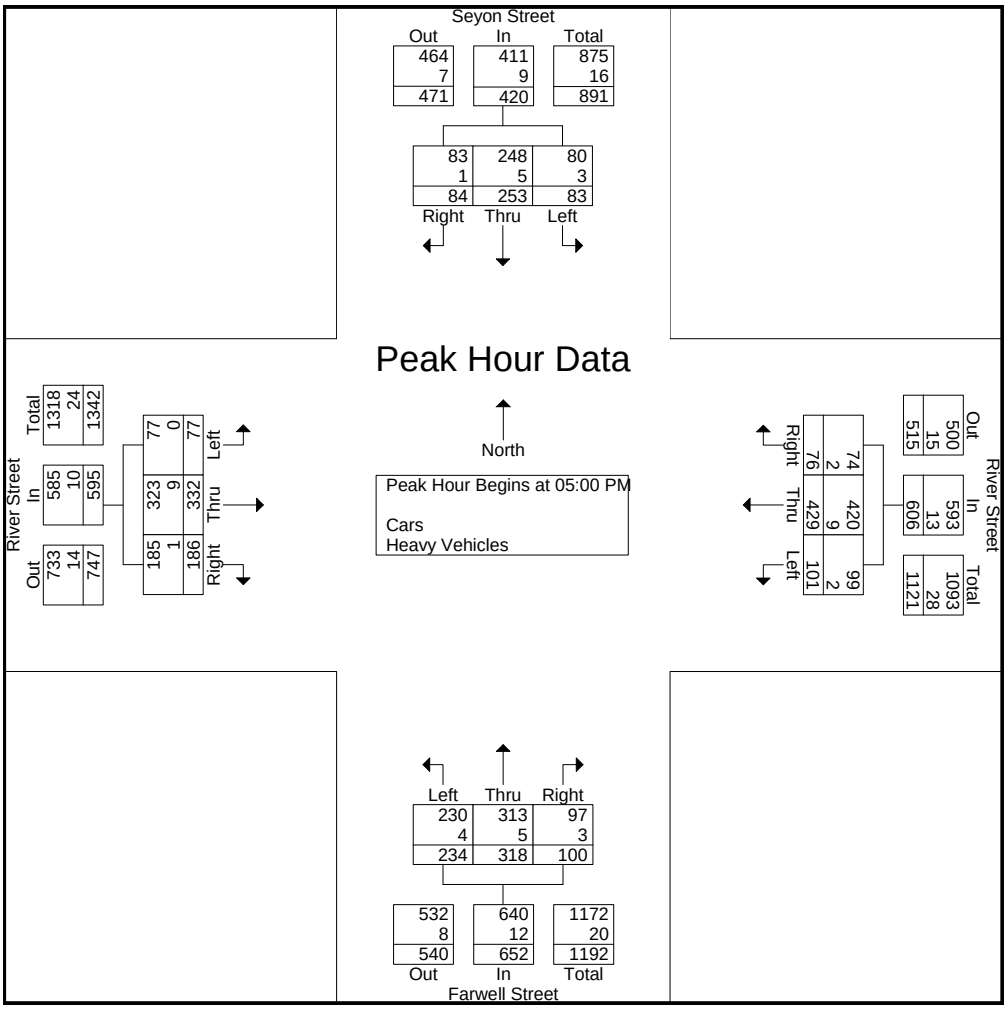
N/S: Seyon Street/ Farwell Street
E/W: River Street
City, State: Waltham, MA
Client: Conley Associates/ B. Beisel

File Name : 102298 BB
Site Code : TBA
Start Date : 9/14/2010
Page No : 1

	Seyon Street From North				River Street From East				Farwell Street From South				River Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	19	**70**	18	107	19	111	19	149	23	84	58	165	45	69	**24**	138	559
05:15 PM	**22**	62	15	99	22	100	27	149	**27**	**93**	57	**177**	**55**	83	15	153	578
05:30 PM	22	65	**26**	**113**	9	103	27	139	23	82	**64**	169	41	**111**	17	**169**	**590**
05:45 PM	21	56	24	101	**26**	**115**	**28**	**169**	27	59	55	141	45	69	21	135	546
Total Volume	84	253	83	420	76	429	101	606	100	318	234	652	186	332	77	595	2273
% App. Total	20	60.2	19.8		12.5	70.8	16.7		15.3	48.8	35.9		31.3	55.8	12.9		
PHF	.955	.904	.798	.929	.731	.933	.902	.896	.926	.855	.914	.921	.845	.748	.802	.880	.963
Cars	83	248	80	411	74	420	99	593	97	313	230	640	185	323	77	585	2229
% Cars	98.8	98.0	96.4	97.9	97.4	97.9	98.0	97.9	97.0	98.4	98.3	98.2	99.5	97.3	100	98.3	98.1
Heavy Vehicles	1	5	3	9	2	9	2	13	3	5	4	12	1	9	0	10	44
% Heavy Vehicles	1.2	2.0	3.6	2.1	2.6	2.1	2.0	2.1	3.0	1.6	1.7	1.8	0.5	2.7	0	1.7	1.9



PRECISION DATA INDUSTRIES, LLC
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N/S: Willow Street/ Shaws Driveway
E/W: River Street
City, State: Waltham, MA
Client: Conley Associates/ B. Beisel

File Name : 102298 C
Site Code : TBA
Start Date : 9/14/2010
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Willow Street From North			River Street From East			Shaws Driveway From South			River Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
07:00 AM	23	1	22	7	72	0	0	1	2	5	90	10	233
07:15 AM	17	3	19	15	79	1	0	2	2	7	88	9	242
07:30 AM	24	2	27	17	84	3	0	3	3	3	125	9	300
07:45 AM	26	4	23	9	74	0	1	4	4	6	116	10	277
Total	90	10	91	48	309	4	1	10	11	21	419	38	1052
08:00 AM	21	3	26	17	83	0	0	4	7	8	126	14	309
08:15 AM	24	3	27	15	105	0	0	3	4	5	109	8	303
08:30 AM	20	4	23	17	89	1	2	2	7	4	121	11	301
08:45 AM	20	2	23	21	91	1	0	2	3	8	108	8	287
Total	85	12	99	70	368	2	2	11	21	25	464	41	1200
Grand Total	175	22	190	118	677	6	3	21	32	46	883	79	2252
Apprch %	45.2	5.7	49.1	14.7	84.5	0.7	5.4	37.5	57.1	4.6	87.6	7.8	
Total %	7.8	1	8.4	5.2	30.1	0.3	0.1	0.9	1.4	2	39.2	3.5	
Cars	150	19	170	96	604	5	2	18	29	43	832	62	2030
% Cars	85.7	86.4	89.5	81.4	89.2	83.3	66.7	85.7	90.6	93.5	94.2	78.5	90.1
Heavy Vehicles	25	3	20	22	73	1	1	3	3	3	51	17	222
% Heavy Vehicles	14.3	13.6	10.5	18.6	10.8	16.7	33.3	14.3	9.4	6.5	5.8	21.5	9.9

	Willow Street From North				River Street From East				Shaws Driveway From South				River Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	21	3	26	50	17	83	0	100	0	**4**	**7**	**11**	**8**	**126**	**14**	**148**	**309**
08:15 AM	**24**	3	**27**	**54**	15	**105**	0	**120**	0	3	4	7	5	109	8	122	303
08:30 AM	20	**4**	23	47	17	89	**1**	107	**2**	2	7	11	4	121	11	136	301
08:45 AM	20	2	23	45	**21**	91	1	113	0	2	3	5	8	108	8	124	287
Total Volume	85	12	99	196	70	368	2	440	2	11	21	34	25	464	41	530	1200
% App. Total	43.4	6.1	50.5		15.9	83.6	0.5		5.9	32.4	61.8		4.7	87.5	7.7		
PHF	.885	.750	.917	.907	.833	.876	.500	.917	.250	.688	.750	.773	.781	.921	.732	.895	.971
Cars	73	9	86	168	56	331	2	389	1	8	20	29	22	427	33	482	1068
% Cars	85.9	75.0	86.9	85.7	80.0	89.9	100	88.4	50.0	72.7	95.2	85.3	88.0	92.0	80.5	90.9	89.0
Heavy Vehicles	12	3	13	28	14	37	0	51	1	3	1	5	3	37	8	48	132
% Heavy Vehicles	14.1	25.0	13.1	14.3	20.0	10.1	0	11.6	50.0	27.3	4.8	14.7	12.0	8.0	19.5	9.1	11.0

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N/S: Willow Street/ Shaws Driveway
E/W: River Street
City, State: Waltham, MA
Client: Conley Associates/ B. Beisel

File Name : 102298 C
Site Code : TBA
Start Date : 9/14/2010
Page No : 1

Groups Printed- Peds and Bicycles

	Willow Street From North				River Street From East				Shaws Driveway From South				River Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	1	0	0	0	0	0	0	0	3	0	1	0	2	7
07:15 AM	0	1	0	0	0	1	0	1	0	0	0	1	0	0	0	0	4
07:30 AM	0	0	0	2	0	0	0	0	0	1	0	0	0	1	0	0	4
07:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	0	4
Total	0	1	0	3	0	2	0	2	0	1	0	4	0	4	0	2	19
08:00 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	3	0	0	5
08:15 AM	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	3
08:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
08:45 AM	0	0	0	2	0	2	0	3	1	0	0	3	0	0	0	1	12
Total	0	0	0	3	0	4	0	5	1	0	0	4	0	4	0	1	22
Grand Total	0	1	0	6	0	6	0	7	1	1	0	8	0	8	0	3	41
Apprch %	0	14.3	0	85.7	0	46.2	0	53.8	10	10	0	80	0	72.7	0	27.3	
Total %	0	2.4	0	14.6	0	14.6	0	17.1	2.4	2.4	0	19.5	0	19.5	0	7.3	

	Willow Street From North					River Street From East					Shaws Driveway From South					River Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	**3**	0	0	**3**	5
08:15 AM	0	0	0	1	1	0	1	0	0	1	0	0	0	1	1	0	0	0	0	0	3
08:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
08:45 AM	0	0	0	**2**	**2**	0	**2**		**3**	**5**	**1**			**3**	**4**	0	0	0	**1**		**12**
Total Volume	0	0	0	3	3	0	4	0	5	9	1	0	0	4	5	0	4	0	1	5	22
% App. Total	0	0	0	100		0	44.4	0	55.6		20	0	0	80		0	80	0	20		
PHF	.000	.000	.000	.375	.375	.000	.500	.000	.417	.450	.250	.000	.000	.333	.313	.000	.333	.000	.250	.417	.458

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N/S: Willow Street/ Shaws Driveway
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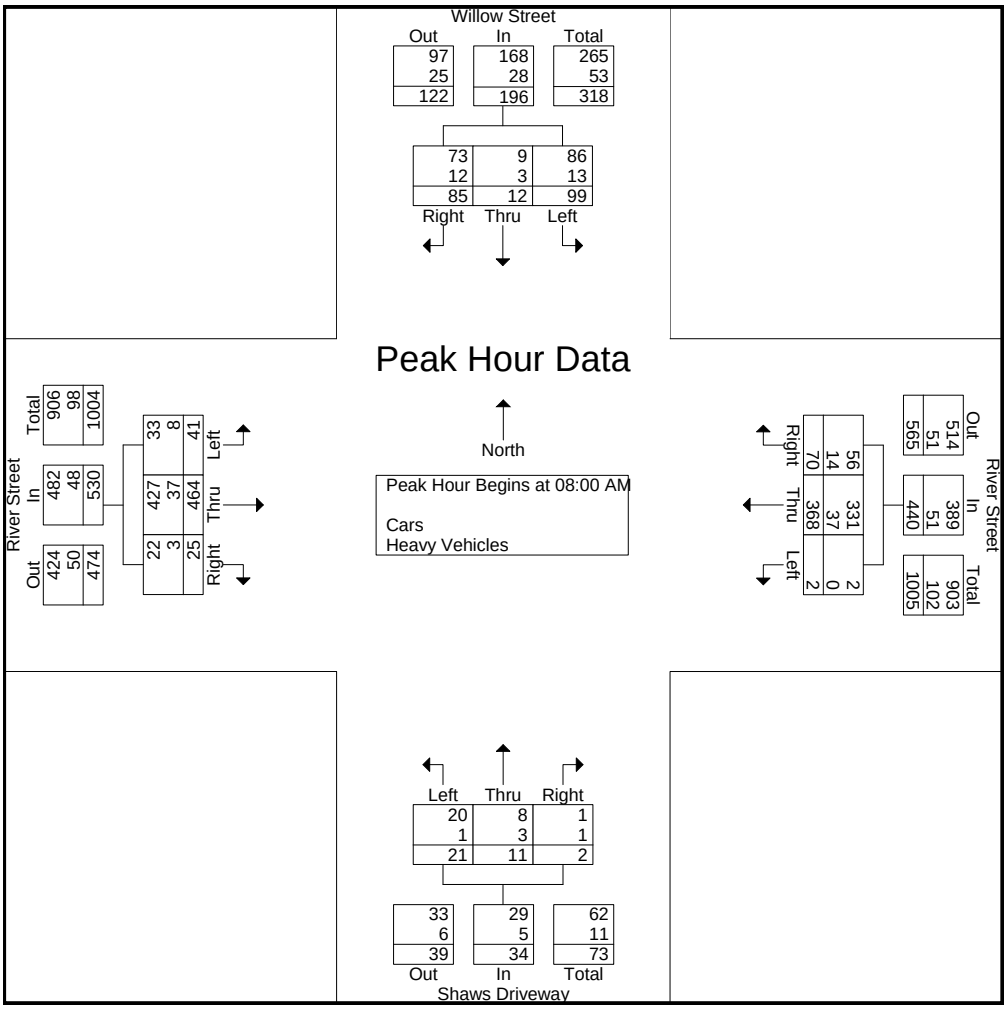
File Name : 102298 C
Site Code : TBA
Start Date : 9/14/2010
Page No : 1

	Willow Street From North				River Street From East				Shaws Driveway From South				River Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	21	3	26	50	17	83	0	100	0	**4**	**7**	**11**	**8**	**126**	**14**	**148**	**309**
08:15 AM	**24**	3	**27**	**54**	15	**105**	0	**120**	0	3	4	7	5	109	8	122	303
08:30 AM	20	**4**	23	47	17	89	**1**	107	**2**	2	7	11	4	121	11	136	301
08:45 AM	20	2	23	45	**21**	91	1	113	0	2	3	5	8	108	8	124	287
Total Volume	85	12	99	196	70	368	2	440	2	11	21	34	25	464	41	530	1200
% App. Total	43.4	6.1	50.5		15.9	83.6	0.5		5.9	32.4	61.8		4.7	87.5	7.7		
PHF	.885	.750	.917	.907	.833	.876	.500	.917	.250	.688	.750	.773	.781	.921	.732	.895	.971
Cars	73	9	86	168	56	331	2	389	1	8	20	29	22	427	33	482	1068
% Cars	85.9	75.0	86.9	85.7	80.0	89.9	100	88.4	50.0	72.7	95.2	85.3	88.0	92.0	80.5	90.9	89.0
Heavy Vehicles	12	3	13	28	14	37	0	51	1	3	1	5	3	37	8	48	132
% Heavy Vehicles	14.1	25.0	13.1	14.3	20.0	10.1	0	11.6	50.0	27.3	4.8	14.7	12.0	8.0	19.5	9.1	11.0



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E/W: River Street
City, State: Waltham, MA
Client: Conley Associates/ B. Beisel

File Name : 102298 CC
Site Code : TBA
Start Date : 9/14/2010
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Willow Street From North			River Street From East			Shaws Driveway From South			River Street From West			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
04:00 PM	12	7	20	30	125	2	6	10	17	25	100	12	366
04:15 PM	14	11	14	30	124	0	6	13	27	16	90	6	351
04:30 PM	18	7	22	32	130	0	3	6	21	23	104	13	379
04:45 PM	12	5	15	24	148	0	4	13	20	16	105	11	373
Total	56	30	71	116	527	2	19	42	85	80	399	42	1469
05:00 PM	16	9	20	17	156	2	2	9	21	18	102	15	387
05:15 PM	17	13	27	24	146	1	5	10	20	18	111	9	401
05:30 PM	22	11	23	34	147	0	6	9	13	12	120	11	408
05:45 PM	20	7	24	21	168	0	6	10	18	23	92	6	395
Total	75	40	94	96	617	3	19	38	72	71	425	41	1591
Grand Total	131	70	165	212	1144	5	38	80	157	151	824	83	3060
Apprch %	35.8	19.1	45.1	15.6	84.1	0.4	13.8	29.1	57.1	14.3	77.9	7.8	
Total %	4.3	2.3	5.4	6.9	37.4	0.2	1.2	2.6	5.1	4.9	26.9	2.7	
Cars	123	70	155	203	1114	5	38	79	155	150	804	80	2976
% Cars	93.9	100	93.9	95.8	97.4	100	100	98.8	98.7	99.3	97.6	96.4	97.3
Heavy Vehicles	8	0	10	9	30	0	0	1	2	1	20	3	84
% Heavy Vehicles	6.1	0	6.1	4.2	2.6	0	0	1.2	1.3	0.7	2.4	3.6	2.7

	Willow Street From North				River Street From East				Shaws Driveway From South				River Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	16	9	20	45	17	156	**2**	175	2	9	**21**	32	18	102	**15**	135	387
05:15 PM	17	**13**	**27**	**57**	24	146	1	171	5	**10**	20	**35**	18	111	9	138	401
05:30 PM	**22**	11	23	56	**34**	147	0	181	**6**	9	13	28	12	**120**	11	**143**	**408**
05:45 PM	20	7	24	51	21	**168**	0	**189**	6	10	18	34	**23**	92	6	121	395
Total Volume	75	40	94	209	96	617	3	716	19	38	72	129	71	425	41	537	1591
% App. Total	35.9	19.1	45		13.4	86.2	0.4		14.7	29.5	55.8		13.2	79.1	7.6		
PHF	.852	.769	.870	.917	.706	.918	.375	.947	.792	.950	.857	.921	.772	.885	.683	.939	.975
Cars	72	40	88	200	93	607	3	703	19	37	70	126	70	418	41	529	1558
% Cars	96.0	100	93.6	95.7	96.9	98.4	100	98.2	100	97.4	97.2	97.7	98.6	98.4	100	98.5	97.9
Heavy Vehicles	3	0	6	9	3	10	0	13	0	1	2	3	1	7	0	8	33
% Heavy Vehicles	4.0	0	6.4	4.3	3.1	1.6	0	1.8	0	2.6	2.8	2.3	1.4	1.6	0	1.5	2.1

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E/W: River Street
City, State: Waltham, MA
Client: Conley Associates/ B. Beisel

File Name : 102298 CC
Site Code : TBA
Start Date : 9/14/2010

Groups Printed- Peds and Bicycles

	Willow Street From North				River Street From East				Shaws Driveway From South				River Street From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
04:00 PM	0	0	0	1	0	0	0	3	0	1	0	6	0	0	0	0	11
04:15 PM	0	0	0	1	0	1	0	2	0	0	0	1	0	0	1	0	6
04:30 PM	0	0	0	1	0	0	0	3	0	0	0	1	0	0	0	0	5
04:45 PM	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	3
Total	0	0	0	5	0	1	0	9	0	1	0	8	0	0	1	0	25
05:00 PM	0	1	0	2	0	3	0	2	0	0	1	4	0	1	0	2	16
05:15 PM	0	0	0	1	0	2	0	4	0	1	0	1	0	0	0	3	12
05:30 PM	0	0	0	3	0	1	0	3	0	0	0	1	0	0	0	0	8
05:45 PM	0	0	0	0	0	0	0	3	0	0	0	5	0	0	0	0	8
Total	0	1	0	6	0	6	0	12	0	1	1	11	0	1	0	5	44
Grand Total	0	1	0	11	0	7	0	21	0	2	1	19	0	1	1	5	69
Apprch %	0	8.3	0	91.7	0	25	0	75	0	9.1	4.5	86.4	0	14.3	14.3	71.4	
Total %	0	1.4	0	15.9	0	10.1	0	30.4	0	2.9	1.4	27.5	0	1.4	1.4	7.2	

	Willow Street From North					River Street From East					Shaws Driveway From South					River Street From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	**1**	0	2	**3**	0	**3**	**0**	**2**	**5**	**0**	**0**	**1**	4	**5**	0	**1**	0	2	**3**	**16**
05:15 PM	0	0	0	1	1	0	2	0	**4**	**6**	0	**1**							**3**		
05:30 PM	**0**	**0**	**0**	**3**	**3**	**0**	**1**	**0**	**3**	**4**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**8**
05:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**3**	**0**	**0**	**0**	**5**	**5**	**0**	**0**	**0**	**0**	**0**	**8**
Total Volume	0	1	0	6	7	0	6	0	12	18	0	1	1	11	13	0	1	0	5	6	44
% App. Total	0	14.3	0	85.7		0	33.3	0	66.7		0	7.7	7.7	84.6		0	16.7	0	83.3		
PHF	.000	.250	.000	.500	.583	.000	.500	.000	.750	.750	.000	.250	.250	.550	.650	.000	.250	.000	.417	.500	.688

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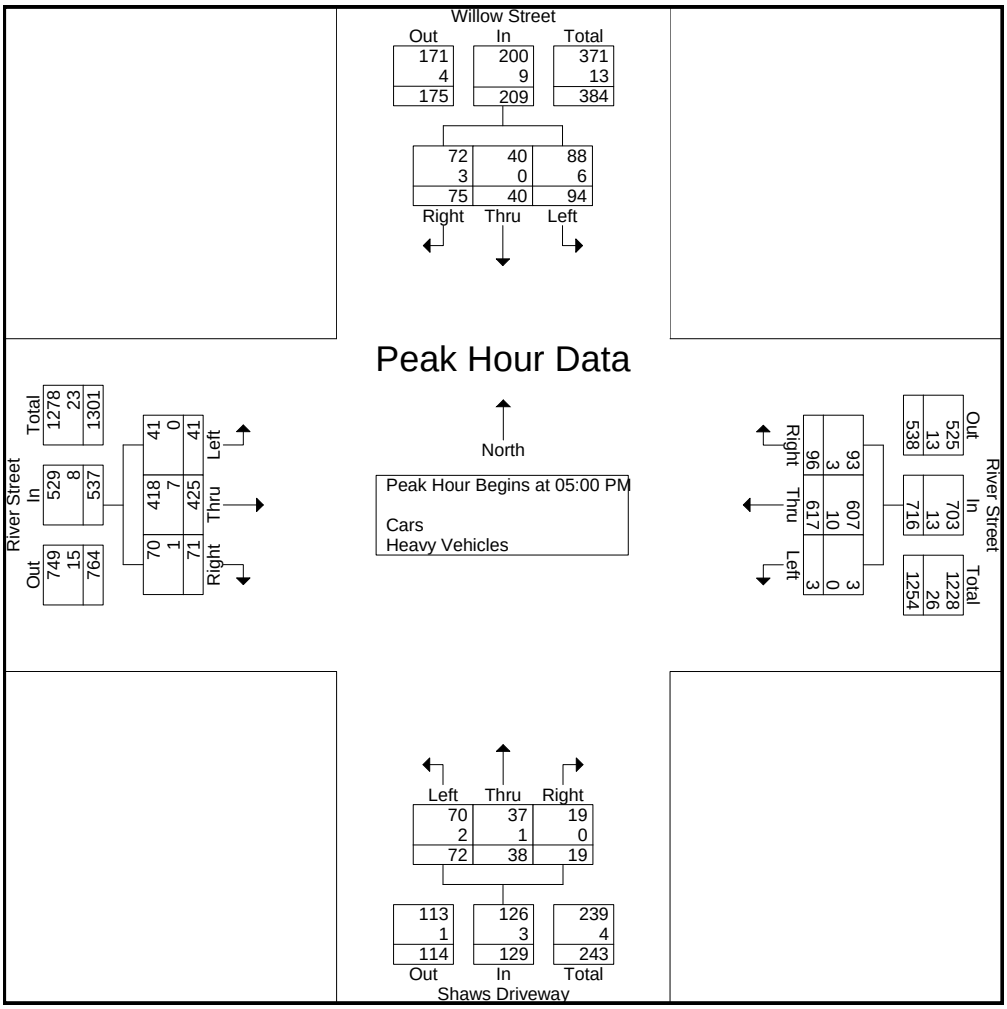
N/S: Willow Street/ Shaws Driveway
E/W: River Street
City, State: Waltham, MA
Client: Conley Associates/ B. Beisel

File Name : 102298 CC
Site Code : TBA
Start Date : 9/14/2010
Page No : 1

	Willow Street From North				River Street From East				Shaws Driveway From South				River Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	16	9	20	45	17	156	**2**	175	2	9	**21**	32	18	102	**15**	135	387
05:15 PM	17	**13**	**27**	**57**	24	146	1	171	5	**10**	20	**35**	18	111	9	138	401
05:30 PM	**22**	11	23	56	**34**	147	0	181	**6**	9	13	28	12	**120**	11	**143**	**408**
05:45 PM	20	7	24	51	21	**168**	0	**189**	6	10	18	34	**23**	92	6	121	395
Total Volume	75	40	94	209	96	617	3	716	19	38	72	129	71	425	41	537	1591
% App. Total	35.9	19.1	45		13.4	86.2	0.4		14.7	29.5	55.8		13.2	79.1	7.6		
PHF	.852	.769	.870	.917	.706	.918	.375	.947	.792	.950	.857	.921	.772	.885	.683	.939	.975
Cars	72	40	88	200	93	607	3	703	19	37	70	126	70	418	41	529	1558
% Cars	96.0	100	93.6	95.7	96.9	98.4	100	98.2	100	97.4	97.2	97.7	98.6	98.4	100	98.5	97.9
Heavy Vehicles	3	0	6	9	3	10	0	13	0	1	2	3	1	7	0	8	33
% Heavy Vehicles	4.0	0	6.4	4.3	3.1	1.6	0	1.8	0	2.6	2.8	2.3	1.4	1.6	0	1.5	2.1



PRECISION
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N/S: Farwell Street
E: Stop & Shop Rear Driveway
City, State: Waltham, MA
Client: Conley Associates/ B. Beisel

File Name : 102298 D
Site Code : TBA
Start Date : 9/14/2010
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Farwell Street From North		Stop & Shop Rear Driveway From East		Farwell Street From South		
Start Time	Thru	Left	Right	Left	Right	Thru	Int. Total
07:00 AM	93	8	9	1	3	99	213
07:15 AM	92	5	9	1	3	115	225
07:30 AM	109	5	2	4	6	107	233
07:45 AM	96	2	1	5	9	142	255
Total	390	20	21	11	21	463	926
08:00 AM	106	3	3	1	8	148	269
08:15 AM	121	2	1	6	8	125	263
08:30 AM	106	17	9	6	11	128	277
08:45 AM	102	7	14	7	12	122	264
Total	435	29	27	20	39	523	1073
Grand Total	825	49	48	31	60	986	1999
Apprch %	94.4	5.6	60.8	39.2	5.7	94.3	
Total %	41.3	2.5	2.4	1.6	3	49.3	
Cars	781	23	32	30	46	935	1847
% Cars	94.7	46.9	66.7	96.8	76.7	94.8	92.4
Heavy Vehicles	44	26	16	1	14	51	152
% Heavy Vehicles	5.3	53.1	33.3	3.2	23.3	5.2	7.6

	Farwell Street From North			Stop & Shop Rear Driveway From East			Farwell Street From South			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	106	3	109	3	1	4	8	**148**	**156**	269
08:15 AM	**121**	2	**123**	1	6	7	8	125	133	263
08:30 AM	106	**17**	123	9	6	15	11	128	139	**277**
08:45 AM	**102**	**7**	**109**	**14**	**7**	**21**	**12**	122	134	264
Total Volume	435	29	464	27	20	47	39	523	562	1073
% App. Total	93.8	6.2		57.4	42.6		6.9	93.1		
PHF	.899	.426	.943	.482	.714	.560	.813	.883	.901	.968
Cars	414	10	424	19	19	38	27	495	522	984
% Cars	95.2	34.5	91.4	70.4	95.0	80.9	69.2	94.6	92.9	91.7
Heavy Vehicles	21	19	40	8	1	9	12	28	40	89
% Heavy Vehicles	4.8	65.5	8.6	29.6	5.0	19.1	30.8	5.4	7.1	8.3

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E: Stop & Shop Rear Driveway
City, State: Waltham, MA
Client: Conley Associates/ B. Beisel

File Name : 102298 D
Site Code : TBA
Start Date : 9/14/2010
Page No : 1

Groups Printed- Peds and Bicycles

	Farwell Street From North			Stop & Shop Rear Driveway From East			Farwell Street From South			
Start Time	Thru	Left	Peds	Right	Left	Peds	Right	Thru	Peds	Int. Total
07:00 AM	0	0	0	0	0	4	1	1	0	6
07:15 AM	1	0	0	0	0	5	0	1	0	7
07:30 AM	0	1	0	0	0	2	0	4	0	7
07:45 AM	3	0	0	0	0	9	0	2	0	14
Total	4	1	0	0	0	20	1	8	0	34
08:00 AM	0	0	0	0	0	6	0	1	0	7
08:15 AM	1	0	0	0	0	3	0	2	0	6
08:30 AM	0	0	0	0	0	4	0	1	0	5
08:45 AM	0	0	0	0	0	6	0	1	0	7
Total	1	0	0	0	0	19	0	5	0	25
Grand Total	5	1	0	0	0	39	1	13	0	59
Apprch %	83.3	16.7	0	0	0	100	7.1	92.9	0	
Total %	8.5	1.7	0	0	0	66.1	1.7	22	0	

	Farwell Street From North				Stop & Shop Rear Driveway From East				Farwell Street From South				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:15 AM													
07:15 AM	1	0	0	1	0	0	5	5	0	1	0	1	7
07:30 AM	0	**1**	**0**	**1**	**0**	**0**	**2**	**2**	**0**	**4**	**0**	**4**	7
07:45 AM	**3**	0	0	**3**	0	0	**9**	**9**	0	2	0	2	**14**
08:00 AM	0	0	0	0	0	0	6	6	0	1	0	1	7
Total Volume	4	1	0	5	0	0	22	22	0	8	0	8	35
% App. Total	80	20	0		0	0	100		0	100	0		
PHF	.333	.250	.000	.417	.000	.000	.611	.611	.000	.500	.000	.500	.625

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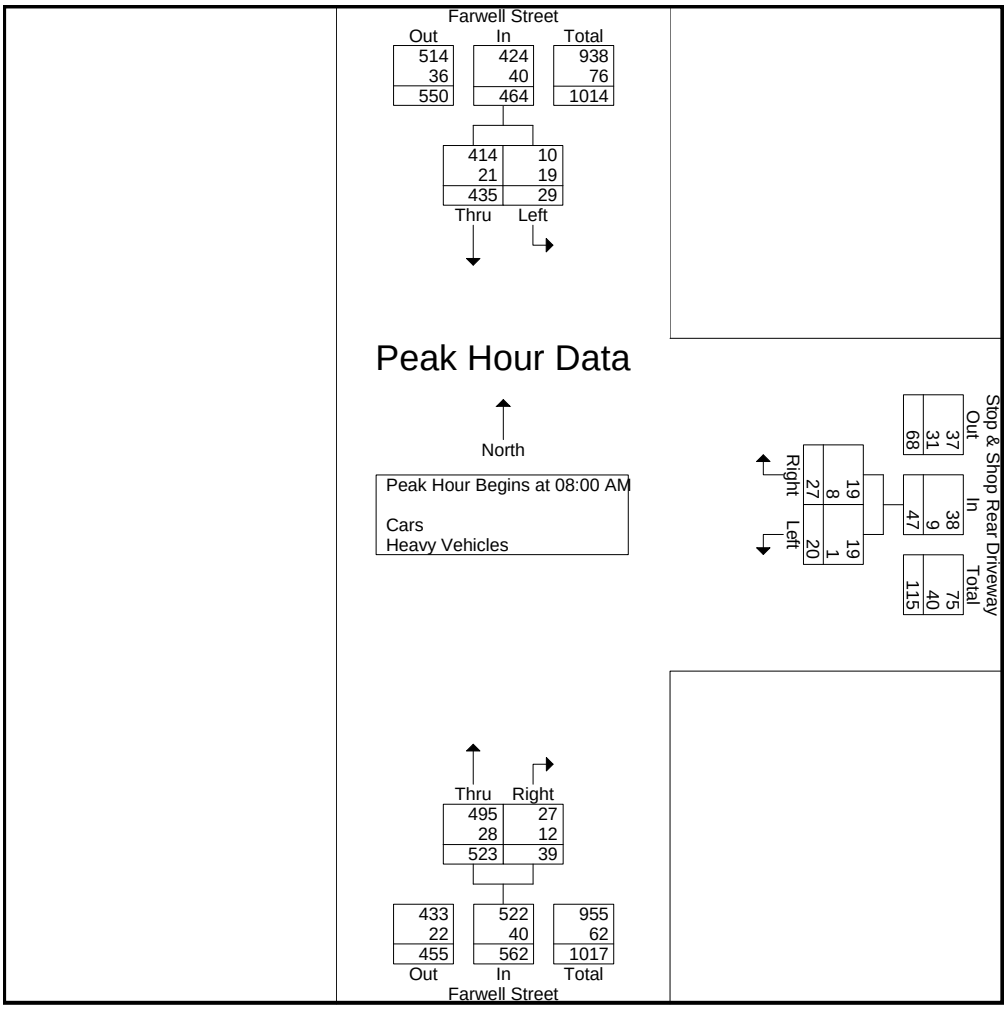
N/S: Farwell Street
E: Stop & Shop Rear Driveway
City, State: Waltham, MA
Client: Conley Associates/ B. Beisel

File Name : 102298 D
Site Code : TBA
Start Date : 9/14/2010
Page No : 1

	Farwell Street From North			Stop & Shop Rear Driveway From East			Farwell Street From South			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	106	3	109	3	1	4	8	**148**	**156**	269
08:15 AM	**121**	2	**123**	1	6	7	8	125	133	263
08:30 AM	106	**17**	123	9	6	15	11	128	139	**277**
08:45 AM	**102**	**7**	**109**	**14**	**7**	**21**	**12**	122	134	264
Total Volume	435	29	464	27	20	47	39	523	562	1073
% App. Total	93.8	6.2		57.4	42.6		6.9	93.1		
PHF	.899	.426	.943	.482	.714	.560	.813	.883	.901	.968
Cars	414	10	424	19	19	38	27	495	522	984
% Cars	95.2	34.5	91.4	70.4	95.0	80.9	69.2	94.6	92.9	91.7
Heavy Vehicles	21	19	40	8	1	9	12	28	40	89
% Heavy Vehicles	4.8	65.5	8.6	29.6	5.0	19.1	30.8	5.4	7.1	8.3



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E: Stop & Shop Rear Driveway
City, State: Waltham, MA
Client: Conley Associates/ B. Beisel

File Name : 102298 DD
Site Code : TBA
Start Date : 9/14/2010
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Farwell Street From North		Stop & Shop Rear Driveway From East		Farwell Street From South		
Start Time	Thru	Left	Right	Left	Right	Thru	Int. Total
04:00 PM	98	8	20	17	22	122	287
04:15 PM	111	12	10	19	17	150	319
04:30 PM	111	15	14	17	21	156	334
04:45 PM	99	8	11	13	19	150	300
Total	419	43	55	66	79	578	1240
05:00 PM	132	5	8	14	30	157	346
05:15 PM	120	4	12	16	21	170	343
05:30 PM	132	12	14	16	15	146	335
05:45 PM	122	8	11	26	23	135	325
Total	506	29	45	72	89	608	1349
Grand Total	925	72	100	138	168	1186	2589
Apprch %	92.8	7.2	42	58	12.4	87.6	
Total %	35.7	2.8	3.9	5.3	6.5	45.8	
Cars	907	67	99	136	164	1144	2517
% Cars	98.1	93.1	99	98.6	97.6	96.5	97.2
Heavy Vehicles	18	5	1	2	4	42	72
% Heavy Vehicles	1.9	6.9	1	1.4	2.4	3.5	2.8

	Farwell Street From North			Stop & Shop Rear Driveway From East			Farwell Street From South			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	**132**	5	137	8	14	22	**30**	157	187	**346**
05:15 PM	**120**	**4**	**124**	**12**	**16**	**28**	**21**	**170**	**191**	343
05:30 PM	132	**12**	**144**	**14**	16	30	15	146	161	335
05:45 PM	122	8	130	11	**26**	**37**	23	135	158	325
Total Volume	506	29	535	45	72	117	89	608	697	1349
% App. Total	94.6	5.4		38.5	61.5		12.8	87.2		
PHF	.958	.604	.929	.804	.692	.791	.742	.894	.912	.975
Cars	499	29	528	45	70	115	89	596	685	1328
% Cars	98.6	100	98.7	100	97.2	98.3	100	98.0	98.3	98.4
Heavy Vehicles	7	0	7	0	2	2	0	12	12	21
% Heavy Vehicles	1.4	0	1.3	0	2.8	1.7	0	2.0	1.7	1.6

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N/S: Farwell Street
E: Stop & Shop Rear Driveway
City, State: Waltham, MA
Client: Conley Associates/ B. Beisel

File Name : 102298 DD
Site Code : TBA
Start Date : 9/14/2010
Page No : 1

Groups Printed- Peds and Bicycles

	Farwell Street From North			Stop & Shop Rear Driveway From East			Farwell Street From South			
Start Time	Thru	Left	Peds	Right	Left	Peds	Right	Thru	Peds	Int. Total
04:00 PM	4	0	0	0	0	5	0	2	0	11
04:15 PM	1	0	0	0	0	27	0	0	0	28
04:30 PM	0	0	0	0	0	2	0	1	0	3
04:45 PM	0	0	0	0	0	2	0	1	0	3
Total	5	0	0	0	0	36	0	4	0	45
05:00 PM	0	0	0	0	1	2	0	0	0	3
05:15 PM	1	0	1	0	0	2	0	1	0	5
05:30 PM	3	1	0	0	0	1	0	2	0	7
05:45 PM	1	1	1	0	1	8	0	0	0	12
Total	5	2	2	0	2	13	0	3	0	27
Grand Total	10	2	2	0	2	49	0	7	0	72
Apprch %	71.4	14.3	14.3	0	3.9	96.1	0	100	0	
Total %	13.9	2.8	2.8	0	2.8	68.1	0	9.7	0	

	Farwell Street From North				Stop & Shop Rear Driveway From East				Farwell Street From South				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:00 PM													
04:00 PM	**4**	0	0	**4**	0	0	5	5	0	**2**	**0**	**2**	11
04:15 PM	1	0	0	1	0	0	**27**	**27**	0	0	0	0	**28**
04:30 PM	0	0	0	0	0	0	2	2	0	1	0	1	3
04:45 PM	0	0	0	0	0	0	2	2	0	1	0	1	3
Total Volume	5	0	0	5	0	0	36	36	0	4	0	4	45
% App. Total	100	0	0		0	0	100		0	100	0		
PHF	.313	.000	.000	.313	.000	.000	.333	.333	.000	.500	.000	.500	.402

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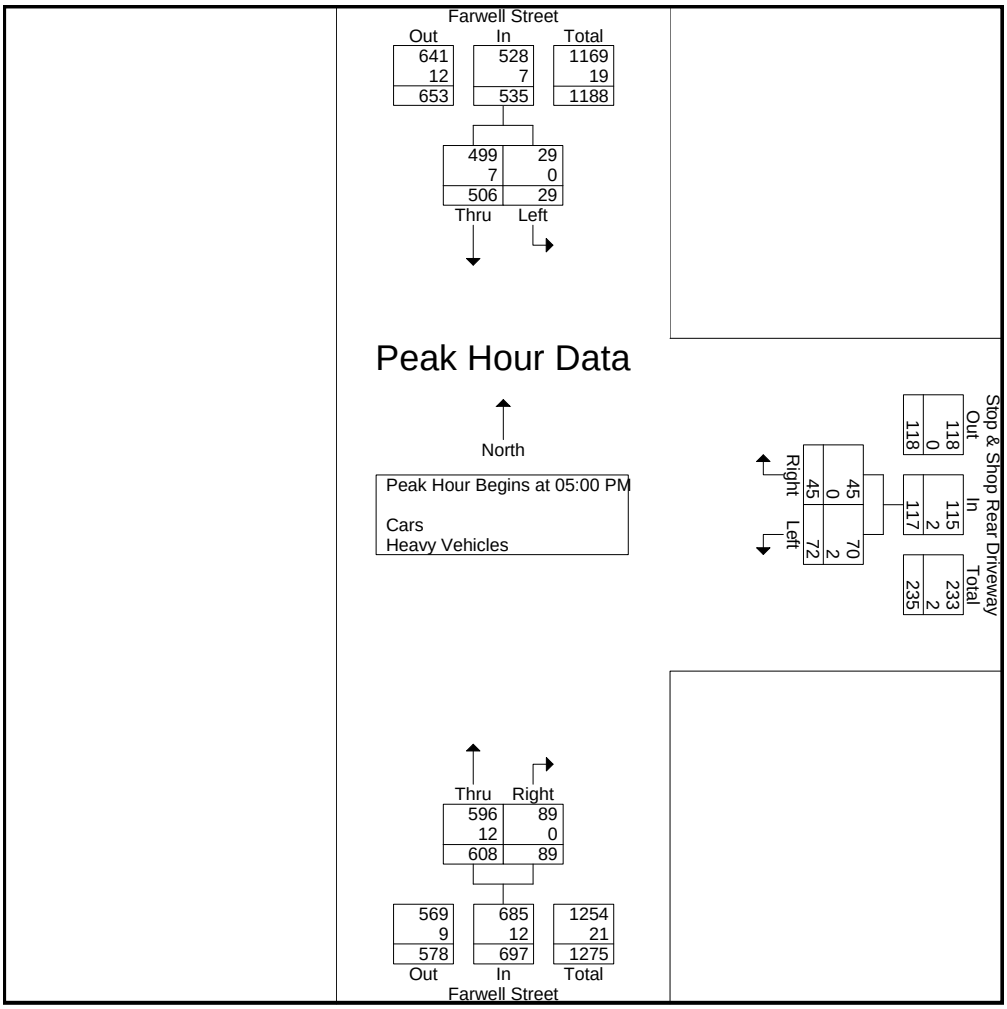
	Farwell Street From North			Stop & Shop Rear Driveway From East			Farwell Street From South			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	**132**	5	137	8	14	22	**30**	157	187	**346**
05:15 PM	**120**	**4**	**124**	**12**	**16**	**28**	**21**	**170**	**191**	343
05:30 PM	132	**12**	**144**	**14**	16	30	15	146	161	335
05:45 PM	122	8	130	11	**26**	**37**	23	135	158	325
Total Volume	506	29	535	45	72	117	89	608	697	1349
% App. Total	94.6	5.4		38.5	61.5		12.8	87.2		
PHF	.958	.604	.929	.804	.692	.791	.742	.894	.912	.975
Cars	499	29	528	45	70	115	89	596	685	1328
% Cars	98.6	100	98.7	100	97.2	98.3	100	98.0	98.3	98.4
Heavy Vehicles	7	0	7	0	2	2	0	12	12	21
% Heavy Vehicles	1.4	0	1.3	0	2.8	1.7	0	2.0	1.7	1.6



MassHighway Seasonal Traffic Volume Data

STATION 4119 - WALTHAM - RTE.I-95 (128) - SOUTH OF WINTER ST.

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
98	154,139	164,836	168,601	179,121	177,061	181,966	179,768	170,751	175,500	180,581	167,907	168,960	172,433
	-2%	-1%	2%	1%	3%	5%	1%	9%	5%	2%	5%	1%	3%
99	150,397	162,765	172,080	181,415	182,440	191,725	181,601	186,069	183,959	183,792	176,295	170,934	176,956
	3%	3%	3%	-1%	1%	0%	-2%	2%	1%	1%	0%	-1%	1%
00	155,337	168,035	176,843	179,163	185,163	191,114	178,430	190,173	184,987	185,761	176,236	168,875	178,343
	5%	-3%	-11%	-2%	-3%	-6%	-4%	-8%	-4%	-2%	0%	-1%	-3%
01	163,137	162,745	158,070	175,470	178,917	178,851	171,880	174,988	177,180	181,684	175,812	168,026	172,230
									SEP				**YEAR**
	Average								**180,407**				**174,990**

STATION 4120 - WALTHAM - RTE.I-95 (128) - NORTH OF WINTER ST.

YR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
97	159,355	163,016	163,855	169,858	179,996	185,926	181,285	182,559	182,905	185,308	164,001	165,576	173,637
	-3%	2%	4%	7%	0%	-3%	1%	0%	-3%	-2%	2%	1%	0%
98	155,226	166,369	170,137	181,167	179,174	180,697	183,116	182,568	176,532	182,501	167,070	167,487	174,337
	-5%	-1%	3%	2%	3%	8%	1%	3%	5%	2%	6%	4%	3%
99	147,283	164,662	174,462	184,489	185,324	194,328	184,164	188,630	185,437	186,324	177,233	173,683	178,835
					2%	0%	-1%	3%	1%	1%			6%
00					188,346	194,201	181,831	193,525	187,613	188,190			188,951
									SEP				**YEAR**
	Average								**183,122**				**178,940**

Seasonal Adjustment Calculation

Station 4119		**Station 4120**	
Month of count	Sept	**Month of count**	Sept
Volume	180,407	**Volume**	183,122
Yearly Average Volume	174,990	**Yearly Average Volume**	178,940
Seasonality Rate =	3.00%	**Seasonality Rate =**	2.28%

Average
2.64%

CONLEY ASSOCIATES

MassHighway Annual Traffic Volume Data

STA.	ROUTE/STREET	LOCATION	1999	2000	2001	2002	2003	2004	2005	2006	2007
Waltham											
4155	PLANT RD.	SOUTH OF TRAPELO RD.	240			190			160		
4873	TOTTEN POND RD.	WEST OF LEXINGTON ST.			21,300			19,600			17,900
4911	RTE. 60	WEST OF TRAPELO RD.			14,500			12,800			13,000
4925	RTE. 60	WEST OF BEAVER ST.			8,000						8,100

Annual Growth Rate Calculation

Station #:	4155	4873	4911	4925
First Date (year)	1999	2001	2001	2001
Volume	240	21,300	14,500	8,000
Last Date (year)	2005	2007	2007	2007
Volume	160	17,900	13,000	8,100
Annual Growth Rate =	-6.53%	-2.86%	-1.80%	0.21%

Average
-2.75%

CONLEY ASSOCIATES

TRIP GENERATION WORKSHEET

x= 200 Dwelling Units LUC: Apartment (220)

WEEKDAY

Average Rate =	6.65	Fitted Curve Equation =	T = 6.06(X)+123.56
Total Trips =	1330	Total Trips =	1335.56

AM PEAK HOUR of ADJACENT STREET

Average Rate =	0.51	Fitted Curve Equation =	T = 0.49(X) +3.73
Total Trips =	102	Total Trips =	101.73
20% of Trips In =	20	20% of Trips In =	20
80% of Trips Out =	82	80% of Trips Out =	81

PM PEAK HOUR of ADJACENT STREET

Average Rate =	0.62	Fitted Curve Equation =	T = 0.55(X) +17.65
Total Trips =	124	Total Trips =	127.65
65% of Trips In =	81	65% of Trips In =	83
35% of Trips Out =	43	35% of Trips Out =	45

AM PEAK HOUR of GENERATOR

Average Rate =	0.55	Fitted Curve Equation =	T = 0.54(X) +2.45
Total Trips =	110	Total Trips =	110.45
29% of Trips In =	32	29% of Trips In =	32
71% of Trips Out =	78	71% of Trips Out =	78

PM PEAK HOUR of GENERATOR

Average Rate =	0.67	Fitted Curve Equation =	T = 0.60(X) +14.91
Total Trips =	134	Total Trips =	134.91
61% of Trips In =	82	61% of Trips In =	82
39% of Trips Out =	52	39% of Trips Out =	53

SATURDAY

Average Rate =	6.39	Fitted Curve Equation =	T = 7.85(X) -256.19
Total Trips =	1278	Total Trips =	1313.81

PEAK HOUR of GENERATOR

Average Rate =	0.52	Fitted Curve Equation =	T = 0.41(X) +19.23
Total Trips =	104	Total Trips =	101.23
50% of Trips In =	52	50% of Trips In =	NA
50% of Trips Out =	52	50% of Trips Out =	NA

SUNDAY

Average Rate =	5.86	Fitted Curve Equation =	T = 6.42(X) -101.12
Total Trips =	1172	Total Trips =	1182.88

PEAK HOUR of GENERATOR

Average Rate =	0.51	Fitted Curve Equation =	NA
Total Trips =	102		
50% of Trips In =	51		
50% of Trips Out =	51		

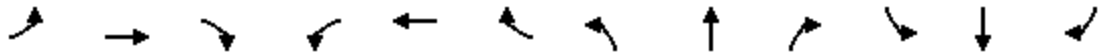
ITE TRIP GENERATION
8TH EDITION

CONLEY ASSOCIATES

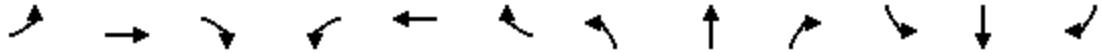
Metric					US Customary				
Design speed (km/h)	Break reaction distance (m)	Breaking distance on level (m)	Stopping sight distance		Design speed (mph)	Break reaction distance (ft)	Breaking distance on level (ft)	Stopping sight distance	
			Calculated (m)	Design (m)				Calculated (ft)	Design (ft)
20	13.9	4.6	18.5	20	15	55.1	21.6	76.7	80
30	20.9	10.3	31.2	35	20	73.5	38.4	111.9	115
40	27.8	18.4	46.2	50	25	91.9	60.0	151.9	155
50	34.8	28.7	63.5	65	30	110.3	86.4	196.7	200
60	41.7	41.3	83.0	85	35	128.6	117.6	246.2	250
70	48.7	56.2	104.9	105	40	147.0	153.6	300.6	305
80	55.6	73.4	129.0	130	45	165.4	194.4	359.8	360
90	62.6	92.9	155.5	160	50	183.8	240.0	423.8	425
100	69.5	114.7	184.2	185	55	202.1	290.3	492.4	495
110	76.5	138.8	215.3	220	60	220.5	345.5	566.0	570
120	83.4	165.2	248.6	250	65	238.9	405.5	644.4	645
130	90.4	193.8	284.2	285	70	257.3	470.3	727.6	730
					75	275.6	539.9	815.5	820
					80	294.0	614.3	908.3	910

Note: Brake reaction distance predicated on a time of 2.5 s; deceleration rate of 3.4 m/s2 [11.2 ft/s2] used to determine calculated sight distance.

Exhibit 3-1. Stopping Sight Distance



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.952			0.977			0.948				0.850	
Flt Protected	0.950			0.950			0.950				0.993		
Satd. Flow (prot)	1770	1773	0	1770	1820	0	1770	1766	0	0	1850	1583	
Flt Permitted	0.445			0.133			0.182				0.886		
Satd. Flow (perm)	829	1773	0	248	1820	0	339	1766	0	0	1650	1583	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		24			9			28				71	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1150			800			360			500		
Travel Time (s)		26.1			18.2			8.2			11.4		
Volume (vph)	35	372	177	51	208	37	230	221	117	42	241	61	
Peak Hour Factor	0.93	0.93	0.93	0.95	0.95	0.95	0.95	0.95	0.95	0.86	0.86	0.86	
Adj. Flow (vph)	38	400	190	54	219	39	242	233	123	49	280	71	
Lane Group Flow (vph)	38	590	0	54	258	0	242	356	0	0	329	71	
Turn Type	pm+pt			pm+pt			pm+pt			Perm		Perm	
Protected Phases	5	2		1	6		3	8			4		9
Permitted Phases	2			6			8			4		4	
Detector Phases	5	2		1	6		3	8		4	4	4	
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	8.0	1.0
Minimum Split (s)	13.0	21.0		13.0	21.0		13.0	21.0		21.0	21.0	21.0	18.0
Total Split (s)	13.0	34.0	0.0	13.0	34.0	0.0	13.0	35.0	0.0	22.0	22.0	22.0	18.0
Total Split (%)	13.0%	34.0%	0.0%	13.0%	34.0%	0.0%	13.0%	35.0%	0.0%	22.0%	22.0%	22.0%	18%
Maximum Green (s)	8.0	29.0		8.0	29.0		8.0	30.0		17.0	17.0	17.0	16.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0	2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0	0.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lag	



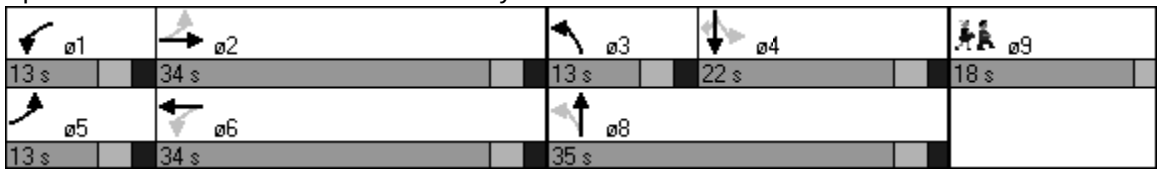
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min		Min	Min	Min	None
Walk Time (s)													5.0
Flash Dont Walk (s)													11.0
Pedestrian Calls (#/hr)													0
Act Effct Green (s)	35.4	30.2		35.4	30.2		31.2	31.2			18.1	18.1	
Actuated g/C Ratio	0.43	0.39		0.43	0.39		0.41	0.41			0.24	0.24	
v/c Ratio	0.08	0.83		0.20	0.36		0.79	0.48			0.85	0.17	
Control Delay	10.7	33.8		12.2	18.9		39.1	19.4			51.5	8.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0	
Total Delay	10.7	33.8		12.2	18.9		39.1	19.4			51.5	8.3	
LOS	B	C		B	B		D	B			D	A	
Approach Delay		32.4			17.8			27.4			43.8		
Approach LOS		C			B			C			D		
Queue Length 50th (ft)	9	269		13	92		88	127			166	0	
Queue Length 95th (ft)	23	#469		30	155		#198	208			#295	29	
Internal Link Dist (ft)		1070			720			280			420		
Turn Bay Length (ft)													
Base Capacity (vph)	462	712		274	722		307	735			389	428	
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	0.08	0.83		0.20	0.36		0.79	0.48			0.85	0.17	

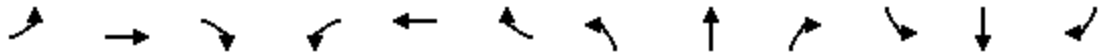
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 76.8			
Natural Cycle: 110			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 30.9		Intersection LOS: C	
Intersection Capacity Utilization 84.1%		ICU Level of Service E	

Analysis Period (min) 15

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

Splits and Phases: 1: River Street & Seyon Street





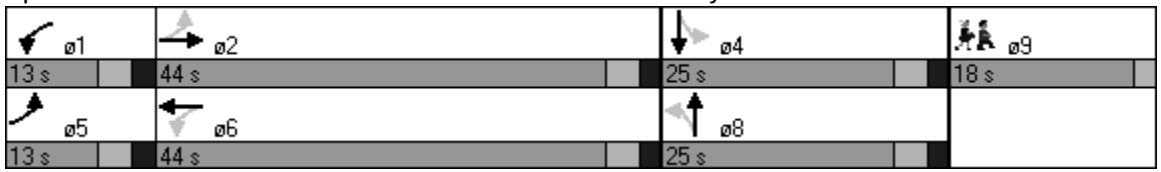
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.992			0.976			0.991			0.942		
Flt Protected	0.950			0.950				0.970			0.975		
Satd. Flow (prot)	1770	1848	0	1770	1818	0	0	1791	0	0	1711	0	
Flt Permitted	0.275			0.208				0.781			0.833		
Satd. Flow (perm)	512	1848	0	387	1818	0	0	1442	0	0	1462	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		3			11			3			35		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		450			1150			360			500		
Travel Time (s)		10.2			26.1			8.2			11.4		
Volume (vph)	41	464	25	2	368	70	21	11	2	99	12	85	
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.77	0.77	0.77	0.91	0.91	0.91	
Adj. Flow (vph)	46	516	28	2	400	76	27	14	3	109	13	93	
Lane Group Flow (vph)	46	544	0	2	476	0	0	44	0	0	215	0	
Turn Type	pm+pt			pm+pt			Perm			Perm			
Protected Phases	5	2		1	6			8			4		9
Permitted Phases	2			6			8			4			
Detector Phases	5	2		1	6		8	8		4	4		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		1.0
Minimum Split (s)	13.0	20.0		13.0	20.0		20.0	20.0		20.0	20.0		18.0
Total Split (s)	13.0	44.0	0.0	13.0	44.0	0.0	25.0	25.0	0.0	25.0	25.0	0.0	18.0
Total Split (%)	13.0%	44.0%	0.0%	13.0%	44.0%	0.0%	25.0%	25.0%	0.0%	25.0%	25.0%	0.0%	18%
Maximum Green (s)	8.0	39.0		8.0	39.0		20.0	20.0		20.0	20.0		16.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lag		Lead	Lag								

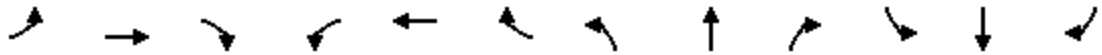
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	None	Max		None	Max		None	None		None	None		None
Walk Time (s)													5.0
Flash Dont Walk (s)													11.0
Pedestrian Calls (#/hr)													0
Act Effct Green (s)	46.9	45.7		45.5	41.0			14.9			14.9		
Actuated g/C Ratio	0.62	0.64		0.56	0.58			0.21			0.21		
v/c Ratio	0.10	0.46		0.01	0.45			0.14			0.64		
Control Delay	5.6	9.9		6.5	12.7			23.9			31.7		
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0		
Total Delay	5.6	9.9		6.5	12.7			23.9			31.7		
LOS	A	A		A	B			C			C		
Approach Delay		9.6			12.7			23.9			31.7		
Approach LOS		A			B			C			C		
Queue Length 50th (ft)	6	95		0	134			16			79		
Queue Length 95th (ft)	18	292		2	244			35			149		
Internal Link Dist (ft)		370			1070			280			420		
Turn Bay Length (ft)													
Base Capacity (vph)	464	1190		371	1054			400			428		
Starvation Cap Reductn	0	0		0	0			0			0		
Spillback Cap Reductn	0	0		0	0			0			0		
Storage Cap Reductn	0	0		0	0			0			0		
Reduced v/c Ratio	0.10	0.46		0.01	0.45			0.11			0.50		

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 71			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 14.8		Intersection LOS: B	
Intersection Capacity Utilization 53.4%		ICU Level of Service A	

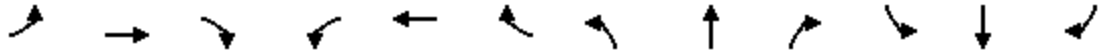
Analysis Period (min) 15

Splits and Phases: 2: River Street & Shaw's Site Driveway





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.946			0.978			0.964				0.850	
Flt Protected	0.950			0.950			0.950				0.988		
Satd. Flow (prot)	1770	1762	0	1770	1822	0	1770	1796	0	0	1840	1583	
Flt Permitted	0.160			0.160			0.154				0.648		
Satd. Flow (perm)	298	1762	0	298	1822	0	287	1796	0	0	1207	1583	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		27			8			18				89	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1150			800			360			500		
Travel Time (s)		26.1			18.2			8.2			11.4		
Volume (vph)	77	332	186	101	429	76	234	318	100	84	253	83	
Peak Hour Factor	0.88	0.88	0.88	0.90	0.90	0.90	0.92	0.92	0.92	0.93	0.93	0.93	
Adj. Flow (vph)	88	377	211	112	477	84	254	346	109	90	272	89	
Lane Group Flow (vph)	88	588	0	112	561	0	254	455	0	0	362	89	
Turn Type	pm+pt			pm+pt			pm+pt			Perm		Perm	
Protected Phases	5	2		1	6		7	4			8		9
Permitted Phases	2			6			4			8		8	
Detector Phases	5	2		1	6		7	4		8	8	8	
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	8.0	1.0
Minimum Split (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	13.0	13.0	18.0
Total Split (s)	13.0	29.0	0.0	13.0	29.0	0.0	13.0	40.0	0.0	27.0	27.0	27.0	18.0
Total Split (%)	13.0%	29.0%	0.0%	13.0%	29.0%	0.0%	13.0%	40.0%	0.0%	27.0%	27.0%	27.0%	18%
Maximum Green (s)	8.0	24.0		8.0	24.0		8.0	35.0		22.0	22.0	22.0	16.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0	2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0	0.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lag	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min		Min	Min	Min	None
Walk Time (s)													5.0
Flash Dont Walk (s)													11.0
Pedestrian Calls (#/hr)													0
Act Effct Green (s)	32.2	25.1		32.2	25.1		36.2	36.2			23.1	23.1	
Actuated g/C Ratio	0.39	0.32		0.39	0.32		0.46	0.46			0.29	0.29	
v/c Ratio	0.32	1.02		0.40	0.96		0.85	0.55			1.03	0.17	
Control Delay	16.0	72.1		17.7	59.1		43.5	19.0			88.0	6.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0	
Total Delay	16.0	72.1		17.7	59.1		43.5	19.0			88.0	6.4	
LOS	B	E		B	E		D	B			F	A	
Approach Delay		64.8			52.2			27.8			71.9		
Approach LOS		E			D			C			E		
Queue Length 50th (ft)	25	~326		32	283		82	162			~209	0	
Queue Length 95th (ft)	49	#506		61	#496		#210	253			#372	33	
Internal Link Dist (ft)		1070			720			280			420		
Turn Bay Length (ft)													
Base Capacity (vph)	278	576		278	582		300	828			352	524	
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	0.32	1.02		0.40	0.96		0.85	0.55			1.03	0.17	

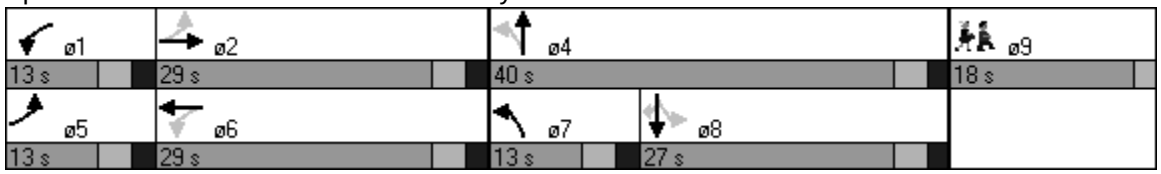
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 79.4			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.03			
Intersection Signal Delay: 52.2		Intersection LOS: D	
Intersection Capacity Utilization 89.6%		ICU Level of Service E	

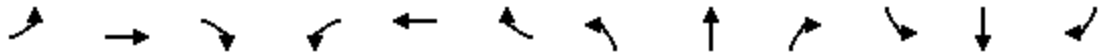
Analysis Period (min) 15

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

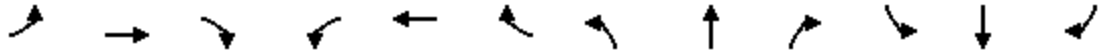
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: River Street & Seyon Street





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.978			0.980			0.980			0.951		
Flt Protected	0.950			0.950				0.973			0.978		
Satd. Flow (prot)	1770	1822	0	1770	1825	0	0	1776	0	0	1732	0	
Flt Permitted	0.091			0.263				0.632			0.776		
Satd. Flow (perm)	170	1822	0	490	1825	0	0	1154	0	0	1375	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		11			10			8			25		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		450			1150			360			500		
Travel Time (s)		10.2			26.1			8.2			11.4		
Volume (vph)	41	425	71	3	617	96	72	38	19	94	40	75	
Peak Hour Factor	0.94	0.94	0.94	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	44	452	76	3	649	101	78	41	21	102	43	82	
Lane Group Flow (vph)	44	528	0	3	750	0	0	140	0	0	227	0	
Turn Type	pm+pt			pm+pt			Perm			Perm			
Protected Phases	5	2		1	6			8			4		9
Permitted Phases	2			6			8			4			
Detector Phases	5	2		1	6		8	8		4	4		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		1.0
Minimum Split (s)	13.0	20.0		13.0	20.0		20.0	20.0		20.0	20.0		18.0
Total Split (s)	13.0	48.0	0.0	13.0	48.0	0.0	21.0	21.0	0.0	21.0	21.0	0.0	18.0
Total Split (%)	13.0%	48.0%	0.0%	13.0%	48.0%	0.0%	21.0%	21.0%	0.0%	21.0%	21.0%	0.0%	18%
Maximum Green (s)	8.0	43.0		8.0	43.0		16.0	16.0		16.0	16.0		16.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lag		Lead	Lag								



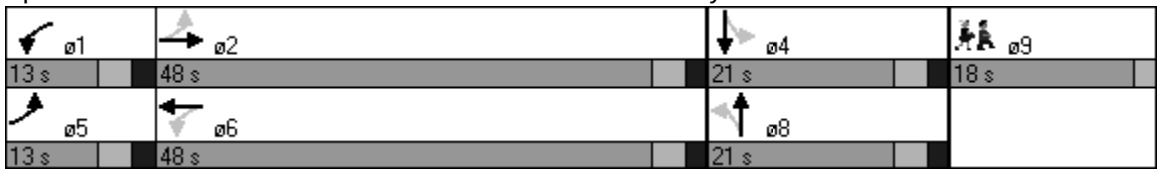
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	None	Max		None	Max		None	None		None	None		None
Walk Time (s)													5.0
Flash Dont Walk (s)													11.0
Pedestrian Calls (#/hr)													0
Act Effct Green (s)	50.9	49.3		49.5	44.5			15.9			15.9		
Actuated g/C Ratio	0.63	0.65		0.57	0.59			0.21			0.21		
v/c Ratio	0.15	0.44		0.01	0.70			0.56			0.74		
Control Delay	5.7	8.9		5.3	17.0			36.5			42.1		
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0		
Total Delay	5.7	8.9		5.3	17.0			36.5			42.1		
LOS	A	A		A	B			D			D		
Approach Delay		8.6			17.0			36.5			42.1		
Approach LOS		A			B			D			D		
Queue Length 50th (ft)	6	96		1	278			61			98		
Queue Length 95th (ft)	15	248		3	429			121			#206		
Internal Link Dist (ft)		370			1070			280			420		
Turn Bay Length (ft)													
Base Capacity (vph)	285	1191		417	1078			264			326		
Starvation Cap Reductn	0	0		0	0			0			0		
Spillback Cap Reductn	0	0		0	0			0			0		
Storage Cap Reductn	0	0		0	0			0			0		
Reduced v/c Ratio	0.15	0.44		0.01	0.70			0.53			0.70		

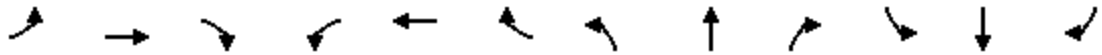
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 75.7			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 19.1		Intersection LOS: B	
Intersection Capacity Utilization 58.6%		ICU Level of Service B	

Analysis Period (min) 15

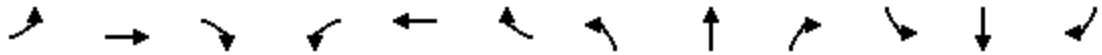
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: River Street & Shaw's Site Driveway





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.952			0.977			0.948				0.850	
Flt Protected	0.950			0.950			0.950				0.993		
Satd. Flow (prot)	1770	1773	0	1770	1820	0	1770	1766	0	0	1850	1583	
Flt Permitted	0.428			0.133			0.182				0.882		
Satd. Flow (perm)	797	1773	0	248	1820	0	339	1766	0	0	1643	1583	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		24			9			28				74	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1150			800			360			500		
Travel Time (s)		26.1			18.2			8.2			11.4		
Volume (vph)	37	391	186	54	218	39	242	232	123	44	253	64	
Peak Hour Factor	0.93	0.93	0.93	0.95	0.95	0.95	0.95	0.95	0.95	0.86	0.86	0.86	
Adj. Flow (vph)	40	420	200	57	229	41	255	244	129	51	294	74	
Lane Group Flow (vph)	40	620	0	57	270	0	255	373	0	0	345	74	
Turn Type	pm+pt			pm+pt			pm+pt			Perm		Perm	
Protected Phases	5	2		1	6		3	8			4		9
Permitted Phases	2			6			8			4		4	
Detector Phases	5	2		1	6		3	8		4	4	4	
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	8.0	1.0
Minimum Split (s)	13.0	21.0		13.0	21.0		13.0	21.0		21.0	21.0	21.0	18.0
Total Split (s)	13.0	34.0	0.0	13.0	34.0	0.0	13.0	35.0	0.0	22.0	22.0	22.0	18.0
Total Split (%)	13.0%	34.0%	0.0%	13.0%	34.0%	0.0%	13.0%	35.0%	0.0%	22.0%	22.0%	22.0%	18%
Maximum Green (s)	8.0	29.0		8.0	29.0		8.0	30.0		17.0	17.0	17.0	16.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0	2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0	0.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lag	



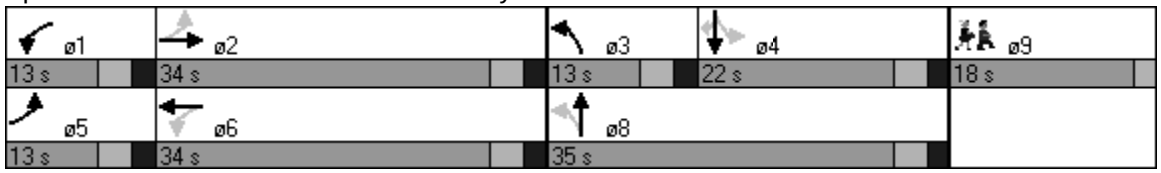
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min		Min	Min	Min	None
Walk Time (s)													5.0
Flash Dont Walk (s)													11.0
Pedestrian Calls (#/hr)													0
Act Effct Green (s)	35.4	30.2		35.4	30.2		31.2	31.2			18.1	18.1	
Actuated g/C Ratio	0.43	0.39		0.43	0.39		0.41	0.41			0.24	0.24	
v/c Ratio	0.09	0.87		0.21	0.37		0.83	0.51			0.89	0.17	
Control Delay	10.7	37.7		12.4	19.2		44.0	19.9			57.2	8.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0	
Total Delay	10.7	37.7		12.4	19.2		44.0	19.9			57.2	8.2	
LOS	B	D		B	B		D	B			E	A	
Approach Delay		36.1			18.0			29.7			48.6		
Approach LOS		D			B			C			D		
Queue Length 50th (ft)	9	291		13	98		93	135			176	0	
Queue Length 95th (ft)	24	#505		31	162		#215	220			#314	30	
Internal Link Dist (ft)		1070			720			280			420		
Turn Bay Length (ft)													
Base Capacity (vph)	451	712		274	722		307	735			388	430	
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	0.09	0.87		0.21	0.37		0.83	0.51			0.89	0.17	

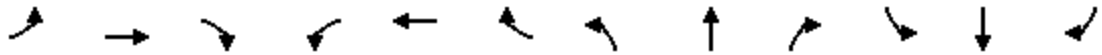
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 76.8			
Natural Cycle: 130			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 33.8		Intersection LOS: C	
Intersection Capacity Utilization 87.4%		ICU Level of Service E	

Analysis Period (min) 15

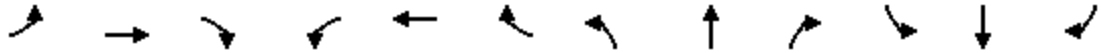
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: River Street & Seyon Street





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.993			0.976			0.991			0.941		
Flt Protected	0.950			0.950				0.970			0.975		
Satd. Flow (prot)	1770	1850	0	1770	1818	0	0	1791	0	0	1709	0	
Flt Permitted	0.248			0.183				0.775			0.833		
Satd. Flow (perm)	462	1850	0	341	1818	0	0	1431	0	0	1460	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		3			11			3			35		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		450			1150			360			500		
Travel Time (s)		10.2			26.1			8.2			11.4		
Volume (vph)	43	487	25	2	389	74	21	11	2	104	12	89	
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.77	0.77	0.77	0.91	0.91	0.91	
Adj. Flow (vph)	48	541	28	2	423	80	27	14	3	114	13	98	
Lane Group Flow (vph)	48	569	0	2	503	0	0	44	0	0	225	0	
Turn Type	pm+pt			pm+pt			Perm			Perm			
Protected Phases	5	2		1	6			8			4		9
Permitted Phases	2			6			8			4			
Detector Phases	5	2		1	6		8	8		4	4		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		1.0
Minimum Split (s)	13.0	20.0		13.0	20.0		20.0	20.0		20.0	20.0		18.0
Total Split (s)	13.0	44.0	0.0	13.0	44.0	0.0	25.0	25.0	0.0	25.0	25.0	0.0	18.0
Total Split (%)	13.0%	44.0%	0.0%	13.0%	44.0%	0.0%	25.0%	25.0%	0.0%	25.0%	25.0%	0.0%	18%
Maximum Green (s)	8.0	39.0		8.0	39.0		20.0	20.0		20.0	20.0		16.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lag		Lead	Lag								

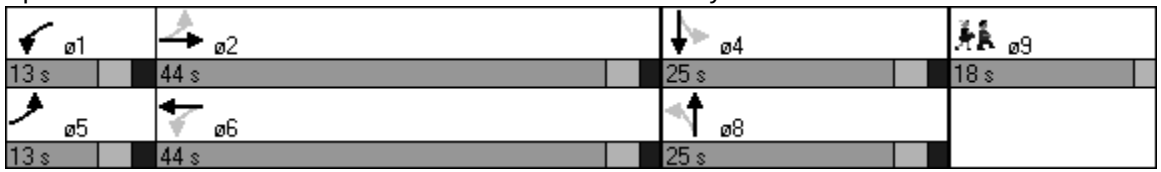


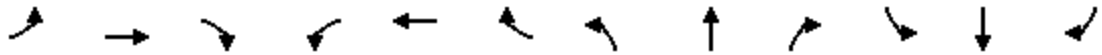
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	None	Max		None	Max		None	None		None	None		None
Walk Time (s)													5.0
Flash Dont Walk (s)													11.0
Pedestrian Calls (#/hr)													0
Act Effct Green (s)	46.9	45.7		45.5	41.0			15.2			15.2		
Actuated g/C Ratio	0.61	0.64		0.56	0.57			0.21			0.21		
v/c Ratio	0.11	0.48		0.01	0.48			0.14			0.66		
Control Delay	5.8	10.4		6.5	13.3			23.7			32.5		
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0		
Total Delay	5.8	10.4		6.5	13.3			23.7			32.5		
LOS	A	B		A	B			C			C		
Approach Delay		10.0			13.3			23.7			32.5		
Approach LOS		B			B			C			C		
Queue Length 50th (ft)	6	105		0	148			16			84		
Queue Length 95th (ft)	19	311		2	262			35			156		
Internal Link Dist (ft)		370			1070			280			420		
Turn Bay Length (ft)													
Base Capacity (vph)	437	1185		349	1049			397			428		
Starvation Cap Reductn	0	0		0	0			0			0		
Spillback Cap Reductn	0	0		0	0			0			0		
Storage Cap Reductn	0	0		0	0			0			0		
Reduced v/c Ratio	0.11	0.48		0.01	0.48			0.11			0.53		

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 71.4			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 15.3		Intersection LOS: B	
Intersection Capacity Utilization 55.7%		ICU Level of Service B	

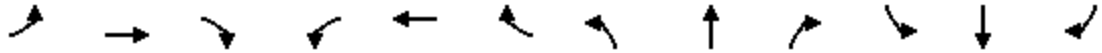
Analysis Period (min) 15

Splits and Phases: 2: River Street & Shaw's Site Driveway





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.946			0.977			0.964				0.850	
Flt Protected	0.950			0.950			0.950				0.988		
Satd. Flow (prot)	1770	1762	0	1770	1820	0	1770	1796	0	0	1840	1583	
Flt Permitted	0.160			0.160			0.148				0.584		
Satd. Flow (perm)	298	1762	0	298	1820	0	276	1796	0	0	1088	1583	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		27			9			18				94	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1150			800			360			500		
Travel Time (s)		26.1			18.2			8.2			11.4		
Volume (vph)	81	349	195	106	450	80	246	334	105	88	266	87	
Peak Hour Factor	0.88	0.88	0.88	0.90	0.90	0.90	0.92	0.92	0.92	0.93	0.93	0.93	
Adj. Flow (vph)	92	397	222	118	500	89	267	363	114	95	286	94	
Lane Group Flow (vph)	92	619	0	118	589	0	267	477	0	0	381	94	
Turn Type	pm+pt			pm+pt			pm+pt			Perm		Perm	
Protected Phases	5	2		1	6		7	4			8		9
Permitted Phases	2			6			4			8		8	
Detector Phases	5	2		1	6		7	4		8	8	8	
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	8.0	1.0
Minimum Split (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	13.0	13.0	18.0
Total Split (s)	13.0	29.0	0.0	13.0	29.0	0.0	13.0	40.0	0.0	27.0	27.0	27.0	18.0
Total Split (%)	13.0%	29.0%	0.0%	13.0%	29.0%	0.0%	13.0%	40.0%	0.0%	27.0%	27.0%	27.0%	18%
Maximum Green (s)	8.0	24.0		8.0	24.0		8.0	35.0		22.0	22.0	22.0	16.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0	2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0	0.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lag	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min		Min	Min	Min	None
Walk Time (s)													5.0
Flash Dont Walk (s)													11.0
Pedestrian Calls (#/hr)													0
Act Effct Green (s)	32.2	25.1		32.2	25.1		36.2	36.2			23.1	23.1	
Actuated g/C Ratio	0.39	0.32		0.39	0.32		0.46	0.46			0.29	0.29	
v/c Ratio	0.33	1.07		0.42	1.01		0.90	0.58			1.20	0.18	
Control Delay	16.2	87.9		18.2	70.6		52.7	19.6			147.5	6.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0	
Total Delay	16.2	87.9		18.2	70.6		52.7	19.6			147.5	6.3	
LOS	B	F		B	E		D	B			F	A	
Approach Delay		78.6			61.8			31.5			119.6		
Approach LOS		E			E			C			F		
Queue Length 50th (ft)	26	~361		33	~332		87	173			~248	0	
Queue Length 95th (ft)	51	#543		64	#532		#232	270			#415	33	
Internal Link Dist (ft)		1070			720			280			420		
Turn Bay Length (ft)													
Base Capacity (vph)	278	576		278	582		296	828			317	528	
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	1.07		0.42	1.01		0.90	0.58			1.20	0.18	

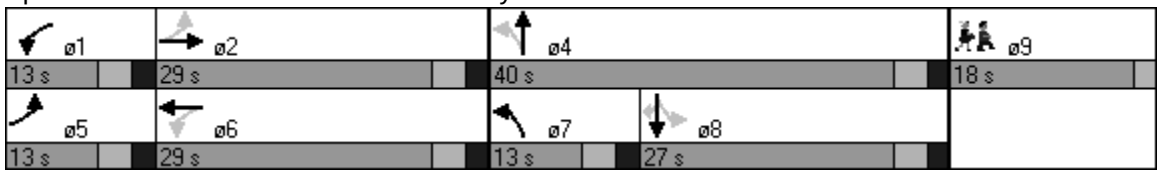
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 79.4			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.20			
Intersection Signal Delay: 68.2		Intersection LOS: E	
Intersection Capacity Utilization 93.1%		ICU Level of Service F	

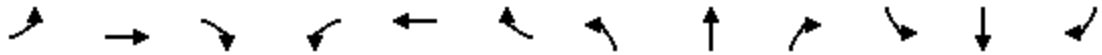
Analysis Period (min) 15

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

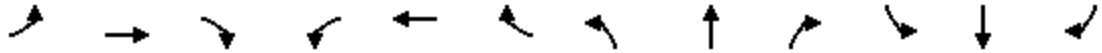
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: River Street & Seyon Street





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.979			0.980			0.980			0.951		
Flt Protected	0.950			0.950				0.973			0.978		
Satd. Flow (prot)	1770	1824	0	1770	1825	0	0	1776	0	0	1732	0	
Flt Permitted	0.091			0.243				0.630			0.773		
Satd. Flow (perm)	170	1824	0	453	1825	0	0	1150	0	0	1369	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		10			10			8			25		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		450			1150			360			500		
Travel Time (s)		10.2			26.1			8.2			11.4		
Volume (vph)	43	446	71	3	648	101	72	38	19	99	40	79	
Peak Hour Factor	0.94	0.94	0.94	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	46	474	76	3	682	106	78	41	21	108	43	86	
Lane Group Flow (vph)	46	550	0	3	788	0	0	140	0	0	237	0	
Turn Type	pm+pt			pm+pt			Perm			Perm			
Protected Phases	5	2		1	6			8			4		9
Permitted Phases	2			6			8			4			
Detector Phases	5	2		1	6		8	8		4	4		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		1.0
Minimum Split (s)	13.0	20.0		13.0	20.0		20.0	20.0		20.0	20.0		18.0
Total Split (s)	13.0	48.0	0.0	13.0	48.0	0.0	21.0	21.0	0.0	21.0	21.0	0.0	18.0
Total Split (%)	13.0%	48.0%	0.0%	13.0%	48.0%	0.0%	21.0%	21.0%	0.0%	21.0%	21.0%	0.0%	18%
Maximum Green (s)	8.0	43.0		8.0	43.0		16.0	16.0		16.0	16.0		16.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lag		Lead	Lag								



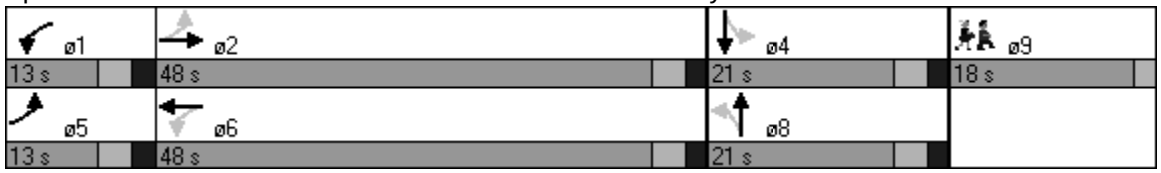
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	None	Max		None	Max		None	None		None	None		None
Walk Time (s)													5.0
Flash Dont Walk (s)													11.0
Pedestrian Calls (#/hr)													0
Act Effct Green (s)	51.0	49.3		49.5	44.4			16.4			16.4		
Actuated g/C Ratio	0.63	0.65		0.57	0.58			0.22			0.22		
v/c Ratio	0.16	0.46		0.01	0.74			0.55			0.75		
Control Delay	5.8	9.3		5.3	18.7			35.9			43.3		
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0		
Total Delay	5.8	9.3		5.3	18.7			35.9			43.3		
LOS	A	A		A	B			D			D		
Approach Delay		9.0			18.7			35.9			43.3		
Approach LOS		A			B			D			D		
Queue Length 50th (ft)	6	102		1	304			61			104		
Queue Length 95th (ft)	15	263		3	#472			121			#222		
Internal Link Dist (ft)		370			1070			280			420		
Turn Bay Length (ft)													
Base Capacity (vph)	283	1183		396	1068			263			325		
Starvation Cap Reductn	0	0		0	0			0			0		
Spillback Cap Reductn	0	0		0	0			0			0		
Storage Cap Reductn	0	0		0	0			0			0		
Reduced v/c Ratio	0.16	0.46		0.01	0.74			0.53			0.73		

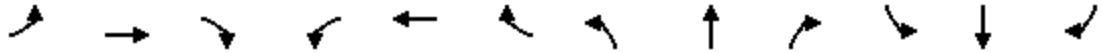
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 76.2			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 20.1		Intersection LOS: C	
Intersection Capacity Utilization 61.1%		ICU Level of Service B	

Analysis Period (min) 15

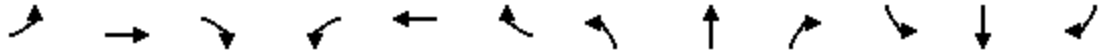
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: River Street & Shaw's Site Driveway





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.951			0.977			0.950				0.850	
Flt Protected	0.950			0.950			0.950				0.993		
Satd. Flow (prot)	1770	1771	0	1770	1820	0	1770	1770	0	0	1850	1583	
Flt Permitted	0.428			0.133			0.182				0.867		
Satd. Flow (perm)	797	1771	0	248	1820	0	339	1770	0	0	1615	1583	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		25			9			26				74	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1150			425			360			500		
Travel Time (s)		26.1			9.7			8.2			11.4		
Volume (vph)	37	391	192	58	218	39	267	248	123	44	257	64	
Peak Hour Factor	0.93	0.93	0.93	0.95	0.95	0.95	0.95	0.95	0.95	0.86	0.86	0.86	
Adj. Flow (vph)	40	420	206	61	229	41	281	261	129	51	299	74	
Lane Group Flow (vph)	40	626	0	61	270	0	281	390	0	0	350	74	
Turn Type	pm+pt			pm+pt			pm+pt			Perm		Perm	
Protected Phases	5	2		1	6		3	8			4		9
Permitted Phases	2			6			8			4		4	
Detector Phases	5	2		1	6		3	8		4	4	4	
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	8.0	1.0
Minimum Split (s)	13.0	21.0		13.0	21.0		13.0	21.0		21.0	21.0	21.0	18.0
Total Split (s)	13.0	34.0	0.0	13.0	34.0	0.0	13.0	35.0	0.0	22.0	22.0	22.0	18.0
Total Split (%)	13.0%	34.0%	0.0%	13.0%	34.0%	0.0%	13.0%	35.0%	0.0%	22.0%	22.0%	22.0%	18%
Maximum Green (s)	8.0	29.0		8.0	29.0		8.0	30.0		17.0	17.0	17.0	16.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0	2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0	0.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lag	



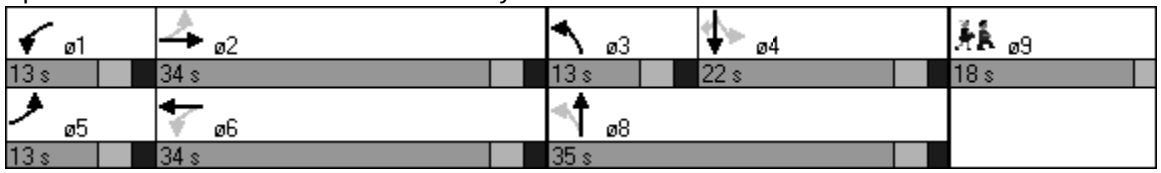
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min		Min	Min	Min	None
Walk Time (s)													5.0
Flash Dont Walk (s)													11.0
Pedestrian Calls (#/hr)													0
Act Effct Green (s)	37.3	30.1		38.0	32.7		31.1	31.1			18.1	18.1	
Actuated g/C Ratio	0.44	0.38		0.46	0.41		0.39	0.39			0.23	0.23	
v/c Ratio	0.09	0.91		0.22	0.36		0.95	0.55			0.95	0.18	
Control Delay	10.6	43.6		11.7	18.7		65.0	21.8			70.0	8.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0	
Total Delay	10.6	43.6		11.7	18.7		65.0	21.8			70.0	8.2	
LOS	B	D		B	B		E	C			E	A	
Approach Delay		41.6			17.4			39.9			59.2		
Approach LOS		D			B			D			E		
Queue Length 50th (ft)	9	296		14	98		104	145			180	0	
Queue Length 95th (ft)	24	#512		32	162		#250	233			#324	30	
Internal Link Dist (ft)		1070			345			280			420		
Turn Bay Length (ft)													
Base Capacity (vph)	455	688		282	754		296	710			368	418	
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	0.09	0.91		0.22	0.36		0.95	0.55			0.95	0.18	

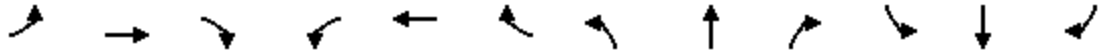
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 79.4			
Natural Cycle: 130			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 40.8		Intersection LOS: D	
Intersection Capacity Utilization 88.8%		ICU Level of Service E	

Analysis Period (min) 15

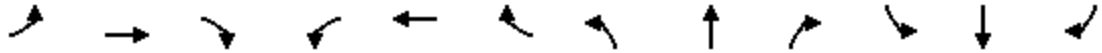
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: River Street & Seyon Street





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.993			0.976			0.991			0.941		
Flt Protected	0.950			0.950				0.970			0.975		
Satd. Flow (prot)	1770	1850	0	1770	1818	0	0	1791	0	0	1709	0	
Flt Permitted	0.220			0.177				0.774			0.833		
Satd. Flow (perm)	410	1850	0	330	1818	0	0	1429	0	0	1460	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		3			11			3			35		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		450			1150			360			500		
Travel Time (s)		10.2			26.1			8.2			11.4		
Volume (vph)	43	492	25	2	410	78	21	11	2	105	12	89	
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.77	0.77	0.77	0.91	0.91	0.91	
Adj. Flow (vph)	48	547	28	2	446	85	27	14	3	115	13	98	
Lane Group Flow (vph)	48	575	0	2	531	0	0	44	0	0	226	0	
Turn Type	pm+pt			pm+pt			Perm			Perm			
Protected Phases	5	2		1	6			8			4		9
Permitted Phases	2			6			8			4			
Detector Phases	5	2		1	6		8	8		4	4		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		1.0
Minimum Split (s)	13.0	20.0		13.0	20.0		20.0	20.0		20.0	20.0		18.0
Total Split (s)	13.0	44.0	0.0	13.0	44.0	0.0	25.0	25.0	0.0	25.0	25.0	0.0	18.0
Total Split (%)	13.0%	44.0%	0.0%	13.0%	44.0%	0.0%	25.0%	25.0%	0.0%	25.0%	25.0%	0.0%	18%
Maximum Green (s)	8.0	39.0		8.0	39.0		20.0	20.0		20.0	20.0		16.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lag		Lead	Lag								

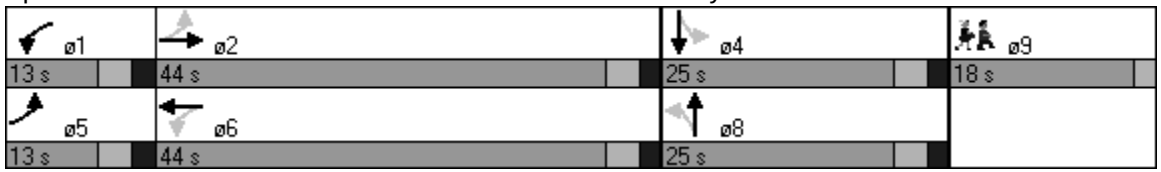


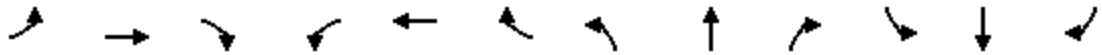
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	None	Max		None	Max		None	None		None	None		None
Walk Time (s)													5.0
Flash Dont Walk (s)													11.0
Pedestrian Calls (#/hr)													0
Act Effct Green (s)	46.9	45.7		45.6	41.0			15.3			15.3		
Actuated g/C Ratio	0.61	0.64		0.56	0.57			0.21			0.21		
v/c Ratio	0.12	0.49		0.01	0.51			0.14			0.66		
Control Delay	5.9	10.5		6.5	13.8			23.7			32.5		
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0		
Total Delay	5.9	10.5		6.5	13.8			23.7			32.5		
LOS	A	B		A	B			C			C		
Approach Delay		10.1			13.8			23.7			32.5		
Approach LOS		B			B			C			C		
Queue Length 50th (ft)	6	107		0	161			16			85		
Queue Length 95th (ft)	19	316		2	283			35			157		
Internal Link Dist (ft)		370			1070			280			420		
Turn Bay Length (ft)													
Base Capacity (vph)	411	1184		344	1047			396			428		
Starvation Cap Reductn	0	0		0	0			0			0		
Spillback Cap Reductn	0	0		0	0			0			0		
Storage Cap Reductn	0	0		0	0			0			0		
Reduced v/c Ratio	0.12	0.49		0.01	0.51			0.11			0.53		

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 71.5			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 15.5		Intersection LOS: B	
Intersection Capacity Utilization 55.8%		ICU Level of Service B	

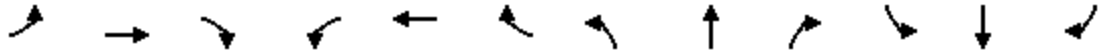
Analysis Period (min) 15

Splits and Phases: 2: River Street & Shaw's Site Driveway





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.942			0.977			0.965				0.850	
Flt Protected	0.950			0.950			0.950				0.988		
Satd. Flow (prot)	1770	1755	0	1770	1820	0	1770	1798	0	0	1840	1583	
Flt Permitted	0.160			0.160			0.148				0.565		
Satd. Flow (perm)	298	1755	0	298	1820	0	276	1798	0	0	1052	1583	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		30			9			17				94	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1150			800			360			500		
Travel Time (s)		26.1			18.2			8.2			11.4		
Volume (vph)	81	349	219	122	450	80	258	343	105	88	282	87	
Peak Hour Factor	0.88	0.88	0.88	0.90	0.90	0.90	0.92	0.92	0.92	0.93	0.93	0.93	
Adj. Flow (vph)	92	397	249	136	500	89	280	373	114	95	303	94	
Lane Group Flow (vph)	92	646	0	136	589	0	280	487	0	0	398	94	
Turn Type	pm+pt			pm+pt			pm+pt			Perm		Perm	
Protected Phases	5	2		1	6		7	4			8		9
Permitted Phases	2			6			4			8		8	
Detector Phases	5	2		1	6		7	4		8	8	8	
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	8.0	1.0
Minimum Split (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	13.0	13.0	18.0
Total Split (s)	13.0	29.0	0.0	13.0	29.0	0.0	13.0	40.0	0.0	27.0	27.0	27.0	18.0
Total Split (%)	13.0%	29.0%	0.0%	13.0%	29.0%	0.0%	13.0%	40.0%	0.0%	27.0%	27.0%	27.0%	18%
Maximum Green (s)	8.0	24.0		8.0	24.0		8.0	35.0		22.0	22.0	22.0	16.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0	2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0	0.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lag	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min		Min	Min	Min	None
Walk Time (s)													5.0
Flash Dont Walk (s)													11.0
Pedestrian Calls (#/hr)													0
Act Effct Green (s)	34.1	25.0		34.8	27.6		36.0	36.0			23.0	23.0	
Actuated g/C Ratio	0.40	0.30		0.42	0.34		0.44	0.44			0.28	0.28	
v/c Ratio	0.33	1.16		0.47	0.95		0.98	0.61			1.35	0.18	
Control Delay	16.2	119.3		18.8	56.3		70.6	21.0			206.2	6.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0	
Total Delay	16.2	119.3		18.8	56.3		70.6	21.0			206.2	6.3	
LOS	B	F		B	E		E	C			F	A	
Approach Delay		106.5			49.3			39.1			168.0		
Approach LOS		F			D			D			F		
Queue Length 50th (ft)	26	~390		39	~332		93	178			~272	0	
Queue Length 95th (ft)	51	#574		72	#532		#248	278			#441	33	
Internal Link Dist (ft)		1070			720			280			420		
Turn Bay Length (ft)													
Base Capacity (vph)	277	556		288	618		285	799			295	512	
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	1.16		0.47	0.95		0.98	0.61			1.35	0.18	

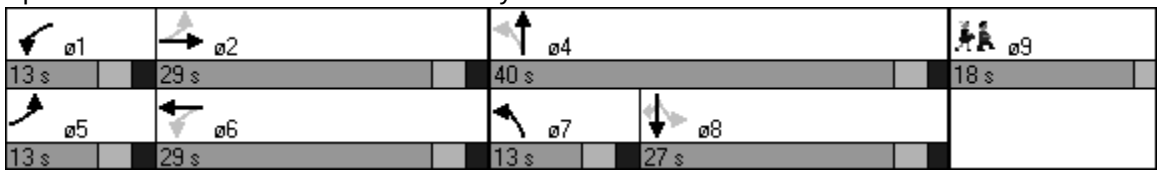
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 82			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.35			
Intersection Signal Delay: 83.4		Intersection LOS: F	
Intersection Capacity Utilization 96.0%		ICU Level of Service F	

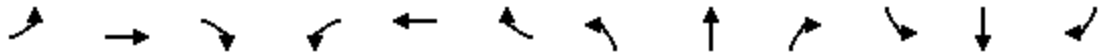
Analysis Period (min) 15

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

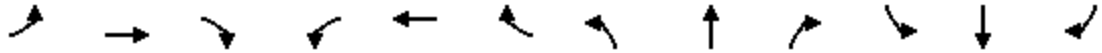
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: River Street & Seyon Street





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.980			0.980			0.980			0.952		
Flt Protected	0.950			0.950				0.973			0.977		
Satd. Flow (prot)	1770	1825	0	1770	1825	0	0	1776	0	0	1733	0	
Flt Permitted	0.091			0.224				0.634			0.770		
Satd. Flow (perm)	170	1825	0	417	1825	0	0	1157	0	0	1365	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		10			10			8			24		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		450			1150			360			500		
Travel Time (s)		10.2			26.1			8.2			11.4		
Volume (vph)	43	466	71	3	658	103	72	38	19	103	40	79	
Peak Hour Factor	0.94	0.94	0.94	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	46	496	76	3	693	108	78	41	21	112	43	86	
Lane Group Flow (vph)	46	572	0	3	801	0	0	140	0	0	241	0	
Turn Type	pm+pt			pm+pt			Perm			Perm			
Protected Phases	5	2		1	6			8			4		9
Permitted Phases	2			6			8			4			
Detector Phases	5	2		1	6		8	8		4	4		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		1.0
Minimum Split (s)	13.0	20.0		13.0	20.0		20.0	20.0		20.0	20.0		18.0
Total Split (s)	13.0	48.0	0.0	13.0	48.0	0.0	21.0	21.0	0.0	21.0	21.0	0.0	18.0
Total Split (%)	13.0%	48.0%	0.0%	13.0%	48.0%	0.0%	21.0%	21.0%	0.0%	21.0%	21.0%	0.0%	18%
Maximum Green (s)	8.0	43.0		8.0	43.0		16.0	16.0		16.0	16.0		16.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lag		Lead	Lag								



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	None	Max		None	Max		None	None		None	None		None
Walk Time (s)													5.0
Flash Dont Walk (s)													11.0
Pedestrian Calls (#/hr)													0
Act Effct Green (s)	51.0	49.2		49.5	44.4			16.8			16.8		
Actuated g/C Ratio	0.62	0.64		0.57	0.58			0.22			0.22		
v/c Ratio	0.16	0.49		0.01	0.75			0.54			0.76		
Control Delay	5.8	9.6		5.3	19.5			35.3			43.8		
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0		
Total Delay	5.8	9.6		5.3	19.5			35.3			43.8		
LOS	A	A		A	B			D			D		
Approach Delay		9.3			19.4			35.3			43.8		
Approach LOS		A			B			D			D		
Queue Length 50th (ft)	6	108		1	312			61			107		
Queue Length 95th (ft)	15	278		3	#503			121			#227		
Internal Link Dist (ft)		370			1070			280			420		
Turn Bay Length (ft)													
Base Capacity (vph)	282	1178		378	1062			264			323		
Starvation Cap Reductn	0	0		0	0			0			0		
Spillback Cap Reductn	0	0		0	0			0			0		
Storage Cap Reductn	0	0		0	0			0			0		
Reduced v/c Ratio	0.16	0.49		0.01	0.75			0.53			0.75		

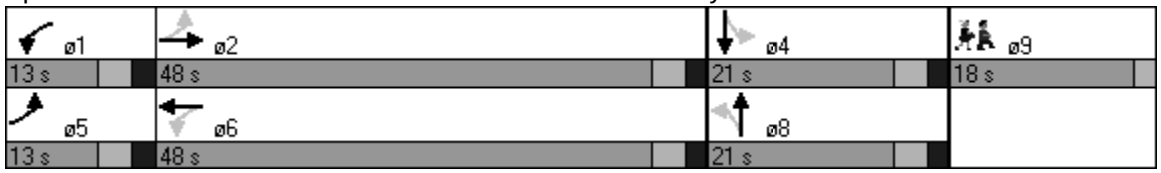
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 76.5			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 20.4		Intersection LOS: C	
Intersection Capacity Utilization 62.1%		ICU Level of Service B	

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 2: River Street & Shaw's Site Driveway



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	20	27	523	39	29	435
Peak Hour Factor	0.56	0.56	0.90	0.90	0.94	0.94
Hourly flow rate (vph)	36	48	581	43	31	463
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						360
pX, platoon unblocked	0.86					
vC, conflicting volume	1127	603			624	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1148	603			624	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	80	90			97	
cM capacity (veh/h)	183	499			957	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	84	624	494
Volume Left	36	0	31
Volume Right	48	43	0
cSH	288	1700	957
Volume to Capacity	0.29	0.37	0.03
Queue Length 95th (ft)	30	0	2
Control Delay (s)	22.6	0.0	0.9
Lane LOS	C		A
Approach Delay (s)	22.6	0.0	0.9
Approach LOS	C		

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	72	45	608	89	29	506
Peak Hour Factor	0.79	0.79	0.91	0.91	0.93	0.93
Hourly flow rate (vph)	91	57	668	98	31	544
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						360
pX, platoon unblocked	0.85					
vC, conflicting volume	1323	717			766	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1379	717			766	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	30	87			96	
cM capacity (veh/h)	131	430			847	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	148	766	575
Volume Left	91	0	31
Volume Right	57	98	0
cSH	179	1700	847
Volume to Capacity	0.83	0.45	0.04
Queue Length 95th (ft)	145	0	3
Control Delay (s)	81.6	0.0	1.0
Lane LOS	F		A
Approach Delay (s)	81.6	0.0	1.0
Approach LOS	F		

Intersection Summary			
Average Delay	8.5		
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	20	27	549	39	29	457
Peak Hour Factor	0.56	0.56	0.90	0.90	0.94	0.94
Hourly flow rate (vph)	36	48	610	43	31	486
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						360
pX, platoon unblocked	0.85					
vC, conflicting volume	1180	632			653	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1211	632			653	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	78	90			97	
cM capacity (veh/h)	166	481			933	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	84	653	517
Volume Left	36	0	31
Volume Right	48	43	0
cSH	266	1700	933
Volume to Capacity	0.32	0.38	0.03
Queue Length 95th (ft)	33	0	3
Control Delay (s)	24.7	0.0	0.9
Lane LOS	C		A
Approach Delay (s)	24.7	0.0	0.9
Approach LOS	C		

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	72	45	638	89	29	531
Peak Hour Factor	0.79	0.79	0.91	0.91	0.93	0.93
Hourly flow rate (vph)	91	57	701	98	31	571
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						360
pX, platoon unblocked	0.84					
vC, conflicting volume	1383	750			799	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1457	750			799	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	21	86			96	
cM capacity (veh/h)	115	411			824	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	148	799	602
Volume Left	91	0	31
Volume Right	57	98	0
cSH	159	1700	824
Volume to Capacity	0.93	0.47	0.04
Queue Length 95th (ft)	170	0	3
Control Delay (s)	110.4	0.0	1.0
Lane LOS	F		A
Approach Delay (s)	110.4	0.0	1.0
Approach LOS	F		

Intersection Summary			
Average Delay	10.9		
Intersection Capacity Utilization	65.0%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	45	68	549	45	43	457
Peak Hour Factor	0.56	0.56	0.90	0.90	0.94	0.94
Hourly flow rate (vph)	80	121	610	50	46	486
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						360
pX, platoon unblocked	0.84					
vC, conflicting volume	1213	635			660	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1252	635			660	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	47	75			95	
cM capacity (veh/h)	153	478			928	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	80	121	660	532
Volume Left	80	0	0	46
Volume Right	0	121	50	0
cSH	153	478	1700	928
Volume to Capacity	0.53	0.25	0.39	0.05
Queue Length 95th (ft)	65	25	0	4
Control Delay (s)	52.2	15.1	0.0	1.4
Lane LOS	F	C		A
Approach Delay (s)	29.8		0.0	1.4
Approach LOS	D			

Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	69.7%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	558	0	0	315	0	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	607	0	0	342	0	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	425					
pX, platoon unblocked			0.74		0.74	0.74
vC, conflicting volume			607		949	607
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			466		931	466
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	96
cM capacity (veh/h)			807		219	440

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	607	342	17
Volume Left	0	0	0
Volume Right	0	0	17
cSH	1700	1700	440
Volume to Capacity	0.36	0.20	0.04
Queue Length 95th (ft)	0	0	3
Control Delay (s)	0.0	0.0	13.5
Lane LOS			B
Approach Delay (s)	0.0	0.0	13.5
Approach LOS			B

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization	39.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	85	66	638	114	85	531
Peak Hour Factor	0.79	0.79	0.91	0.91	0.93	0.93
Hourly flow rate (vph)	108	84	701	125	91	571
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						360
pX, platoon unblocked	0.81					
vC, conflicting volume	1517	764			826	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1639	764			826	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	79			89	
cM capacity (veh/h)	79	404			804	

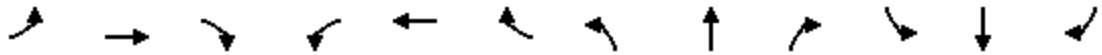
Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	108	84	826	662
Volume Left	108	0	0	91
Volume Right	0	84	125	0
cSH	79	404	1700	804
Volume to Capacity	1.36	0.21	0.49	0.11
Queue Length 95th (ft)	209	19	0	10
Control Delay (s)	316.6	16.2	0.0	2.9
Lane LOS	F	C		A
Approach Delay (s)	185.3		0.0	2.9
Approach LOS	F			

Intersection Summary			
Average Delay	22.2		
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		

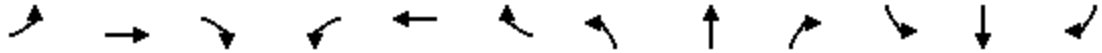
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	542	0	0	652	0	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	589	0	0	709	0	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			589		1298	589
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			589		1298	589
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	98
cM capacity (veh/h)			986		178	508

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	589	709	10
Volume Left	0	0	0
Volume Right	0	0	10
cSH	1700	1700	508
Volume to Capacity	0.35	0.42	0.02
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.0	12.2
Lane LOS			B
Approach Delay (s)	0.0	0.0	12.2
Approach LOS			B

Intersection Summary			
Average Delay		0.1	
Intersection Capacity Utilization		38.5%	ICU Level of Service A
Analysis Period (min)		15	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12	
Grade (%)		0%			0%			0%			0%		
Storage Length (ft)	0		0	0		0	0		0	0		0	
Storage Lanes	1		0	1		0	1		0	1		0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor													
Frt		0.951			0.977			0.950			0.970		
Flt Protected	0.950			0.950			0.950			0.950			
Satd. Flow (prot)	1770	1771	0	1770	1820	0	1770	1770	0	1770	1807	0	
Flt Permitted	0.419			0.138			0.211			0.222			
Satd. Flow (perm)	780	1771	0	257	1820	0	393	1770	0	414	1807	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		25			9			22			11		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1150			425			360			500		
Travel Time (s)		26.1			9.7			8.2			11.4		
Volume (vph)	37	391	192	58	218	39	267	248	123	44	257	64	
Confl. Peds. (#/hr)													
Confl. Bikes (#/hr)													
Peak Hour Factor	0.93	0.93	0.93	0.95	0.95	0.95	0.95	0.95	0.95	0.86	0.86	0.86	
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0	
Parking (#/hr)													
Mid-Block Traffic (%)		0%			0%			0%			0%		
Adj. Flow (vph)	40	420	206	61	229	41	281	261	129	51	299	74	
Lane Group Flow (vph)	40	626	0	61	270	0	281	390	0	51	373	0	



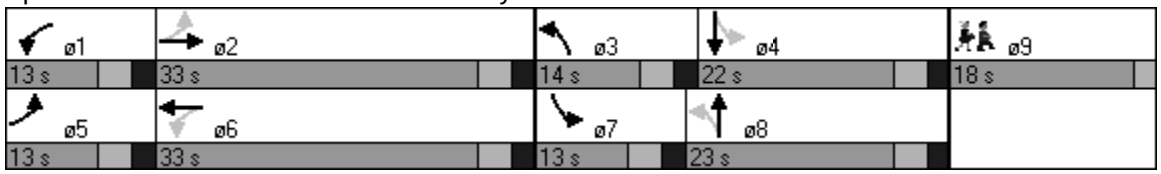
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt			
Protected Phases	5	2		1	6		3	8		7	4		9
Permitted Phases	2			6			8			4			
Detector Phases	5	2		1	6		3	8		7	4		
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0		1.0
Minimum Split (s)	13.0	21.0		13.0	21.0		13.0	21.0		13.0	21.0		18.0
Total Split (s)	13.0	33.0	0.0	13.0	33.0	0.0	14.0	23.0	0.0	13.0	22.0	0.0	18.0
Total Split (%)	13.0%	33.0%	0.0%	13.0%	33.0%	0.0%	14.0%	23.0%	0.0%	13.0%	22.0%	0.0%	18%
Maximum Green (s)	8.0	28.0		8.0	28.0		9.0	18.0		8.0	17.0		16.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Recall Mode	None	None		None	None		None	Min		None	Min		None
Walk Time (s)													5.0
Flash Dont Walk (s)													11.0
Pedestrian Calls (#/hr)													0
Act Effct Green (s)	36.3	29.1		37.0	31.7		30.4	24.6		27.1	18.1		
Actuated g/C Ratio	0.43	0.37		0.45	0.40		0.38	0.31		0.32	0.23		
v/c Ratio	0.09	0.94		0.22	0.37		0.86	0.69		0.18	0.89		
Control Delay	11.1	49.5		12.2	19.5		47.4	34.8		18.2	55.2		
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		
Total Delay	11.1	49.5		12.2	19.5		47.4	34.8		18.2	55.2		
LOS	B	D		B	B		D	C		B	E		
Approach Delay		47.2			18.2			40.1			50.8		
Approach LOS		D			B			D			D		
Queue Length 50th (ft)	10	302		15	100		102	186		16	183		
Queue Length 95th (ft)	25	#524		33	165		#238	#353		36	#322		
Internal Link Dist (ft)		1070			345			280			420		
Turn Bay Length (ft)													

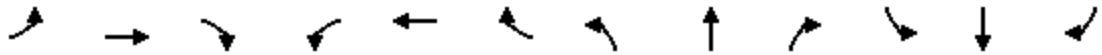
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Base Capacity (vph)	440	665		282	731		325	564		277	420		
Starvation Cap Reductn	0	0		0	0		0	0		0	0		
Spillback Cap Reductn	0	0		0	0		0	0		0	0		
Storage Cap Reductn	0	0		0	0		0	0		0	0		
Reduced v/c Ratio	0.09	0.94		0.22	0.37		0.86	0.69		0.18	0.89		

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 79.4			
Natural Cycle: 130			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 41.1		Intersection LOS: D	
Intersection Capacity Utilization 84.5%		ICU Level of Service E	
Analysis Period (min) 15			

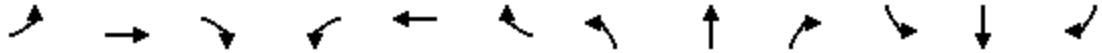
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: River Street & Seyon Street





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lane Configurations													
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50		50	50		50	50		50	50		
Trailing Detector (ft)	0	0		0	0		0	0		0	0		
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.942			0.977			0.965			0.964		
Flt Protected	0.950			0.950			0.950			0.950			
Satd. Flow (prot)	1770	1755	0	1770	1820	0	1770	1798	0	1770	1796	0	
Flt Permitted	0.133			0.133			0.182			0.211			
Satd. Flow (perm)	248	1755	0	248	1820	0	339	1798	0	393	1796	0	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		32			9			14			14		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		1150			800			360			500		
Travel Time (s)		26.1			18.2			8.2			11.4		
Volume (vph)	81	349	219	122	450	80	258	343	105	88	282	87	
Peak Hour Factor	0.88	0.88	0.88	0.90	0.90	0.90	0.92	0.92	0.92	0.93	0.93	0.93	
Adj. Flow (vph)	92	397	249	136	500	89	280	373	114	95	303	94	
Lane Group Flow (vph)	92	646	0	136	589	0	280	487	0	95	397	0	
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt			
Protected Phases	5	2		1	6		7	4		3	8		9
Permitted Phases	2			6			4			8			
Detector Phases	5	2		1	6		7	4		3	8		
Minimum Initial (s)	6.0	8.0		6.0	8.0		6.0	8.0		6.0	8.0		1.0
Minimum Split (s)	11.0	13.0		11.0	13.0		11.0	13.0		11.0	13.0		18.0
Total Split (s)	11.0	34.0	0.0	11.0	34.0	0.0	14.0	26.0	0.0	11.0	23.0	0.0	18.0
Total Split (%)	11.0%	34.0%	0.0%	11.0%	34.0%	0.0%	14.0%	26.0%	0.0%	11.0%	23.0%	0.0%	18%
Maximum Green (s)	6.0	29.0		6.0	29.0		9.0	21.0		6.0	18.0		16.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		2.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag		



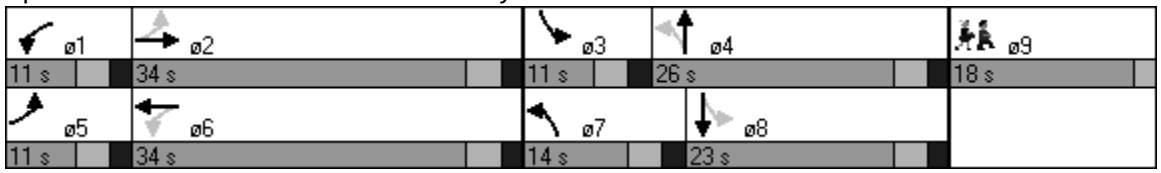
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	ø9
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Recall Mode	None	None		None	None		None	Min		None	Min		None
Walk Time (s)													5.0
Flash Dont Walk (s)													11.0
Pedestrian Calls (#/hr)													0
Act Effct Green (s)	37.1	30.0		37.8	32.2		32.2	24.2		26.1	19.0		
Actuated g/C Ratio	0.44	0.37		0.46	0.39		0.39	0.30		0.31	0.23		
v/c Ratio	0.39	0.98		0.56	0.82		0.91	0.90		0.40	0.93		
Control Delay	16.2	56.1		21.2	34.4		54.5	51.1		21.4	61.1		
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		
Total Delay	16.2	56.1		21.2	34.4		54.5	51.1		21.4	61.1		
LOS	B	E		C	C		D	D		C	E		
Approach Delay		51.1			32.0			52.3			53.4		
Approach LOS		D			C			D			D		
Queue Length 50th (ft)	24	309		36	273		99	243		30	194		
Queue Length 95th (ft)	47	#514		71	#469		#236	#442		60	#365		
Internal Link Dist (ft)		1070			720			280			420		
Turn Bay Length (ft)													
Base Capacity (vph)	236	662		244	721		308	541		236	427		
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	0.98		0.56	0.82		0.91	0.90		0.40	0.93		

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 82			
Natural Cycle: 140			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 46.8		Intersection LOS: D	
Intersection Capacity Utilization 86.2%		ICU Level of Service E	

Analysis Period (min) 15

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

Splits and Phases: 1: River Street & Seyon Street



Study Name	81 - River St and Willow St TMC (CLONED - 134587)
Start Date	Wednesday, August 06, 2014 7:00 AM
End Date	Wednesday, August 06, 2014 6:00 PM
Site Code	

Overview

This report contains turning movement volume (TMV) data of vehicular traf

Content

Summary	Contains a TMV summary of all vehicular traffic in
TMV Table	Contains a pivot table of the TMV road and crossw
TMV Data	Contains measured TMV data of all vehicular traffi
Ped Data	Contains detected pedestrian information for the

Traffic Study

Start Date	Wednesday, August 06, 2014 7:00 AM
End Date	Wednesday, August 06, 2014 6:00 PM
Classification Categories	Car, Medium, Heavy, Bus, Pedal Bike (Road), Motc
08/06/2014 AM Peaks	7:45 AM - 8:45 AM
08/06/2014 PM Peaks	5:00 PM - 6:00 PM

ffic in the intersection of study.

the intersection for defined peak periods
/alk data
ic in the intersection for each approach
intersection's crosswalks

or Bike, People, Pedal Bike (Crosswalk)

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/alk data
ic in the intersection for each approach
intersection's crosswalks

or Bike, People, Pedal Bike (Crosswalk)

Study Name	82 - River St and Seyon St TMC (CLONED - 134588)
Start Date	Wednesday, August 06, 2014 7:00 AM
End Date	Wednesday, August 06, 2014 6:00 PM
Site Code	

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