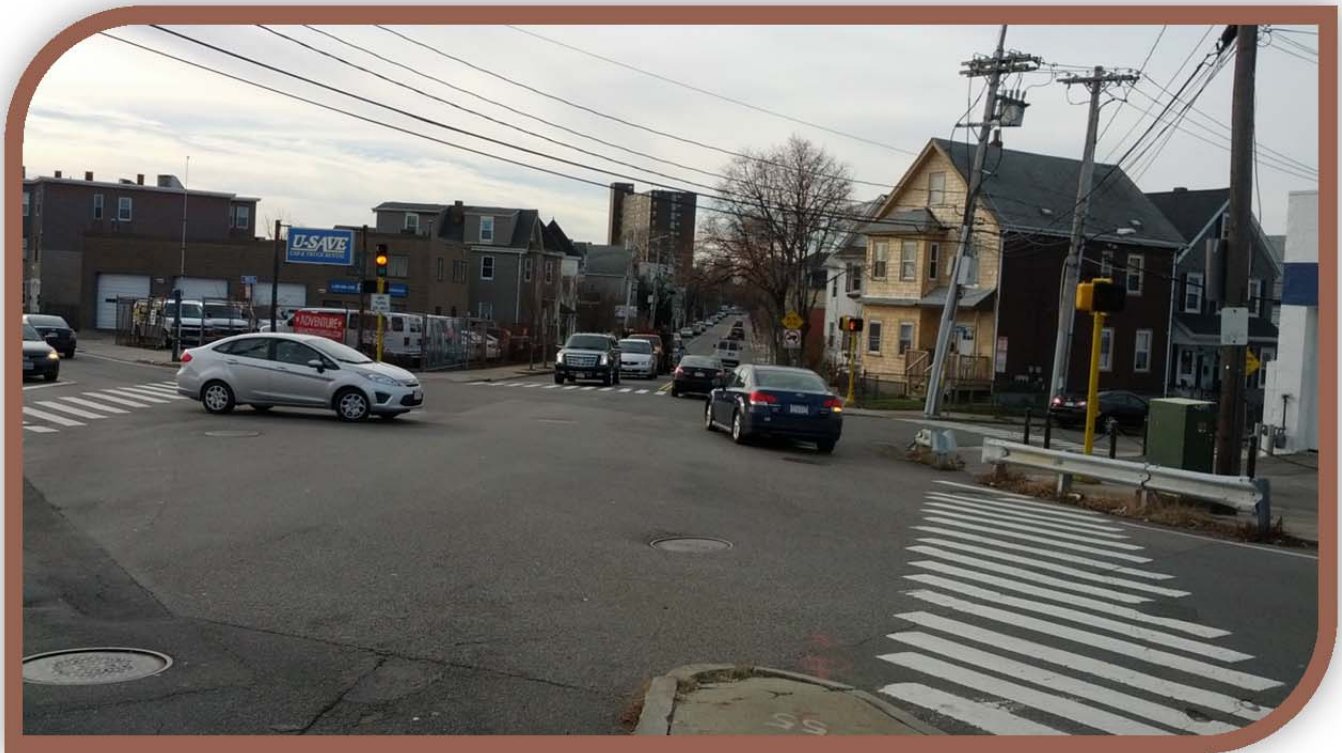




Prospect Street Residences 70 Prospect Street

Somerville, Massachusetts

Traffic Impact & Access Study



Design Consultants, Inc.

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Prepared by Design Consultants, Inc.

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Executive Summary

This Traffic Impact & Access Study has been prepared to evaluate the potential impacts associated with the proposed development project at 70 Prospect Street in Somerville, Massachusetts. The proposed development project calls for the construction of a five-story building with 14 residential condominium units and approximately 1,300 SF of retail space. The project site is not currently vacant, and houses a car & truck rental facility. The existing building will be demolished, and a new curb cut on Prospect Street will replace three existing curb cuts, two located on Webster Avenue and one on Prospect Street.



This study includes a review of the existing traffic and roadway conditions in the vicinity of the project site, as well as a review of the accident history at each study intersection. This study identifies background growth for the local roadway network, estimates the additional vehicular traffic generated the proposed development project, and evaluates the expected future roadway and intersection operations, both with and without the proposed development project in place.

Summary of Results

- Based on the Institute of Transportation Engineers (ITE) methodology, the proposed development project is expected to generate six new vehicles-trips during the weekday morning peak hour, and nine new vehicle-trips during the weekday afternoon peak hour.
- The project site is well served by existing public transportation services, and will be even better served in the future with the Green Line extension project bringing transit service to Union Square.
- The existing crash rate at each study intersection is below the MassDOT District 4 and statewide averages.
- The proposed driveway on Prospect Street is better located, relative to the existing curb cut location along Prospect Street.
- Drivers exiting the proposed site drive onto Prospect Street are expected to have sufficient sight distance for safe vehicle operations.
- The intersection capacity analyses conducted at each study intersection indicate that the project-generated traffic is not expected to have any significant impacts on the intersection and roadway operations.

This study indicates that the existing roadway network can accommodate the additional vehicular traffic generated by the proposed development project. The number of additional vehicle-trips is expected to be very low, and it is anticipated that the traffic impacts on the local roadway network will not be significant.

Table of Contents

Executive Summary	i
Summary of Results	i
Table of Contents	0
1. Introduction	1
2. Existing Conditions	1
Project Site	1
Study Area	1
2. Traffic Volumes	5
3. Public Transportation	7
4. Safety Analysis	7
6. Future Conditions	11
Future Traffic Volumes	11
Project-Generated Vehicle-Trips	11
Sight Distance Analysis	17
Parking	19
Intersection Capacity Analysis	20
7. Conclusion	24
Appendix	25
Traffic Count Data	25
Public Transportation	26
Accident Data / Crash Rate Worksheets	27
Trip Generation Calculations	28
Intersection Capacity Analysis	29

1. Introduction

Design Consultants, Inc. (DCI) has prepared this traffic impact and access study to evaluate the potential impacts on the local transportation network associated with the proposed development project at 70 Prospect Street in Somerville. DG Realty & Development is proposing to construct a five-story building with 14 residential condominium units and approximately 1,300 SF of retail space. The proposed development project will replace the existing building and land use, which currently houses a car and truck rental facility. This study includes a review of the existing traffic and roadway conditions in the vicinity of the project site, identifies background traffic growth for the study area, estimates additional traffic generated by the proposed development project, and evaluates the future traffic operations at the proposed site driveway and at the nearby study intersection.

2. Existing Conditions

Project Site

The existing land use at the project site is a car and truck rental facility. The site is served by three existing curb cuts, two along Webster Avenue and one along Prospect Street. The existing curb cut on Prospect Street is located at the stop line for vehicles traveling northbound on Prospect Street. This curb cut is infrequently used, and has a gate that can be opened to provide access to and from the site. One curb cut on Webster Avenue is located approximately 25 feet from the crosswalk across the south-eastern leg of Webster Avenue, and the second curb cut is approximately 100 feet further south along Webster Avenue.

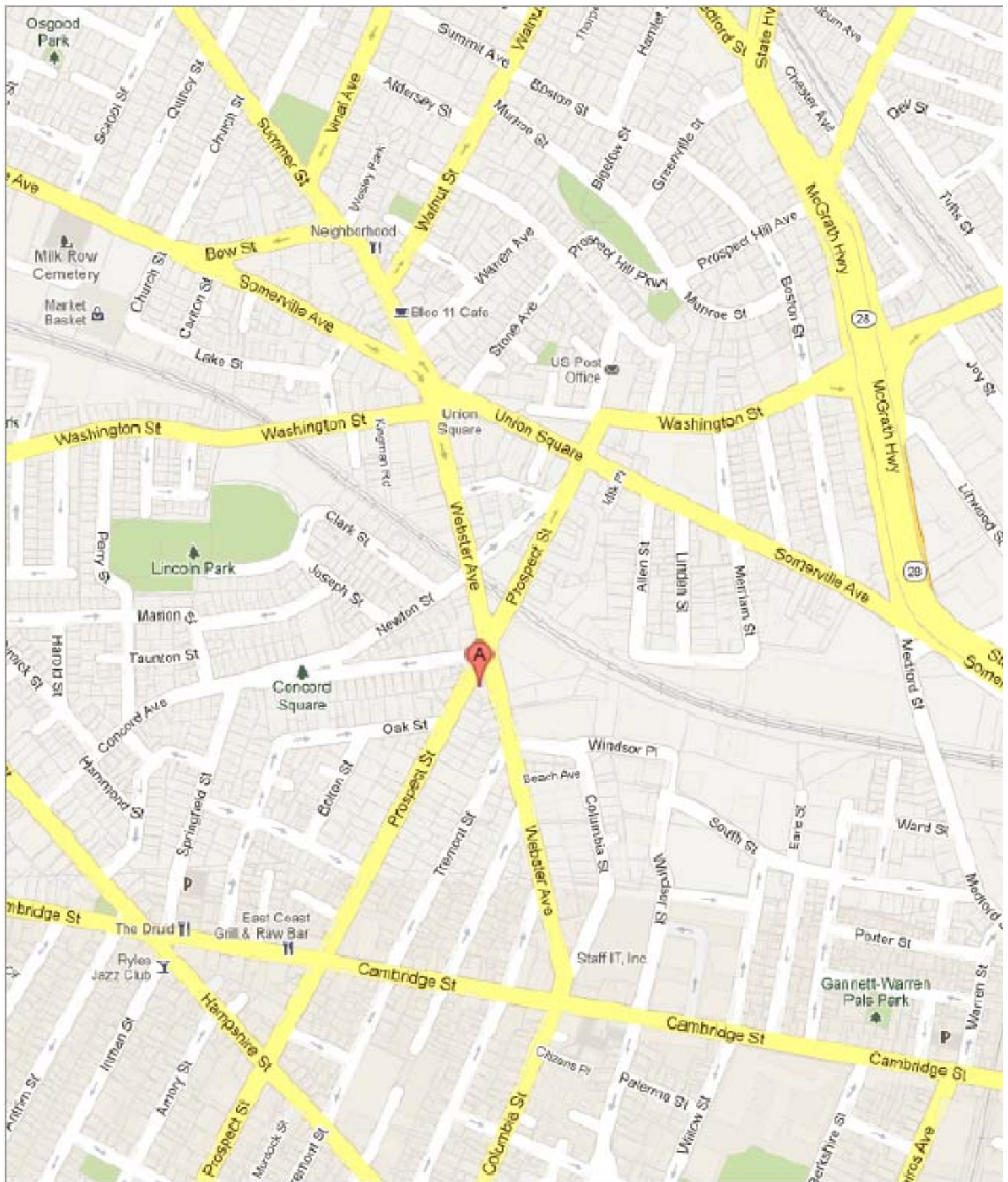
Study Area

A field inventory of the adjacent roadway system was conducted in December 2012. This inventory included a collection of existing roadway geometry, traffic control, and traffic volumes for the intersections in the vicinity of the project site.

The following study intersections are included in this report:

- Prospect Street / Webster Avenue / Concord Avenue
- Prospect Street / Newton Street
- Prospect Street / Somerville Avenue

A plan of the existing study area and its relation to the surrounding roadway system is shown on Figure 1. The following is a description of the study area roadways and intersections within the study area.



SOURCE: WWW.GOOGLE.COM

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**70 PROSPECT STREET
 SOMERVILLE, MA**

**FIGURE 1:
 PROJECT LOCATION
 MAP**

Prospect Street

Prospect Street is an urban arterial that runs north-south from the Cambridge city line to Somerville Avenue to Washington Street. Prospect Street continues south through Cambridge and provides access to the larger transportation network, such as Soldier's Field Road and the Massachusetts Turnpike (I-90). The proposed project at 70 Prospect Street is located at the Prospect Street / Webster Avenue intersection, approximately two tenths of a mile north of the



Cambridge city line. There is no posted speed limit on Prospect Street in the area of the project. Prospect Street generally provides a single travel lane in each direction, with “sharrow” bicycle pavements. On-street is permitted on the east side of the roadway, and sidewalks are provided on both sides of the roadway. The on-street parking is resident-only permit parking, except on Sundays and holidays. The existing land use on Prospect Street is a mix of residential and commercial uses.

Prospect Street / Webster Avenue / Concord Avenue

The Prospect Street / Webster Avenue / Concord Avenue intersection is a five-legged signalized intersection. To the south of this intersection, Prospect Street is a two-way roadway. To the north of this intersection, Prospect Street is a one-way roadway in the northbound direction (away from this intersection). Similarly, to the south-east of this intersection, Webster Avenue is a two-way roadway, while on the north-west side, Webster Avenue is a one-way roadway in the south-east direction (towards this intersection). As such, Prospect Street and Webster Avenue function as a “one-way pair” that allows vehicles to travel to and from Union Square. Concord Avenue is a one-way residential roadway in the westbound direction (away from this intersection), and is 26 feet wide. On-street parking is permitted on both side of Concord Avenue. The Prospect Street northbound approach provides a single 12-foot wide travel lane, and an adjacent 8-foot wide parking lane. The Webster Avenue north-west bound approach provides a single 16-foot wide travel lane, with a striped 2-foot wide shoulder. The Webster Avenue south-east bound approach is 34 feet wide, and provides a 14-foot wide shared through/right-turn lane, a 15-foot wide left-turn lane, and 2-foot wide shoulders on both sides of the roadway. The left turning movement from Webster Avenue south-east bound to Prospect Street northbound is separated by a channelizing island, and is under YIELD control. Sidewalks are located on both sides of all the roadways at this intersection. Pedestrian crosswalks are provided across both legs of Webster Avenue, across the south leg of Prospect Street, and across Concord Avenue. Pedestrians have an exclusive pedestrian phase (activated

with a push button) to safely cross at any of these crosswalks. There is a bus stop located on the north-east side of the Webster Avenue northbound approach, which currently serves MBTA bus route 85.

Prospect Street / Newton Street

Newton Street intersects Prospect Street at an acute angle approximately 180 feet south of the Prospect Street / Somerville Avenue intersection. Prospect Street is a one-way roadway in the northbound direction. The Prospect Street northbound approach is approximately 36 feet wide and provides three travel lanes. Newton Street is a one-way roadway in the north-east direction and is under STOP sign control. The Newton Street north-east bound approach is approximately 20 feet wide and provides a single travel lane. On-street parking is permitted on the south-east side of Newton Street, though parking is prohibited for a distance of approximately 135 feet back from the Newton Street stop line. Six foot wide sidewalks are provided on both side of Prospect Street, and a 4-foot wide sidewalk is provided along the north-west side of Newton Street. A crosswalk is provided across Newton Street.

Prospect Street / Somerville Avenue

This four legged signalized intersection is located at the eastern end of the Union Square area.

The Prospect Street northbound approach is a one-way roadway, with vehicles traveling northbound. All other roadway approaches at this intersection are two-way roadways. The Prospect Street northbound approach provides three 12-foot wide travel lanes: an exclusive left-turn lane, a shared left-turn/through lane, and a shared through/right-turn lane. A 1-foot wide striped shoulder is provided on both sides of the Prospect Street northbound approach.

The Prospect Street southbound approach consists of two 12-foot wide right-turn only lanes, with “sharrow” bicycle pavement markings in the right-most travel lane. A channelizing median island prevents vehicles on the Prospect Street southbound approach from turning left at this intersection. The Somerville Avenue eastbound approach provides a shared left-turn/through lane and a second through lane. There is a short median island to separate the eastbound and westbound traffic on Somerville Avenue. At the intersection, each eastbound lane is 13-feet wide with a 1-foot wide shoulder on each side. There are also “sharrow” bicycle pavement markings on the Somerville Avenue eastbound approach. The Somerville Avenue westbound approach consists of a through lane and a shared through/right-turn lane, both 13-feet wide. The shared through/right-turn lane is only provided for a distance of approximately 90-feet back from the stop line. Further to



the east, Somerville Avenue provides a single westbound travel lane and striped bicycle lane. On the south leg of Prospect Street there are 6-foot wide sidewalks on both sides of the roadway, on the north leg of Prospect Street there is a 10-foot wide sidewalk on the east side of the roadway and a 9-foot wide sidewalk on the west side of the roadway. On the east leg of Somerville Avenue, there is an 8-foot wide sidewalk on the north side of the roadway and a 13-foot wide sidewalk on the south side of the roadway. On the west leg of Somerville Avenue there is a 9-foot wide sidewalk on the south side of the roadway and a sidewalk that varies from 6 to 10-feet wide on the north side of the roadway. There are crosswalks across each leg of the intersection, controlled by an exclusive pedestrian phase. There is a bus stop located on the Prospect Street northbound approach to this intersection, which currently serves MBTA bus routes 91 and CT2.

2. Traffic Volumes

An Automatic Traffic Recorder (ATR) was used to record roadway traffic volumes on Prospect Street during a 48-hour period on Wednesday December 12 – Thursday December 13, 2012. These counts were not adjusted for seasonal variation as December volumes are indicative or slightly higher than average annual conditions, based on the most recent seasonal adjustment factors from MassDOT. In addition to vehicle volumes, the ATRs also collected vehicle speeds and vehicle classification data. The 85th percentile speed is defined as the speed at or below which 85% of the vehicles are traveling. The ATR data are summarized in Table 1, below.

Table 1: Summary of ATR data

Location	Daily Traffic Vol. ⁽¹⁾	Weekday Morning Peak Hour			Weekday Evening Peak Hour			85 th Percentile Speed ⁽⁵⁾	
		Vol. ⁽²⁾	K-Factor ⁽³⁾	Dir. Dist ⁽⁴⁾	Vol. ⁽²⁾	K-Factor ⁽³⁾	Dir. Dist ⁽⁴⁾	NB	SB
Prospect St, south of Webster Ave	11,539	662	5.7	56% NB	745	6.5	66% NB	26	32

⁽¹⁾ Measured in vehicles per day

⁽²⁾ Measured in vehicles per hour

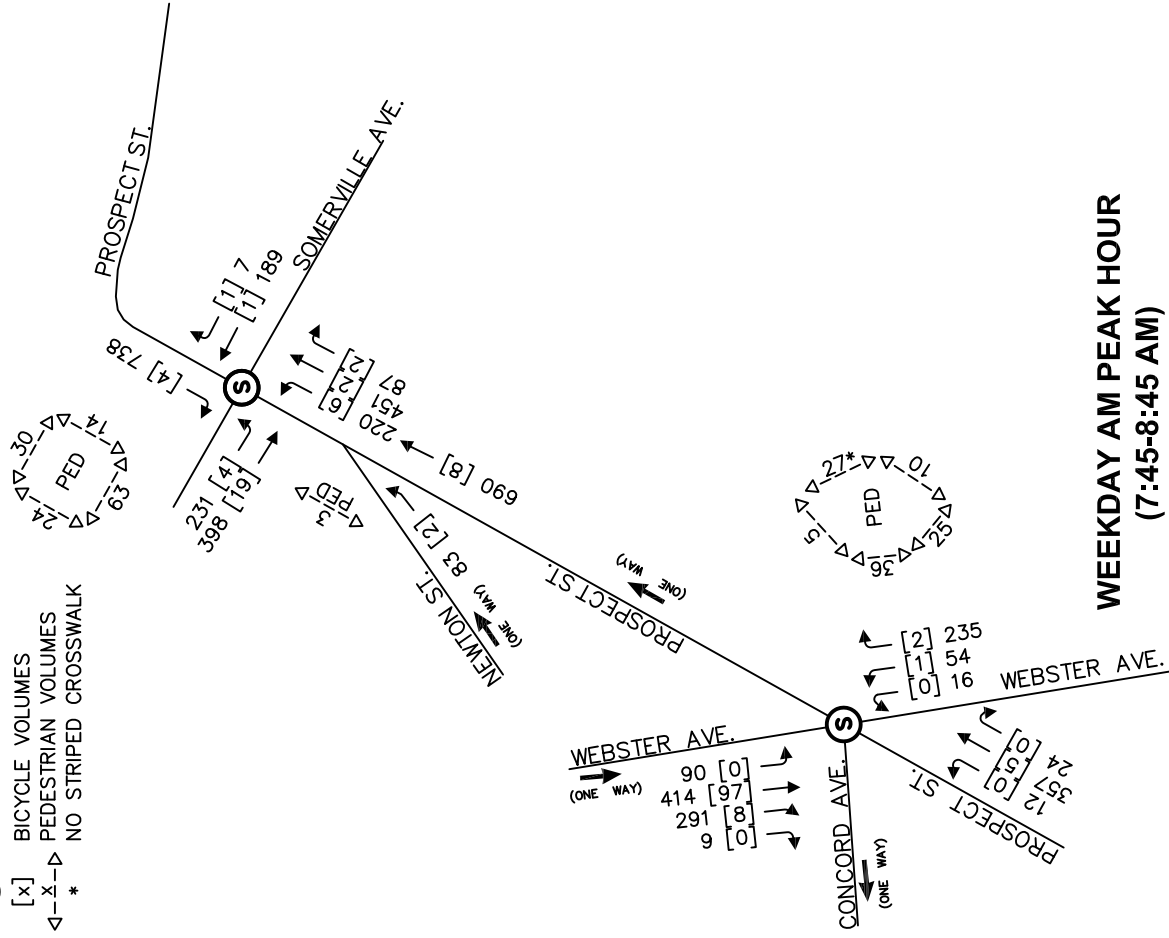
⁽³⁾ Percentage of daily traffic during the peak hour

⁽⁴⁾ Directional distribution

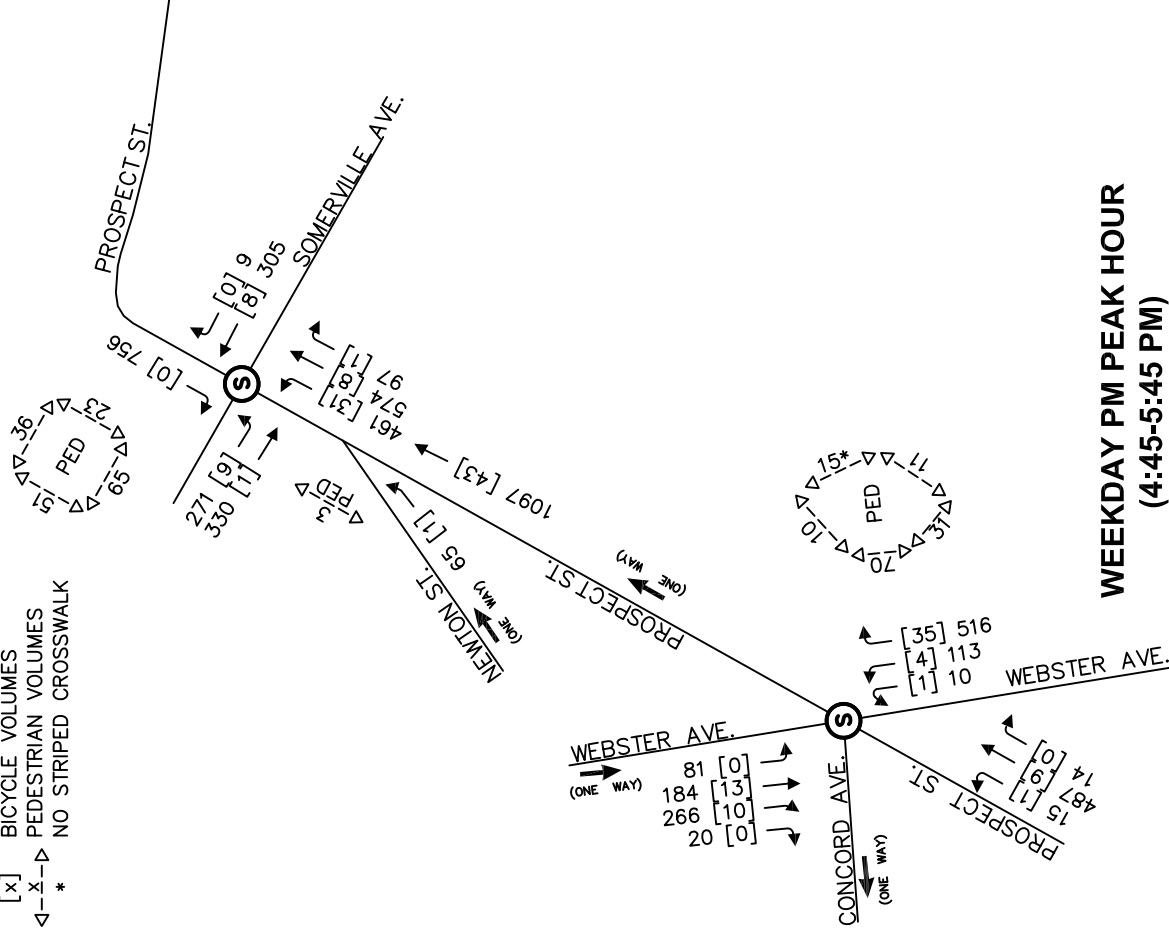
⁽⁵⁾ Measured in miles per hour

In addition to the ATR data, manual turning movement counts (including vehicles, bicycles and pedestrians) were collected at the study intersections during the AM peak period (7-9am) and the PM peak period (4-6pm). These hours typically represent the peak time periods for commuter traffic. The TMC data were collected on Thursday, December 13, 2012. The existing morning and afternoon peak hour traffic volumes at each study intersection are displayed on Figure 2. The complete traffic count data are provided in Appendix A.

(S) SIGNALIZED INTERSECTION
 [x] BICYCLE VOLUMES
 <-x-> PEDESTRIAN VOLUMES
 * NO STRIPED CROSSWALK



(S) SIGNALIZED INTERSECTION
 [x] BICYCLE VOLUMES
 <-x-> PEDESTRIAN VOLUMES
 * NO STRIPED CROSSWALK



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FIGURE 2:
 EXISTING PEAK HOUR
 TRAFFIC VOLUMES

3. Public Transportation

The following identifies current Bus Routes in the immediate vicinity of the project site.

- MBTA Route 85 – connecting Spring Hill to Kendall/MIT in Cambridge via Union Square. This route travels along Webster Avenue adjacent to the project site, and along Prospect Street north of the project site. Service is generally provided every 30-40 minutes during the weekday peak periods, although no service is provided on weekends.
- MBTA Route CT2 – connecting Sullivan Square and Ruggles Station via Union Square, Kendall/MIT in Cambridge, and the Longwood Medical Area. This route travels along Webster Avenue adjacent to the project site, and along Prospect Street north of the project site. Service is generally provided every 20 minutes during the weekday morning peak period, and every 25 minutes during the weekday afternoon peak period. No service is currently provided on weekends.

Detailed route schedules and maps for the above two MBTA bus routes are provided in Appendix B. In addition to the two bus routes identified above, the project site is in close proximity to Union Square (less than a quarter-mile walk), and to Inman Square in Cambridge (less than a half-mile walk). These two local transportation hubs provide access to many more MBTA bus routes, including:

- MBTA Route 86 – Sullivan Square Station (Charlestown) to Cleveland Circle (Brighton)
- MBTA Route 87 – Arlington Center (Arlington) to Lechmere Station (Cambridge)
- MBTA Route 91 – Sullivan Square Station (Charlestown) to Central Square (Cambridge)
- MBTA Route 69 – Harvard Square (Cambridge) to Lechmere Station (Cambridge)
- MBTA Route 83 – Rindge Avenue (Cambridge) to Central Square (Cambridge)

All of these routes terminate or intersect with a major multimodal hub such as Sullivan Station (Orange Line), Lechmere Station (Green Line), Harvard Square (Red Line), Central Square (Red Line), or Cleveland Circle (Green Line). With access to these major multimodal transportation centers, many options exist for accessing the project site via public transportation.

4. Safety Analysis

To identify vehicle crash trends at the study intersections, accident data was obtained from the MassDOT for the three latest years on record, 2008 – 2010. Crash rates for intersections are calculated based upon the number of crashes at an intersection and the volume of traffic travelling through an intersection on a daily basis. The MassDOT average crash rates are based upon the average number of crashes occurring per million vehicles entering signalized and unsignalized intersections. The average crash rates for MassDOT District 4 (which includes the City of Somerville) are 0.78 and 0.59 for signalized and unsignalized intersections, respectively. The MassDOT statewide average crash rates are 0.81 and 0.61 for signalized and unsignalized intersections, respectively. The crash data for all study intersections are summarized in Table 2.

Table 2: Intersection Crash Data

	Prospect St / Webster Ave / Concord St			Prospect St / Newton St			Prospect St / Somerville Ave		
	2008	2009	2010	2008	2009	2010	2008	2009	2010
Severity									
Property Damage Only	1	1	2				3	1	4
Injury	1	2		1			1	4	1
Fatality									
Unknown	4	1	1				1		
Collision Type									
Rear End	3		1	1			3	2	4
Angle		2	1					1	
Side Swipe	1		1						
Head On	1								
Collision with a Bicycle		2					1	1	
Collision with a Pedestrian									1
Other / Unknown							1	1	
Time of Day									
6:01 AM – 10:00 AM			1	1			1	2	1
10:01 AM – 4:00 PM	1	1	1				1	2	2
4:01 PM – 7:00 PM	5	2						1	1
7:01 PM – 6:00 AM		1	1				3		1
Roadway Conditions									
Dry	5	3	3	1			4	4	5
Wet	1						1	1	
Snow/Ice		1							
Other / Unknown									
Season									
Dec – Feb	2	1	1	1			1	1	2
Mar – May		1	2				1	1	1
June – Aug	3	2					3		
Sept – Nov	1							3	2
Light Conditions									
Daylight	4	2	2				3	4	4
Dawn / Dusk		1							
Dark (Unlit)									
Dark (Lit)	2	1	1	1			2		1
Unknown								1	
Totals	6	4	3	1	0	0	5	5	5
Annual Average Crashes	4.33			0.33			5.00		
Intersection Crash Rate	0.46			0.05			0.32		
MassDOT District 4 Average Crash Rate	0.78			0.59			0.78		

As indicated in Table 2, the crash rate at each study intersection is below the MassDOT District 4 average and below the statewide average crash rate, based on accident data from MassDOT.

In addition to the crash data from MassDOT, the City of Somerville Police Department was contacted and accident data for the 3-year period from 2010 – 2012 were obtained. The local accident records were sought as more recent data are available. While the accident data from the City of Somerville contained a higher number of crashes at the Prospect Street / Somerville Avenue intersection (relative to the MassDOT accident data), there were no accidents reported for the intersections of Prospect Street / Webster Avenue and Prospect Street / Newton Street in the data from the City of Somerville Police Department. For those two intersections, the accident data from MassDOT must be relied upon, as no other data are available. Table 3 summarizes the crash data from the City of Somerville at the Prospect Street / Somerville Avenue intersection.

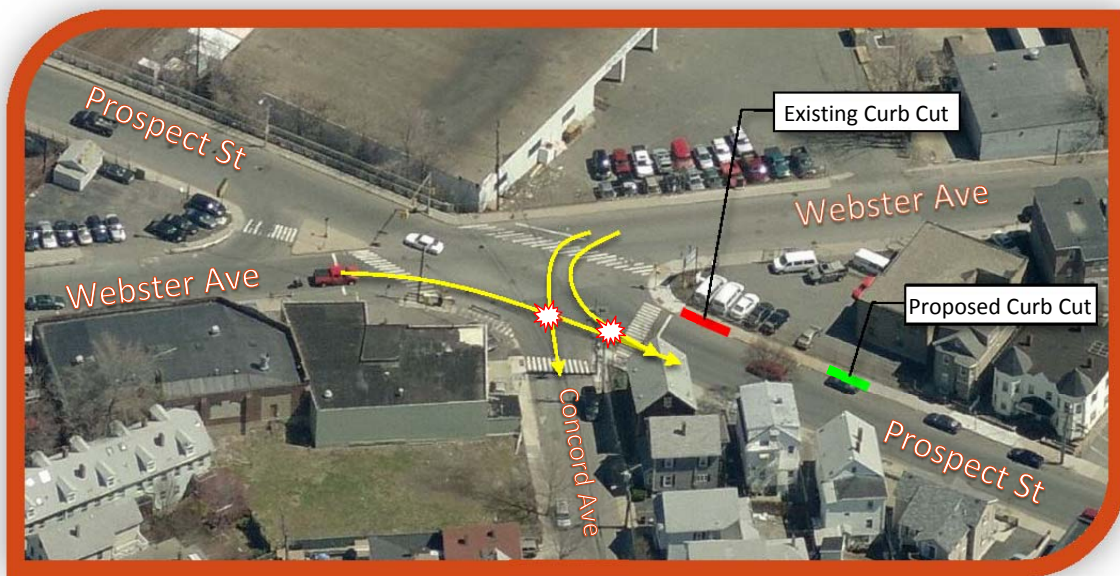
Table 3: Intersection Crash Data

	Prospect Street / Somerville Avenue		
	2010	2011	2012
Incident Type			
Motor Vehicle Accident	12	7	12
Hit & Run	2	1	2
Collision with a Bicycle	1	3	4
Collision with a Pedestrian			1
Totals	15	11	19
Annual Average Crashes	15.00		
Intersection Crash Rate	0.95		
MassDOT District 4 Average Crash Rate	0.78		

As indicated in Table 3, the higher number of crashes reported in the local crash data at the Prospect Street / Somerville Avenue intersection result in a crash rate that is higher than the MassDOT District 4 average crash rate for signalized intersections. This is likely caused by the high volume of traffic, multiple turning lanes, and several private driveways (i.e. Dunkin' Donuts) in close proximity to the intersection. The proposed development project at the corner of Prospect Street / Webster Avenue is not expected to exacerbate any existing safety issues at the intersection Prospect Street / Somerville Avenue.

The MassDOT intersection crash rate worksheets and the complete accident data from the City of Somerville are provided in Appendix C.

While the crash rate at the Prospect Street / Webster Avenue intersection is well below the MassDOT average rate, particular attention has been given to this location due to the proximity of the subject site and the complex and irregular intersection geometry. Over the three year period that was analyzed, there were six crashes that were angle type crashes, side-swipe type crashes, or head-on collisions. The aerial image graphic below is meant to illustrate concerning vehicular conflict points that occur at this intersection. There is a significant volume of traffic coming from the north on Webster Avenue, particularly in the weekday morning peak hour, with approximately 40% of the vehicles turning right onto Prospect Street southbound and 60% continuing on Webster Avenue. These movements conflict with vehicles coming from the south on Webster Avenue turning onto Concord Avenue and Prospect Street. It is likely that the large turning radii and complex geometry contribute to these types of crashes.



Also shown on the aerial image are the locations of the existing curb cut on Prospect Street that serves the project site (shown in red) and the approximate location of the proposed curb cut (shown in green). The proposed curb cut is located approximately 75 feet further from the intersection than the existing curb cut, and is further removed from any of the conflict points at the intersection of Prospect Street and Webster Avenue. As such, the proposed driveway location is expected to be an improvement relative to the existing curb cut location on Prospect Street.

6. Future Conditions

Future Traffic Volumes

DCI understands that traffic volumes and circulation patterns in and around the Union Square area are expected to change dramatically in the relatively near future. The proposed extension of the MBTA Green Line light rail service and the proposed Union Square station will increase access to public transportation significantly. In anticipation of the proposed Green Line extension project, the City of Somerville has recently changed the zoning in the Union Square area. Significant commercial development is also expected within the study area. Furthermore, significant changes to the roadway network have been discussed, including changes that would make all sections of Prospect Street and Webster Avenue two-way roadways. However, a comprehensive study of the effects of these changes is beyond the scope of this traffic impact and access study. This study focuses on the incremental impacts associated with this relatively minor development project.

To present a relatively conservative analysis of future year 2017 (5 year projection), DCI has increased the 2012 peak hour motor vehicle volumes by an annual growth factor of 1%. This background growth rate is consistent with other traffic studies previously completed in Somerville. It is assumed that the existing roadway network and travel patterns remain in all future conditions. The resultant 2017 Future No-Build peak hour intersection volumes are shown in Figure 3.

Project-Generated Vehicle-Trips

To estimate the trip generation characteristics of the proposed development project, the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (9th edition, 2012) was used. This manual provides vehicle-trip generation projections for various land-uses, based on research and data conducted by public agencies, developers, consulting firms, and professional associations. The trips generated by the proposed project were estimated through the use of the trip generation rates for ITE Land Use 230 – Residential Condominium/Townhouse and ITE Land use 826 – Specialty Retail Center.

Table 4 summarizes the proposed trip generation for this development project. Complete trip generation calculations are provided in Appendix D.

Table 4: Trip Generation Summary

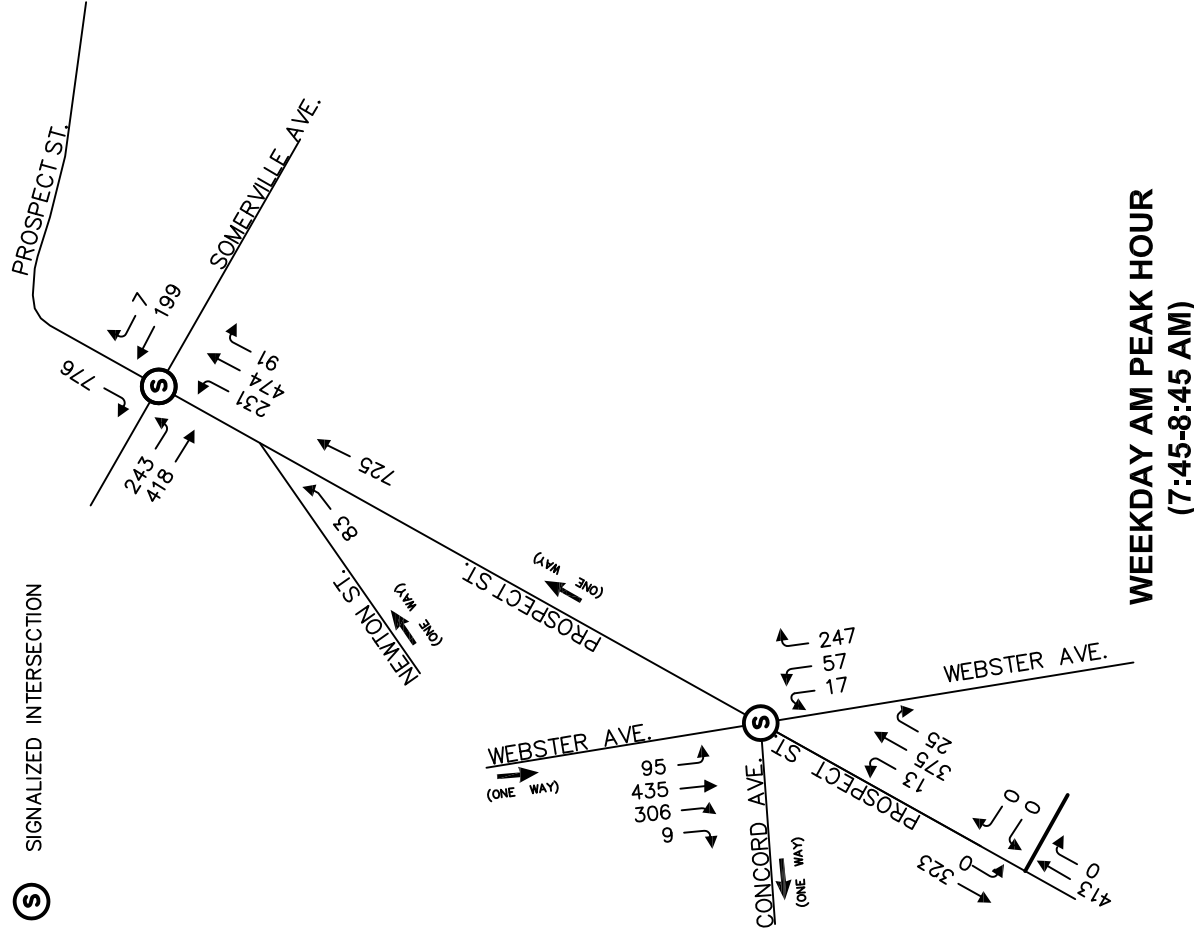
	Weekday Morning Peak Hour (vehicle-trips)			Weekday Afternoon Peak Hour (vehicle-trips)			Daily Trips
	Enter	Exit	Total	Enter	Exit	Total	Total
14 Residential Condominium Units ⁽¹⁾	1	5	6	5	2	7	81
1,291 SF of Retail Space ⁽²⁾	1	0	1	1	2	3	57
Unadjusted Total	2	5	7	6	4	10	138
10% Reduction ⁽³⁾	0	-1	-1	-1	0	-1	-14
Total Site Trips	2	4	6	5	4	9	124

⁽¹⁾ Based on ITE Land Use 230 – Residential Condominium/Townhouse

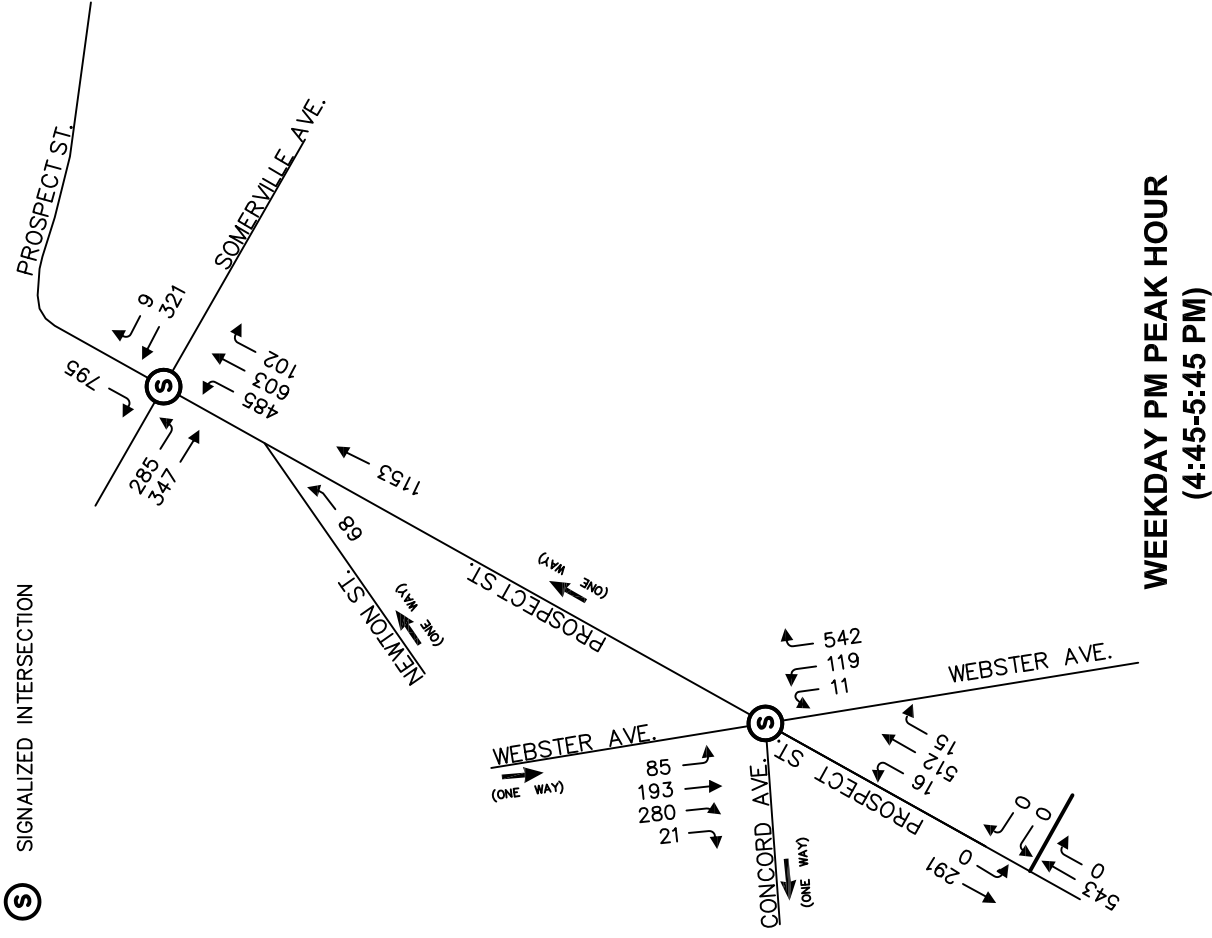
⁽²⁾ Based on ITE Land Use 826 – Specialty Retail

⁽³⁾ 10% reduction based on close proximity to existing and future public transportation

(S) SIGNALIZED INTERSECTION



(S) SIGNALIZED INTERSECTION



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**FIGURE 3:
2017 NO-BUILD
PEAK HOUR VOLUMES**

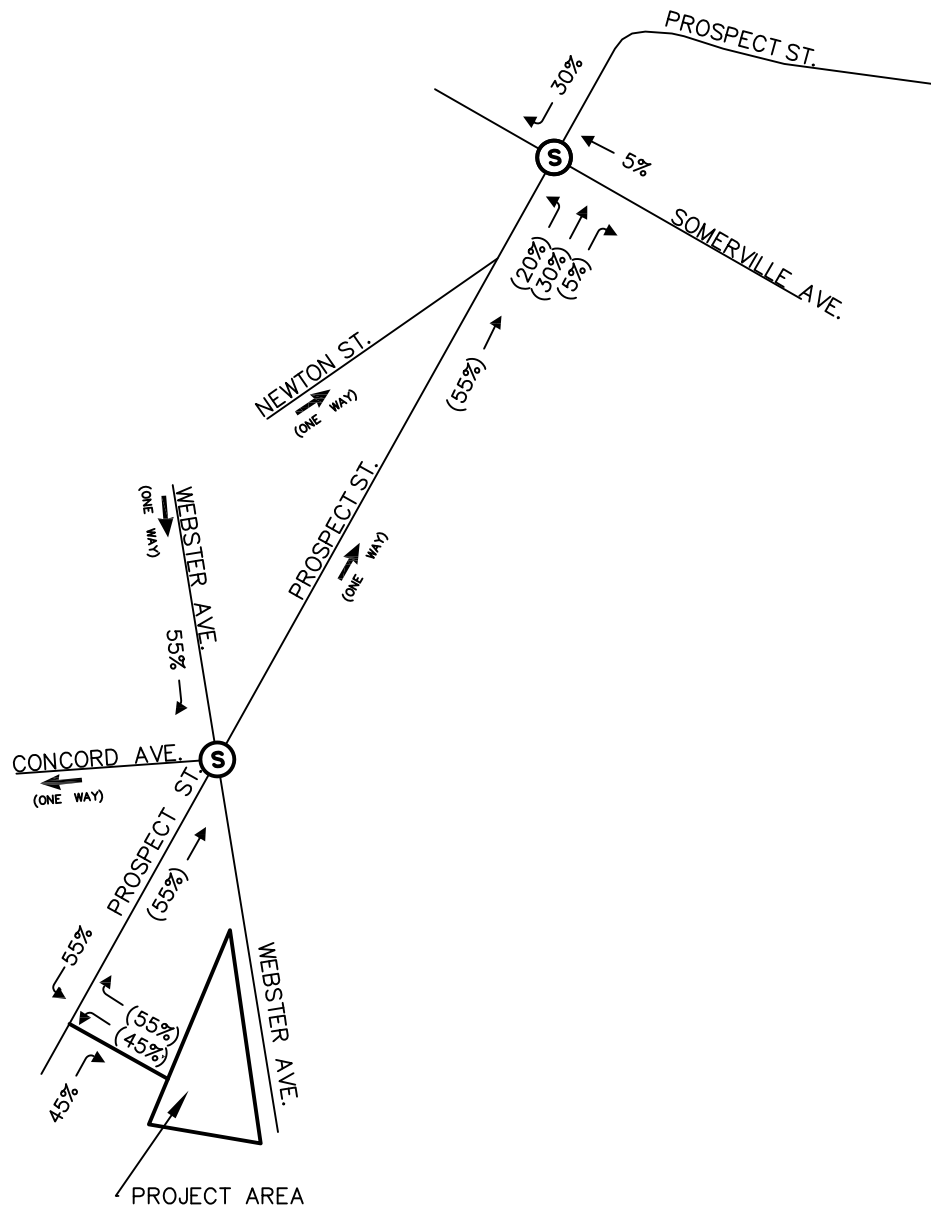
As indicated in Table 4, the proposed development project is expected to generate a total of 6 vehicle-trips during the weekday morning peak hour, 9 vehicle-trips during the weekday afternoon peak hour, and 124 vehicle-trips over the course of a typical weekday. These vehicle-trip projections include a 10% reduction, based on the close proximity to existing and proposed public transportation. As discussed previously, this area is currently well served by MBTA bus routes. Additionally, the Union Square station that is proposed as part of the Green Line Extension will be in very close proximity to the proposed development project. In all likelihood, the proportion of trips using public transportation to travel to and from the project site will be significantly higher than 10%.

Further adjustments to the trip generation calculations that were not included in the quantitative analysis include pass-by trips and internal site-trips. Pass-by trips are vehicle-trips to and from the project site that are made by vehicles already using the roadway. It is likely that some portion of the trips to and from the retail space will be made by people who already drive on Prospect Street or Webster Avenue already, and are not new trips to the roadway network. Internal site trips are those made within the project site, and do not add any external trips to the surrounding transportation network. An example of an internal trip is someone who lives in the building and walks to the retail space on the project site. Credits for pass-by trips and internal site trips were not taken because trip generation adjustments are often difficult to accurately quantify for very small development projects, such as the one being proposed here.

As reductions were not taken for pass-by trips nor for internal site trips, and only a 10% reduction was taken for public transportation, the trip generation calculations provide for a conservative analysis. It is also noted that the vehicle-trips expected to be generated from the project site are lower than the recorded daily variation of vehicles on Prospect Street.

Lastly, no credit was taken for the existing vehicle trips traveling to and from car and truck rental facility that is currently located on the project site. As such, many of the “new” trips generated by the proposed development project will simply be replacing existing vehicle-trips that are already using the local roadway network. No credit was taken for the trips traveling to and from the existing site because the *ITE Trip Generation Manual* does not contain data for car & truck rental facilities, and traffic counts at the existing driveways were not conducted due to the very small size of the proposed development project. Anecdotally, approximately 2 to 5 vehicle-trips can be expected from the existing car & truck rental facility during the weekday peak periods. These trips would be subtracted from the estimated trips generated by the proposed development project to arrive at the net number of new trips on the local roadway network. However, as trips associated with the proposed project site are so low already, this credit was not taken.

The project-generated vehicle trips, shown in Table 4, were then distributed onto the roadway network, using existing travel patterns. The trip distribution used to apply the new vehicle-trips to the roadway network is displayed in Figure 4. The new site-generated vehicle trips are displayed in Figure 5, and the 2017 Future Build Peak Hour traffic volumes are shown in Figure 6.



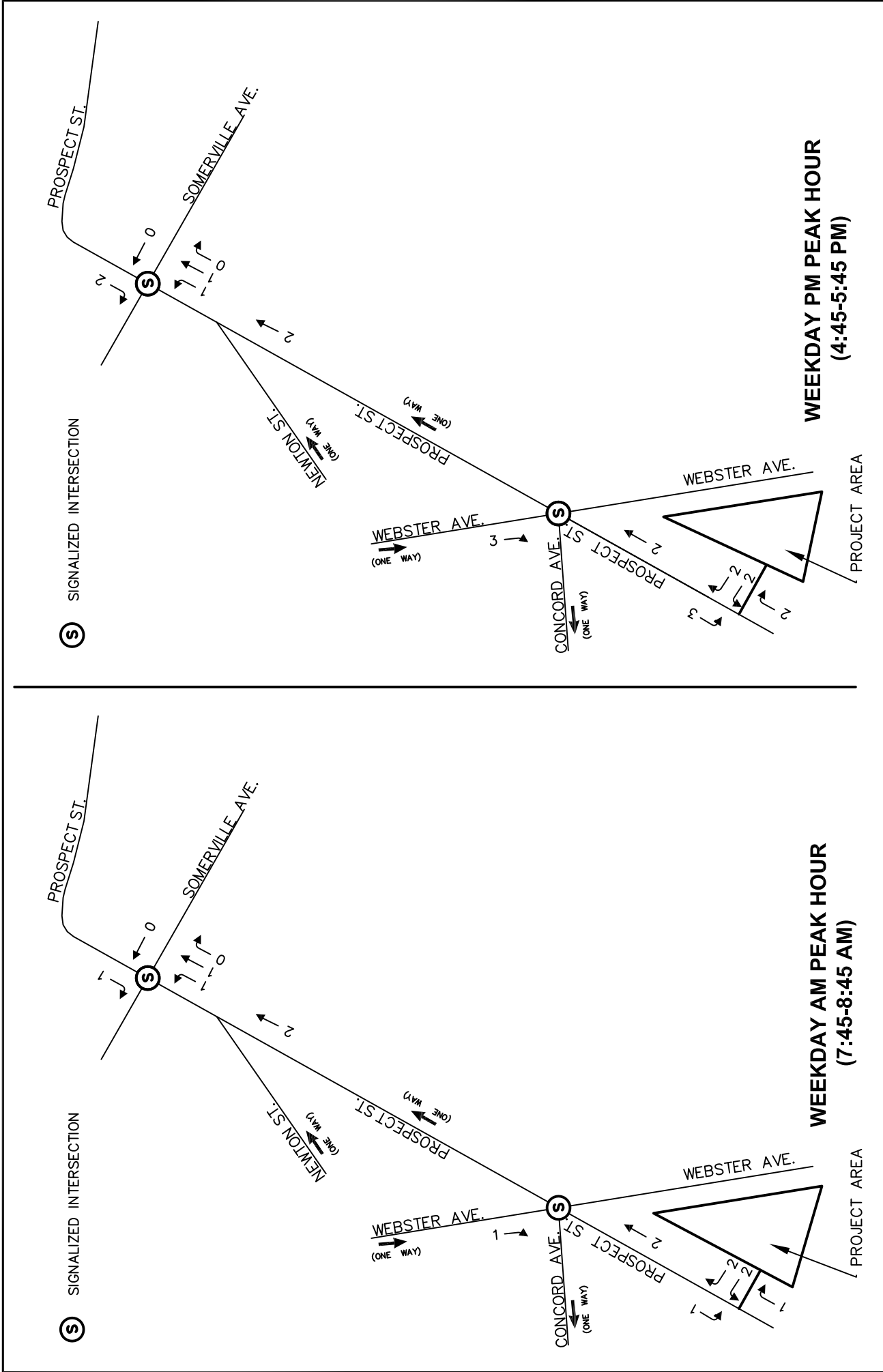
**WEEKDAY AM PEAK HOUR
(7:45-8:45 AM)**

(S) SIGNALIZED INTERSECTION
XX% PERCENT ENTERING
(XX%) PERCENT EXITING

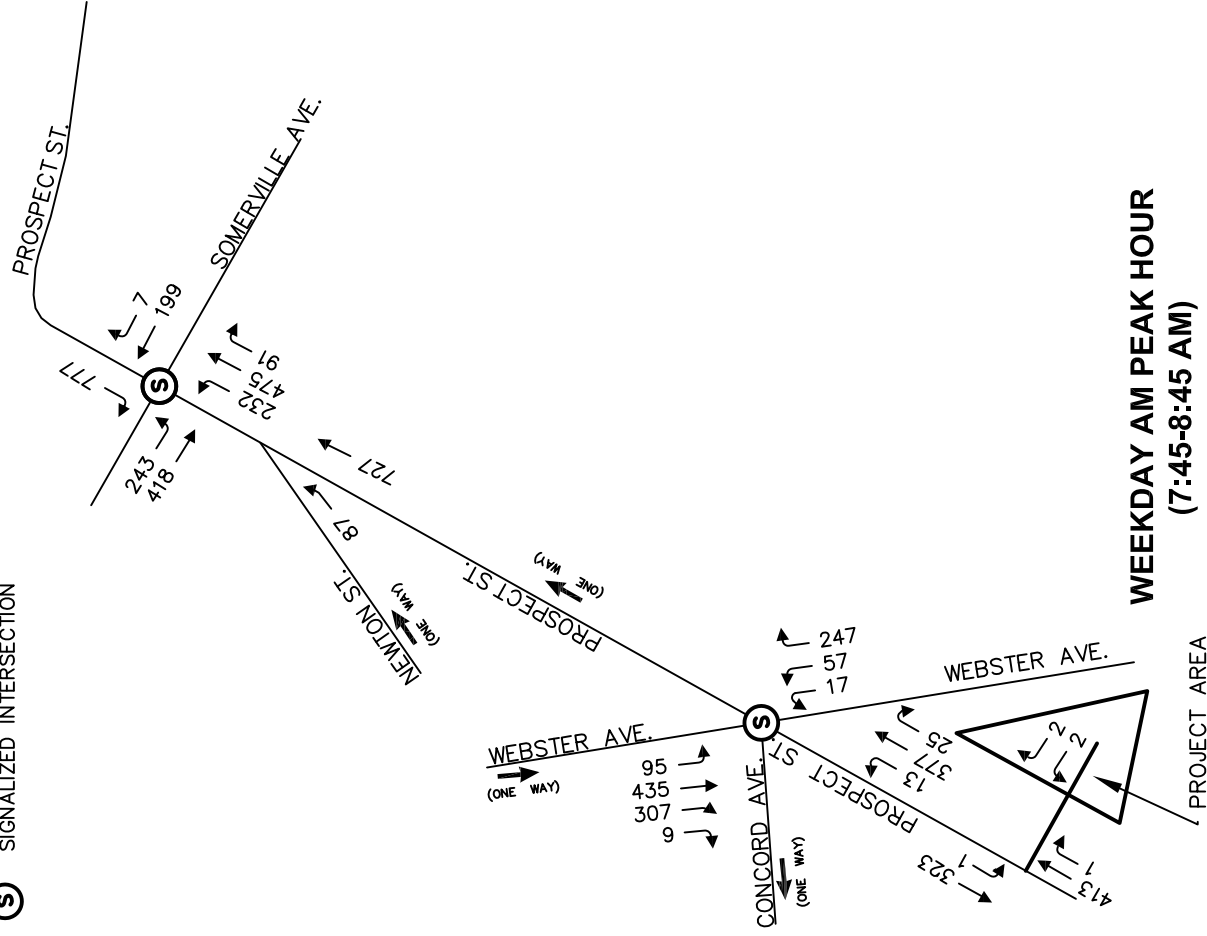
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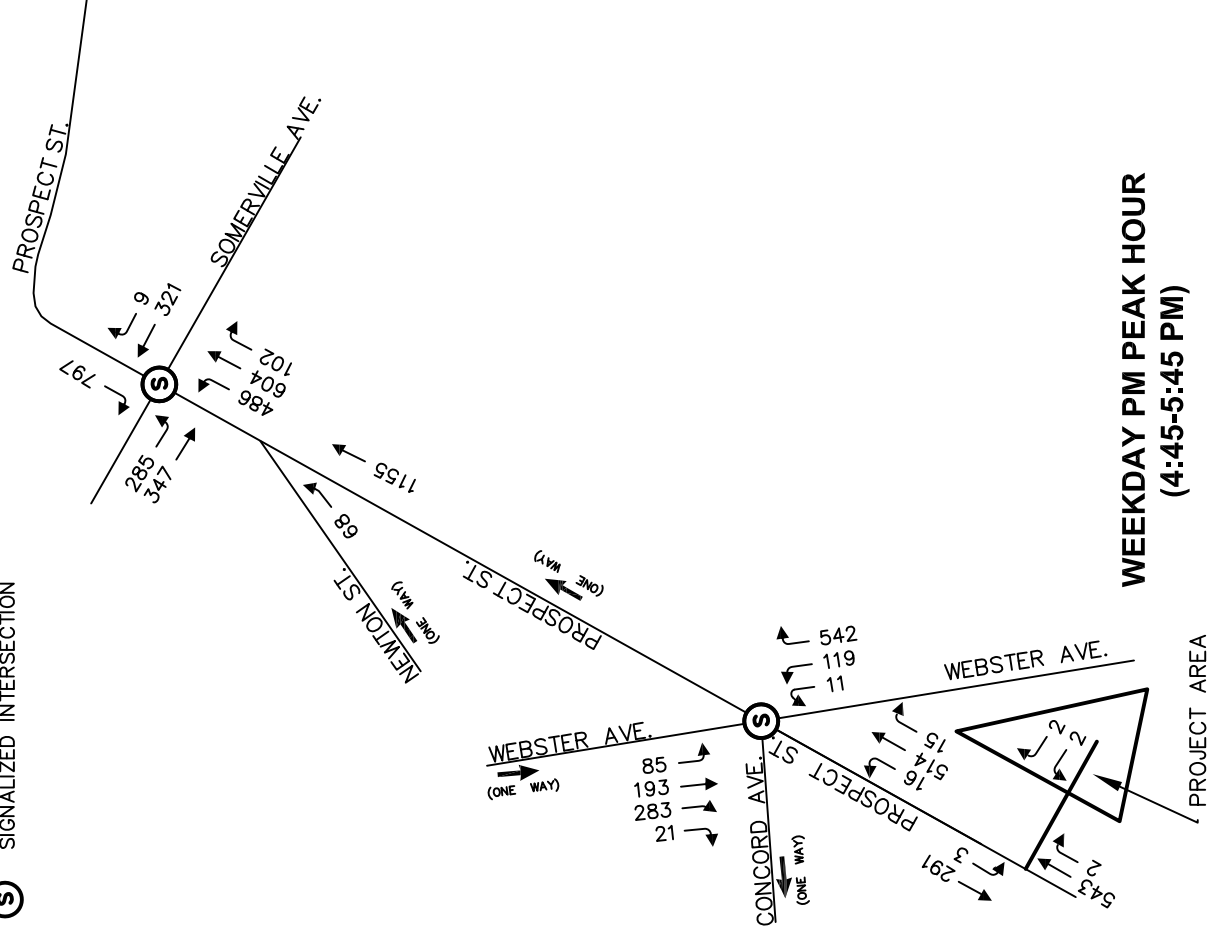
**FIGURE 4:
TRIP DISTRIBUTION**



(S) SIGNALIZED INTERSECTION



(S) SIGNALIZED INTERSECTION



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FIGURE 6:
2017 BUILD
PEAK HOUR VOLUMES

Sight Distance Analysis

The sight distance was measured at the proposed driveway on Prospect Street in order to determine whether exiting vehicles would have adequate sight distance. The required sight distance is a function of perception/reaction time of the approaching motorist and the required braking distance, which is based on vehicular speed. The available sight distance at the proposed driveway was recorded in conformance with the procedures established in the American Association of State Highway and Transportation Officials (AASHTO) *A Policy on Geometric Design of Highways and Streets* (6th ed., 2011). The available sight distance was then compared to the minimum requirements for two sight distance criteria: Stopping Sight Distance (SSD) and Intersection Sight Distance (ISD).

SSD is the distance required for vehicles on the major road to stop in time to avoid a collision with a stationary object. The SSD was recorded from the edge of the travel way on Prospect Street. This is the point at which an object becomes an obstruction to a moving vehicle. ISD is the distance needed for a vehicle to enter the major roadway from the minor roadway without interfering with traffic operations on the major roadway. ISD is often desirable to improve traffic operations and to provide convenience for vehicles exiting the minor roadway, but it is not required. In accordance with the procedure stated in the AASHTO *A Policy on Geometric Design of Highways and Streets*, the ISD was recorded 15 feet back from the edge of the travel way on Prospect Street. This point forms one vertex of the “clear sight triangle”. The sight triangle is the area that must be clear from obstructions to provide sufficient ISD for a stopped driver on a minor road approach to depart from the intersection and enter the major roadway.

The recorded 85th percentile speed of 26 MPH was used to determine the minimum sight distance requirements for northbound vehicles. In the southbound direction, the recorded 85th percentile speed was 32 MPH. However, the ATR location, between Concord Avenue and Oak Street is to the south of the proposed driveway. Based on the existing intersection control and geometry at the Prospect Street / Webster Avenue intersection, many vehicles are accelerating as they travel southbound away from the signalized intersection. As such, the majority of vehicles are travelling slower than 32 MPH as they approach the proposed driveway from the north. Based on these characteristics, a travel speed of 30 MPH was used to determine the minimum sight distance requirements for southbound vehicles at the proposed site driveway.

The proposed site plan is shown in Figure 7. This figure shows the location of the proposed driveway.

Table 5 compares the available sight distance at the proposed site driveway location, as recorded in the field, to the minimum requirements for SSD and ISD.

Table 5: Sight Distance Analysis

	Measured	Minimum Required
<i>Stopping Sight Distance</i>		
Vehicles on Prospect Street traveling NB	500+ ft	160 ft ⁽¹⁾
Vehicles on Prospect Street traveling SB	210 ft ⁽³⁾	200 ft ⁽²⁾
	Measured	Desirable
<i>Intersection Sight Distance</i>		
Vehicles exiting the site driveway, looking to the south	300 ft	287 ft ⁽¹⁾
Vehicles exiting the site driveway, looking to the north	210 ft ⁽³⁾	335 ft ⁽²⁾

⁽¹⁾ Values based on AASHTO requirements for 26 MPH

⁽²⁾ Values based on AASHTO requirements for 30 MPH

⁽³⁾ 210 ft measured from the Webster Avenue SEB stop line to the proposed driveway.

As shown in Table 5, the minimum sight distance requirements for SSD are exceeded in both directions, and the ISD looking to the south also exceeds the minimum desirable distance. The intersection sight distance looking to the north is not expected to be an issue, as gaps in the traffic flow will be created by the traffic signal at the Prospect Street / Webster Avenue intersection.

The results of this sight distance analysis also confirm the finding, discussed earlier in this report, that the proposed location of the driveway along Prospect Street is expected to have positive safety effects, particularly when compared to the location of the existing driveway along Prospect Street.

Parking

A total of 14 off-street parking spaces are being provided at the project site, one for each of the residential condominium units. Ten of these spaces will be located in a garage under the proposed building, and four spaces will be located outdoors. One of the four outdoor on-site parking spaces will be a shared parking space, and will be signed to allow customers of the retail portion of the project site to park between the hours of 9:00am and 5:00pm on weekdays. However, if customers of the retail portion arrive when the shared parking space is not available (either in the early morning period, late afternoon/evening, or on weekends), there is sufficient available on-street parking in the immediate vicinity of the project site.

As noted earlier in this report, on-street parking is provided on the north-east side of Webster Avenue. These on-street parking spaces are limited to 2-hours between 8:00am and 6:00pm, except on Sundays, holidays, and by residential parking permit (in which case vehicles are not limited to 2-hours). There are currently six existing parking spaces in this area within 200 ft of the project site (north of Columbia Street). Observations were made during the weekday peak hours and during the Saturday midday peak hour to determine the utilization of the existing parking spaces, to see if they would be available for users of the retail portion of the proposed development project. The parking observations are summarized in Table 6.

Table 6: On-Street Parking Summary

Date / Time of Observations	Num. of Available On-Street Parking Spaces	Date / Time of Observations	Num. of Available On-Street Parking Spaces
<i>Friday, Jan 11, 2013</i>		<i>Saturday, Jan 12, 2013</i>	
8:00 am – 8:15 am	2	12:00 pm – 12:15 pm	1
8:15 am – 8:30 am	2	12:15 pm – 12:30 pm	4
8:30 am – 8:45 am	2	12:30 pm – 12:45 pm	4
8:45 am – 9:00 am	2	12:45 pm – 1:00 pm	3
<i>Friday, Jan 11, 2013</i>			
4:45 pm – 5:00 pm	3		
5:00 pm – 5:15 pm	4		
5:15 pm – 5:30 pm	4		
5:30 pm – 5:45 pm	4		

As indicated in Table 6, of the six on-street spaces that are within 200 ft of the project site and not restricted with residential parking permits, there were always two or more available spaces with the exception of a single 15-minute period, during which there was just one available parking space. Based on these on-street parking observations, it is clear that there is sufficient on-street parking in the vicinity of the project site to support the retail portion of the proposed development project when the shared on-site parking space is not available.

Intersection Capacity Analysis

To assess quality of traffic flow, intersection capacity analyses were conducted for the study intersections for existing conditions and future conditions with and without the proposed development project. Capacity analyses determines Level-of-Service (LOS) based upon vehicle delays for intersection operating conditions.

Level-of-Service is used to denote the different operating conditions for roadways and intersections under various traffic volume loads. LOS designations range from “A” at best with little or no delays to “F” at worst with long delays and forced flow conditions. LOS ratings for an intersection are based upon the average delay per approaching vehicle. The amount of delay is dependent upon traffic volumes, roadway characteristics, intersection geometry, and phasing and timing of traffic signals. A LOS ranking of “C” is considered stable flow which is desirable for peak design flows in urban areas. A LOS “D” is considered acceptable during peak periods in urban areas.

Definitions of Levels of Service at signalized and unsignalized intersections are presented in the 2010 Highway Capacity Manual and the following tables define the relationship between Level of Service, control delay, and qualitative traffic flow. It is noted that the delay thresholds in the table below correspond with a volume-to-capacity (v/c) ratio of less than 1.0. For any v/c ratio of greater than 1.0, a LOS F is assigned, regardless of the calculated delay.

Table 7: Level of Service Criteria for Signalized Intersections

Level of Service	Control Delay per Vehicle (sec)	Qualitative Description
A	≤ 10	Good progression, few stops and short cycle lengths.
B	> 10-20	Good progression and/or short cycle lengths; more vehicle stops.
C	> 20-35	Fair progression and/or longer cycle lengths; some cycle failures; significant portion of vehicles must stop.
D	> 35-55	Congestion becomes noticeable; high-volume-to-capacity ratio; longer delays; noticeable cycle failures.
E	> 55-80	At or beyond limit of acceptable delay; poor progression; long cycles; high volumes; long queues.
F	> 80	Unacceptable to drivers. Arrival volumes greater than discharge capacity; long cycle lengths; unstable-unpredictable flows.

source:

HCM2010: Highway Capacity Manual, published by the Transportation Research Board, 2010

The delay thresholds that define LOS at unsignalized intersections differ from those at signalized intersections, primarily due to different driver expectations. At unsignalized intersections, the LOS is not defined for the intersection as a whole, as a high volume of vehicles on the major roadway typically experience no delay, and would heavily skew any weighted average of delays. Similar to the thresholds for signalized intersections, the delay thresholds in the table below correspond with a volume-to-capacity (v/c) ratio of less than 1.0. For any v/c ratio of greater than 1.0, a LOS F is assigned, regardless of the calculated delay

Table 8: Level of Service Criteria for Unsignalized Intersections

Level of Service	Control Delay per Vehicle (sec)
A	≤ 10
B	> 10-15
C	> 15-25
D	> 25-35
E	> 35-50
F	> 50

source:

HCM2010: Highway Capacity Manual, published by the Transportation Research Board, 2010

A detailed traffic network for the two peak travel periods was developed to perform the capacity analyses, which utilized the Synchro v8 software. A Level of Service analysis was done for the existing 2012 and future 2017 “Build” and “No Build” conditions for the study intersections. A summary of the Level of Service (LOS) is shown in Tables 9 and 10 for the existing 2012 and future 2017 scenarios for the weekday AM and PM peak hour conditions, respectively. The detailed capacity analysis worksheets are contained in Appendix E.

Table 9: Intersection Capacity Analysis Summary – Weekday AM Peak Hour

	2012 Existing				2017 No-Build				2017 Build			
	Delay	LOS	50 th % Q	95 th % Q	Delay	LOS	50 th % Q	95 th % Q	Delay	LOS	50 th % Q	95 th % Q
Prospect Street at Webster Avenue												
Prospect St NB LTR	33.7	C	217	327	35.2	D	232	357	35.4	D	233	374
Webster Ave SEB L	27.6	C	43	87	28.1	C	46	92	28.1	C	46	92
Webster Ave SEB TR	>120	F	583	804	>120	F	631	855	>120	F	633	856
Webster Ave NWB LTR	>120	F	189	356	>120	F	210	382	>120	F	210	382
<i>Overall Intersection</i>	>120	F			>120	F			>120	F		
Prospect Street at Newton Street												
Prospect St NB T	0.0	A	-	0	0.0	A	-	0	0.0	A	-	0
Newton St NEB L	10.8	B	-	13	11.0	B	-	14	11.0	B	-	14
Somerville Avenue at Prospect Street												
Somerville Ave EB LT/T	21.8	C	165	213	22.2	C	175	225	22.2	C	175	225
Somerville Ave WB T/TR	56.0	E	104	115	57.6	E	110	121	57.6	E	110	121
Prospect St NB L	40.9	D	159	237	41.7	D	168	250	41.8	D	169	250
Prospect St NB LT/TR	43.6	D	239	296	45.2	D	255	315	45.3	D	255	315
Prospect St SB R	95.8	F	413	500	115.5	F	452	540	115.9	F	453	540
<i>Overall Intersection</i>	56.3	E			63.4	E			63.6	E		
Prospect St at 70 Prospect St Driveway												
Driveway WB LR	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	13.0	B	-	1
Prospect St NB TR	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.0	A	-	0
Prospect St SB LT	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.1	A	-	0
Notes and Abbreviations: Delay = Average Delay per vehicle, measured in seconds LOS = Level of Service 50 th % Q = 50 th Percentile Queue, measured in feet 95 th % Q = 95 th Percentile Queue, measured in feet EB = Eastbound WB = Westbound NB = Northbound SB = Southbound NEB = North-East Bound NWB = North-West Bound SEB = South-East Bound L = Left T = Through R = Right LT = Left, Through TR = Through, Right LTR = Left, Through, Right												

Table 10: Intersection Capacity Analysis Summary – Weekday PM Peak Hour

	2012 Existing				2017 No-Build				2017 Build			
	Delay	LOS	50 th % Q	95 th % Q	Delay	LOS	50 th % Q	95 th % Q	Delay	LOS	50 th % Q	95 th % Q
Prospect Street at Webster Avenue												
Prospect St NB LTR	52.4	D	301	496	60.7	E	324	534	61.3	E	326	537
Webster Ave SEB L	46.0	D	44	115	51.1	D	47	125	51.1	D	47	125
Webster Ave SEB TR	52.5	D	292	483	60.6	E	314	521	61.6	E	317	526
Webster Ave NWB LTR	>120	F	549	759	>120	F	632	844	>120	F	635	848
<i>Overall Intersection</i>	>120	F			>120	F			>120	F		
Prospect Street at Newton Street												
Prospect St NB T	0.0	A	-	0	0.0	A	-	0	0.0	A	-	0
Newton St NEB L	12.7	B	-	15	13.0	B	-	16	13.0	B	-	16
Somerville Avenue at Prospect Street												
Somerville Ave EB LT/T	21.2	C	152	197	21.5	C	162	208	21.5	C	162	208
Somerville Ave WB T/TR	67.2	E	145	196	72.0	E	153	212	72.0	E	153	212
Prospect St NB L	67.4	E	323	529	76.3	E	346	568	76.8	E	347	571
Prospect St NB LT/TR	55.0	D	326	446	61.5	E	349	484	61.9	E	350	485
Prospect St SB R	72.0	E	356	507	85.0	F	409	547	86.1	F	411	550
<i>Overall Intersection</i>	56.0	E			63.2	E			63.7	E		
Prospect St at 70 Prospect St Driveway												
Driveway WB LR	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	14.3	B	-	1
Prospect St NB TR	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.0	A	-	0
Prospect St SB LT	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.1	A	-	0
Notes and Abbreviations: Delay = Average Delay per vehicle, measured in seconds LOS = Level of Service 50 th % Q = 50 th Percentile Queue, measured in feet 95 th % Q = 95 th Percentile Queue, measured in feet EB = Eastbound WB = Westbound NB = Northbound SB = Southbound NEB = North-East Bound NWB = North-West Bound SEB = South-East Bound L = Left T = Through R = Right LT = Left, Through TR = Through, Right LTR = Left, Through, Right												

As indicated in Tables 9 and 10, the intersection of Prospect Street / Webster Avenue currently operated at an overall LOS F, while the intersection of Prospect Street / Somerville Avenue currently operates at an overall LOS E. These two signalized intersections are expected to continue to operate at the same overall LOS in the 2017 Future No-Build scenario. The very low number of additional vehicle-trips added to the roadway network from the project site is not expected to have any significant impacts on the traffic operations with respect to vehicle delay and queuing.

It is also noted that the existing signal controllers at the intersections of Prospect Street / Webster Avenue and Prospect Street / Somerville Avenue are currently operating in “pre-timed” mode. This is either due to non-existent or non-functioning vehicle detection on all intersection approaches. The City of Somerville could significantly improve traffic operations by upgrading and/or fixing the existing traffic signal equipment and optimizing traffic signal timings.

At the unsignalized intersection of Prospect Street / Newton Street, the Newton Street approach currently operates at LOS B during both the weekday morning and afternoon peak hours. It is expected to continue to operate at LOS B during all future scenarios.

At the Prospect Street / Site Driveway intersection, vehicles exiting the project site are anticipated to operate at LOS B during both the weekday morning and afternoon peak hours, with minimal on-site queuing. While the Prospect Street northbound queue from the intersection with Webster Avenue is expected to extend past the project site driveway during both peak hours, the impact to vehicles on Prospect Street southbound stuck behind vehicles waiting to turn left into the project site is minimal, due to the very low volume of vehicles turning left into the project site (as shown on Figure 5, not more than 3 vehicles during each weekday peak hour are expected to turn left from Prospect Street into the project site).

7. Conclusion

The various traffic operation and safety analyses that have been included in this report all indicate that the proposed development project at 70 Prospect Street will have minimal impacts to the surrounding roadways and intersections. The location of the proposed driveway on Prospect Street will have safety benefits relative to the location of the existing curb cut location on Prospect Street. The number of additional vehicle-trips that will be generated at the project site are very low, and can easily be accommodated by the existing transportation infrastructure.

Appendix

Appendix A

Traffic Count Data



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Prospect Street
between Concord Avenue & Oak Street
City, State: Somerville, MA
Client: Design Consultants/ J. Sobel

123151 A Class
Site Code: TBA

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/12/1														
2	1	29	16	0	0	0	0	1	0	0	0	0	0	47
01:00	0	14	13	0	1	0	0	0	0	0	0	0	0	28
02:00	0	13	8	0	1	0	0	0	0	0	0	0	0	22
03:00	0	6	8	0	1	0	0	0	0	0	0	0	0	15
04:00	0	16	15	3	1	0	0	0	0	0	0	0	0	35
05:00	1	75	14	3	4	1	0	0	0	0	0	0	0	98
06:00	1	175	64	6	26	0	0	0	0	1	0	0	0	273
07:00	4	189	70	1	25	0	0	3	0	0	0	0	0	292
08:00	3	195	60	2	25	1	0	1	0	0	0	0	0	287
09:00	3	180	47	6	20	0	0	2	1	0	0	0	0	259
10:00	2	170	58	4	17	1	0	4	0	0	0	0	0	256
11:00	3	144	49	3	16	0	0	1	0	0	0	0	0	216
12 PM	0	198	44	1	19	1	0	3	0	0	0	0	0	266
13:00	1	157	51	3	14	2	0	0	0	0	0	0	0	228
14:00	0	136	40	3	17	0	0	1	0	0	0	0	0	197
15:00	2	156	52	0	24	1	0	6	0	0	0	0	0	241
16:00	1	207	45	2	12	0	0	0	0	0	0	0	0	267
17:00	0	202	37	0	9	0	0	0	0	0	0	0	0	248
18:00	1	223	56	1	6	0	0	0	0	0	0	0	0	287
19:00	2	166	20	0	4	0	0	0	0	0	0	0	0	192
20:00	0	121	30	0	4	1	0	0	0	0	0	0	0	156
21:00	1	117	24	0	3	0	0	0	0	0	0	0	0	145
22:00	0	98	26	0	2	0	0	0	0	0	0	0	0	126
23:00	0	73	18	0	0	1	0	0	0	0	0	0	0	92
Total	26	3060	865	38	251	9	0	22	1	1	0	0	0	4273
Percent	0.6%	71.6%	20.2%	0.9%	5.9%	0.2%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	08:00	07:00	06:00	06:00	05:00		10:00	09:00	06:00				07:00
Vol.	4	195	70	6	26	1		4	1	1				292
PM Peak	15:00	18:00	18:00	13:00	15:00	13:00		15:00						18:00
Vol.	2	223	56	3	24	2		6						287



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123151 A Class
Site Code: TBA

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Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/13/1														
2	0	34	15	0	1	0	0	0	0	0	0	0	0	50
01:00	0	20	19	0	0	0	0	0	0	0	0	0	0	39
02:00	0	10	9	0	0	0	0	0	0	0	0	0	0	19
03:00	1	13	11	0	3	0	0	0	0	0	0	0	0	28
04:00	1	20	8	2	1	0	0	0	0	0	0	0	0	32
05:00	1	68	27	3	4	0	0	0	0	0	0	0	0	103
06:00	4	150	58	7	25	0	0	1	0	0	0	0	0	245
07:00	4	214	56	2	27	0	0	5	0	0	0	0	0	308
08:00	2	205	55	2	18	3	0	2	0	0	0	0	0	287
09:00	1	191	65	0	33	1	0	3	0	0	0	0	0	294
10:00	4	172	54	2	21	0	0	2	0	0	0	0	0	255
11:00	5	166	40	2	18	1	0	2	1	1	0	0	0	236
12 PM	1	168	50	1	32	1	0	2	0	0	0	0	0	255
13:00	3	172	44	4	17	2	0	0	0	0	0	0	0	242
14:00	2	172	46	2	20	0	0	1	0	0	0	0	0	243
15:00	1	181	47	1	26	0	0	2	0	0	0	0	0	258
16:00	1	183	57	0	11	1	0	2	0	0	0	0	0	255
17:00	3	192	59	0	4	0	0	1	0	0	0	0	0	259
18:00	2	223	43	0	11	1	0	0	0	0	0	0	0	280
19:00	1	184	38	0	3	1	0	0	0	0	0	0	0	227
20:00	1	146	23	0	3	0	0	1	0	0	0	0	0	174
21:00	1	118	27	0	5	0	0	0	0	0	0	0	0	151
22:00	1	116	29	0	1	0	0	0	0	0	0	0	0	147
23:00	0	68	19	0	0	0	0	0	0	0	0	0	0	87
Total	40	3186	899	28	284	11	0	24	1	1	0	0	0	4474
Percent	0.9%	71.2%	20.1%	0.6%	6.3%	0.2%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	07:00	09:00	06:00	09:00	08:00		07:00	11:00	11:00				07:00
Vol.	5	214	65	7	33	3		5	1	1				308
PM Peak	13:00	18:00	17:00	13:00	12:00	13:00		12:00						18:00
Vol.	3	223	59	4	32	2		2						280
Total		6246	1764	66	535	20	0	46	2	2	0	0	0	8747



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12/12/1														
2	0	135	10	0	1	0	0	0	0	0	0	0	0	146
01:00	0	85	8	2	1	0	0	0	0	0	0	0	0	96
02:00	0	39	3	0	2	0	0	0	0	0	0	0	0	44
03:00	0	23	1	0	2	0	0	0	0	0	0	0	0	26
04:00	1	19	5	1	0	0	0	0	0	0	0	0	0	26
05:00	0	56	9	0	3	1	0	0	0	0	0	0	0	69
06:00	0	148	21	0	3	0	0	0	0	0	0	0	0	172
07:00	2	285	37	1	10	0	0	1	0	0	0	0	0	336
08:00	1	293	50	4	5	0	0	1	0	0	0	0	0	354
09:00	2	278	43	2	13	0	0	2	0	0	0	0	0	340
10:00	1	299	65	7	8	0	0	0	1	0	0	0	0	381
11:00	3	321	51	0	7	1	0	1	0	0	0	0	0	384
12 PM	0	346	54	0	10	1	0	0	0	0	0	0	0	411
13:00	2	331	48	1	8	0	0	1	0	0	0	0	0	391
14:00	2	355	74	1	9	0	0	1	0	0	0	0	0	442
15:00	3	386	66	2	11	0	0	3	0	0	0	0	0	471
16:00	0	436	49	1	8	0	0	4	0	0	0	0	0	498
17:00	0	417	38	4	2	0	0	3	0	0	1	0	0	465
18:00	1	408	18	1	2	0	0	1	0	0	0	0	0	431
19:00	1	409	27	0	4	0	0	0	0	0	0	0	0	441
20:00	2	305	22	2	4	0	0	0	0	0	0	0	0	335
21:00	1	362	22	0	5	0	0	0	0	0	0	0	0	390
22:00	0	264	14	2	2	1	0	0	0	0	0	0	0	283
23:00	2	235	14	1	0	0	0	0	0	0	0	0	0	252
Total	24	6235	749	32	120	4	0	18	1	0	1	0	0	7184
Percent	0.3%	86.8%	10.4%	0.4%	1.7%	0.1%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	11:00	10:00	10:00	09:00	05:00		09:00	10:00					11:00
Vol.	3	321	65	7	13	1		2	1					384
PM Peak	15:00	16:00	14:00	17:00	15:00	12:00		16:00			17:00			16:00
Vol.	3	436	74	4	11	1		4			1			498



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

Prospect Street
between Concord Avenue & Oak Street
City, State: Somerville, MA
Client: Design Consultants/ J. Sobel

123151 A Class
Site Code: TBA

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/13/1														
2	1	132	12	0	0	0	0	0	0	0	0	0	0	145
01:00	1	90	5	1	0	0	0	0	0	0	0	0	0	97
02:00	0	55	5	0	3	0	0	0	0	0	0	0	0	63
03:00	0	23	0	1	0	0	0	0	0	0	0	0	0	24
04:00	0	20	1	2	0	0	0	0	0	0	0	0	0	23
05:00	0	62	12	0	1	1	0	0	0	0	0	0	0	76
06:00	1	140	27	0	4	0	0	3	0	0	0	0	0	175
07:00	1	278	30	0	5	3	0	2	0	0	0	0	0	319
08:00	0	311	44	5	6	1	0	0	0	0	0	0	0	367
09:00	1	245	60	7	11	0	0	1	0	0	0	0	0	325
10:00	2	278	51	4	13	1	0	0	0	0	0	0	0	349
11:00	0	309	64	2	7	2	0	1	1	0	0	0	0	386
12 PM	1	303	63	1	7	1	0	2	0	0	0	0	0	378
13:00	0	354	49	4	13	1	0	0	0	0	0	0	0	421
14:00	0	384	54	1	12	0	0	4	0	0	0	0	0	455
15:00	2	432	58	2	6	0	0	4	0	0	0	0	0	504
16:00	2	411	65	0	5	0	0	0	0	0	0	0	0	483
17:00	0	408	38	0	6	0	0	1	0	0	0	0	0	453
18:00	3	380	21	1	3	0	0	0	0	0	0	0	0	408
19:00	3	413	21	3	3	0	0	2	0	0	0	0	0	445
20:00	2	335	13	1	5	1	0	0	0	0	0	0	0	357
21:00	1	319	16	0	0	0	0	0	0	0	0	0	0	336
22:00	3	316	11	0	1	0	0	0	0	0	0	0	0	331
23:00	2	187	30	1	7	0	0	0	0	0	0	0	0	227
Total	26	6185	750	36	118	11	0	20	1	0	0	0	0	7147
Percent	0.4%	86.5%	10.5%	0.5%	1.7%	0.2%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	08:00	11:00	09:00	10:00	07:00		06:00	11:00					11:00
Vol.	2	311	64	7	13	3		3	1					386
PM Peak	18:00	15:00	16:00	13:00	13:00	12:00		14:00						15:00
Vol.	3	432	65	4	13	1		4						504
Total		12420	1499	68	238	15	0	38	2	0	1	0	0	14331



PRECISION
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Prospect Street
between Concord Avenue & Oak Street
City, State: Somerville, MA
Client: Design Consultants/ J. Sobel

123151 A 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
12/12/1																
2	0	0	2	17	27	0	1	0	0	0	0	0	0	47	32	30
01:00	0	0	0	12	12	4	0	0	0	0	0	0	0	28	34	31
02:00	0	0	1	5	14	2	0	0	0	0	0	0	0	22	33	31
03:00	1	0	1	7	4	2	0	0	0	0	0	0	0	15	33	27
04:00	0	0	1	13	9	10	2	0	0	0	0	0	0	35	36	32
05:00	0	0	3	18	49	27	1	0	0	0	0	0	0	98	36	32
06:00	1	4	28	114	96	27	3	0	0	0	0	0	0	273	33	29
07:00	0	3	45	162	62	18	2	0	0	0	0	0	0	292	32	28
08:00	0	5	62	132	79	9	0	0	0	0	0	0	0	287	31	27
09:00	4	7	52	122	65	6	2	1	0	0	0	0	0	259	31	27
10:00	0	5	66	107	73	5	0	0	0	0	0	0	0	256	31	27
11:00	0	2	46	93	64	11	0	0	0	0	0	0	0	216	32	28
12 PM	3	19	73	114	51	5	1	0	0	0	0	0	0	266	30	25
13:00	1	9	72	85	56	3	2	0	0	0	0	0	0	228	31	26
14:00	3	11	65	73	42	3	0	0	0	0	0	0	0	197	30	25
15:00	2	5	86	95	47	6	0	0	0	0	0	0	0	241	30	26
16:00	1	4	88	108	60	5	1	0	0	0	0	0	0	267	31	26
17:00	0	3	66	134	42	3	0	0	0	0	0	0	0	248	30	26
18:00	0	11	73	145	53	5	0	0	0	0	0	0	0	287	30	26
19:00	1	4	49	80	49	9	0	0	0	0	0	0	0	192	31	27
20:00	0	6	27	62	49	11	1	0	0	0	0	0	0	156	32	28
21:00	0	0	28	70	43	4	0	0	0	0	0	0	0	145	31	28
22:00	0	1	19	57	43	5	1	0	0	0	0	0	0	126	32	28
23:00	0	0	10	32	35	14	1	0	0	0	0	0	0	92	34	30

%	0.4%	2.3%	22.5%	43.5%	26.3%	4.5%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
AM Peak	09:00	09:00	08:00	07:00	06:00	05:00	06:00	09:00																		07:00	
Vol.	4	7	62	162	96	27	3	1																		292	
Midday Peak	12:00	12:00	12:00	12:00	11:00	11:00	13:00																			12:00	
Vol.	3	19	73	114	64	11	2																			266	
PM Peak	15:00	18:00	16:00	18:00	16:00	23:00	16:00																			18:00	
Vol.	2	11	88	145	60	14	1																			287	
% ile				15th Percentile :		21 MPH																					
				50th Percentile :		26 MPH																					
				85th Percentile :		32 MPH																					
				95th Percentile :		34 MPH																					

Stats

10 MPH Pace Speed : 23-32 MPH

Number in Pace : 2875

Percent in Pace : 67.3%

Number of Vehicles > 30 MPH : 1125

Percent of Vehicles > 30 MPH : 26.3%

Mean Speed(Average) : 27 MPH



PRECISION
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Prospect Street
between Concord Avenue & Oak Street
City, State: Somerville, MA
Client: Design Consultants/ J. Sobel

123151 A 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
12/13/1																
2	0	0	5	15	24	4	2	0	0	0	0	0	0	50	34	30
01:00	0	0	6	13	17	2	1	0	0	0	0	0	0	39	32	29
02:00	0	1	1	8	5	4	0	0	0	0	0	0	0	19	35	29
03:00	0	0	2	8	10	7	1	0	0	0	0	0	0	28	35	31
04:00	0	0	3	6	11	10	2	0	0	0	0	0	0	32	37	32
05:00	0	1	2	30	52	15	2	1	0	0	0	0	0	103	34	31
06:00	0	0	13	99	111	19	3	0	0	0	0	0	0	245	33	30
07:00	3	3	52	141	100	8	1	0	0	0	0	0	0	308	32	28
08:00	1	8	83	131	60	4	0	0	0	0	0	0	0	287	30	26
09:00	2	3	62	145	73	8	0	1	0	0	0	0	0	294	31	27
10:00	3	6	33	122	77	14	0	0	0	0	0	0	0	255	32	28
11:00	0	9	55	108	55	9	0	0	0	0	0	0	0	236	31	27
12 PM	0	8	59	109	64	14	1	0	0	0	0	0	0	255	32	27
13:00	2	13	58	100	65	4	0	0	0	0	0	0	0	242	31	26
14:00	0	7	74	105	47	9	1	0	0	0	0	0	0	243	31	26
15:00	0	7	76	127	43	4	1	0	0	0	0	0	0	258	30	26
16:00	1	5	65	123	54	6	1	0	0	0	0	0	0	255	31	27
17:00	4	10	63	120	53	9	0	0	0	0	0	0	0	259	31	26
18:00	1	10	71	135	54	8	1	0	0	0	0	0	0	280	30	26
19:00	1	8	58	111	45	4	0	0	0	0	0	0	0	227	30	26
20:00	0	7	42	70	51	4	0	0	0	0	0	0	0	174	31	27
21:00	0	3	31	58	49	8	2	0	0	0	0	0	0	151	32	28
22:00	0	0	27	60	47	12	1	0	0	0	0	0	0	147	33	29
23:00	0	2	4	30	33	16	2	0	0	0	0	0	0	87	35	30

%	0.4%	2.5%	21.1%	44.1%	26.8%	4.5%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
AM Peak	07:00	08:00	08:00	09:00	06:00	06:00	06:00	05:00																		07:00	
Vol.	3	8	83	145	111	19	3	1																		308	
Midday Peak	13:00	13:00	14:00	12:00	13:00	12:00	12:00																			12:00	
Vol.	2	13	74	109	65	14	1																			255	
PM Peak	17:00	17:00	15:00	18:00	16:00	23:00	21:00																			18:00	
Vol.	4	10	76	135	54	16	2																			280	
% ile				15th Percentile :		21 MPH																					
				50th Percentile :		26 MPH																					
				85th Percentile :		32 MPH																					
				95th Percentile :		34 MPH																					

Stats

10 MPH Pace Speed : 23-32 MPH

Number in Pace : 3026

Percent in Pace : 67.6%

Number of Vehicles > 30 MPH : 1199

Percent of Vehicles > 30 MPH : 26.8%

Mean Speed(Average) : 27 MPH



PRECISION
D A T A
INDUSTRIES, LLC

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123151 A Speed
Site Code: TBA

Prospect Street
between Concord Avenue & Oak Street
City, State: Somerville, MA
Client: Design Consultants/ J. Sobel

NB

Start Time	14	15	20	25	30	35	40	45	50	55	60	65	70	Total	85th % ile	Ave Speed
12/12/1																
2	6	24	36	40	27	11	2	0	0	0	0	0	0	146	31	24
01:00	0	7	23	38	22	5	1	0	0	0	0	0	0	96	32	26
02:00	2	3	7	13	11	4	2	2	0	0	0	0	0	44	34	27
03:00	1	1	6	10	6	2	0	0	0	0	0	0	0	26	32	26
04:00	0	1	4	6	13	1	1	0	0	0	0	0	0	26	33	29
05:00	0	9	15	18	19	7	1	0	0	0	0	0	0	69	33	26
06:00	11	18	40	63	34	6	0	0	0	0	0	0	0	172	30	24
07:00	29	56	111	97	26	14	3	0	0	0	0	0	0	336	28	21
08:00	43	55	110	101	38	5	2	0	0	0	0	0	0	354	28	21
09:00	52	70	111	77	23	4	3	0	0	0	0	0	0	340	27	19
10:00	62	81	120	95	22	1	0	0	0	0	0	0	0	381	26	19
11:00	52	80	138	84	24	5	1	0	0	0	0	0	0	384	26	19
12 PM	62	103	168	69	9	0	0	0	0	0	0	0	0	411	24	18
13:00	47	85	124	106	22	7	0	0	0	0	0	0	0	391	27	20
14:00	67	119	202	38	13	3	0	0	0	0	0	0	0	442	23	18
15:00	85	122	182	56	22	2	2	0	0	0	0	0	0	471	24	17
16:00	121	158	175	36	6	2	0	0	0	0	0	0	0	498	22	16
17:00	86	121	177	59	19	3	0	0	0	0	0	0	0	465	24	17
18:00	74	98	172	68	16	3	0	0	0	0	0	0	0	431	24	18
19:00	65	118	159	80	19	0	0	0	0	0	0	0	0	441	25	18
20:00	38	72	118	80	24	2	1	0	0	0	0	0	0	335	26	20
21:00	49	88	122	97	26	7	1	0	0	0	0	0	0	390	27	19
22:00	25	45	84	86	36	7	0	0	0	0	0	0	0	283	28	22
23:00	17	41	56	82	51	4	1	0	0	0	0	0	0	252	30	23

%	13.8%	21.9%	34.2%	20.9%	7.3%	1.5%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	09:00	09:00	07:00	08:00	08:00	07:00	07:00	02:00						08:00		
Vol.	52	70	111	101	38	14	3	2						354		
Midday Peak	14:00	14:00	14:00	13:00	11:00	13:00	11:00							14:00		
Vol.	67	119	202	106	24	7	1							442		
PM Peak	16:00	16:00	15:00	21:00	23:00	21:00	15:00							16:00		
Vol.	121	158	182	97	51	7	2							498		

% ile
15th Percentile : 9 MPH
50th Percentile : 19 MPH
85th Percentile : 26 MPH
95th Percentile : 31 MPH

Stats
10 MPH Pace Speed : 17-26 MPH
Number in Pace : 3319
Percent in Pace : 46.2%
Number of Vehicles > 30 MPH : 488
Percent of Vehicles > 30 MPH : 6.8%
Mean Speed(Average) : 19 MPH



PRECISION
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123151 A Speed
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between Concord Avenue & Oak Street
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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
12/13/1																
2	6	18	45	48	20	7	1	0	0	0	0	0	0	145	30	24
01:00	4	13	26	33	12	7	0	1	0	0	0	1	0	97	30	24
02:00	1	3	9	27	15	6	1	1	0	0	0	0	0	63	33	28
03:00	0	5	3	7	3	4	2	0	0	0	0	0	0	24	35	26
04:00	1	1	3	13	3	1	1	0	0	0	0	0	0	23	29	26
05:00	3	6	15	23	18	11	0	0	0	0	0	0	0	76	33	26
06:00	9	22	47	63	26	7	1	0	0	0	0	0	0	175	30	23
07:00	43	57	80	89	43	4	3	0	0	0	0	0	0	319	29	20
08:00	46	61	146	79	29	5	0	0	1	0	0	0	0	367	27	20
09:00	45	74	103	82	21	0	0	0	0	0	0	0	0	325	26	19
10:00	44	68	111	95	27	3	1	0	0	0	0	0	0	349	27	20
11:00	58	90	157	61	15	4	1	0	0	0	0	0	0	386	24	18
12 PM	46	99	135	80	16	2	0	0	0	0	0	0	0	378	25	19
13:00	63	107	140	80	30	1	0	0	0	0	0	0	0	421	25	18
14:00	97	138	180	36	4	0	0	0	0	0	0	0	0	455	22	16
15:00	103	157	191	47	5	1	0	0	0	0	0	0	0	504	22	16
16:00	97	125	182	58	18	3	0	0	0	0	0	0	0	483	23	17
17:00	125	131	160	31	5	1	0	0	0	0	0	0	0	453	22	15
18:00	62	103	131	88	21	3	0	0	0	0	0	0	0	408	26	18
19:00	74	120	149	67	30	5	0	0	0	0	0	0	0	445	25	18
20:00	39	78	123	82	30	5	0	0	0	0	0	0	0	357	27	20
21:00	39	56	115	96	24	5	1	0	0	0	0	0	0	336	27	20
22:00	35	78	84	81	46	6	1	0	0	0	0	0	0	331	28	20
23:00	20	30	58	53	51	11	3	1	0	0	0	0	0	227	31	23

%	14.8%	22.9%	33.5%	19.9%	7.2%	1.4%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	09:00	08:00	07:00	07:00	05:00	07:00	01:00	08:00			01:00		08:00		
Vol.	46	74	146	89	43	11	3	1	1			1		367		
Midday Peak	14:00	14:00	14:00	12:00	13:00	11:00	11:00							14:00		
Vol.	97	138	180	80	30	4	1							455		
PM Peak	17:00	15:00	15:00	21:00	23:00	23:00	23:00	23:00						15:00		
Vol.	125	157	191	96	51	11	3	1						504		
% ile			15th Percentile :			8 MPH										
			50th Percentile :			18 MPH										
			85th Percentile :			26 MPH										
			95th Percentile :			30 MPH										

Stats

10 MPH Pace Speed : 17-26 MPH

Number in Pace : 3237

Percent in Pace : 45.3%

Number of Vehicles > 30 MPH : 467

Percent of Vehicles > 30 MPH : 6.5%

Mean Speed(Average) : 19 MPH



PRECISION
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Prospect Street
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Client: Design Consultants/ J. Sobel

123151 A Volume
Site Code: TBA

Start Time	SB		NB		Combined		12-Dec- 12 Wed
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	
12:00	8	67	43	109	51	176	
12:15	15	73	49	106	64	179	
12:30	15	65	34	99	49	164	
12:45	9	61	20	97	29	158	677
01:00	7	59	25	100	32	159	
01:15	6	52	23	85	29	137	
01:30	9	54	23	112	32	166	
01:45	6	63	25	94	31	157	619
02:00	6	51	12	106	18	157	
02:15	4	50	9	104	13	154	
02:30	6	43	15	111	21	154	
02:45	6	53	8	121	14	174	639
03:00	4	48	7	99	11	147	
03:15	4	71	4	132	8	203	
03:30	5	64	10	116	15	180	
03:45	2	58	5	124	7	182	712
04:00	7	69	4	121	11	190	
04:15	6	55	7	124	13	179	
04:30	7	69	8	115	15	184	
04:45	15	74	7	138	22	212	765
05:00	19	62	10	132	29	194	
05:15	11	49	14	124	25	173	
05:30	29	66	22	104	51	170	
05:45	39	71	23	105	62	176	713
06:00	52	77	29	104	81	181	
06:15	70	80	36	98	106	178	
06:30	72	65	42	118	114	183	
06:45	79	65	65	111	144	176	718
07:00	81	51	72	94	153	145	
07:15	67	55	83	115	150	170	
07:30	67	46	78	121	145	167	
07:45	77	40	103	111	180	151	633
08:00	68	41	95	75	163	116	
08:15	63	42	93	88	156	130	
08:30	82	40	87	81	169	121	
08:45	74	33	79	91	153	124	491
09:00	75	36	92	104	167	140	
09:15	52	33	82	104	134	137	
09:30	74	39	87	94	161	133	
09:45	58	37	79	88	137	125	535
10:00	62	37	80	64	142	101	
10:15	69	25	93	81	162	106	
10:30	70	37	92	75	162	112	
10:45	55	27	116	63	171	90	409
11:00	47	34	94	69	141	103	
11:15	43	13	111	56	154	69	
11:30	52	24	87	65	139	89	
11:45	74	21	92	62	166	83	344
Total	1828	2445	2374	4810	4202	7255	
Percent	43.5%	33.7%	56.5%	66.3%			
Day Total	4273		7184		11457		
Peak	06:15	05:30	10:30	04:15	07:45	04:15	
Vol.	302	294	413	509	668	769	
P.H.F.	0.932	0.919	0.890	0.922	0.928	0.907	



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

Prospect Street
between Concord Avenue & Oak Street
City, State: Somerville, MA
Client: Design Consultants/ J. Sobel

123151 A Volume
Site Code: TBA

Start	SB		NB		Combined		13-Dec-12
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Thu
12:00	21	59	40	92	61	151	
12:15	15	64	56	95	71	159	
12:30	6	76	28	101	34	177	
12:45	8	50 56	255 21	145 90	378 29	195 146	633
01:00	8	57	32	106	40	163	
01:15	9	77	27	98	36	175	
01:30	11	51	24	99	35	150	
01:45	11	39 57	242 14	97 118	421 25	136 175	663
02:00	7	62	15	122	22	184	
02:15	4	59	23	102	27	161	
02:30	4	55	12	112	16	167	
02:45	4	19 67	243 13	63 119	455 17	82 186	698
03:00	9	62	8	142	17	204	
03:15	6	60	4	131	10	191	
03:30	4	80	6	121	10	201	
03:45	9	28 56	258 6	24 110	504 15	52 166	762
04:00	6	63	5	119	11	182	
04:15	6	66	3	113	9	179	
04:30	11	58	7	124	18	182	
04:45	9	32 68	255 8	23 127	483 17	55 195	738
05:00	15	64	9	121	24	185	
05:15	20	60	18	120	38	180	
05:30	32	68	18	113	50	181	
05:45	36	103 67	259 31	76 99	453 67	179 166	712
06:00	44	84	29	104	73	188	
06:15	69	61	35	92	104	153	
06:30	65	78	46	96	111	174	
06:45	67	245 57	280 65	175 116	408 132	420 173	688
07:00	81	51	76	113	157	164	
07:15	72	57	72	107	144	164	
07:30	87	58	82	119	169	177	
07:45	68	308 61	227 89	319 106	445 157	627 167	672
08:00	76	47	102	101	178	148	
08:15	82	42	82	89	164	131	
08:30	64	48	93	89	157	137	
08:45	65	287 37	174 90	367 78	357 155	654 115	531
09:00	72	40	68	98	140	138	
09:15	76	43	79	75	155	118	
09:30	77	41	92	81	169	122	
09:45	69	294 27	151 86	325 82	336 155	619 109	487
10:00	53	39	95	92	148	131	
10:15	76	38	93	81	169	119	
10:30	57	46	81	89	138	135	
10:45	69	255 24	147 80	349 69	331 149	604 93	478
11:00	54	29	85	64	139	93	
11:15	54	21	92	66	146	87	
11:30	62	16	115	49	177	65	
11:45	66	236 21	87 94	386 48	227 160	622 69	314
Total	1896	2578	2349	4798	4245	7376	
Percent	44.7%	35.0%	55.3%	65.0%			
Day Total		4474		7147		11621	
Peak	07:30	05:45	11:00	02:45	07:30	02:45	
Vol.	313	290	386	513	668	782	
P.H.F.	0.899	0.863	0.839	0.903	0.938	0.958	

N/S/NW: Webster Street/ Concord Avenue
 E/W: Prospect Street
 City, State: Somerville, MA
 Client: Design Consultants/ J. Sobel



File Name : 123151 A
 Site Code : TBA
 Start Date : 12/13/2012
 Page No : 1

Groups Printed- Cars - Heavy Vehicles

Start Time	Webster Street From North					Prospect Street From East					Webster Street From South					Prospect Street From West					Concord Avenue From Northwest					Int. Total
	Hard Right	Right	Thru	Left	U-Turn	Right	Bear Right	Thru	Left	U-Turn	Right	Thru	Bear Left	Left	U-Turn	Right	Thru	Left	Hard Left	U-Turn	Hard Right	Bear Right	Bear Left	Hard Left	U-Turns	
07:00 AM	0	84	65	10	0	0	0	0	0	0	40	0	6	4	0	5	74	0	1	0	0	0	0	0	0	289
07:15 AM	1	66	67	23	0	0	0	0	0	0	43	0	14	4	0	7	68	0	1	0	0	0	0	0	0	294
07:30 AM	3	89	75	20	0	0	0	0	0	0	58	0	21	2	0	5	75	0	2	0	0	0	0	0	0	350
07:45 AM	1	61	85	34	0	0	0	0	0	0	58	0	20	7	0	5	94	0	3	0	0	0	0	0	0	368
Total	5	300	292	87	0	0	0	0	0	0	199	0	61	17	0	22	311	0	7	0	0	0	0	0	0	1301
08:00 AM	4	79	96	23	0	0	0	0	0	0	58	0	20	2	0	5	89	0	9	0	0	0	0	0	0	385
08:15 AM	1	84	110	20	0	0	0	0	0	0	49	0	9	5	0	7	79	0	0	0	0	0	0	0	0	364
08:30 AM	3	67	123	13	0	0	0	0	0	0	70	0	5	2	0	7	95	0	0	0	0	0	0	0	0	385
08:45 AM	1	67	118	8	0	0	0	0	0	0	46	0	8	2	0	5	85	0	0	0	0	0	0	0	0	340
Total	9	297	447	64	0	0	0	0	0	0	223	0	42	11	0	24	348	0	9	0	0	0	0	0	0	1474
Grand Total	14	597	739	151	0	0	0	0	0	0	422	0	103	28	0	46	659	0	16	0	0	0	0	0	0	2775
Apprch %	0.9	39.8	49.2	10.1	0	0	0	0	0	0	76.3	0	18.6	5.1	0	6.4	91.4	0	2.2	0	0	0	0	0	0	0
Total %	0.5	21.5	26.6	5.4	0	0	0	0	0	0	15.2	0	3.7	1	0	1.7	23.7	0	0.6	0	0	0	0	0	0	0
Cars	14	572	716	139	0	0	0	0	0	0	388	0	101	26	0	40	637	0	16	0	0	0	0	0	0	2649
% Cars	100	95.8	96.9	92.1	0	0	0	0	0	0	91.9	0	98.1	92.9	0	87	96.7	0	100	0	0	0	0	0	0	95.5
Heavy Vehicles	0	25	23	12	0	0	0	0	0	0	34	0	2	2	0	6	22	0	0	0	0	0	0	0	0	126
% Heavy Vehicles	0	4.2	3.1	7.9	0	0	0	0	0	0	8.1	0	1.9	7.1	0	13	3.3	0	0	0	0	0	0	0	0	4.5

	Webster Street From North						Prospect Street From East						Webster Street From South						Prospect Street From West						Concord Avenue From Northwest							
Start Time	Hard Right	Right	Thru	Left	U- Turn	App. Total	Right	Bear Right	Thru	Left	U- Turn	App. Total	Right	Thru	Bear Left	Left	U- Turn	App. Total	Right	Thru	Left	Hard Left	U- Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U- Turns	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 07:45 AM																																
07:45 AM	1	61	85	34	0	181	0	0	0	0	0	0	58	0	20	7	0	85	5	94	0	3	0	102	0	0	0	0	0	0	368	
08:00 AM	4	79	96	23	0	202	0	0	0	0	0	0	58	0	20	2	0	80	5	89	0	9	0	103	0	0	0	0	0	0	385	
08:15 AM	1	84	110	20	0	215	0	0	0	0	0	0	49	0	9	5	0	63	7	79	0	0	0	86	0	0	0	0	0	0	364	
08:30 AM	3	67	123	13	0	206	0	0	0	0	0	0	70	0	5	2	0	77	7	95	0	0	0	102	0	0	0	0	0	0	385	
Total Volume	9	291	414	90	0	804	0	0	0	0	0	0	235	0	54	16	0	305	24	357	0	12	0	393	0	0	0	0	0	0	1502	
% App. Total	1.1	36.2	51.5	11.2	0		0	0	0	0	0	0	77	0	17.7	5.2	0		6.1	90.8	0	3.1	0		0	0	0	0	0	0		
PHF	.563	.866	.841	.662	.000	.935	.000	.000	.000	.000	.000	.000	.839	.000	.675	.571	.000	.897	.857	.939	.000	.333	.000	.954	.000	.000	.000	.000	.000	.000	.975	
Cars	9	280	404	85	0	778	0	0	0	0	0	0	217	0	53	15	0	285	23	340	0	12	0	375	0	0	0	0	0	0	1438	
% Cars	100	96.2	97.6	94.4	0	96.8	0	0	0	0	0	0	92.3	0	98.1	93.8	0	93.4	95.8	95.2	0	100	0	95.4	0	0	0	0	0	0	95.7	
Heavy Vehicles	0	11	10	5	0	26	0	0	0	0	0	0	18	0	1	1	0	20	1	17	0	0	0	18	0	0	0	0	0	0	64	
% Heavy Vehicles	0	3.8	2.4	5.6	0	3.2	0	0	0	0	0	0	7.7	0	1.9	6.3	0	6.6	4.2	4.8	0	0	0	4.6	0	0	0	0	0	0	4.3	

N/S/NW: Webster Street/ Concord Avenue
 E/W: Prospect Street
 City, State: Somerville, MA
 Client: Design Consultants/ J. Sobel



File Name : 123151 A
 Site Code : TBA
 Start Date : 12/13/2012
 Page No : 1

Groups Printed- Cars																										
Start Time	Webster Street From North					Prospect Street From East					Webster Street From South					Prospect Street From West					Concord Avenue From Northwest					Int. Total
	Hard Right	Right	Thru	Left	U-Turn	Right	Bear Right	Thru	Left	U-Turn	Right	Thru	Bear Left	Left	U-Turn	Right	Thru	Left	Hard Left	U-Turn	Hard Right	Bear Right	Bear Left	Hard Left	U-Turns	
07:00 AM	0	81	61	8	0	0	0	0	0	0	37	0	6	4	0	3	73	0	1	0	0	0	0	0	0	274
07:15 AM	1	64	64	20	0	0	0	0	0	0	41	0	13	3	0	4	66	0	1	0	0	0	0	0	0	277
07:30 AM	3	87	73	20	0	0	0	0	0	0	53	0	21	2	0	5	73	0	2	0	0	0	0	0	0	339
07:45 AM	1	59	82	33	0	0	0	0	0	0	52	0	20	7	0	5	89	0	3	0	0	0	0	0	0	351
Total	5	291	280	81	0	0	0	0	0	0	183	0	60	16	0	17	301	0	7	0	0	0	0	0	0	1241
08:00 AM	4	75	94	21	0	0	0	0	0	0	56	0	19	1	0	5	86	0	9	0	0	0	0	0	0	370
08:15 AM	1	81	108	18	0	0	0	0	0	0	45	0	9	5	0	6	77	0	0	0	0	0	0	0	0	350
08:30 AM	3	65	120	13	0	0	0	0	0	0	64	0	5	2	0	7	88	0	0	0	0	0	0	0	0	367
08:45 AM	1	60	114	6	0	0	0	0	0	0	40	0	8	2	0	5	85	0	0	0	0	0	0	0	0	321
Total	9	281	436	58	0	0	0	0	0	0	205	0	41	10	0	23	336	0	9	0	0	0	0	0	0	1408
Grand Total	14	572	716	139	0	0	0	0	0	0	388	0	101	26	0	40	637	0	16	0	0	0	0	0	0	2649
Apprch %	1	39.7	49.7	9.6	0	0	0	0	0	0	75.3	0	19.6	5	0	5.8	91.9	0	2.3	0	0	0	0	0	0	0
Total %	0.5	21.6	27	5.2	0	0	0	0	0	0	14.6	0	3.8	1	0	1.5	24	0	0.6	0	0	0	0	0	0	0

	Webster Street From North						Prospect Street From East						Webster Street From South						Prospect Street From West						Concord Avenue From Northwest							
Start Time	Hard Right	Right	Thru	Left	U- Turn	App. Total	Right	Bear Right	Thru	Left	U- Turn	App. Total	Right	Thru	Bear Left	Left	U- Turn	App. Total	Right	Thru	Left	Hard Left	U- Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U- Turns	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 07:45 AM																																
07:45 AM	1	59	82	33	0	175	0	0	0	0	0	0	52	0	20	7	0	79	5	89	0	3	0	97	0	0	0	0	0	0	351	
08:00 AM	4	75	94	21	0	194	0	0	0	0	0	0	56	0	19	1	0	76	5	86	0	9	0	100	0	0	0	0	0	0	370	
08:15 AM	1	81	108	18	0	208	0	0	0	0	0	0	45	0	9	5	0	59	6	77	0	0	0	83	0	0	0	0	0	0	350	
08:30 AM	3	65	120	13	0	201	0	0	0	0	0	0	64	0	5	2	0	71	7	88	0	0	0	95	0	0	0	0	0	0	367	
Total Volume	9	280	404	85	0	778	0	0	0	0	0	0	217	0	53	15	0	285	23	340	0	12	0	375	0	0	0	0	0	0	1438	
% App. Total	1.2	36	51.9	10.9	0		0	0	0	0	0		76.1	0	18.6	5.3	0		6.1	90.7	0	3.2	0		0	0	0	0	0			
PHF	.563	.864	.842	.644	.000	.935	.000	.000	.000	.000	.000	.000	.848	.000	.663	.536	.000	.902	.821	.955	.000	.333	.000	.938	.000	.000	.000	.000	.000	.000	.972	



PRECISION
D A T A
INDUSTRIES, LLC

P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
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N/S/NW: Webster Street/ Concord Avenue
E/W: Prospect Street
City, State: Somerville, MA
Client: Design Consultants/ J. Sobel

File Name : 123151 A
Site Code : TBA
Start Date : 12/13/2012
Page No : 1

Groups Printed- Heavy Vehicles

	Webster Street From North					Prospect Street From East					Webster Street From South					Prospect Street From West					Concord Avenue From Northwest							
Start Time	Hard Right	Right	Thru	Left	U-Turn	Right	Bear Right	Thru	Left	U-Turn	Right	Thru	Bear Left	Left	U-Turn	Right	Thru	Left	Hard Left	U-Turn	Hard Right	Bear Right	Bear Left	Hard Left	U-Turns	Int. Total		
07:00 AM	0	3	4	2	0	0	0	0	0	0	3	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	15	
07:15 AM	0	2	3	3	0	0	0	0	0	0	2	0	1	1	0	3	2	0	0	0	0	0	0	0	0	0	17	
07:30 AM	0	2	2	0	0	0	0	0	0	0	5	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	11	
07:45 AM	0	2	3	1	0	0	0	0	0	0	6	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	17	
Total	0	9	12	6	0	0	0	0	0	0	16	0	1	1	0	5	10	0	0	0	0	0	0	0	0	0	60	
08:00 AM	0	4	2	2	0	0	0	0	0	0	2	0	1	1	0	0	3	0	0	0	0	0	0	0	0	0	15	
08:15 AM	0	3	2	2	0	0	0	0	0	0	4	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	14	
08:30 AM	0	2	3	0	0	0	0	0	0	0	6	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	18	
08:45 AM	0	7	4	2	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	
Total	0	16	11	6	0	0	0	0	0	0	18	0	1	1	0	1	12	0	0	0	0	0	0	0	0	0	66	
Grand Total	0	25	23	12	0	0	0	0	0	0	34	0	2	2	0	6	22	0	0	0	0	0	0	0	0	0	126	
Apprch %	0	41.7	38.3	20	0	0	0	0	0	0	89.5	0	5.3	5.3	0	21.4	78.6	0	0	0	0	0	0	0	0	0		
Total %	0	19.8	18.3	9.5	0	0	0	0	0	0	27	0	1.6	1.6	0	4.8	17.5	0	0	0	0	0	0	0	0	0		

	Webster Street From North						Prospect Street From East						Webster Street From South						Prospect Street From West						Concord Avenue From Northwest							
Start Time	Hard Right	Right	Thru	Left	U- Turn	App. Total	Right	Bear Right	Thru	Left	U- Turn	App. Total	Right	Thru	Bear Left	Left	U- Turn	App. Total	Right	Thru	Left	Hard Left	U- Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U- Turns	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	4	2	2	0	8	0	0	0	0	0	0	2	0	1	1	0	4	0	3	0	0	0	3	0	0	0	0	0	0	15	
08:15 AM	0	3	2	2	0	7	0	0	0	0	0	0	4	0	0	0	0	4	1	2	0	0	0	3	0	0	0	0	0	0	14	
08:30 AM	0	2	3	0	0	5	0	0	0	0	0	0	6	0	0	0	0	6	0	7	0	0	0	7	0	0	0	0	0	0	18	
08:45 AM	0	7	4	2	0	13	0	0	0	0	0	0	6	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	19	
Total Volume	0	16	11	6	0	33	0	0	0	0	0	0	18	0	1	1	0	20	1	12	0	0	0	13	0	0	0	0	0	0	66	
% App. Total	0	48.5	33.3	18.2	0		0	0	0	0	0	0	90	0	5	5	0		7.7	92.3	0	0	0		0	0	0	0	0			
PHF	.000	.571	.688	.750	.000	.635	.000	.000	.000	.000	.000	.000	.750	.000	.250	.250	.000	.833	.250	.429	.000	.000	.000	.464	.000	.000	.000	.000	.000	.000	.868	

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



PRECISION
D A T A
INDUSTRIES, LLC

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N/S/NW: Webster Street/ Concord Avenue
E/W: Prospect Street
City, State: Somerville, MA
Client: Design Consultants/ J. Sobel

File Name : 123151 A
Site Code : TBA
Start Date : 12/13/2012
Page No : 1

Groups Printed- Peds and Bicycles

	Webster Street From North					Prospect Street From East					Webster Street From South					Prospect Street From West					Concord Avenue From Northwest					
Start Time	Hard Right	Right	Thru	Left	Peds	Right	Bear Right	Thru	Left	Peds	Right	Thru	Bear Left	Left	Peds	Right	Thru	Left	Hard Left	Peds	Hard Right	Bear Right	Bear Left	Hard Left	Peds	Int. Total
07:00 AM	0	1	8	0	2	0	0	0	0	2	1	0	0	0	0	0	0	0	0	5	0	0	0	0	7	26
07:15 AM	0	1	8	0	1	0	0	0	0	2	2	0	0	0	0	0	0	3	0	8	0	0	0	0	13	38
07:30 AM	0	4	7	0	4	0	0	0	0	9	1	0	0	0	2	0	0	0	0	2	0	0	0	0	10	39
07:45 AM	0	1	21	0	4	0	0	0	0	6	0	0	0	0	3	0	1	0	0	3	0	0	0	0	9	48
Total	0	7	44	0	11	0	0	0	0	19	4	0	0	0	5	0	4	0	0	18	0	0	0	0	39	151
08:00 AM	0	1	30	0	1	0	0	0	0	5	0	0	1	0	2	0	1	0	0	10	0	0	0	0	11	62
08:15 AM	0	2	18	0	0	0	0	0	0	7	1	0	0	0	2	0	3	0	0	7	0	0	0	0	9	49
08:30 AM	0	4	28	0	0	0	0	0	0	10	1	0	0	0	3	0	0	0	0	5	0	0	0	0	7	58
08:45 AM	0	1	24	0	2	0	0	0	0	5	1	0	0	0	4	0	5	0	0	4	0	0	0	0	6	52
Total	0	8	100	0	3	0	0	0	0	27	3	0	1	0	11	0	9	0	0	26	0	0	0	0	33	221
Grand Total	0	15	144	0	14	0	0	0	0	46	7	0	1	0	16	0	13	0	0	44	0	0	0	0	72	372
Apprch %	0	8.7	83.2	0	8.1	0	0	0	0	100	29.2	0	4.2	0	66.7	0	22.8	0	0	77.2	0	0	0	0	100	
Total %	0	4	38.7	0	3.8	0	0	0	0	12.4	1.9	0	0.3	0	4.3	0	3.5	0	0	11.8	0	0	0	0	19.4	

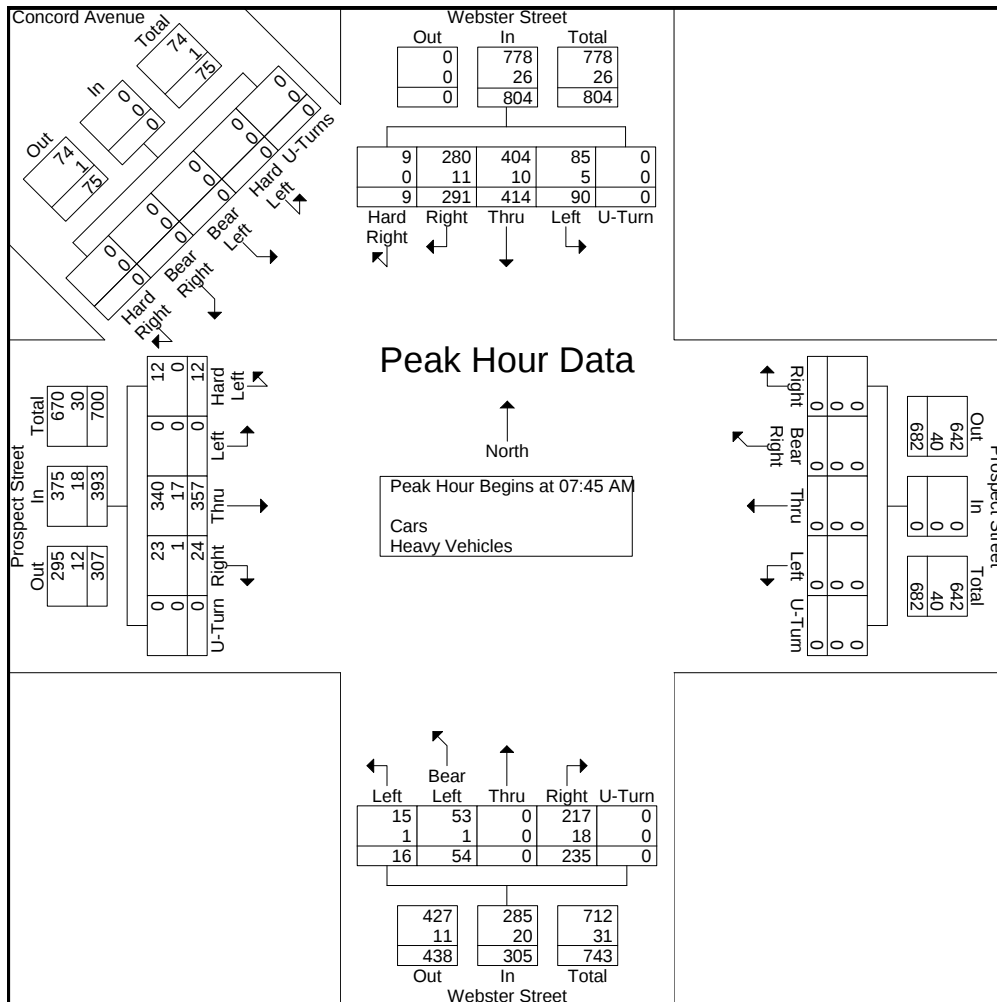
	Webster Street From North						Prospect Street From East						Webster Street From South						Prospect Street From West						Concord Avenue From Northwest							
Start Time	Hard Right	Right	Thru	Left	Peds	App. Total	Right	Bear Right	Thru	Left	Peds	App. Total	Right	Thru	Bear Left	Left	Peds	App. Total	Right	Thru	Left	Hard Left	Peds	App. Total	Hard Right	Bear Right	Bear Left	Hard 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	1	30	0	1	32	0	0	0	0	5	5	0	0	1	0	2	3	0	1	0	0	10	11	0	0	0	0	11	11	62	
08:15 AM	0	2	18	0	0	20	0	0	0	0	7	7	1	0	0	0	2	3	0	3	0	0	7	10	0	0	0	0	9	9	49	
08:30 AM	0	4	28	0	0	32	0	0	0	0	10	10	1	0	0	0	3	4	0	0	0	0	5	5	0	0	0	0	7	7	58	
08:45 AM	0	1	24	0	2	27	0	0	0	0	5	5	1	0	0	0	4	5	0	5	0	0	4	9	0	0	0	0	6	6	52	
Total Volume	0	8	100	0	3	111	0	0	0	0	27	27	3	0	1	0	11	15	0	9	0	0	26	35	0	0	0	0	33	33	221	
% App. Total	0	7.2	90.1	0	2.7		0	0	0	0	100		20	0	6.7	0	73.3		0	25.7	0	0	74.3		0	0	0	0	100			
PHF	.000	.500	.833	.000	.375	.867	.000	.000	.000	.000	.675	.675	.750	.000	.250	.000	.688	.750	.000	.450	.000	.000	.650	.795	.000	.000	.000	.000	.750	.750	.891	

N/S/NW: Webster Street/ Concord Avenue
 E/W: Prospect Street
 City, State: Somerville, MA
 Client: Design Consultants/ J. Sobel



File Name : 123151 A
 Site Code : TBA
 Start Date : 12/13/2012
 Page No : 1

	Webster Street From North						Prospect Street From East						Webster Street From South						Prospect Street From West						Concord Avenue From Northwest							
Start Time	Hard Right	Right	Thru	Left	U- Turn	App. Total	Right	Bear Right	Thru	Left	U- Turn	App. Total	Right	Thru	Bear Left	Left	U- Turn	App. Total	Right	Thru	Left	Hard Left	U- Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U- Turns	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 07:45 AM																																
07:45 AM	1	61	85	34	0	181	0	0	0	0	0	0	58	0	20	7	0	85	5	94	0	3	0	102	0	0	0	0	0	0	368	
08:00 AM	4	79	96	23	0	202	0	0	0	0	0	0	58	0	20	2	0	80	5	89	0	9	0	103	0	0	0	0	0	0	385	
08:15 AM	1	84	110	20	0	215	0	0	0	0	0	0	49	0	9	5	0	63	7	79	0	0	0	86	0	0	0	0	0	0	364	
08:30 AM	3	67	123	13	0	206	0	0	0	0	0	0	70	0	5	2	0	77	7	95	0	0	0	102	0	0	0	0	0	0	385	
Total Volume	9	291	414	90	0	804	0	0	0	0	0	0	235	0	54	16	0	305	24	357	0	12	0	393	0	0	0	0	0	0	1502	
% App. Total	1.1	36.2	51.5	11.2	0		0	0	0	0	0		77	0	17.7	5.2	0		6.1	90.8	0	3.1	0		0	0	0	0	0			
PHF	.563	.866	.841	.662	.000	.935	.000	.000	.000	.000	.000	.000	.839	.000	.675	.571	.000	.897	.857	.939	.000	.333	.000	.954	.000	.000	.000	.000	.000	.000	.975	
Cars	9	280	404	85	0	778	0	0	0	0	0	0	217	0	53	15	0	285	23	340	0	12	0	375	0	0	0	0	0	0	1438	
% Cars	100	96.2	97.6	94.4	0	96.8	0	0	0	0	0	0	92.3	0	98.1	93.8	0	93.4	95.8	95.2	0	100	0	95.4	0	0	0	0	0	0	95.7	
Heavy Vehicles	0	11	10	5	0	26	0	0	0	0	0	0	18	0	1	1	0	20	1	17	0	0	0	18	0	0	0	0	0	0	64	
% Heavy Vehicles	0	3.8	2.4	5.6	0	3.2	0	0	0	0	0	0	7.7	0	1.9	6.3	0	6.6	4.2	4.8	0	0	0	4.6	0	0	0	0	0	0	4.3	





PRECISION
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N/S/NW: Webster Street/ Concord Avenue
E/W: Prospect Street
City, State: Somerville, MA
Client: Design Consultants/ J. Sobel

File Name : 123151 AA
Site Code : TBA
Start Date : 12/13/2012
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Webster Street From North					Prospect Street From East					Webster Street From South					Prospect Street From West					Concord Avenue From Northwest					
Start Time	Hard Right	Right	Thru	Left	U-Turn	Right	Bear Right	Thru	Left	U-Turn	Right	Thru	Bear Left	Left	U-Turn	Right	Thru	Left	Hard Left	U-Turn	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Int. Total
04:00 PM	3	58	56	21	0	0	0	0	0	0	126	0	23	2	0	6	132	0	4	0	0	0	0	0	0	431
04:15 PM	0	66	55	16	0	0	0	0	0	0	122	0	13	2	0	3	110	0	4	0	0	0	0	0	0	391
04:30 PM	1	61	62	22	0	0	0	0	0	0	125	0	11	3	0	6	127	0	4	0	0	0	0	0	0	422
04:45 PM	6	79	46	18	0	0	0	0	0	0	110	0	25	5	0	2	113	0	9	0	0	0	0	0	0	413
Total	10	264	219	77	0	0	0	0	0	0	483	0	72	12	0	17	482	0	21	0	0	0	0	0	0	1657
05:00 PM	8	64	58	21	0	0	0	0	0	0	143	0	25	2	0	4	123	0	2	0	0	0	0	0	0	450
05:15 PM	3	62	36	19	0	0	0	0	0	0	142	0	36	1	0	6	125	0	2	0	0	0	0	0	0	432
05:30 PM	3	61	44	23	0	0	0	0	0	0	121	0	27	2	0	2	126	0	2	0	0	0	0	0	0	411
05:45 PM	3	69	52	16	0	0	0	0	0	0	85	0	23	3	0	2	94	0	2	0	0	0	0	0	0	349
Total	17	256	190	79	0	0	0	0	0	0	491	0	111	8	0	14	468	0	8	0	0	0	0	0	0	1642
Grand Total	27	520	409	156	0	0	0	0	0	0	974	0	183	20	0	31	950	0	29	0	0	0	0	0	0	3299
Apprch %	2.4	46.8	36.8	14	0	0	0	0	0	0	82.8	0	15.5	1.7	0	3.1	94.1	0	2.9	0	0	0	0	0	0	
Total %	0.8	15.8	12.4	4.7	0	0	0	0	0	0	29.5	0	5.5	0.6	0	0.9	28.8	0	0.9	0	0	0	0	0	0	
Cars	26	516	390	148	0	0	0	0	0	0	947	0	181	20	0	27	932	0	28	0	0	0	0	0	0	3215
% Cars	96.3	99.2	95.4	94.9	0	0	0	0	0	0	97.2	0	98.9	100	0	87.1	98.1	0	96.6	0	0	0	0	0	0	97.5
Heavy Vehicles	1	4	19	8	0	0	0	0	0	0	27	0	2	0	0	4	18	0	1	0	0	0	0	0	0	84
% Heavy Vehicles	3.7	0.8	4.6	5.1	0	0	0	0	0	0	2.8	0	1.1	0	0	12.9	1.9	0	3.4	0	0	0	0	0	0	2.5

	Webster Street From North						Prospect Street From East						Webster Street From South						Prospect Street From West						Concord Avenue From Northwest							
Start Time	Hard Right	Right	Thru	Left	U- Turn	App. Total	Right	Bear Right	Thru	Left	U- Turn	App. Total	Right	Thru	Bear Left	Left	U- Turn	App. Total	Right	Thru	Left	Hard Left	U- Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U- Turn	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 04:30 PM																																
04:30 PM	1	61	62	22	0	146	0	0	0	0	0	0	125	0	11	3	0	139	6	127	0	4	0	137	0	0	0	0	0	0	422	
04:45 PM	6	79	46	18	0	149	0	0	0	0	0	0	110	0	25	5	0	140	2	113	0	9	0	124	0	0	0	0	0	0	413	
05:00 PM	8	64	58	21	0	151	0	0	0	0	0	0	143	0	25	2	0	170	4	123	0	2	0	129	0	0	0	0	0	0	450	
05:15 PM	3	62	36	19	0	120	0	0	0	0	0	0	142	0	36	1	0	179	6	125	0	2	0	133	0	0	0	0	0	0	432	
Total Volume	18	266	202	80	0	566	0	0	0	0	0	0	520	0	97	11	0	628	18	488	0	17	0	523	0	0	0	0	0	0	1717	
% App. Total	3.2	47	35.7	14.1	0		0	0	0	0	0		82.8	0	15.4	1.8	0		3.4	93.3	0	3.3	0		0	0	0	0	0			
PHF	.563	.842	.815	.909	.000	.937	.000	.000	.000	.000	.000	.000	.909	.000	.674	.550	.000	.877	.750	.961	.000	.472	.000	.954	.000	.000	.000	.000	.000	.000	.954	
Cars	17	263	191	76	0	547	0	0	0	0	0	0	511	0	95	11	0	617	16	479	0	16	0	511	0	0	0	0	0	0	1675	
% Cars	94.4	98.9	94.6	95.0	0	96.6	0	0	0	0	0	0	98.3	0	97.9	100	0	98.2	88.9	98.2	0	94.1	0	97.7	0	0	0	0	0	0	97.6	
Heavy Vehicles	1	3	11	4	0	19	0	0	0	0	0	0	9	0	2	0	0	11	2	9	0	1	0	12	0	0	0	0	0	0	42	
% Heavy Vehicles	5.6	1.1	5.4	5.0	0	3.4	0	0	0	0	0	0	1.7	0	2.1	0	0	1.8	11.1	1.8	0	5.9	0	2.3	0	0	0	0	0	0	2.4	

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:30 PM

N/S/NW: Webster Street/ Concord Avenue
 E/W: Prospect Street
 City, State: Somerville, MA
 Client: Design Consultants/ J. Sobel



File Name : 123151 AA
 Site Code : TBA
 Start Date : 12/13/2012
 Page No : 1

Groups Printed- Cars																										
Start Time	Webster Street From North					Prospect Street From East					Webster Street From South					Prospect Street From West					Concord Avenue From Northwest					Int. Total
	Hard Right	Right	Thru	Left	U-Turn	Right	Bear Right	Thru	Left	U-Turn	Right	Thru	Bear Left	Left	U-Turn	Right	Thru	Left	Hard Left	U-Turn	Hard Right	Bear Right	Bear Left	Hard Left	U-Turns	
04:00 PM	3	57	53	21	0	0	0	0	0	0	122	0	23	2	0	5	131	0	4	0	0	0	0	0	0	421
04:15 PM	0	66	55	13	0	0	0	0	0	0	115	0	13	2	0	2	107	0	4	0	0	0	0	0	0	377
04:30 PM	0	61	57	22	0	0	0	0	0	0	122	0	10	3	0	6	124	0	4	0	0	0	0	0	0	409
04:45 PM	6	76	45	16	0	0	0	0	0	0	109	0	24	5	0	1	111	0	8	0	0	0	0	0	0	401
Total	9	260	210	72	0	0	0	0	0	0	468	0	70	12	0	14	473	0	20	0	0	0	0	0	0	1608
05:00 PM	8	64	55	21	0	0	0	0	0	0	141	0	25	2	0	3	121	0	2	0	0	0	0	0	0	442
05:15 PM	3	62	34	17	0	0	0	0	0	0	139	0	36	1	0	6	123	0	2	0	0	0	0	0	0	423
05:30 PM	3	61	42	23	0	0	0	0	0	0	118	0	27	2	0	2	122	0	2	0	0	0	0	0	0	402
05:45 PM	3	69	49	15	0	0	0	0	0	0	81	0	23	3	0	2	93	0	2	0	0	0	0	0	0	340
Total	17	256	180	76	0	0	0	0	0	0	479	0	111	8	0	13	459	0	8	0	0	0	0	0	0	1607
Grand Total	26	516	390	148	0	0	0	0	0	0	947	0	181	20	0	27	932	0	28	0	0	0	0	0	0	3215
Apprch %	2.4	47.8	36.1	13.7	0	0	0	0	0	0	82.5	0	15.8	1.7	0	2.7	94.4	0	2.8	0	0	0	0	0	0	0
Total %	0.8	16	12.1	4.6	0	0	0	0	0	0	29.5	0	5.6	0.6	0	0.8	29	0	0.9	0	0	0	0	0	0	0

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																										
Start Time	Webster Street From North					Prospect Street From East					Webster Street From South					Prospect Street From West					Concord Avenue From Northwest					Int. Total
	Hard Right	Right	Thru	Left	U-Turn	Right	Bear Right	Thru	Left	U-Turn	Right	Thru	Bear Left	Left	U-Turn	Right	Thru	Left	Hard Left	U-Turn	Hard Right	Bear Right	Bear Left	Hard Left	U-Turns	
04:30 PM	0	61	57	22	0	0	0	0	0	0	122	0	10	3	0	6	124	0	4	0	0	0	0	0	0	409
04:45 PM	6	76	45	16	0	0	0	0	0	0	109	0	24	5	0	1	111	0	8	0	0	0	0	0	0	401
05:00 PM	8	64	55	21	0	0	0	0	0	0	141	0	25	2	0	3	121	0	2	0	0	0	0	0	0	442
05:15 PM	3	62	34	17	0	0	0	0	0	0	139	0	36	1	0	6	123	0	2	0	0	0	0	0	0	423
Total Volume	17	263	191	76	0	0	0	0	0	0	511	0	95	11	0	16	479	0	16	0	0	0	0	0	0	1675
% App. Total	3.1	48.1	34.9	13.9	0	0	0	0	0	0	82.8	0	15.4	1.8	0	3.1	93.7	0	3.1	0	0	0	0	0	0	0
PHF	.531	.865	.838	.864	.000	.000	.000	.000	.000	.000	.906	.000	.660	.550	.000	.667	.966	.000	.500	.000	.953	.000	.000	.000	.000	.947



PRECISION
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N/S/NW: Webster Street/ Concord Avenue
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City, State: Somerville, MA
Client: Design Consultants/ J. Sobel

File Name : 123151 AA
Site Code : TBA
Start Date : 12/13/2012
Page No : 1

Groups Printed- Heavy Vehicles

Start Time	Webster Street From North					Prospect Street From East					Webster Street From South					Prospect Street From West					Concord Avenue From Northwest					Int. Total
	Hard Right	Right	Thru	Left	U-Turn	Right	Bear Right	Thru	Left	U-Turn	Right	Thru	Bear Left	Left	U-Turn	Right	Thru	Left	Hard Left	U-Turn	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	
04:00 PM	0	1	3	0	0	0	0	0	0	0	4	0	0	0	0	1	1	0	0	0	0	0	0	0	0	10
04:15 PM	0	0	0	3	0	0	0	0	0	0	7	0	0	0	0	1	3	0	0	0	0	0	0	0	0	14
04:30 PM	1	0	5	0	0	0	0	0	0	0	3	0	1	0	0	0	3	0	0	0	0	0	0	0	0	13
04:45 PM	0	3	1	2	0	0	0	0	0	0	1	0	1	0	0	1	2	0	1	0	0	0	0	0	0	12
Total	1	4	9	5	0	0	0	0	0	0	15	0	2	0	0	3	9	0	1	0	0	0	0	0	0	49
05:00 PM	0	0	3	0	0	0	0	0	0	0	2	0	0	0	0	1	2	0	0	0	0	0	0	0	0	8
05:15 PM	0	0	2	2	0	0	0	0	0	0	3	0	0	0	0	0	2	0	0	0	0	0	0	0	0	9
05:30 PM	0	0	2	0	0	0	0	0	0	0	3	0	0	0	0	0	4	0	0	0	0	0	0	0	0	9
05:45 PM	0	0	3	1	0	0	0	0	0	0	4	0	0	0	0	0	1	0	0	0	0	0	0	0	0	9
Total	0	0	10	3	0	0	0	0	0	0	12	0	0	0	0	1	9	0	0	0	0	0	0	0	0	35
Grand Total	1	4	19	8	0	0	0	0	0	0	27	0	2	0	0	4	18	0	1	0	0	0	0	0	0	84
Apprch %	3.1	12.5	59.4	25	0	0	0	0	0	0	93.1	0	6.9	0	0	17.4	78.3	0	4.3	0	0	0	0	0	0	
Total %	1.2	4.8	22.6	9.5	0	0	0	0	0	0	32.1	0	2.4	0	0	4.8	21.4	0	1.2	0	0	0	0	0	0	

Start Time	Webster Street From North					Prospect Street From East					Webster Street From South					Prospect Street From West					Concord Avenue From Northwest					Int. Total
	Hard Right	Right	Thru	Left	U-Turn	Right	Bear Right	Thru	Left	U-Turn	Right	Thru	Bear Left	Left	U-Turn	Right	Thru	Left	Hard Left	U-Turn	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	
04:00 PM	0	1	3	0	0	0	0	0	0	0	4	0	0	0	0	1	1	0	0	0	2	0	0	0	0	10
04:15 PM	0	0	0	3	0	0	0	0	0	0	7	0	0	0	0	1	3	0	0	0	4	0	0	0	0	14
04:30 PM	1	0	5	0	0	0	0	0	0	0	3	0	1	0	0	0	3	0	0	0	3	0	0	0	0	13
04:45 PM	0	3	1	2	0	0	0	0	0	0	1	0	1	0	0	1	2	0	1	0	4	0	0	0	0	12
Total Volume	1	4	9	5	0	0	0	0	0	0	15	0	2	0	0	3	9	0	1	0	13	0	0	0	0	49
% App. Total	5.3	21.1	47.4	26.3	0	0	0	0	0	0	88.2	0	11.8	0	0	23.1	69.2	0	7.7	0	0	0	0	0	0	
PHF	.250	.333	.450	.417	.000	.000	.000	.000	.000	.000	.536	.000	.500	.000	.000	.750	.750	.000	.250	.000	.813	.000	.000	.000	.000	.875

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



PRECISION
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INDUSTRIES, LLC

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

N/S/NW: Webster Street/ Concord Avenue
E/W: Prospect Street
City, State: Somerville, MA
Client: Design Consultants/ J. Sobel

File Name : 123151 AA
Site Code : TBA
Start Date : 12/13/2012
Page No : 1

Groups Printed- Peds and Bicycles

Start Time	Webster Street From North					Prospect Street From East					Webster Street From South					Prospect Street From West					Concord Avenue From Northwest					Int. Total
	Hard Right	Right	Thru	Left	Peds	Right	Bear Right	Thru	Left	Peds	Right	Thru	Bear Left	Left	Peds	Right	Thru	Left	Hard Left	Peds	Hard Right	Bear Right	Bear Left	Hard Left	Peds	
04:00 PM	0	3	6	0	8	0	0	0	0	6	7	0	0	0	3	0	3	0	0	7	0	0	0	0	17	60
04:15 PM	0	1	2	0	6	0	0	0	0	3	8	0	0	0	1	0	2	0	0	3	0	0	0	0	14	40
04:30 PM	0	1	4	0	2	0	0	0	0	6	7	0	1	0	0	0	4	0	0	8	0	0	0	0	11	44
04:45 PM	0	1	5	0	5	0	0	0	0	0	7	0	1	0	0	0	2	0	0	6	0	0	0	0	16	43
Total	0	6	17	0	21	0	0	0	0	15	29	0	2	0	4	0	11	0	0	24	0	0	0	0	58	187
05:00 PM	0	2	2	0	3	0	0	0	0	6	6	0	0	0	4	0	2	0	1	9	0	0	0	0	16	51
05:15 PM	0	4	2	0	1	0	0	0	0	2	12	0	1	0	5	0	3	0	0	10	0	0	0	0	23	63
05:30 PM	0	3	4	0	1	0	0	0	0	7	10	0	2	1	2	0	2	0	0	6	0	0	0	0	15	53
05:45 PM	0	3	3	0	1	0	0	0	0	4	13	0	0	0	2	0	5	0	0	10	0	0	0	0	21	62
Total	0	12	11	0	6	0	0	0	0	19	41	0	3	1	13	0	12	0	1	35	0	0	0	0	75	229
Grand Total	0	18	28	0	27	0	0	0	0	34	70	0	5	1	17	0	23	0	1	59	0	0	0	0	133	416
Apprch %	0	24.7	38.4	0	37	0	0	0	0	100	75.3	0	5.4	1.1	18.3	0	27.7	0	1.2	71.1	0	0	0	0	100	
Total %	0	4.3	6.7	0	6.5	0	0	0	0	8.2	16.8	0	1.2	0.2	4.1	0	5.5	0	0.2	14.2	0	0	0	0	32	

	Webster Street From North						Prospect Street From East						Webster Street From South						Prospect Street From West						Concord Avenue From Northwest							
Start Time	Hard Right	Right	Thru	Left	Peds	App. Total	Right	Bear Right	Thru	Left	Peds	App. Total	Right	Thru	Bear Left	Left	Peds	App. Total	Right	Thru	Left	Hard Left	Peds	App. Total	Hard Right	Bear Right	Bear Left	Hard 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	2	2	0	3	7	0	0	0	0	6	6	6	0	0	0	4	10	0	2	0	1	9	12	0	0	0	0	16	16	51	
05:15 PM	0	4	2	0	1	7	0	0	0	0	2	2	12	0	1	0	5	18	0	3	0	0	10	13	0	0	0	0	23	23	63	
05:30 PM	0	3	4	0	1	8	0	0	0	0	7	7	10	0	2	1	2	15	0	2	0	0	6	8	0	0	0	0	15	15	53	
05:45 PM	0	3	3	0	1	7	0	0	0	0	4	4	13	0	0	0	2	15	0	5	0	0	10	15	0	0	0	0	21	21	62	
Total Volume	0	12	11	0	6	29	0	0	0	0	19	19	41	0	3	1	13	58	0	12	0	1	35	48	0	0	0	0	75	75	229	
% App. Total	0	41.4	37.9	0	20.7		0	0	0	0	100		70.7	0	5.2	1.7	22.4		0	25	0	2.1	72.9		0	0	0	0	100			
PHF	.000	.750	.688	.000	.500	.906	.000	.000	.000	.000	.679	.679	.788	.000	.375	.250	.650	.806	.000	.600	.000	.250	.875	.800	.000	.000	.000	.000	.815	.815	.909	

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

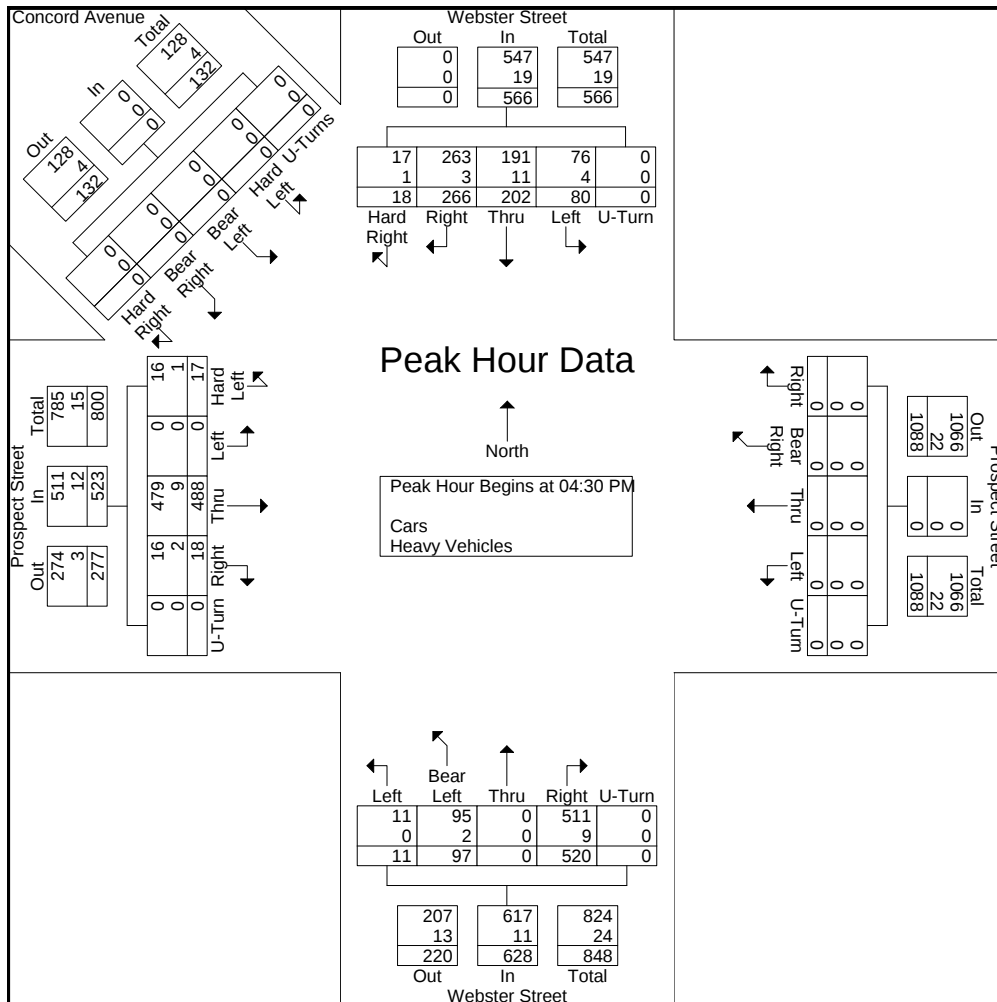
Peak Hour for Entire Intersection Begins at 05:00 PM

N/S/NW: Webster Street/ Concord Avenue
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	Webster Street From North						Prospect Street From East						Webster Street From South						Prospect Street From West						Concord Avenue From Northwest						
Start Time	Hard Right	Right	Thru	Left	U- Turn	App. Total	Right	Bear Right	Thru	Left	U- Turn	App. Total	Right	Thru	Bear Left	Left	U- Turn	App. Total	Right	Thru	Left	Hard Left	U- Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U- Turn	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 04:30 PM																															
04:30 PM	1	61	62	22	0	146	0	0	0	0	0	0	125	0	11	3	0	139	6	127	0	4	0	137	0	0	0	0	0	0	422
04:45 PM	6	79	46	18	0	149	0	0	0	0	0	0	110	0	25	5	0	140	2	113	0	9	0	124	0	0	0	0	0	0	413
05:00 PM	8	64	58	21	0	151	0	0	0	0	0	0	143	0	25	2	0	170	4	123	0	2	0	129	0	0	0	0	0	0	450
05:15 PM	3	62	36	19	0	120	0	0	0	0	0	0	142	0	36	1	0	179	6	125	0	2	0	133	0	0	0	0	0	0	432
Total Volume	18	266	202	80	0	566	0	0	0	0	0	0	520	0	97	11	0	628	18	488	0	17	0	523	0	0	0	0	0	0	1717
% App. Total	3.2	47	35.7	14.1	0		0	0	0	0	0		82.8	0	15.4	1.8	0		3.4	93.3	0	3.3	0		0	0	0	0	0		
PHF	.563	.842	.815	.909	.000	.937	.000	.000	.000	.000	.000	.000	.909	.000	.674	.550	.000	.877	.750	.961	.000	.472	.000	.954	.000	.000	.000	.000	.000	.000	.954
Cars	17	263	191	76	0	547	0	0	0	0	0	0	511	0	95	11	0	617	16	479	0	16	0	511	0	0	0	0	0	0	1675
% Cars	94.4	98.9	94.6	95.0	0	96.6	0	0	0	0	0	0	98.3	0	97.9	100	0	98.2	88.9	98.2	0	94.1	0	97.7	0	0	0	0	0	0	97.6
Heavy Vehicles	1	3	11	4	0	19	0	0	0	0	0	0	9	0	2	0	0	11	2	9	0	1	0	12	0	0	0	0	0	0	42
% Heavy Vehicles	5.6	1.1	5.4	5.0	0	3.4	0	0	0	0	0	0	1.7	0	2.1	0	0	1.8	11.1	1.8	0	5.9	0	2.3	0	0	0	0	0	0	2.4





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Groups Printed- Cars - Heavy Vehicles

	Prospect Street From North					Bennett Court From East					Prospect Street From South					Newton Street From Southwest					Everett Street From West							
Start Time	Right	Bear Right	Thru	Left	U-Turn	Right	Thru	Bear Left	Left	U-Turn	Right	Thru	Left	Hard Left	U-Turn	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Hard Right	Right	Thru	Left	U-Turn	Int. Total		
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	128	0	0	0	0	0	0	16	3	0	0	0	0	0	0	147	
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	135	0	0	0	0	0	0	18	2	0	0	0	0	0	0	155	
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	159	0	0	0	0	0	0	24	0	0	0	0	0	0	0	183	
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	178	0	0	0	0	0	0	16	5	0	0	0	0	0	0	199	
Total	0	0	0	0	0	0	0	0	0	0	0	600	0	0	0	0	0	0	74	10	0	0	0	0	0	0	684	
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	183	0	0	0	0	0	0	27	3	0	0	0	0	0	0	213	
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	144	0	0	0	0	0	0	20	0	0	0	0	0	0	0	164	
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	185	0	0	0	0	0	0	20	1	0	0	0	0	0	0	206	
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	135	0	0	0	0	0	0	8	0	0	0	0	0	0	0	143	
Total	0	0	0	0	0	0	0	0	0	0	0	647	0	0	0	0	0	0	75	4	0	0	0	0	0	0	726	
Grand Total	0	0	0	0	0	0	0	0	0	0	0	1247	0	0	0	0	0	0	149	14	0	0	0	0	0	0	1410	
Apprch %	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	91.4	8.6	0	0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	88.4	0	0	0	0	0	0	10.6	1	0	0	0	0	0	0		
Cars	0	0	0	0	0	0	0	0	0	0	0	1179	0	0	0	0	0	0	148	14	0	0	0	0	0	0	1341	
% Cars	0	0	0	0	0	0	0	0	0	0	0	94.5	0	0	0	0	0	0	99.3	100	0	0	0	0	0	0		
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	68	0	0	0	0	0	0	1	0	0	0	0	0	0	0	69	
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	5.5	0	0	0	0	0	0	0.7	0	0	0	0	0	0	0	4.9	

[illegible]



PRECISION
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N/S/SW: Prospect Street/ Newton Street
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Client: Design Consultants/ J. Sobel

File Name : 123151 B
Site Code : TBA
Start Date : 12/13/2012
Page No : 1

Groups Printed- Cars

Start Time	Prospect Street From North					Bennett Court From East					Prospect Street From South					Newton Street From Southwest					Everett Street From West					Int. Total
	Right	Bear Right	Thru	Left	U-Turn	Right	Thru	Bear Left	Left	U-Turn	Right	Thru	Left	Hard Left	U-Turn	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Hard Right	Right	Thru	Left	U-Turn	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	125	0	0	0	0	0	0	16	3	0	0	0	0	0	144
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	127	0	0	0	0	0	0	18	2	0	0	0	0	0	147
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	149	0	0	0	0	0	0	24	0	0	0	0	0	0	173
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	165	0	0	0	0	0	0	16	5	0	0	0	0	0	186
Total	0	0	0	0	0	0	0	0	0	0	0	566	0	0	0	0	0	0	74	10	0	0	0	0	0	650
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	177	0	0	0	0	0	0	27	3	0	0	0	0	0	207
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	137	0	0	0	0	0	0	20	0	0	0	0	0	0	157
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	171	0	0	0	0	0	0	20	1	0	0	0	0	0	192
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	128	0	0	0	0	0	0	7	0	0	0	0	0	0	135
Total	0	0	0	0	0	0	0	0	0	0	0	613	0	0	0	0	0	0	74	4	0	0	0	0	0	691
Grand Total	0	0	0	0	0	0	0	0	0	0	0	1179	0	0	0	0	0	0	148	14	0	0	0	0	0	1341
Apprch %	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	91.4	8.6	0	0	0	0	0	0
Total %	0	0	0	0	0	0	0	0	0	0	0	87.9	0	0	0	0	0	0	11	1	0	0	0	0	0	0

	Prospect Street From North						Bennett Court From East						Prospect Street From South						Newton Street From Southwest						Everett Street From West							
Start Time	Right	Bear Right	Thru	Left	U- Turn	App. Total	Right	Thru	Bear Left	Left	U- Turn	App. Total	Right	Thru	Left	Hard Left	U- Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U- Turn	App. Total	Hard Right	Right	Thru	Left	U- Turn	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 07:45 AM																																
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	165	0	0	0	165	0	0	16	5	0	21	0	0	0	0	0	0	186	
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	177	0	0	0	177	0	0	27	3	0	30	0	0	0	0	0	0	207	
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	137	0	0	0	137	0	0	20	0	0	20	0	0	0	0	0	0	157	
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	171	0	0	0	171	0	0	20	1	0	21	0	0	0	0	0	0	192	
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	650	0	0	0	650	0	0	83	9	0	92	0	0	0	0	0	0	742	
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	100	0	0	90.2	9.8	0	100	0	0	0	0	0	0	100	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.918	.000	.000	.000	.918	.000	.000	.769	.450	.000	.767	.000	.000	.000	.000	.000	.000	.896	

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 07:45 AM



PRECISION
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Groups Printed- Heavy Vehicles

Start Time	Prospect Street From North					Bennett Court From East					Prospect Street From South					Newton Street From Southwest					Everett Street From West					Int. Total
	Right	Bear Right	Thru	Left	U-Turn	Right	Thru	Bear Left	Left	U-Turn	Right	Thru	Left	Hard Left	U-Turn	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Hard Right	Right	Thru	Left	U-Turn	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	8
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	10
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	13
Total	0	0	0	0	0	0	0	0	0	0	0	34	0	0	0	0	0	0	0	0	0	0	0	0	0	34
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	14
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	1	0	0	0	0	0	0	8
Total	0	0	0	0	0	0	0	0	0	0	0	34	0	0	0	0	0	0	1	0	0	0	0	0	0	35
Grand Total	0	0	0	0	0	0	0	0	0	0	0	68	0	0	0	0	0	0	1	0	0	0	0	0	0	69
Apprch %	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	100	0	0	0	0	0	0	0	
Total %	0	0	0	0	0	0	0	0	0	0	0	98.6	0	0	0	0	0	1.4	0	0	0	0	0	0	0	

	Prospect Street From North						Bennett Court From East						Prospect Street From South						Newton Street From Southwest						Everett Street From West							
Start Time	Right	Bear Right	Thru	Left	U- Turn	App. Total	Right	Thru	Bear Left	Left	U- Turn	App. Total	Right	Thru	Left	Hard Left	U- Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U- Turn	App. Total	Hard Right	Right	Thru	Left	U- Turn	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 07:45 AM																																
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	13	
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6	
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7	
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	14	
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	40	0	0	0	40	0	0	0	0	0	0	0	0	0	0	0	0	40	
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0		0	0	0	0	0			0	0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.714	.000	.000	.000	.714	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.714	

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 07:45 AM



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Groups Printed- Peds and Bicycles

	Prospect Street From North					Bennett Court From East					Prospect Street From South					Newton Street From Southwest					Everett Street From West					
Start Time	Right	Bear Right	Thru	Left	Peds	Right	Thru	Bear Left	Left	Peds	Right	Thru	Left	Hard Left	Peds	Hard Right	Bear Right	Bear Left	Hard Left	Peds	Hard Right	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	2	0	0	0	0	1	5
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	2	0	0	0	0	9	15
07:30 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	10	13
07:45 AM	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	2	0	0	0	0	11	16
Total	0	0	0	0	0	0	0	0	0	3	0	7	0	0	1	0	0	0	0	7	0	0	0	0	31	49
08:00 AM	0	0	0	0	0	0	0	0	0	5	0	1	0	0	0	0	0	1	0	0	0	0	0	0	6	13
08:15 AM	0	0	0	0	0	0	0	0	0	5	0	4	0	0	0	0	0	1	0	0	0	0	0	0	2	12
08:30 AM	0	0	0	0	1	0	0	0	0	5	0	1	0	0	0	0	0	0	0	1	0	0	0	0	7	15
08:45 AM	0	0	0	0	0	0	0	0	0	10	0	4	0	0	0	0	0	0	0	1	0	0	0	0	5	20
Total	0	0	0	0	1	0	0	0	0	25	0	10	0	0	0	0	0	2	0	2	0	0	0	0	20	60
Grand Total	0	0	0	0	1	0	0	0	0	28	0	17	0	0	1	0	0	2	0	9	0	0	0	0	51	109
Apprch %	0	0	0	0	100	0	0	0	0	100	0	94.4	0	0	5.6	0	0	18.2	0	81.8	0	0	0	0	100	
Total %	0	0	0	0	0.9	0	0	0	0	25.7	0	15.6	0	0	0.9	0	0	1.8	0	8.3	0	0	0	0	46.8	

	Prospect Street From North						Bennett Court From East						Prospect Street From South						Newton Street From Southwest						Everett Street From West							
Start Time	Right	Bear Right	Thru	Left	Peds	App- Total	Right	Thru	Bear Left	Left	Peds	App- Total	Right	Thru	Left	Hard Left	Peds	App- Total	Hard Right	Bear Right	Bear Left	Hard Left	Peds	App- Total	Hard Right	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	0	0	5	5	0	1	0	0	0	0	1	0	0	1	0	0	1	0	0	0	0	6	6	13
08:15 AM	0	0	0	0	0	0	0	0	0	0	5	5	0	4	0	0	0	4	0	0	1	0	0	1	0	0	0	0	2	2	12	
08:30 AM	0	0	0	0	1	1	0	0	0	0	5	5	0	1	0	0	0	1	0	0	0	0	1	1	0	0	0	0	7	7	15	
08:45 AM	0	0	0	0	0	0	0	0	0	0	10	10	0	4	0	0	0	4	0	0	0	0	1	1	0	0	0	0	5	5	20	
Total Volume	0	0	0	0	1	1	0	0	0	0	25	25	0	10	0	0	0	10	0	0	2	0	2	4	0	0	0	0	20	20	60	
% App. Total	0	0	0	0	100		0	0	0	0	100		0	100	0	0	0		0	0	50	0	50		0	0	0	0	100			
PHF	.000	.000	.000	.000	.250	.250	.000	.000	.000	.000	.625	.625	.000	.625	.000	.000	.000	.625	.000	.000	.500	.000	.500	1.000	.000	.000	.000	.000	.714	.714	.750	

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

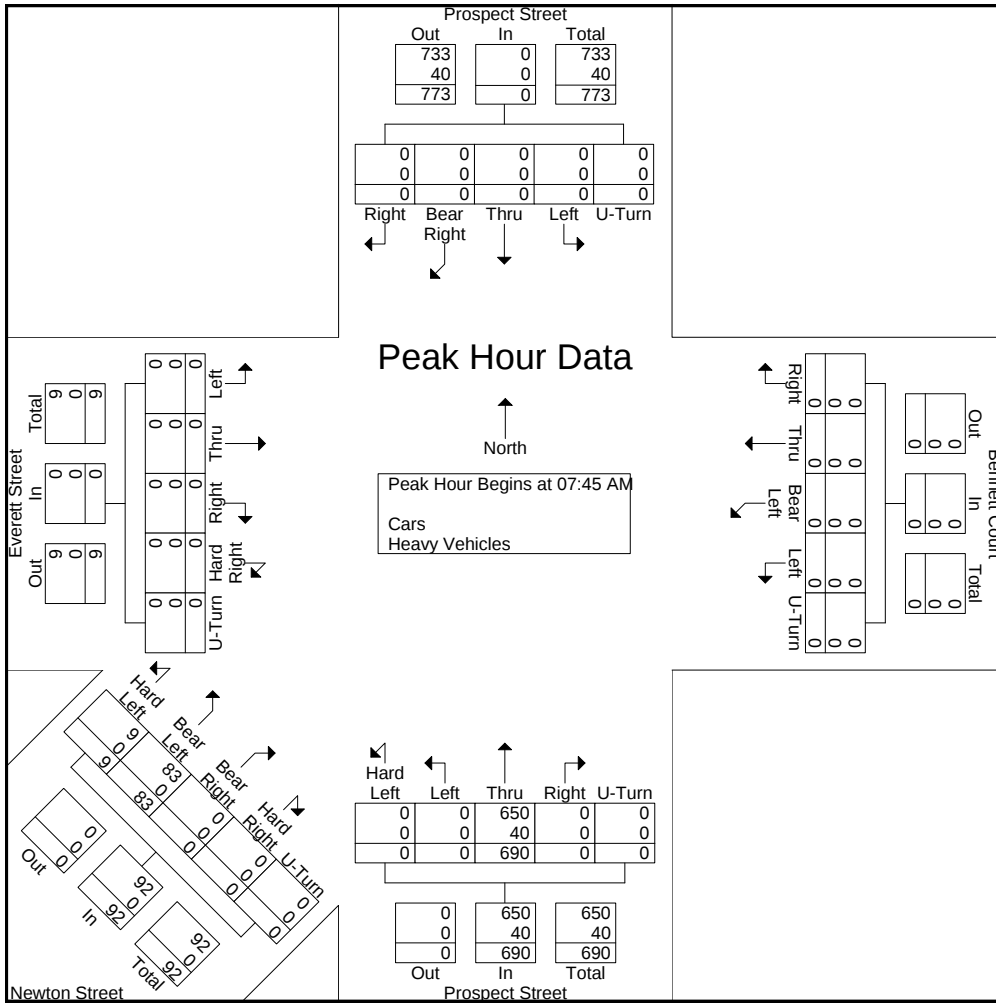
N/S/SW: Prospect Street/ Newton Street
E/W: Bennett Court/ Everett Street
City, State: Somerville, MA
Client: Design Consultants/ J. Sobel



P.O.Box 301 Berlin, MA 01503
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File Name : 123151 B
Site Code : TBA
Start Date : 12/13/2012
Page No : 1

	Prospect Street From North						Bennett Court From East						Prospect Street From South						Newton Street From Southwest						Everett Street From West							
Start Time	Right	Bear Right	Thru	Left	U- Turn	App. Total	Right	Thru	Bear Left	Left	U- Turn	App. Total	Right	Thru	Left	Hard Left	U- Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U- Turn	App. Total	Hard Right	Right	Thru	Left	U- Turn	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 07:45 AM																																
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	178	0	0	0	178	0	0	16	5	0	21	0	0	0	0	0	0	199	
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	183	0	0	0	183	0	0	27	3	0	30	0	0	0	0	0	0	213	
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	144	0	0	0	144	0	0	20	0	0	20	0	0	0	0	0	0	164	
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	185	0	0	0	185	0	0	20	1	0	21	0	0	0	0	0	0	206	
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	690	0	0	0	690	0	0	83	9	0	92	0	0	0	0	0	0	782	
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	100	0	0	90.2	9.8	0	0	0	0	0	0	0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.932	.000	.000	.000	.932	.000	.000	.769	.450	.000	.767	.000	.000	.000	.000	.000	.000	.918	
Cars	0	0	0	0	0	0	0	0	0	0	0	0	0	650	0	0	0	650	0	0	83	9	0	92	0	0	0	0	0	0	742	
% Cars	0	0	0	0	0	0	0	0	0	0	0	0	0	94.2	0	0	0	94.2	0	0	100	100	0	100	0	0	0	0	0	0	94.9	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	40	0	0	0	40	0	0	0	0	0	0	0	0	0	0	0	0	40	
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	5.8	0	0	0	5.8	0	0	0	0	0	0	0	0	0	0	0	0	5.1	





PRECISION
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INDUSTRIES, LLC

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N/S/SW: Prospect Street/ Newton Street
E/W: Bennett Court/ Everett Street
City, State: Somerville, MA
Client: Design Consultants/ J. Sobel

File Name : 123151 BB
Site Code : TBA
Start Date : 12/13/2012
Page No : 1

Groups Printed- Cars - Heavy Vehicles

Start Time	Prospect Street From North					Bennett Court From East					Prospect Street From South					Newton Street From Southwest					Everett Street From West					Int. Total
	Right	Bear Right	Thru	Left	U-Turn	Right	Thru	Bear Left	Left	U-Turn	Right	Thru	Left	Hard Left	U-Turn	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Hard Right	Right	Thru	Left	U-Turn	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	299	0	0	0	0	0	0	13	2	0	0	0	0	0	314
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	249	0	0	0	0	0	0	17	1	0	0	0	0	0	267
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	265	0	0	0	0	0	0	17	1	0	0	0	0	0	283
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	250	0	0	0	0	0	0	12	0	0	0	0	0	0	262
Total	0	0	0	0	0	0	0	0	0	0	0	1063	0	0	0	0	0	0	59	4	0	0	0	0	0	1126
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	244	0	0	0	0	0	0	17	1	0	0	0	0	0	262
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	315	0	0	0	0	0	0	14	0	0	0	0	0	0	329
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	288	0	0	0	0	0	0	22	3	0	0	0	0	0	313
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	218	0	0	0	0	0	0	11	1	0	0	0	0	0	230
Total	0	0	0	0	0	0	0	0	0	0	0	1065	0	0	0	0	0	0	64	5	0	0	0	0	0	1134
Grand Total	0	0	0	0	0	0	0	0	0	0	0	2128	0	0	0	0	0	0	123	9	0	0	0	0	0	2260
Apprch %	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	93.2	6.8	0	0	0	0	0	0
Total %	0	0	0	0	0	0	0	0	0	0	0	94.2	0	0	0	0	0	0	5.4	0.4	0	0	0	0	0	0
Cars	0	0	0	0	0	0	0	0	0	0	0	2077	0	0	0	0	0	0	122	8	0	0	0	0	0	2207
% Cars	0	0	0	0	0	0	0	0	0	0	0	97.6	0	0	0	0	0	0	99.2	88.9	0	0	0	0	0	97.7
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	51	0	0	0	0	0	0	1	1	0	0	0	0	0	53
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	2.4	0	0	0	0	0	0	0.8	11.1	0	0	0	0	0	2.3

	Prospect Street From North						Bennett Court From East						Prospect Street From South						Newton Street From Southwest						Everett Street From West							
Start Time	Right	Bear Right	Thru	Left	U- Turn	App. Total	Right	Thru	Bear Left	Left	U- Turn	App. Total	Right	Thru	Left	Hard Left	U- Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U- Turn	App. Total	Hard Right	Right	Thru	Left	U- Turn	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 04:45 PM																																
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	250	0	0	0	250	0	0	12	0	0	12	0	0	0	0	0	0	262	
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	244	0	0	0	244	0	0	17	1	0	18	0	0	0	0	0	0	262	
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	315	0	0	0	315	0	0	14	0	0	14	0	0	0	0	0	0	329	
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	288	0	0	0	288	0	0	22	3	0	25	0	0	0	0	0	0	313	
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	1097	0	0	0	1097	0	0	65	4	0	69	0	0	0	0	0	0	1166	
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	94.2	5.8	0	0	0	0	0	0	0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.871	.000	.000	.000	.871	.000	.000	.739	.333	.000	.690	.000	.000	.000	.000	.000	.000	.886	
Cars	0	0	0	0	0	0	0	0	0	0	0	0	0	1073	0	0	0	1073	0	0	64	4	0	68	0	0	0	0	0	0	1141	
% Cars	0	0	0	0	0	0	0	0	0	0	0	0	0	97.8	0	0	0	97.8	0	0	98.5	100	0	98.6	0	0	0	0	0	0	97.9	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	24	0	0	0	24	0	0	1	0	0	1	0	0	0	0	0	0	25	
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	2.2	0	0	0	2.2	0	0	1.5	0	0	1.4	0	0	0	0	0	0	2.1	



PRECISION
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INDUSTRIES, LLC

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Email: datarequests@pdillc.com

N/S/SW: Prospect Street/ Newton Street
E/W: Bennett Court/ Everett Street
City, State: Somerville, MA
Client: Design Consultants/ J. Sobel

File Name : 123151 BB
Site Code : TBA
Start Date : 12/13/2012
Page No : 1

Groups Printed- Cars

Start Time	Prospect Street From North					Bennett Court From East					Prospect Street From South					Newton Street From Southwest					Everett Street From West					Int. Total
	Right	Bear Right	Thru	Left	U-Turn	Right	Thru	Bear Left	Left	U-Turn	Right	Thru	Left	Hard Left	U-Turn	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Hard Right	Right	Thru	Left	U-Turn	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	294	0	0	0	0	0	0	13	2	0	0	0	0	0	309
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	240	0	0	0	0	0	0	17	0	0	0	0	0	0	257
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	258	0	0	0	0	0	0	17	1	0	0	0	0	0	276
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	245	0	0	0	0	0	0	12	0	0	0	0	0	0	257
Total	0	0	0	0	0	0	0	0	0	0	0	1037	0	0	0	0	0	0	59	3	0	0	0	0	0	1099
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	241	0	0	0	0	0	0	17	1	0	0	0	0	0	259
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	306	0	0	0	0	0	0	13	0	0	0	0	0	0	319
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	281	0	0	0	0	0	0	22	3	0	0	0	0	0	306
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	212	0	0	0	0	0	0	11	1	0	0	0	0	0	224
Total	0	0	0	0	0	0	0	0	0	0	0	1040	0	0	0	0	0	0	63	5	0	0	0	0	0	1108
Grand Total	0	0	0	0	0	0	0	0	0	0	0	2077	0	0	0	0	0	0	122	8	0	0	0	0	0	2207
Apprch %	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	93.8	6.2	0	0	0	0	0	0
Total %	0	0	0	0	0	0	0	0	0	0	0	94.1	0	0	0	0	0	0	5.5	0.4	0	0	0	0	0	0

	Prospect Street From North						Bennett Court From East						Prospect Street From South						Newton Street From Southwest						Everett Street From West							
Start Time	Right	Bear Right	Thru	Left	U- Turn	App. Total	Right	Thru	Bear Left	Left	U- Turn	App. Total	Right	Thru	Left	Hard Left	U- Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U- Turn	App. Total	Hard Right	Right	Thru	Left	U- Turn	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 04:45 PM																																
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	245	0	0	0	245	0	0	12	0	0	12	0	0	0	0	0	0	257	
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	241	0	0	0	241	0	0	17	1	0	18	0	0	0	0	0	0	259	
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	306	0	0	0	306	0	0	13	0	0	13	0	0	0	0	0	0	319	
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	281	0	0	0	281	0	0	22	3	0	25	0	0	0	0	0	0	306	
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	1073	0	0	0	1073	0	0	64	4	0	68	0	0	0	0	0	0	1141	
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	94.1	5.9	0	0	0	0	0	0	0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.877	.000	.000	.000	.000	.877	.000	.000	.727	.333	.000	.680	.000	.000	.000	.000	.000	.894	

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM



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City, State: Somerville, MA
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File Name : 123151 BB
Site Code : TBA
Start Date : 12/13/2012
Page No : 1

Groups Printed- Heavy Vehicles

Start Time	Prospect Street From North					Bennett Court From East					Prospect Street From South					Newton Street From Southwest					Everett Street From West					Int. Total
	Right	Bear Right	Thru	Left	U-Turn	Right	Thru	Bear Left	Left	U-Turn	Right	Thru	Left	Hard Left	U-Turn	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Hard Right	Right	Thru	Left	U-Turn	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	1	0	0	0	0	0	0	10
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Total	0	0	0	0	0	0	0	0	0	0	0	26	0	0	0	0	0	0	1	0	0	0	0	0	0	27
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	1	0	0	0	0	0	0	0	10
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Total	0	0	0	0	0	0	0	0	0	0	0	25	0	0	0	0	0	1	0	0	0	0	0	0	0	26
Grand Total	0	0	0	0	0	0	0	0	0	0	0	51	0	0	0	0	0	1	1	0	0	0	0	0	0	53
Apprch %	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	50	50	0	0	0	0	0	0	
Total %	0	0	0	0	0	0	0	0	0	0	0	96.2	0	0	0	0	0	1.9	1.9	0	0	0	0	0	0	

	Prospect Street From North						Bennett Court From East						Prospect Street From South						Newton Street From Southwest						Everett Street From West							
Start Time	Right	Bear Right	Thru	Left	U- Turn	App. Total	Right	Thru	Bear Left	Left	U- Turn	App. Total	Right	Thru	Left	Hard Left	U- Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U- Turn	App. Total	Hard Right	Right	Thru	Left	U- Turn	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	0	0	0	0	0	0	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	9	0	0	0	1	0	1	0	0	0	0	0	0	0	10
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	26	0	0	0	26	0	0	0	1	0	1	0	0	0	0	0	0	0	27
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0		0	0	0	100	0		0	0	0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.722	.000	.000	.000	.722	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.675

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



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N/S/SW: Prospect Street/ Newton Street
E/W: Bennett Court/ Everett Street
City, State: Somerville, MA
Client: Design Consultants/ J. Sobel

File Name : 123151 BB
Site Code : TBA
Start Date : 12/13/2012
Page No : 1

Groups Printed- Peds and Bicycles

Start Time	Prospect Street From North					Bennett Court From East					Prospect Street From South					Newton Street From Southwest					Everett Street From West					Int. Total
	Right	Bear Right	Thru	Left	Peds	Right	Thru	Bear Left	Left	Peds	Right	Thru	Left	Hard Left	Peds	Hard Right	Bear Right	Bear Left	Hard Left	Peds	Hard Right	Right	Thru	Left	Peds	
04:00 PM	0	0	0	0	1	0	0	0	0	5	0	9	0	0	0	0	0	0	1	0	0	0	0	0	8	24
04:15 PM	0	0	0	0	0	0	0	0	0	4	0	8	0	0	0	0	0	0	0	1	0	0	0	0	5	18
04:30 PM	0	0	0	0	2	0	0	0	0	8	0	9	0	0	0	0	0	0	0	0	0	0	0	0	8	27
04:45 PM	0	0	0	0	0	0	0	0	0	2	0	9	0	0	0	0	0	0	0	1	0	0	0	0	1	13
Total	0	0	0	0	3	0	0	0	0	19	0	35	0	0	0	0	0	0	1	0	2	0	0	0	22	82
05:00 PM	0	0	0	0	2	0	0	0	0	2	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	12
05:15 PM	0	0	0	0	1	0	0	0	0	6	0	14	0	0	0	0	0	0	0	0	0	0	0	0	2	23
05:30 PM	0	0	0	0	0	0	0	0	0	3	0	12	0	0	0	0	0	0	0	2	0	0	0	0	6	23
05:45 PM	0	0	0	0	1	0	0	0	0	4	0	19	0	0	0	0	0	0	0	0	0	0	0	0	2	26
Total	0	0	0	0	4	0	0	0	0	15	0	53	0	0	0	0	0	0	0	2	0	0	0	0	10	84
Grand Total	0	0	0	0	7	0	0	0	0	34	0	88	0	0	0	0	0	1	0	4	0	0	0	0	32	166
Apprch %	0	0	0	0	100	0	0	0	0	100	0	100	0	0	0	0	0	20	0	80	0	0	0	0	100	
Total %	0	0	0	0	4.2	0	0	0	0	20.5	0	53	0	0	0	0	0	0.6	0	2.4	0	0	0	0	19.3	

Start Time	Prospect Street From North					Bennett Court From East					Prospect Street From South					Newton Street From Southwest					Everett Street From West					Int. Total
	Right	Bear Right	Thru	Left	Peds	Right	Thru	Bear Left	Left	Peds	Right	Thru	Left	Hard Left	Peds	Hard Right	Bear Right	Bear Left	Hard Left	Peds	Hard Right	Right	Thru	Left	Peds	
04:00 PM	0	0	0	0	2	0	0	0	0	2	0	8	0	0	0	8	0	0	0	0	0	0	0	0	0	12
05:15 PM	0	0	0	0	1	0	0	0	0	6	0	14	0	0	0	14	0	0	0	0	0	0	0	2	2	23
05:30 PM	0	0	0	0	0	0	0	0	0	3	0	12	0	0	0	12	0	0	0	2	2	0	0	0	6	23
05:45 PM	0	0	0	0	1	0	0	0	0	4	0	19	0	0	0	19	0	0	0	0	0	0	0	2	2	26
Total Volume	0	0	0	0	4	0	0	0	0	15	0	53	0	0	0	53	0	0	0	2	2	0	0	0	10	84
% App. Total	0	0	0	0	100	0	0	0	0	100	0	100	0	0	0	100	0	0	0	100	0	0	0	0	100	
PHF	.000	.000	.000	.000	.500	.000	.000	.000	.000	.625	.625	.000	.697	.000	.000	.697	.000	.000	.000	.250	.250	.000	.000	.000	.417	.808

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



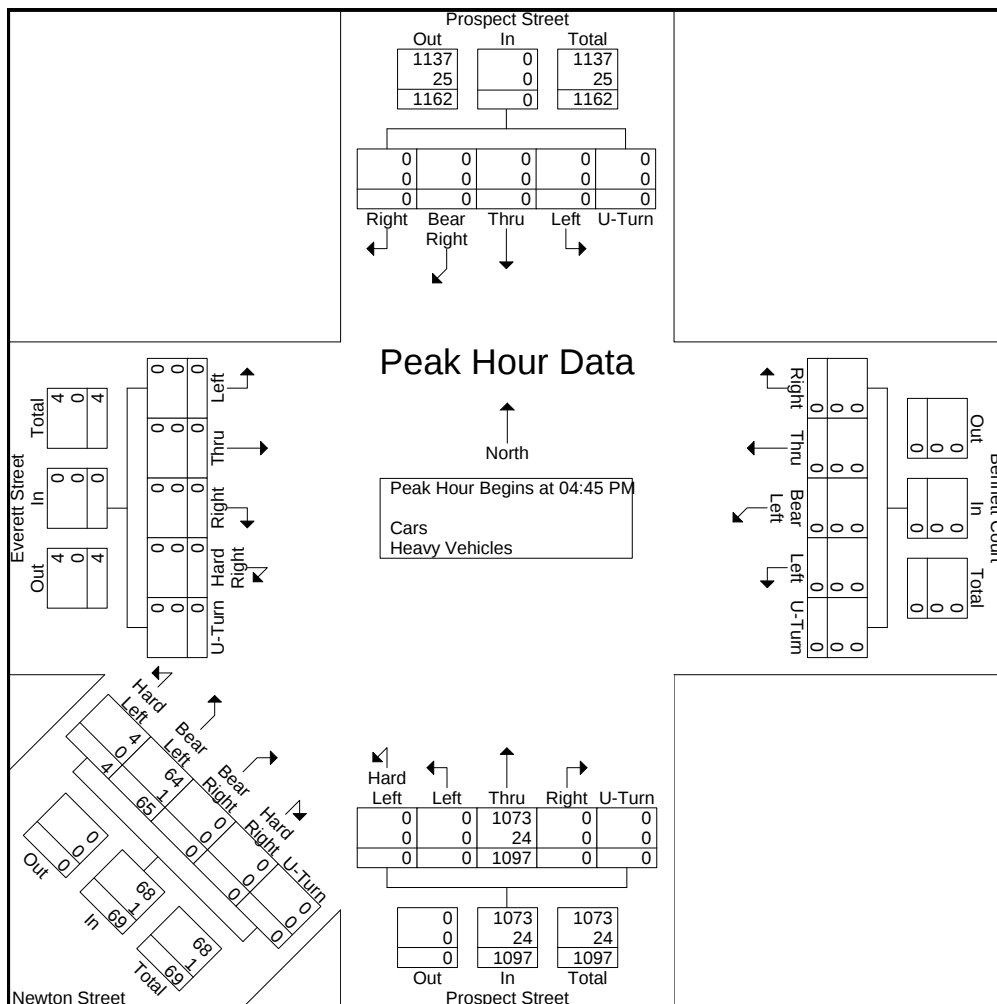
PRECISION
D A T A
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N/S/SW: Prospect Street/ Newton Street
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Client: Design Consultants/ J. Sobel

File Name : 123151 BB
Site Code : TBA
Start Date : 12/13/2012
Page No : 1

	Prospect Street From North						Bennett Court From East						Prospect Street From South						Newton Street From Southwest						Everett Street From West						
Start Time	Right	Bear Right	Thru	Left	U- Turn	App. Total	Right	Thru	Bear Left	Left	U- Turn	App. Total	Right	Thru	Left	Hard Left	U- Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U- Turn	App. Total	Hard Right	Right	Thru	Left	U- Turn	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 04:45 PM																															
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	250	0	0	0	250	0	0	12	0	0	12	0	0	0	0	0	0	262
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	244	0	0	0	244	0	0	17	1	0	18	0	0	0	0	0	0	262
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	315	0	0	0	315	0	0	14	0	0	14	0	0	0	0	0	0	329
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	288	0	0	0	288	0	0	22	3	0	25	0	0	0	0	0	0	313
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	1097	0	0	0	1097	0	0	65	4	0	69	0	0	0	0	0	0	1166
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	100	0	0	94.2	5.8	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.871	.000	.000	.000	.871	.000	.000	.739	.333	.000	.690	.000	.000	.000	.000	.000	.000	.886
Cars	0	0	0	0	0	0	0	0	0	0	0	0	0	1073	0	0	0	1073	0	0	64	4	0	68	0	0	0	0	0	0	1141
% Cars	0	0	0	0	0	0	0	0	0	0	0	0	0	97.8	0	0	0	97.8	0	0	98.5	100	0	98.6	0	0	0	0	0	0	97.9
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	24	0	0	0	24	0	0	1	0	0	1	0	0	0	0	0	0	25
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	2.2	0	0	0	2.2	0	0	1.5	0	0	1.4	0	0	0	0	0	0	2.1





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N/S: Prospect Street
E/W: Somerville Avenue
City, State: Somerville, MA
Client: Design Consultants/ J. Sobel

File Name : 123151 C
Site Code : TBA
Start Date : 12/13/2012
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Prospect Street From North				Somerville Avenue From East				Prospect Street From South				Somerville Avenue From West				Int. Total
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	
07:00 AM	217	0	0	0	0	31	0	0	16	85	39	0	0	68	48	0	504
07:15 AM	190	0	0	0	2	32	0	0	17	92	39	0	0	84	42	0	498
07:30 AM	201	0	0	0	1	54	0	0	15	124	47	0	0	77	61	0	580
07:45 AM	183	0	0	0	1	47	0	0	16	107	46	0	0	91	49	0	540
Total	791	0	0	0	4	164	0	0	64	408	171	0	0	320	200	0	2122
08:00 AM	167	0	0	0	4	65	0	0	29	129	59	0	0	102	62	0	617
08:15 AM	216	0	0	0	1	37	0	0	24	91	49	0	0	93	71	0	582
08:30 AM	172	0	0	0	1	40	0	0	18	124	66	0	0	112	49	0	582
08:45 AM	143	0	0	0	7	48	0	0	20	79	36	0	0	97	50	0	480
Total	698	0	0	0	13	190	0	0	91	423	210	0	0	404	232	0	2261
Grand Total	1489	0	0	0	17	354	0	0	155	831	381	0	0	724	432	0	4383
Apprch %	100	0	0	0	4.6	95.4	0	0	11.3	60.8	27.9	0	0	62.6	37.4	0	
Total %	34	0	0	0	0.4	8.1	0	0	3.5	19	8.7	0	0	16.5	9.9	0	
Cars	1372	0	0	0	17	328	0	0	148	790	362	0	0	697	397	0	4111
% Cars	92.1	0	0	0	100	92.7	0	0	95.5	95.1	95	0	0	96.3	91.9	0	93.8
Heavy Vehicles	117	0	0	0	0	26	0	0	7	41	19	0	0	27	35	0	272
% Heavy Vehicles	7.9	0	0	0	0	7.3	0	0	4.5	4.9	5	0	0	3.7	8.1	0	6.2

	Prospect Street From North					Somerville Avenue From East					Prospect Street From South					Somerville Avenue From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	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 07:45 AM																					
07:45 AM	183	0	0	0	183	1	47	0	0	48	16	107	46	0	169	0	91	49	0	140	540
08:00 AM	167	0	0	0	167	4	65	0	0	69	29	129	59	0	217	0	102	62	0	164	617
08:15 AM	216	0	0	0	216	1	37	0	0	38	24	91	49	0	164	0	93	71	0	164	582
08:30 AM	172	0	0	0	172	1	40	0	0	41	18	124	66	0	208	0	112	49	0	161	582
Total Volume	738	0	0	0	738	7	189	0	0	196	87	451	220	0	758	0	398	231	0	629	2321
% App. Total	100	0	0	0		3.6	96.4	0	0		11.5	59.5	29	0		0	63.3	36.7	0		
PHF	.854	.000	.000	.000	.854	.438	.727	.000	.000	.710	.750	.874	.833	.000	.873	.000	.888	.813	.000	.959	.940
Cars	688	0	0	0	688	7	177	0	0	184	84	425	211	0	720	0	379	211	0	590	2182
% Cars	93.2	0	0	0	93.2	100	93.7	0	0	93.9	96.6	94.2	95.9	0	95.0	0	95.2	91.3	0	93.8	94.0
Heavy Vehicles	50	0	0	0	50	0	12	0	0	12	3	26	9	0	38	0	19	20	0	39	139
% Heavy Vehicles	6.8	0	0	0	6.8	0	6.3	0	0	6.1	3.4	5.8	4.1	0	5.0	0	4.8	8.7	0	6.2	6.0

N/S: Prospect Street
 E/W: Somerville Avenue
 City, State: Somerville, MA
 Client: Design Consultants/ J. Sobel



File Name : 123151 C
 Site Code : TBA
 Start Date : 12/13/2012
 Page No : 1

Groups Printed- Cars

	Prospect Street From North				Somerville Avenue From East				Prospect Street From South				Somerville Avenue From West				Int. Total
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	
07:00 AM	196	0	0	0	0	26	0	0	16	82	37	0	0	67	44	0	468
07:15 AM	176	0	0	0	2	30	0	0	17	89	36	0	0	82	42	0	474
07:30 AM	189	0	0	0	1	50	0	0	15	118	44	0	0	76	56	0	549
07:45 AM	174	0	0	0	1	45	0	0	16	99	41	0	0	87	45	0	508
Total	735	0	0	0	4	151	0	0	64	388	158	0	0	312	187	0	1999
08:00 AM	150	0	0	0	4	60	0	0	27	125	58	0	0	97	57	0	578
08:15 AM	205	0	0	0	1	35	0	0	24	87	47	0	0	90	66	0	555
08:30 AM	159	0	0	0	1	37	0	0	17	114	65	0	0	105	43	0	541
08:45 AM	123	0	0	0	7	45	0	0	16	76	34	0	0	93	44	0	438
Total	637	0	0	0	13	177	0	0	84	402	204	0	0	385	210	0	2112
Grand Total	1372	0	0	0	17	328	0	0	148	790	362	0	0	697	397	0	4111
Apprch %	100	0	0	0	4.9	95.1	0	0	11.4	60.8	27.8	0	0	63.7	36.3	0	
Total %	33.4	0	0	0	0.4	8	0	0	3.6	19.2	8.8	0	0	17	9.7	0	

	Prospect Street From North					Somerville Avenue From East					Prospect Street From South					Somerville Avenue From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	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	189	0	0	0	189	1	50	0	0	51	15	118	44	0	177	0	76	56	0	132	549
07:45 AM	174	0	0	0	174	1	45	0	0	46	16	99	41	0	156	0	87	45	0	132	508
08:00 AM	150	0	0	0	150	4	60	0	0	64	27	125	58	0	210	0	97	57	0	154	578
08:15 AM	205	0	0	0	205	1	35	0	0	36	24	87	47	0	158	0	90	66	0	156	555
Total Volume	718	0	0	0	718	7	190	0	0	197	82	429	190	0	701	0	350	224	0	574	2190
% App. Total	100	0	0	0		3.6	96.4	0	0		11.7	61.2	27.1	0		0	61	39	0		
PHF	.876	.000	.000	.000	.876	.438	.792	.000	.000	.770	.759	.858	.819	.000	.835	.000	.902	.848	.000	.920	.947



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File Name : 123151 C
Site Code : TBA
Start Date : 12/13/2012
Page No : 1

Groups Printed- Heavy Vehicles

	Prospect Street From North				Somerville Avenue From East				Prospect Street From South				Somerville Avenue From West				Int. Total
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	
07:00 AM	21	0	0	0	0	5	0	0	0	3	2	0	0	1	4	0	36
07:15 AM	14	0	0	0	0	2	0	0	0	3	3	0	0	2	0	0	24
07:30 AM	12	0	0	0	0	4	0	0	0	6	3	0	0	1	5	0	31
07:45 AM	9	0	0	0	0	2	0	0	0	8	5	0	0	4	4	0	32
Total	56	0	0	0	0	13	0	0	0	20	13	0	0	8	13	0	123
08:00 AM	17	0	0	0	0	5	0	0	2	4	1	0	0	5	5	0	39
08:15 AM	11	0	0	0	0	2	0	0	0	4	2	0	0	3	5	0	27
08:30 AM	13	0	0	0	0	3	0	0	1	10	1	0	0	7	6	0	41
08:45 AM	20	0	0	0	0	3	0	0	4	3	2	0	0	4	6	0	42
Total	61	0	0	0	0	13	0	0	7	21	6	0	0	19	22	0	149
Grand Total	117	0	0	0	0	26	0	0	7	41	19	0	0	27	35	0	272
Apprch %	100	0	0	0	0	100	0	0	10.4	61.2	28.4	0	0	43.5	56.5	0	
Total %	43	0	0	0	0	9.6	0	0	2.6	15.1	7	0	0	9.9	12.9	0	

	Prospect Street From North					Somerville Avenue From East					Prospect Street From South					Somerville Avenue From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	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	17	0	0	0	17	0	5	0	0	5	2	4	1	0	7	0	5	5	0	10	39
08:15 AM	11	0	0	0	11	0	2	0	0	2	0	4	2	0	6	0	3	5	0	8	27
08:30 AM	13	0	0	0	13	0	3	0	0	3	1	10	1	0	12	0	7	6	0	13	41
08:45 AM	20	0	0	0	20	0	3	0	0	3	4	3	2	0	9	0	4	6	0	10	42
Total Volume	61	0	0	0	61	0	13	0	0	13	7	21	6	0	34	0	19	22	0	41	149
% App. Total	100	0	0	0		0	100	0	0		20.6	61.8	17.6	0		0	46.3	53.7	0		
PHF	.763	.000	.000	.000	.763	.000	.650	.000	.000	.650	.438	.525	.750	.000	.708	.000	.679	.917	.000	.788	.887



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Groups Printed- Peds and Bicycles

	Prospect Street From North				Somerville Avenue From East				Prospect Street From South				Somerville Avenue From West				Int. Total
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
07:00 AM	1	0	0	1	0	0	0	1	0	0	1	6	0	2	1	1	14
07:15 AM	1	0	0	8	0	2	0	4	1	0	2	8	0	2	0	0	28
07:30 AM	0	0	0	7	0	0	0	7	0	1	0	22	0	4	2	0	43
07:45 AM	1	0	0	6	1	0	0	6	0	1	1	22	0	7	2	5	52
Total	3	0	0	22	1	2	0	18	1	2	4	58	0	15	5	6	137
08:00 AM	0	0	0	11	0	0	0	2	1	0	1	13	0	1	0	6	35
08:15 AM	0	0	0	9	0	0	0	4	1	1	2	12	0	6	0	6	41
08:30 AM	3	0	0	4	0	1	0	2	0	0	2	16	0	5	2	7	42
08:45 AM	0	0	0	15	0	0	0	14	1	1	0	9	0	1	5	10	56
Total	3	0	0	39	0	1	0	22	3	2	5	50	0	13	7	29	174
Grand Total	6	0	0	61	1	3	0	40	4	4	9	108	0	28	12	35	311
Apprch %	9	0	0	91	2.3	6.8	0	90.9	3.2	3.2	7.2	86.4	0	37.3	16	46.7	
Total %	1.9	0	0	19.6	0.3	1	0	12.9	1.3	1.3	2.9	34.7	0	9	3.9	11.3	

	Prospect Street From North					Somerville Avenue From East					Prospect Street From South					Somerville Avenue 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	11	11	0	0	0	2	2	1	0	1	13	15	0	1	0	6	7	35
08:15 AM	0	0	0	9	9	0	0	0	4	4	1	1	2	12	16	0	6	0	6	12	41
08:30 AM	3	0	0	4	7	0	1	0	2	3	0	0	2	16	18	0	5	2	7	14	42
08:45 AM	0	0	0	15	15	0	0	0	14	14	1	1	0	9	11	0	1	5	10	16	56
Total Volume	3	0	0	39	42	0	1	0	22	23	3	2	5	50	60	0	13	7	29	49	174
% App. Total	7.1	0	0	92.9		0	4.3	0	95.7		5	3.3	8.3	83.3		0	26.5	14.3	59.2		
PHF	.250	.000	.000	.650	.700	.000	.250	.000	.393	.411	.750	.500	.625	.781	.833	.000	.542	.350	.725	.766	.777



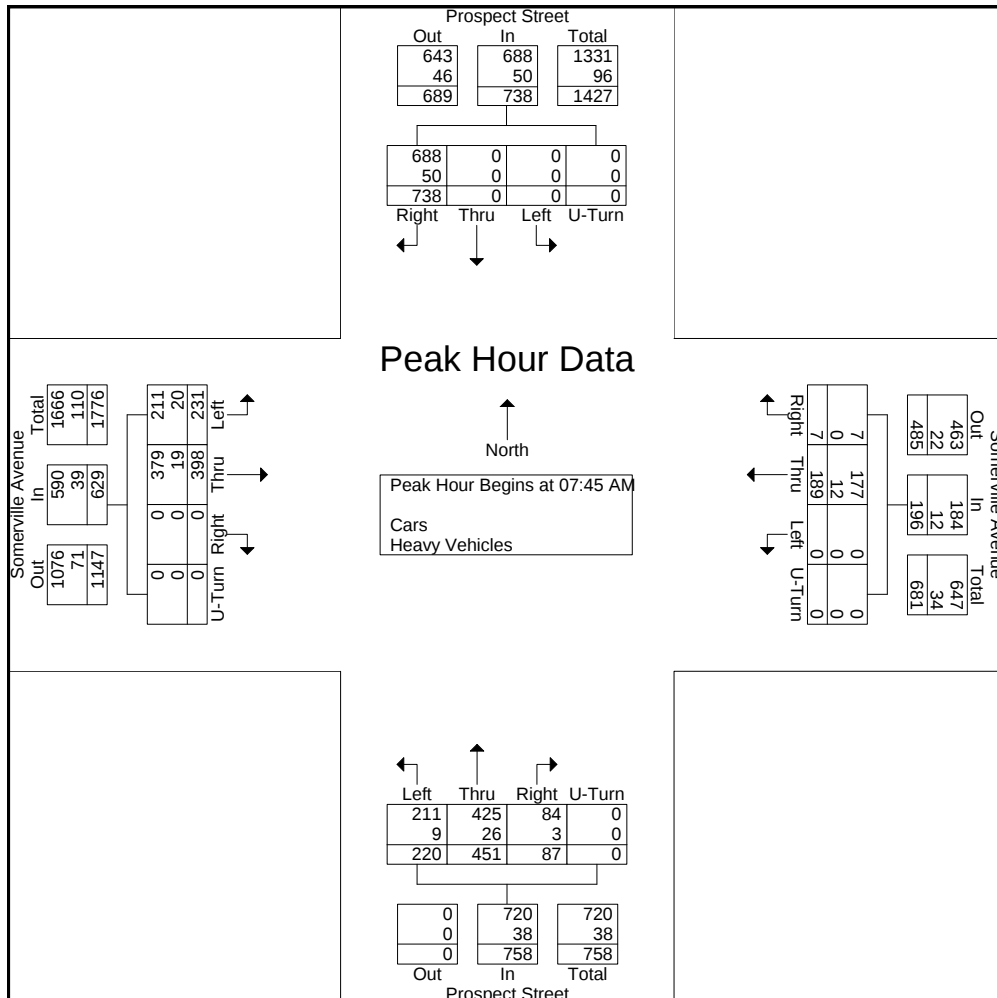
PRECISION
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INDUSTRIES, LLC

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N/S: Prospect Street
E/W: Somerville Avenue
City, State: Somerville, MA
Client: Design Consultants/ J. Sobel

File Name : 123151 C
Site Code : TBA
Start Date : 12/13/2012
Page No : 1

	Prospect Street From North					Somerville Avenue From East					Prospect Street From South					Somerville Avenue From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	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 07:45 AM																					
07:45 AM	183	0	0	0	183	1	47	0	0	48	16	107	46	0	169	0	91	49	0	140	540
08:00 AM	167	0	0	0	167	4	65	0	0	69	29	129	59	0	217	0	102	62	0	164	617
08:15 AM	216	0	0	0	216	1	37	0	0	38	24	91	49	0	164	0	93	71	0	164	582
08:30 AM	172	0	0	0	172	1	40	0	0	41	18	124	66	0	208	0	112	49	0	161	582
Total Volume	738	0	0	0	738	7	189	0	0	196	87	451	220	0	758	0	398	231	0	629	2321
% App. Total	100	0	0	0		3.6	96.4	0	0		11.5	59.5	29	0		0	63.3	36.7	0		
PHF	.854	.000	.000	.000	.854	.438	.727	.000	.000	.710	.750	.874	.833	.000	.873	.000	.888	.813	.000	.959	.940
Cars	688	0	0	0	688	7	177	0	0	184	84	425	211	0	720	0	379	211	0	590	2182
% Cars	93.2	0	0	0	93.2	100	93.7	0	0	93.9	96.6	94.2	95.9	0	95.0	0	95.2	91.3	0	93.8	94.0
Heavy Vehicles	50	0	0	0	50	0	12	0	0	12	3	26	9	0	38	0	19	20	0	39	139
% Heavy Vehicles	6.8	0	0	0	6.8	0	6.3	0	0	6.1	3.4	5.8	4.1	0	5.0	0	4.8	8.7	0	6.2	6.0





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Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Prospect Street From North				Somerville Avenue From East				Prospect Street From South				Somerville Avenue From West				Int. Total
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	
04:00 PM	157	0	0	0	4	73	0	0	30	165	110	0	0	76	80	0	695
04:15 PM	171	0	0	0	4	81	0	0	17	148	95	0	0	115	73	0	704
04:30 PM	166	0	0	0	2	80	0	0	28	150	107	0	0	82	78	0	693
04:45 PM	209	0	0	0	1	64	0	0	17	130	114	0	0	77	71	0	683
Total	703	0	0	0	11	298	0	0	92	593	426	0	0	350	302	0	2775
05:00 PM	176	0	0	0	2	91	0	0	26	132	103	0	0	78	74	0	682
05:15 PM	171	0	0	0	2	80	0	0	30	151	126	0	0	89	64	0	713
05:30 PM	200	0	0	0	4	70	0	0	24	161	118	0	0	86	62	0	725
05:45 PM	185	0	0	0	1	78	0	0	20	116	107	0	0	72	52	0	631
Total	732	0	0	0	9	319	0	0	100	560	454	0	0	325	252	0	2751
Grand Total	1435	0	0	0	20	617	0	0	192	1153	880	0	0	675	554	0	5526
Apprch %	100	0	0	0	3.1	96.9	0	0	8.6	51.8	39.6	0	0	54.9	45.1	0	
Total %	26	0	0	0	0.4	11.2	0	0	3.5	20.9	15.9	0	0	12.2	10	0	
Cars	1395	0	0	0	19	609	0	0	188	1120	859	0	0	648	523	0	5361
% Cars	97.2	0	0	0	95	98.7	0	0	97.9	97.1	97.6	0	0	96	94.4	0	97
Heavy Vehicles	40	0	0	0	1	8	0	0	4	33	21	0	0	27	31	0	165
% Heavy Vehicles	2.8	0	0	0	5	1.3	0	0	2.1	2.9	2.4	0	0	4	5.6	0	3

	Prospect Street From North					Somerville Avenue From East					Prospect Street From South					Somerville Avenue From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	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 04:45 PM																					
04:45 PM	209	0	0	0	209	1	64	0	0	65	17	130	114	0	261	0	77	71	0	148	683
05:00 PM	176	0	0	0	176	2	91	0	0	93	26	132	103	0	261	0	78	74	0	152	682
05:15 PM	171	0	0	0	171	2	80	0	0	82	30	151	126	0	307	0	89	64	0	153	713
05:30 PM	200	0	0	0	200	4	70	0	0	74	24	161	118	0	303	0	86	62	0	148	725
Total Volume	756	0	0	0	756	9	305	0	0	314	97	574	461	0	1132	0	330	271	0	601	2803
% App. Total	100	0	0	0		2.9	97.1	0	0		8.6	50.7	40.7	0		0	54.9	45.1	0		
PHF	.904	.000	.000	.000	.904	.563	.838	.000	.000	.844	.808	.891	.915	.000	.922	.000	.927	.916	.000	.982	.967
Cars	740	0	0	0	740	9	301	0	0	310	96	554	457	0	1107	0	318	259	0	577	2734
% Cars	97.9	0	0	0	97.9	100	98.7	0	0	98.7	99.0	96.5	99.1	0	97.8	0	96.4	95.6	0	96.0	97.5
Heavy Vehicles	16	0	0	0	16	0	4	0	0	4	1	20	4	0	25	0	12	12	0	24	69
% Heavy Vehicles	2.1	0	0	0	2.1	0	1.3	0	0	1.3	1.0	3.5	0.9	0	2.2	0	3.6	4.4	0	4.0	2.5

N/S: Prospect Street
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 Client: Design Consultants/ J. Sobel



File Name : 123151 CC
 Site Code : TBA
 Start Date : 12/13/2012
 Page No : 1

Groups Printed- Cars

	Prospect Street From North				Somerville Avenue From East				Prospect Street From South				Somerville Avenue From West				Int. Total
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	
04:00 PM	150	0	0	0	3	72	0	0	30	161	108	0	0	70	74	0	668
04:15 PM	165	0	0	0	4	80	0	0	16	145	91	0	0	109	66	0	676
04:30 PM	162	0	0	0	2	79	0	0	27	146	104	0	0	80	73	0	673
04:45 PM	199	0	0	0	1	62	0	0	17	123	114	0	0	73	65	0	654
Total	676	0	0	0	10	293	0	0	90	575	417	0	0	332	278	0	2671
05:00 PM	176	0	0	0	2	90	0	0	26	130	103	0	0	75	73	0	675
05:15 PM	166	0	0	0	2	80	0	0	29	146	124	0	0	87	61	0	695
05:30 PM	199	0	0	0	4	69	0	0	24	155	116	0	0	83	60	0	710
05:45 PM	178	0	0	0	1	77	0	0	19	114	99	0	0	71	51	0	610
Total	719	0	0	0	9	316	0	0	98	545	442	0	0	316	245	0	2690
Grand Total	1395	0	0	0	19	609	0	0	188	1120	859	0	0	648	523	0	5361
Apprch %	100	0	0	0	3	97	0	0	8.7	51.7	39.6	0	0	55.3	44.7	0	
Total %	26	0	0	0	0.4	11.4	0	0	3.5	20.9	16	0	0	12.1	9.8	0	

	Prospect Street From North					Somerville Avenue From East					Prospect Street From South					Somerville Avenue From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	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 04:45 PM																					
04:45 PM	199	0	0	0	199	1	62	0	0	63	17	123	114	0	254	0	73	65	0	138	654
05:00 PM	176	0	0	0	176	2	90	0	0	92	26	130	103	0	259	0	75	73	0	148	675
05:15 PM	166	0	0	0	166	2	80	0	0	82	29	146	124	0	299	0	87	61	0	148	695
05:30 PM	199	0	0	0	199	4	69	0	0	73	24	155	116	0	295	0	83	60	0	143	710
Total Volume	740	0	0	0	740	9	301	0	0	310	96	554	457	0	1107	0	318	259	0	577	2734
% App. Total	100	0	0	0		2.9	97.1	0	0		8.7	50	41.3	0		0	55.1	44.9	0		
PHF	.930	.000	.000	.000	.930	.563	.836	.000	.000	.842	.828	.894	.921	.000	.926	.000	.914	.887	.000	.975	.963



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Client: Design Consultants/ J. Sobel

File Name : 123151 CC
Site Code : TBA
Start Date : 12/13/2012
Page No : 1

Groups Printed- Heavy Vehicles

	Prospect Street From North				Somerville Avenue From East				Prospect Street From South				Somerville Avenue From West				Int. Total
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	
04:00 PM	7	0	0	0	1	1	0	0	0	4	2	0	0	6	6	0	27
04:15 PM	6	0	0	0	0	1	0	0	1	3	4	0	0	6	7	0	28
04:30 PM	4	0	0	0	0	1	0	0	1	4	3	0	0	2	5	0	20
04:45 PM	10	0	0	0	0	2	0	0	0	7	0	0	0	4	6	0	29
Total	27	0	0	0	1	5	0	0	2	18	9	0	0	18	24	0	104
05:00 PM	0	0	0	0	0	1	0	0	0	2	0	0	0	3	1	0	7
05:15 PM	5	0	0	0	0	0	0	0	1	5	2	0	0	2	3	0	18
05:30 PM	1	0	0	0	0	1	0	0	0	6	2	0	0	3	2	0	15
05:45 PM	7	0	0	0	0	1	0	0	1	2	8	0	0	1	1	0	21
Total	13	0	0	0	0	3	0	0	2	15	12	0	0	9	7	0	61
Grand Total	40	0	0	0	1	8	0	0	4	33	21	0	0	27	31	0	165
Apprch %	100	0	0	0	11.1	88.9	0	0	6.9	56.9	36.2	0	0	46.6	53.4	0	
Total %	24.2	0	0	0	0.6	4.8	0	0	2.4	20	12.7	0	0	16.4	18.8	0	

	Prospect Street From North					Somerville Avenue From East					Prospect Street From South					Somerville Avenue From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	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	7	0	0	0	7	1	1	0	0	2	0	4	2	0	6	0	6	6	0	12	27
04:15 PM	6	0	0	0	6	0	1	0	0	1	1	3	4	0	8	0	6	7	0	13	28
04:30 PM	4	0	0	0	4	0	1	0	0	1	1	4	3	0	8	0	2	5	0	7	20
04:45 PM	10	0	0	0	10	0	2	0	0	2	0	7	0	0	7	0	4	6	0	10	29
Total Volume	27	0	0	0	27	1	5	0	0	6	2	18	9	0	29	0	18	24	0	42	104
% App. Total	100	0	0	0		16.7	83.3	0	0		6.9	62.1	31	0		0	42.9	57.1	0		
PHF	.675	.000	.000	.000	.675	.250	.625	.000	.000	.750	.500	.643	.563	.000	.906	.000	.750	.857	.000	.808	.897



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Site Code : TBA
Start Date : 12/13/2012
Page No : 1

Groups Printed- Peds and Bicycles

	Prospect Street From North				Somerville Avenue From East				Prospect Street From South				Somerville Avenue From West				Int. Total
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
04:00 PM	2	0	0	12	1	5	0	2	0	3	6	20	0	3	2	10	66
04:15 PM	0	0	0	12	0	1	0	5	0	4	5	20	0	1	2	7	57
04:30 PM	2	0	0	10	0	1	0	9	0	3	11	19	0	1	2	13	71
04:45 PM	0	0	0	11	0	1	0	6	0	1	9	11	0	0	1	6	46
Total	4	0	0	45	1	8	0	22	0	11	31	70	0	5	7	36	240
05:00 PM	0	0	0	11	0	2	0	6	1	2	3	21	0	0	1	11	58
05:15 PM	0	0	0	7	0	1	0	7	0	2	10	13	0	1	2	13	56
05:30 PM	0	0	0	7	0	4	0	4	0	3	9	20	0	0	5	12	64
05:45 PM	0	0	0	11	0	6	0	7	1	2	8	9	0	1	5	9	59
Total	0	0	0	36	0	13	0	24	2	9	30	63	0	2	13	45	237
Grand Total	4	0	0	81	1	21	0	46	2	20	61	133	0	7	20	81	477
Apprch %	4.7	0	0	95.3	1.5	30.9	0	67.6	0.9	9.3	28.2	61.6	0	6.5	18.5	75	
Total %	0.8	0	0	17	0.2	4.4	0	9.6	0.4	4.2	12.8	27.9	0	1.5	4.2	17	

	Prospect Street From North					Somerville Avenue From East					Prospect Street From South					Somerville Avenue 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	2	0	0	12	14	1	5	0	2	8	0	3	6	20	29	0	3	2	10	15	66
04:15 PM	0	0	0	12	12	0	1	0	5	6	0	4	5	20	29	0	1	2	7	10	57
04:30 PM	2	0	0	10	12	0	1	0	9	10	0	3	11	19	33	0	1	2	13	16	71
04:45 PM	0	0	0	11	11	0	1	0	6	7	0	1	9	11	21	0	0	1	6	7	46
Total Volume	4	0	0	45	49	1	8	0	22	31	0	11	31	70	112	0	5	7	36	48	240
% App. Total	8.2	0	0	91.8		3.2	25.8	0	71		0	9.8	27.7	62.5		0	10.4	14.6	75		
PHF	.500	.000	.000	.938	.875	.250	.400	.000	.611	.775	.000	.688	.705	.875	.848	.000	.417	.875	.692	.750	.845



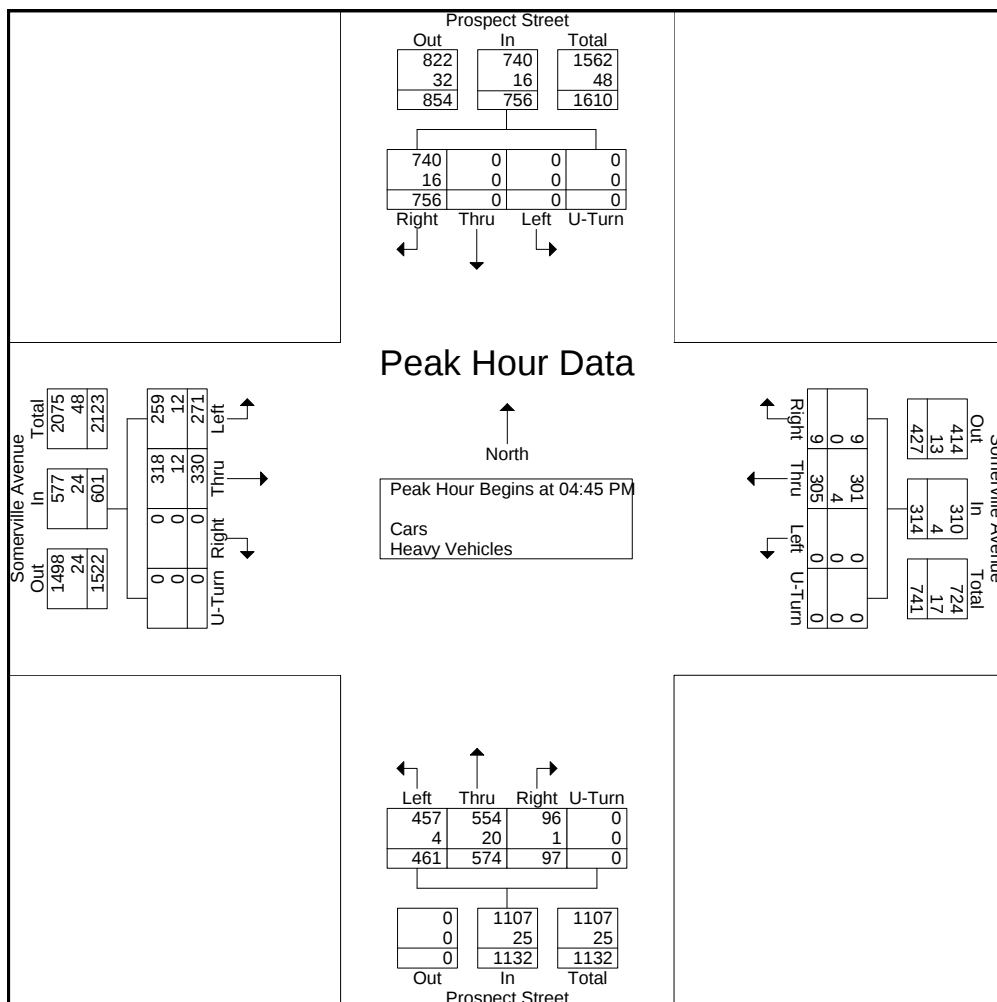
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	Prospect Street From North					Somerville Avenue From East					Prospect Street From South					Somerville Avenue From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	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 04:45 PM																					
04:45 PM	209	0	0	0	209	1	64	0	0	65	17	130	114	0	261	0	77	71	0	148	683
05:00 PM	176	0	0	0	176	2	91	0	0	93	26	132	103	0	261	0	78	74	0	152	682
05:15 PM	171	0	0	0	171	2	80	0	0	82	30	151	126	0	307	0	89	64	0	153	713
05:30 PM	200	0	0	0	200	4	70	0	0	74	24	161	118	0	303	0	86	62	0	148	725
Total Volume	756	0	0	0	756	9	305	0	0	314	97	574	461	0	1132	0	330	271	0	601	2803
% App. Total	100	0	0	0		2.9	97.1	0	0		8.6	50.7	40.7	0		0	54.9	45.1	0		
PHF	.904	.000	.000	.000	.904	.563	.838	.000	.000	.844	.808	.891	.915	.000	.922	.000	.927	.916	.000	.982	.967
Cars	740	0	0	0	740	9	301	0	0	310	96	554	457	0	1107	0	318	259	0	577	2734
% Cars	97.9	0	0	0	97.9	100	98.7	0	0	98.7	99.0	96.5	99.1	0	97.8	0	96.4	95.6	0	96.0	97.5
Heavy Vehicles	16	0	0	0	16	0	4	0	0	4	1	20	4	0	25	0	12	12	0	24	69
% Heavy Vehicles	2.1	0	0	0	2.1	0	1.3	0	0	1.3	1.0	3.5	0.9	0	2.2	0	3.6	4.4	0	4.0	2.5



Appendix B

Public Transportation



WINTER December 29, 2012 - March 22, 2013

Spring Hill - Kendall/MIT Station

 **Serving: Summer St., Somerville High School, Union Square, One Kendall Square, Cambridge Marriott and connections to the Red Line**



Arrive times are approximate, subject to traffic.

Customer Service/Travel Info 617-222-3200
Toll Free..... 1-800-392-6100
Hearing Impaired (TTY)..... 617-222-5146

For more schedule or travel information, visit:
www.mbta.com

Massachusetts Bay
Transportation Auth

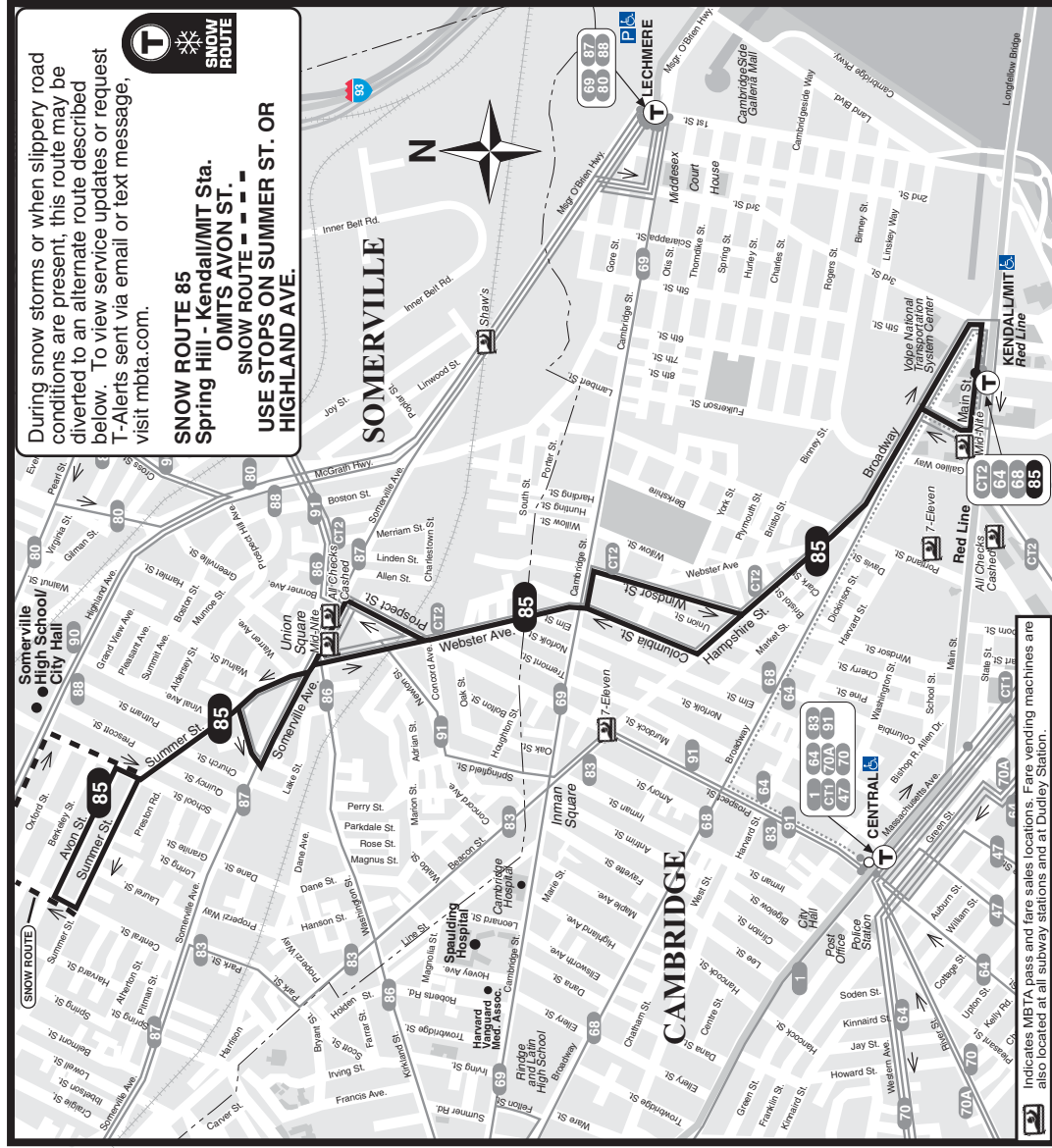
massDOT
Massachusetts Department of Transportation

T **Route 85** *Spring Hill - Kendall/MIT* via Summer Street & Union Square

During snow storms or when slippery road conditions are present, this route may be diverted to an alternate route described below. To view service updates or request T-Alerts sent via email or text message, visit mbta.com.

SNOW ROUTE 85
Spring Hill - Kendall/MIT Sta.
OMITS AVON ST

**USE STOPS ON SUMMER ST. OR
HIGHLAND AVE.**



85

WEEKDAY

	INBOUND		OUTBOUND	
	Leave Spring Hill	Arrive Kendall/ M.I.T. Sta.	Leave Kendall/ M.I.T. Sta.	Arrive Union Square Hill
5:45	5:48	5:56	6:00	6:10
6:15	6:19	6:29	6:30	6:40
6:45	6:49	6:59	7:00	7:14
7:20	7:24	7:34	7:40	7:54
8:00	8:06	8:19	8:20	8:34
8:40	8:46	8:59	9:05	9:19
9:25	9:29	9:40	9:45	9:59
10:00	10:04	10:15	10:20	10:32
10:40	10:44	10:55	11:00	11:12
11:20	11:24	11:35	11:40	11:52
12:00N	12:04P	12:14P	12:20P	12:32P
12:40P	12:44	12:54	1:00	1:12
1:20	1:24	1:34	1:40	1:52
2:00	2:04	2:14	2:20	2:32
2:40	2:44	2:54	3:00	3:14
3:20	3:24	3:34	3:40	3:54
4:00	4:04	4:14	4:20	4:35
4:40	4:44	4:54	5:00	5:17
5:20	5:24	5:34	5:40	5:57
6:00	6:04	6:14	6:20	6:36
6:40	6:44	6:54	7:00	7:13
7:20	7:24	7:34	7:40	7:53

NO SERVICE ON SATURDAYS,
SUNDAYS OR HOLIDAYS



ALL BUSES ARE ACCESSIBLE TO PERSONS WITH DISABILITIES.

Route 85
Spring Hill - Kendall/M.I.T. Station
via Summer St. & Union Sq.

"Advertise YOUR message here!"
Call MBTA Marketing Dept.
(617) 222-5740

FARES

PAYING WITH...	1-BUS TRIP	2-BUS TRIP	BUS + SUBWAY TRIP
CharlieCard	\$1.50	\$1.50	\$2.00
CharlieTicket	\$2.00	\$2.00	\$4.50
Cash onboard	\$2.00	\$4.00	\$4.50
Student CharlieCard*	\$0.75	\$0.75	\$1.00
Senior/TAP CharlieCard**	\$0.75	\$0.75	\$1.00

Children under 12 ride free when accompanied by an adult.
Blind Access CharlieCard holders ride free; if using a guide, the guide rides free.

VALID PASSES: Local Bus Pass (\$48/mo.); LinkPass (\$70/mo.); Senior/TAP Pass** (\$28/mo.); Student Pass* (\$25/mo. M-F only or \$28/mo. 7 days); express bus, commuter rail, and boat passes.

* Available to students through participating middle schools and high schools.
** Available to Medicare cardholders, seniors 65+ and persons with disabilities.

January 1: See Sunday

Winter 2013 Holidays
January 21, February 18: See Saturday

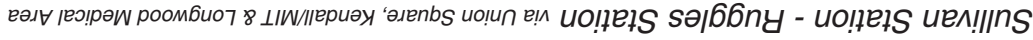


Crosstown Transit

Serving: Fenway Sta., Beth Israel Deaconess & Children's Hospitals, Museum of Fine Arts, Wentworth Inst. and connections to the Red, Orange and Green Lines



For more schedule or travel information, visit:
www.mbta.com



① Route CT2

CT2

WEEKDAY
INBOUND

Leave Sullivan Station	Arrive Union Square	Arrive Kendall/MIT Station	Arrive Vassar/Mass. Ave.	Arrive Mountfort Street	Arrive Park & Beacon Sts.	Arrive Fenway Station	Arrive Beth Israel Hospital	Arrive Children's Hospital	Arrive Huntington/Longwood Ave.	Arrive Ruggles/Huntington Ave.	Leave Ruggles Station	Arrive Ruggles/Huntington Ave.	Arrive Huntington/Longwood Ave.	Arrive Children's Hospital	Arrive Beth Israel Hospital	Arrive Fenway Station	Arrive Vassar/Mass. Ave.	Arrive Kendall/MIT Station	Arrive Union Square	Arrive Sullivan Station	
6:35A	6:41A	6:49A	6:51A	6:53A	6:57A	6:59A	7:03A	7:06A	7:08A	7:12A	7:16A	7:12A	7:08A	7:06A	7:03A	7:00A	7:00A	6:15A	6:19A	6:27A	6:33A
6:50	6:56	7:07	7:10	7:12	7:16	7:18	7:22	7:25	7:27	7:31	7:35	7:31	7:27	7:25	7:22	7:19	7:19	6:45	6:49	6:57	7:03
7:10	7:18	7:30	7:33	7:35	7:39	7:41	7:45	7:48	7:50	7:54	7:58	7:54	7:50	7:48	7:45	7:42	7:42	7:00	7:04	7:12	7:18
7:30	7:38	7:50	7:53	7:55	7:59	8:01	8:05	8:08	8:10	8:14	8:18	8:14	8:10	8:08	8:05	8:02	8:02	7:20	7:24	7:32	7:38
7:50	7:58	8:10	8:13	8:15	8:19	8:21	8:25	8:28	8:30	8:34	8:38	8:34	8:30	8:28	8:25	8:22	8:22	7:40	7:44	7:52	7:58
8:10	8:18	8:30	8:33	8:35	8:39	8:41	8:45	8:48	8:50	8:54	8:58	8:54	8:50	8:48	8:45	8:42	8:42	8:00	8:04	8:13	8:20
8:30	8:38	8:50	8:53	8:55	8:59	9:01	9:05	9:08	9:10	9:14	9:18	9:14	9:10	9:08	9:05	9:02	9:02	8:16	8:20	8:29	8:36
8:50	8:58	9:10	9:13	9:15	9:19	9:21	9:25	9:28	9:30	9:34	9:38	9:34	9:30	9:28	9:25	9:22	9:22	8:32	8:36	8:45	8:52
9:15	9:23	9:35	9:38	9:40	9:44	9:46	9:50	9:53	9:55	9:59	10:02	9:59	9:55	9:53	9:50	9:47	9:47	8:52	8:56	9:05	9:12
9:40	9:48	10:00	10:03	10:05	10:09	10:11	10:15	10:17	10:19	10:22	10:25	10:22	10:20	10:18	10:15	10:12	10:12	9:12	9:16	9:25	9:32
10:00	10:07	10:16	10:19	10:21	10:25	10:27	10:28	10:33	10:35	10:38	10:41	10:38	10:35	10:33	10:31	10:28	10:28	9:37	9:41	9:50	9:57
10:30	10:37	10:46	10:49	10:51	10:55	10:57	11:01	11:03	11:05	11:08	11:11	11:08	11:05	11:03	11:01	10:58	10:58	10:06	10:10	10:18	10:25
11:00	11:07	11:16	11:19	11:21	11:25	11:27	11:31	11:33	11:35	11:38	11:41	11:38	11:35	11:33	11:31	11:28	11:28	10:34	10:38	10:46	10:53
11:35	11:42	11:51	11:54	11:56	12:00N	12:02P	12:06P	12:08P	12:10P	12:13P	12:16P	12:13P	12:10P	12:08P	12:06P	12:03P	12:03P	12:09P	12:13P	12:21P	12:28P
12:05P	12:12P	12:21P	12:24P	12:26P	12:30P	12:32P	12:36P	12:38P	12:40P	12:43P	12:46P	12:43P	12:40P	12:38P	12:36P	12:33P	12:33P	12:44P	12:48P	12:56P	1:04P
12:35	12:42	12:51	12:54	12:56	1:00	1:02	1:06	1:08	1:10	1:14	1:18	1:14	1:10	1:08	1:06	1:03	1:03	1:19	1:23	1:33	1:42
1:10	1:17	1:28	1:31	1:33	1:37	1:39	1:40	1:45	1:47	1:51	1:55	1:51	1:47	1:45	1:43	1:40	1:40	1:50	1:54	2:04	2:13
1:45	1:52	2:03	2:06	2:08	2:12	2:14	2:15	2:20	2:22	2:26	2:30	2:26	2:22	2:20	2:18	2:15	2:15	2:15	2:19	2:29	2:38
2:15	2:22	2:33	2:36	2:38	2:42	2:44	2:45	2:48	2:52	2:56	3:00	2:56	2:52	2:50	2:48	2:45	2:45	2:40	2:44	2:54	2:58
2:45	2:52	3:03	3:06	3:08	3:13	3:15	3:16	3:19	3:24	3:28	3:33	3:28	3:24	3:22	3:19	3:16	3:16	3:05	3:09	3:19	3:28
3:10	3:19	3:29	3:32	3:34	3:39	3:41	3:42	3:48	3:50	3:54	3:59	3:54	3:50	3:48	3:45	3:42	3:42	3:30	3:34	3:44	3:53
3:35	3:44	3:54	3:57	3:59	4:04	4:06	4:07	4:13	4:15	4:19	4:24	4:19	4:15	4:13	4:10	4:07	4:07	3:55	3:59	4:09	4:18
4:00	4:09	4:19	4:22	4:24	4:29	4:31	4:32	4:38	4:40	4:44	4:49	4:44	4:40	4:38	4:35	4:32	4:32	4:20	4:24	4:34	4:43
4:25	4:34	4:44	4:47	4:49	4:54	4:56	4:57	5:00	5:05	5:09	5:14	5:09	5:05	5:03	5:00	4:57	4:57	4:45	4:49	4:59	5:08
4:50	4:59	5:09	5:12	5:14	5:19	5:21	5:22	5:28	5:30	5:34	5:39	5:34	5:30	5:28	5:25	5:22	5:22	5:10	5:14	5:24	5:33
5:15	5:24	5:34	5:37	5:39	5:44	5:46	5:47	5:55	5:57	6:01	6:04	6:01	5:55	5:53	5:50	6:12	6:12	5:35	5:39	5:49	5:58
5:40	5:49	5:59	6:02	6:04	6:09	6:11	6:15	6:18	6:20	6:24	6:29	6:24	6:20	6:18	6:15	6:12	6:12	6:00	6:04	6:14	6:23
6:05	6:14	6:24	6:27	6:29	6:34	6:36	6:37	6:43	6:45	6:49	6:54	6:49	6:45	6:43	6:40	6:37	6:37	6:25	6:29	6:39	6:48
6:30	6:39	6:49	6:52	6:54	6:59	7:01	7:02	7:07	7:09	7:12	7:15	7:12	7:09	7:07	7:05	7:02	7:02	6:42	6:46	6:59	7:04
7:00	7:05	7:12	7:15	7:17	7:21	7:23	7:24	7:29	7:31	7:34	7:37	7:34	7:31	7:29	7:27	7:24	7:24	7:07	7:11	7:18	7:23

In addition to the stops listed above, this route also stops in Somerville on Washington St. at Myrtle Street and at McGrath Highway. In Cambridge this route also stops at Cambridge & Columbia Streets and at One Kendall Square (Hampshire St. at Broadway).



ALL BUSES ARE ACCESSIBLE TO PERSONS WITH DISABILITIES.

Route CT2
Sullivan Station - Ruggles Station
via Union Sq., Kendall/MIT &
Longwood Medical Area

Winter 2013

Holidays without service:

January 1 - New Year's Day

January 21 - Martin Luther King Day

February 18 - President's Day

WEEKDAY
OUTBOUND

CT2

FARES

PAYING WITH...	1-BUS TRIP	2-BUS TRIP	BUS + SUBWAY TRIP
CharlieCard	\$1.50	\$1.50	\$2.00
Charlie Ticket	\$2.00	\$2.00	\$4.50
Cash onboard	\$2.00	\$4.00	\$4.50
Student CharlieCard*	\$0.75	\$0.75	\$1.00
Senior/TAP CharlieCard**	\$0.75	\$0.75	\$1.00

Children under 12 ride free when accompanied by an adult.
Blind Access CharlieCard holders ride free, if using a guide, the guide rides free.

VALID PASSES: Local Bus Pass (\$48/mo.); LinkPass (\$70/mo.); Senior/TAP Pass** (\$28/mo.);

Student Pass* (\$25/mo. M-F only or \$28/mo. 7 days), express bus, commuter rail, and boat passes.

* Available to students through participating middle schools and high schools.

** Available to Medicare cardholders, seniors 65+ and persons with disabilities.

Appendix C

Accident Data / Crash Rate Worksheets

[Traffic & Safety Engineering Home](#)[Accessible Pedestrian Signal Installation Policy](#)[Accident \(Crash\) Data](#)[Approved Signal Controls](#)[Crash Rates](#)[Guide Sign Policy for Secondary State Highways](#)[Management Plans \(Flaggers and Police Details\)](#)[Massachusetts Amendments to the Federal MUTCD](#)[25% Design Submission Guidelines and Traffic Analysis Tools](#)[Mast Arm and Foundation Details Standard Drawings](#)[Road Safety Audits](#)[Roadway Safety Tips](#)[Speed Limit Regulations](#)[Strategic Highway Safety Plan](#)[Supplemental Sign Policy](#)[Top Crash Location Reports and Maps](#)[Traffic Safety Toolbox](#)

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[<<back](#) | [1](#) | [2](#)

Average Crash Rates

Crash information queried on July 7, 2011

Intersection - Crashes per million entering vehicles

Location	Signalized Intersections	Unsignalized Intersections
Statewide	0.81	0.61
District 1*	0.92*	0.40*
District 2	0.83	0.67
District 3	0.90	0.66
District 4	0.78	0.59
District 5	0.77	0.60
District 6	0.77	0.57

* - District 1 should use Statewide Rates due to low sample total

2009 Functional Classification - crashes per million vehicle miles traveled

Roadway Functional Classification	Rural	Urban
Statewide	0.86	2.12
Interstate	0.30	0.58
Principal arterial	0.41	1.99
Rural minor arterial or urban principal arterial	0.98	2.62
Urban minor arterial or rural major collector	1.47	3.72
Urban collector or rural minor collector	2.30	3.79
Local	1.42	2.08

Notes on Functional Classification Data

- Crash rates are based solely on Geocoded Crashes (*approximately 94% of all Crashes in the system but not uniformly Geocoded by Functional Classification*)
- If a crash occurred at an intersection or along two different functional classifications, the crash was assigned to the higher order roadway.
- Source of VMTs: <http://www.fhwa.dot.gov/policyinformation/statistics/2009/vm2.cfm>

Select Language

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INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Somerville, MA

COUNT DATE : December 13, 2012

DISTRICT : 4

UNSIGNALIZED : ☐

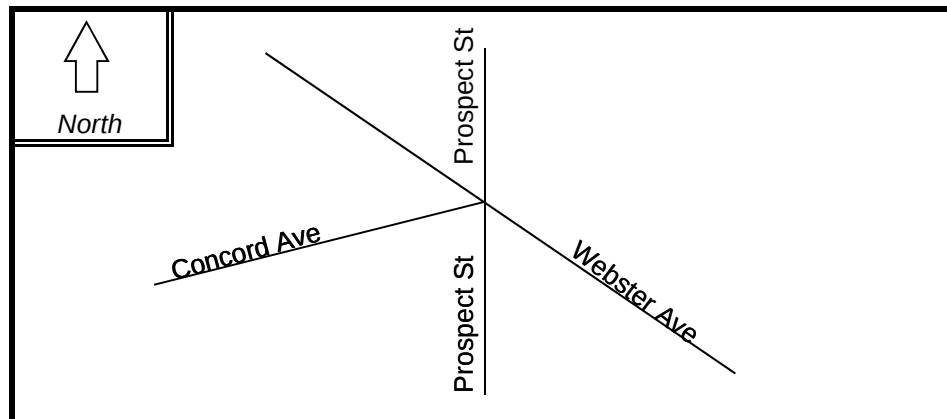
SIGNALIZED : ☒

~ INTERSECTION DATA ~

MAJOR STREET : Prospect Street

MINOR STREET(S) : Webster Avenue / Concord Avenue

**INTERSECTION
DIAGRAM
(Label Approaches)**



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	NWB	SEB			
PEAK HOURLY VOLUMES (PM) :	516	639	531			1,686

" K " FACTOR :

0.065

INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :

25,938

TOTAL # OF CRASHES :

13

OF YEARS :

3

AVERAGE # OF CRASHES PER YEAR (A) :

4.33

CRASH RATE CALCULATION :

0.46

$$\text{RATE} = \frac{(A * 1,000,000)}{(V * 365)}$$

Comments : Based on MassDOT crash data; MassDOT D4 average crash rate = 0.78 (signalized)

Project Title & Date : 70 Prospect Street - Somerville, MA December 19, 2012

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Somerville, MA

COUNT DATE : December 13, 2012

DISTRICT : 4

UNSIGNALIZED : ☒

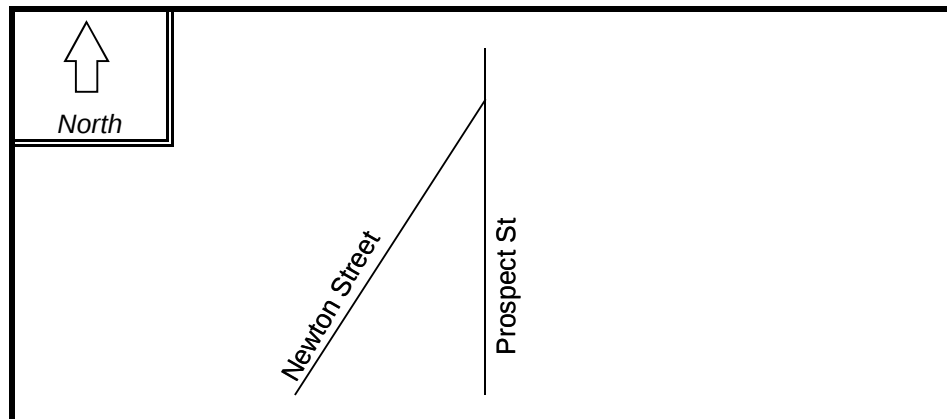
SIGNALIZED : ☐

~ INTERSECTION DATA ~

MAJOR STREET : Prospect Street

MINOR STREET(S) : Newton Street

**INTERSECTION
DIAGRAM
(Label Approaches)**



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	NEB				
PEAK HOURLY VOLUMES (PM) :	1,097	65				1,162

" K " FACTOR :

0.065

INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :

17,877

TOTAL # OF CRASHES :

1

OF YEARS :

3

AVERAGE # OF CRASHES PER YEAR (A) :

0.33

CRASH RATE CALCULATION :

0.05

$$\text{RATE} = \frac{(A * 1,000,000)}{(V * 365)}$$

Comments : Based on MassDOT crash data; MassDOT D4 average crash rate = 0.59 (unsignalized)

Project Title & Date : 70 Prospect Street - Somerville, MA December 19, 2012

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Somerville, MA

COUNT DATE : December 13, 2012

DISTRICT : 4

UNSIGNALIZED : ☐

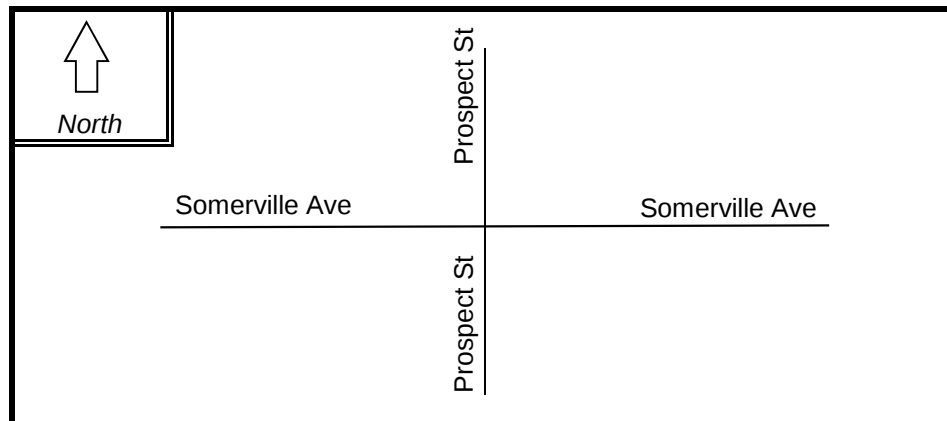
SIGNALIZED : ☒

~ INTERSECTION DATA ~

MAJOR STREET : Prospect Street

MINOR STREET(S) : Somerville Avenue

**INTERSECTION
DIAGRAM**
(Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SB		
PEAK HOURLY VOLUMES (PM) :	601	314	1,132	756		2,803

" K " FACTOR :

0.065

INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :

43,123

TOTAL # OF CRASHES :

15

OF YEARS :

3

AVERAGE # OF CRASHES PER YEAR (A) :

5.00

CRASH RATE CALCULATION :

0.32

$$\text{RATE} = \frac{(A * 1,000,000)}{(V * 365)}$$

Comments : Based on MassDOT crash data; MassDOT D4 average crash rate = 0.78 (signalized)

Project Title & Date : 70 Prospect Street - Somerville, MA December 19, 2012

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Somerville, MA

COUNT DATE : December 13, 2012

DISTRICT : 4

UNSIGNALIZED : ☐

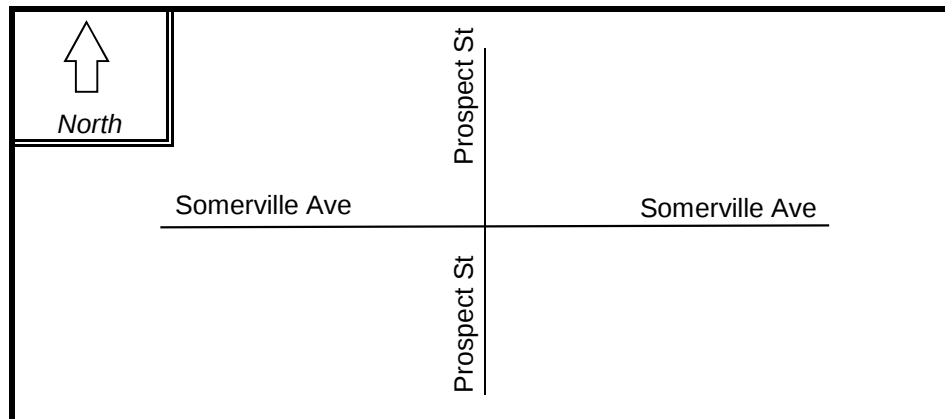
SIGNALIZED : ☒

~ INTERSECTION DATA ~

MAJOR STREET : Prospect Street

MINOR STREET(S) : Somerville Avenue

**INTERSECTION
DIAGRAM**
(Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SB		
PEAK HOURLY VOLUMES (PM) :	601	314	1,132	756		2,803

" K " FACTOR :

0.065

INTERSECTION ADT (V) = TOTAL DAILY
APPROACH VOLUME :

43,123

TOTAL # OF CRASHES :

45

OF
YEARS :

3

AVERAGE # OF
CRASHES PER YEAR (A) :

15.00

CRASH RATE CALCULATION :

0.95

$$\text{RATE} = \frac{(A * 1,000,000)}{(V * 365)}$$

Comments : Based on data from Somerville Police; MassDOT D4 average crash rate = 0.78 (signalized)

Project Title & Date : 70 Prospect Street - Somerville, MA January 14, 2013

Accidents reported in CAD 2010 – 2012

Prospect St. & Somerville Ave.

Incident#	Date/Time	Location	Incident Type
10039551	11/29/2010 13:09:12	PROSPECT ST	AC/MV
10037159	11/05/2010 07:59:42	PROSPECT ST	AC/MV
10035291	10/19/2010 13:06:03	PROSPECT ST	AC/MV
10034357	10/10/2010 17:21:10	PROSPECT ST	AC/MV
10033639	10/04/2010 10:48:13	PROSPECT ST	AC HT&RN
10032257	09/23/2010 07:34:13	PROSPECT ST	ACCBIKE
10031942	09/20/2010 13:13:19	PROSPECT ST	AC/MV
10026730	08/09/2010 18:44:38	PROSPECT ST	AC/MV
10016635	05/22/2010 10:38:27	PROSPECT ST	AC/MV
10016497	05/21/2010 10:04:13	PROSPECT ST	AC HT&RN
10009026	03/22/2010 09:14:26	PROSPECT ST	AC/MV
10008917	03/21/2010 03:04:15	PROSPECT ST	AC/MV
10008589	03/18/2010 21:26:24	PROSPECT ST	AC/MV
10007337	03/09/2010 09:00:32	PROSPECT ST	AC/MV
10003553	02/03/2010 21:04:20	PROSPECT ST	AC/MV

Incident#	Date/Time	Location	Incident Type
11035438	10/22/2011 10:58:32	PROSPECT ST	ACCBIKE
11021629	07/04/2011 21:49:47	PROSPECT ST	AC/MV
11019176	06/13/2011 22:11:42	PROSPECT ST	AC/MV
11018403	06/06/2011 23:46:35	PROSPECT ST	ACCBIKE
11017739	06/01/2011 10:36:27	PROSPECT ST	AC/MV
11016652	05/23/2011 08:41:41	PROSPECT ST	AC/MV
11012182	04/13/2011 13:09:35	PROSPECT ST	ACCBIKE
11010348	03/27/2011 05:10:49	PROSPECT ST	AC/MV
11006688	02/18/2011 23:55:40	PROSPECT ST	AC HT&RN
11003033	01/24/2011 08:36:47	PROSPECT ST	AC/MV
11002344	01/20/2011 12:26:33	PROSPECT ST	AC/MV

Incident#	Date/Time	Location	Incident Type
12052023	12/27/2012 05:44:32	PROSPECT ST	AC HT&RN
12046878	11/23/2012 18:49:48	PROSPECT ST	AC/MV
12043328	10/27/2012 14:18:07	PROSPECT ST	AC/MV
12038378	09/22/2012 15:31:29	PROSPECT ST	AC/MV
12037787	09/18/2012 17:09:57	PROSPECT ST	AC/MV
12036018	09/07/2012 20:03:25	PROSPECT ST	AC HT&RN
12033124	08/19/2012 11:18:44	PROSPECT ST	AC/MV

12031645	08/09/2012 23:25:26	PROSPECT ST	AC/MV
12031000	08/05/2012 18:24:55	PROSPECT ST	ACCBIKE
12030456	08/02/2012 14:43:44	PROSPECT ST	AC/MV
12028887	07/24/2012 12:11:41	PROSPECT ST	AC/MV
12025939	07/06/2012 00:57:16	PROSPECT ST	BIKEVIOL
12025580	07/03/2012 12:02:48	PROSPECT ST	AC/P/INJ
12016876	05/04/2012 23:36:07	PROSPECT ST	AC/P/INJ
12010414	03/20/2012 22:05:55	PROSPECT ST	AC/PEDES
12010124	03/18/2012 20:21:18	PROSPECT ST	AC/MV
12010064	03/18/2012 13:24:30	PROSPECT ST	ACCBIKE
12009840	03/16/2012 15:22:40	PROSPECT ST	AC/MV
12005830	02/16/2012 07:01:37	PROSPECT ST	ACCBIK

Accidents reported in CAD 2010 – 2012

No Accidents reported in CAD for Prospect & Newton or Prospect & Webster

Appendix D

Trip Generation Calculations

Design Consultants, Inc.
December 31, 2012
Prospect Street Residences - 70 Prospect Street
Trip Generation Calculations
Based on ITE's Trip Generation Manual, 9th Edition (2012)

Land Use: 230, Residential Condominium/Townhouse

number of units:	14
-------------------------	-----------

	AM Peak	PM Peak	Weekday Daily
Average Rate (per num. of dwelling units)	0.44	0.52	5.81
Percent Entering	17%	67%	50%
Percent Exiting	83%	33%	50%
Total Trips	6	7	81
Entering Trips	1	5	41
Exiting Trips	5	2	40

Land Use: 826, Specialty Retail Center

gross leasable area:	1,291	SF
-----------------------------	--------------	-----------

	AM Peak *	PM Peak	Weekday Daily
Average Rate (per 1,000 SF)	0.70	2.71	44.32
Percent Entering	62%	44%	50%
Percent Exiting	38%	56%	50%
Total Trips	1	3	57
Entering Trips	1	1	29
Exiting Trips	0	2	28

* Land Use 826, Specialty Retail Center does not contain any data regarding trips made during the AM peak hour of the adjacent street traffic. To estimate the trips in the AM peak hour of the adjacent street traffic, the Shopping Center (Land Use 820) land use was used. The ratio of the average rate in the AM peak hour of the adjacent street traffic (0.96) to the average rate in the PM peak hour of the adjacent street traffic (3.71) was applied to the average rate PM peak hour rate of Land Use 826. The percent entering/exiting from Land Use 820 was also used.

Total Site Trips (unadjusted)

	AM Peak	PM Peak	Weekday Daily
Total Trips	7	10	138
Entering Trips	2	6	70
Exiting Trips	5	4	68

Total Site Trips (10% reduction)

	AM Peak	PM Peak	Weekday Daily
Total Trips	6	9	124
Entering Trips	2	5	63
Exiting Trips	4	4	61

Appendix E

Intersection Capacity Analysis

Lanes, Volumes, Timings
1: Prospect St & Webster Ave

12/31/2012

												
Lane Group	NBL2	NBT	NBR	SEL	SET	SER	SER2	NWL2	NWL	NWT	NWR	ø9
Lane Configurations												
Volume (vph)	12	357	24	90	414	291	9	16	54	0	235	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	15	14	12	12	12	12	12	12	
Storage Length (ft)			0	0		175			0		0	
Storage Lanes			0	1		0			0		0	
Taper Length (ft)				25					25			
Satd. Flow (prot)	0	1791	0	1928	1844	0	0	0	0	1574	0	
Flt Permitted		0.998		0.463						0.107		
Satd. Flow (perm)	0	1791	0	939	1844	0	0	0	0	170	0	
Right Turn on Red			No				No				Yes	
Satd. Flow (RTOR)										188		
Link Speed (mph)		30			30					30		
Link Distance (ft)		631			710					600		
Travel Time (s)		14.3			16.1					13.6		
Peak Hour Factor	0.95	0.95	0.95	0.94	0.94	0.94	0.94	0.90	0.90	0.90	0.90	
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	3%	7%	7%	7%	7%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	414	0	96	760	0	0	0	0	339	0	
Turn Type	Perm	NA		Perm	NA			Perm	Perm	NA		
Protected Phases		2			4					8		9
Permitted Phases	2			4				8	8			
Detector Phase	2	2		4	4			8	8	8		
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0			4.0	4.0	4.0		4.0
Minimum Split (s)	8.0	8.0		9.0	9.0			9.0	9.0	9.0		25.0
Total Split (s)	34.0	34.0		35.0	35.0			35.0	35.0	35.0		25.0
Total Split (%)	36.2%	36.2%		37.2%	37.2%			37.2%	37.2%	37.2%		27%
Maximum Green (s)	30.0	30.0		30.0	30.0			30.0	30.0	30.0		22.0
Yellow Time (s)	3.0	3.0		4.0	4.0			4.0	4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0	1.0		0.0
Lost Time Adjust (s)		0.0		0.0	0.0					0.0		
Total Lost Time (s)		4.0		5.0	5.0					5.0		
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0		3.0
Recall Mode	Max	Max		Max	Max			Max	Max	Max		None
Walk Time (s)												7.0
Flash Dont Walk (s)												15.0
Pedestrian Calls (#/hr)												103
Act Effect Green (s)		30.5		30.5	30.5					0.0		
Actuated g/C Ratio		0.34		0.34	0.34					0.00		
v/c Ratio		0.68		0.30	1.20					1.80		
Control Delay		33.7		27.6	137.1					396.7		
Queue Delay		0.0		0.0	0.0					0.0		
Total Delay		33.7		27.6	137.1					396.7		
LOS		C		C	F					F		
Approach Delay		33.7			124.8					396.7		
Approach LOS		C			F					F		

Lanes, Volumes, Timings

1: Prospect St & Webster Ave

12/31/2012

													
Lane Group	NBL2	NBT	NBR	SEL	SET	SER	SER2	NWL2	NWL	NWT	NWR		ø9
Queue Length 50th (ft)		217		43	~583					~189			
Queue Length 95th (ft)		327		87	#804					#356			
Internal Link Dist (ft)		551			630					520			
Turn Bay Length (ft)													
Base Capacity (vph)		612		321	631					188			
Starvation Cap Reductn		0		0	0					0			
Spillback Cap Reductn		0		0	0					0			
Storage Cap Reductn		0		0	0					0			
Reduced v/c Ratio		0.68		0.30	1.20					1.80			

Intersection Summary

Area Type: Other

Cycle Length: 94

Actuated Cycle Length: 89

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.80

Intersection Signal Delay: 158.6

Intersection LOS: F

Intersection Capacity Utilization 91.0%

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: Prospect St & Webster Ave

 ø2	 ø9	 ø4
34 s	25 s	35 s
		 ø8
		35 s

HCM Unsignalized Intersection Capacity Analysis

10: Newton St & Prospect St

12/31/2012

						
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations		↑↑↑↑			↘	
Volume (veh/h)	0	690	0	0	83	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.92	0.92	0.77	0.77
Hourly flow rate (vph)	0	742	0	0	108	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		733	134			
pX, platoon unblocked						
vC, conflicting volume	0				247	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				247	0
tC, single (s)	4.2				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	100				85	100
cM capacity (veh/h)	1593				725	1091
Direction, Lane #	NB 1	NB 2	NB 3	NE 1		
Volume Total	247	247	247	108		
Volume Left	0	0	0	108		
Volume Right	0	0	0	0		
cSH	1700	1700	1700	725		
Volume to Capacity	0.15	0.15	0.15	0.15		
Queue Length 95th (ft)	0	0	0	13		
Control Delay (s)	0.0	0.0	0.0	10.8		
Lane LOS				B		
Approach Delay (s)	0.0			10.8		
Approach LOS				B		
Intersection Summary						
Average Delay		1.4				
Intersection Capacity Utilization		24.6%		ICU Level of Service	A	
Analysis Period (min)		15				

Lanes, Volumes, Timings
2: Somerville Ave & Prospect St

12/31/2012

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	231	398	0	0	189	7	220	451	87	0	0	738
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	13	12	12	13	12	12	12	12	12	12	12
Satd. Flow (prot)	0	3456	0	0	3502	0	1564	3211	0	0	0	2656
Flt Permitted		0.575					0.950	0.998				
Satd. Flow (perm)	0	2024	0	0	3502	0	1564	3211	0	0	0	2656
Right Turn on Red			Yes			Yes			No			No
Satd. Flow (RTOR)					3							
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		394			201			134			184	
Travel Time (s)		9.0			4.6			3.0			4.2	
Peak Hour Factor	0.96	0.96	0.96	0.71	0.71	0.71	0.87	0.87	0.87	0.85	0.85	0.85
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	5%	5%	5%	7%	7%	7%
Shared Lane Traffic (%)							10%					
Lane Group Flow (vph)	0	656	0	0	276	0	228	643	0	0	0	868
Turn Type	pm+pt	NA			NA		Perm	NA				Over
Protected Phases	5	2			6			8				5
Permitted Phases	2						8					
Detector Phase	5	2			6		8	8				5
Switch Phase												
Minimum Initial (s)	4.0	4.0			4.0		4.0	4.0				4.0
Minimum Split (s)	9.0	8.0			8.0		9.0	9.0				9.0
Total Split (s)	40.0	58.0			18.0		37.0	37.0				40.0
Total Split (%)	34.5%	50.0%			15.5%		31.9%	31.9%				34.5%
Maximum Green (s)	35.0	54.0			14.0		32.0	32.0				35.0
Yellow Time (s)	4.0	3.0			3.0		4.0	4.0				4.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0				1.0
Lost Time Adjust (s)		0.0			0.0		0.0	0.0				0.0
Total Lost Time (s)		4.0			4.0		5.0	5.0				5.0
Lead/Lag	Lead				Lag							Lead
Lead-Lag Optimize?	Yes				Yes							Yes
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0				3.0
Recall Mode	Max	Max			Max		Max	Max				Max
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effect Green (s)		54.0			14.0		32.0	32.0				35.0
Actuated g/C Ratio		0.47			0.12		0.28	0.28				0.30
v/c Ratio		0.47			0.65		0.53	0.73				1.08
Control Delay		21.8			56.0		40.9	43.6				95.8
Queue Delay		0.0			0.0		0.0	0.0				0.0
Total Delay		21.8			56.0		40.9	43.6				95.8
LOS		C			E		D	D				F
Approach Delay		21.8			56.0			42.9				
Approach LOS		C			E			D				
Queue Length 50th (ft)		165			104		159	239				~413
Queue Length 95th (ft)		213			115		237	296				#500
Internal Link Dist (ft)		314			121			54			104	

Lanes, Volumes, Timings

2: Somerville Ave & Prospect St

12/31/2012

Lane Group	ø9
Lane Configurations	
Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	21.0
Total Split (s)	21.0
Total Split (%)	18%
Maximum Green (s)	17.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	8.0
Flash Dont Walk (s)	9.0
Pedestrian Calls (#/hr)	131
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	

Lanes, Volumes, Timings

2: Somerville Ave & Prospect St

12/31/2012

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)												
Base Capacity (vph)		1386			425		431	885				801
Starvation Cap Reductn		0			0		0	0				0
Spillback Cap Reductn		0			0		0	0				0
Storage Cap Reductn		0			0		0	0				0
Reduced v/c Ratio		0.47			0.65		0.53	0.73				1.08

Intersection Summary

Area Type: Other

Cycle Length: 116

Actuated Cycle Length: 116

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.08

Intersection Signal Delay: 56.3

Intersection LOS: E

Intersection Capacity Utilization 57.4%

ICU Level of Service B

Analysis Period (min) 15

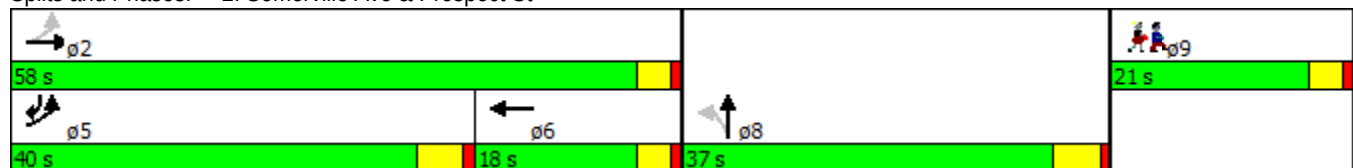
~ Volume exceeds capacity, queue is theoretically infinite.

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: 2: Somerville Ave & Prospect St



Lane Group	ø9
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Lanes, Volumes, Timings
1: Prospect St & Webster Ave

12/31/2012

												
Lane Group	NBL2	NBT	NBR	SEL	SET	SER	SER2	NWL2	NWL	NWT	NWR	ø9
Lane Configurations												
Volume (vph)	15	487	14	81	184	266	20	10	113	0	516	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	15	14	12	12	12	12	12	12	
Storage Length (ft)			0	0		175			0		0	
Storage Lanes			0	1		0			0		0	
Taper Length (ft)				25					25			
Satd. Flow (prot)	0	1835	0	1928	1789	0	0	0	0	1643	0	
Flt Permitted		0.999		0.232						0.246		
Satd. Flow (perm)	0	1835	0	471	1789	0	0	0	0	408	0	
Right Turn on Red			No				No				Yes	
Satd. Flow (RTOR)										236		
Link Speed (mph)		30			30					30		
Link Distance (ft)		631			710					600		
Travel Time (s)		14.3			16.1					13.6		
Peak Hour Factor	0.97	0.97	0.97	0.91	0.91	0.91	0.91	0.89	0.89	0.89	0.89	
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	531	0	89	516	0	0	0	0	718	0	
Turn Type	Perm	NA		Perm	NA			Perm	Perm	NA		
Protected Phases		2			4					8		9
Permitted Phases	2			4				8	8			
Detector Phase	2	2		4	4			8	8	8		
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0			4.0	4.0	4.0		4.0
Minimum Split (s)	8.0	8.0		9.0	9.0			9.0	9.0	9.0		25.0
Total Split (s)	34.0	34.0		35.0	35.0			35.0	35.0	35.0		25.0
Total Split (%)	36.2%	36.2%		37.2%	37.2%			37.2%	37.2%	37.2%		27%
Maximum Green (s)	30.0	30.0		30.0	30.0			30.0	30.0	30.0		22.0
Yellow Time (s)	3.0	3.0		4.0	4.0			4.0	4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0	1.0		0.0
Lost Time Adjust (s)		0.0		0.0	0.0					0.0		
Total Lost Time (s)		4.0		5.0	5.0					5.0		
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0		3.0
Recall Mode	Max	Max		Max	Max			Max	Max	Max		None
Walk Time (s)												7.0
Flash Dont Walk (s)												15.0
Pedestrian Calls (#/hr)												137
Act Effect Green (s)		30.0		30.0	30.0					30.0		
Actuated g/C Ratio		0.32		0.32	0.32					0.32		
v/c Ratio		0.91		0.59	0.91					2.48		
Control Delay		52.4		46.0	52.5					689.8		
Queue Delay		0.0		0.0	0.0					0.0		
Total Delay		52.4		46.0	52.5					689.8		
LOS		D		D	D					F		
Approach Delay		52.4			51.5					689.8		
Approach LOS		D			D					F		

Lanes, Volumes, Timings

1: Prospect St & Webster Ave

12/31/2012

													
Lane Group	NBL2	NBT	NBR	SEL	SET	SER	SER2	NWL2	NWL	NWT	NWR		ø9
Queue Length 50th (ft)		301		44	292					~549			
Queue Length 95th (ft)		#496		#115	#483					#759			
Internal Link Dist (ft)		551			630					520			
Turn Bay Length (ft)													
Base Capacity (vph)		585		150	570					290			
Starvation Cap Reductn		0		0	0					0			
Spillback Cap Reductn		0		0	0					0			
Storage Cap Reductn		0		0	0					0			
Reduced v/c Ratio		0.91		0.59	0.91					2.48			

Intersection Summary

Area Type: Other

Cycle Length: 94

Actuated Cycle Length: 94

Natural Cycle: 150

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 2.48

Intersection Signal Delay: 299.0

Intersection LOS: F

Intersection Capacity Utilization 104.8%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 1: Prospect St & Webster Ave

 ø2	 ø9	 ø4
34 s	25 s	35 s
		 ø8
		35 s

HCM Unsignalized Intersection Capacity Analysis

10: Newton St & Prospect St

12/31/2012

						
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations		↑↑↑↑			↘	
Volume (veh/h)	0	1097	0	0	65	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.92	0.92	0.69	0.69
Hourly flow rate (vph)	0	1261	0	0	94	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)		733	134			
pX, platoon unblocked						
vC, conflicting volume	0				420	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				420	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				83	100
cM capacity (veh/h)	1622				564	1088
Direction, Lane #	NB 1	NB 2	NB 3	NE 1		
Volume Total	420	420	420	94		
Volume Left	0	0	0	94		
Volume Right	0	0	0	0		
cSH	1700	1700	1700	564		
Volume to Capacity	0.25	0.25	0.25	0.17		
Queue Length 95th (ft)	0	0	0	15		
Control Delay (s)	0.0	0.0	0.0	12.7		
Lane LOS				B		
Approach Delay (s)	0.0			12.7		
Approach LOS				B		
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			31.5%		ICU Level of Service	A
Analysis Period (min)			15			

Lanes, Volumes, Timings
2: Somerville Ave & Prospect St

12/31/2012

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	271	330	0	0	305	9	461	574	97	0	0	756
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	13	12	12	13	12	12	12	12	12	12	12
Satd. Flow (prot)	0	3508	0	0	3679	0	1610	3306	0	0	0	2787
Flt Permitted		0.597					0.950	0.994				
Satd. Flow (perm)	0	2141	0	0	3679	0	1610	3306	0	0	0	2787
Right Turn on Red			Yes			Yes			No			No
Satd. Flow (RTOR)					2							
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		394			201			134			184	
Travel Time (s)		9.0			4.6			3.0			4.2	
Peak Hour Factor	0.98	0.98	0.98	0.84	0.84	0.84	0.92	0.92	0.92	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	1%	1%	1%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)							19%					
Lane Group Flow (vph)	0	614	0	0	374	0	406	824	0	0	0	840
Turn Type	pm+pt	NA			NA		Perm	NA				Over
Protected Phases	5	2			6			8				5
Permitted Phases	2						8					
Detector Phase	5	2			6		8	8				5
Switch Phase												
Minimum Initial (s)	4.0	4.0			4.0		4.0	4.0				4.0
Minimum Split (s)	9.0	8.0			8.0		9.0	9.0				9.0
Total Split (s)	40.0	58.0			18.0		37.0	37.0				40.0
Total Split (%)	34.5%	50.0%			15.5%		31.9%	31.9%				34.5%
Maximum Green (s)	35.0	54.0			14.0		32.0	32.0				35.0
Yellow Time (s)	4.0	3.0			3.0		4.0	4.0				4.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0				1.0
Lost Time Adjust (s)		0.0			0.0		0.0	0.0				0.0
Total Lost Time (s)		4.0			4.0		5.0	5.0				5.0
Lead/Lag	Lead				Lag							Lead
Lead-Lag Optimize?	Yes				Yes							Yes
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0				3.0
Recall Mode	Max	Max			Max		Max	Max				Max
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effect Green (s)		54.0			14.0		32.0	32.0				35.0
Actuated g/C Ratio		0.47			0.12		0.28	0.28				0.30
v/c Ratio		0.43			0.84		0.91	0.90				1.00
Control Delay		21.2			67.2		67.4	55.0				72.0
Queue Delay		0.0			0.0		0.0	0.0				0.0
Total Delay		21.2			67.2		67.4	55.0				72.0
LOS		C			E		E	D				E
Approach Delay		21.2			67.2			59.1				
Approach LOS		C			E			E				
Queue Length 50th (ft)		152			145		323	326				356
Queue Length 95th (ft)		197			#196		#529	#446				#507
Internal Link Dist (ft)		314			121			54			104	

Lanes, Volumes, Timings

2: Somerville Ave & Prospect St

12/31/2012

Lane Group	ø9
Lane Configurations	
Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	21.0
Total Split (s)	21.0
Total Split (%)	18%
Maximum Green (s)	17.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	8.0
Flash Dont Walk (s)	9.0
Pedestrian Calls (#/hr)	175
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	

Lanes, Volumes, Timings

2: Somerville Ave & Prospect St

12/31/2012

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)												
Base Capacity (vph)		1420			445		444	912				840
Starvation Cap Reductn		0			0		0	0				0
Spillback Cap Reductn		0			0		0	0				0
Storage Cap Reductn		0			0		0	0				0
Reduced v/c Ratio		0.43			0.84		0.91	0.90				1.00

Intersection Summary

Area Type: Other

Cycle Length: 116

Actuated Cycle Length: 116

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 56.0

Intersection LOS: E

Intersection Capacity Utilization 68.4%

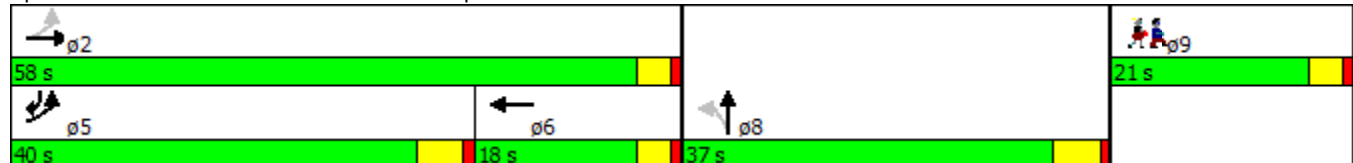
ICU Level of Service C

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 2: Somerville Ave & Prospect St



Lane Group	ø9
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Lanes, Volumes, Timings
1: Prospect St & Webster Ave

12/31/2012

												
Lane Group	NBL2	NBT	NBR	SEL	SET	SER	SER2	NWL2	NWL	NWT	NWR	ø9
Lane Configurations												
Volume (vph)	13	375	25	95	435	306	9	17	57	0	247	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	15	14	12	12	12	12	12	12	
Storage Length (ft)			0	0		175			0		0	
Storage Lanes			0	1		0			0		0	
Taper Length (ft)				25					25			
Satd. Flow (prot)	0	1791	0	1928	1844	0	0	0	0	1574	0	
Flt Permitted		0.998		0.450						0.096		
Satd. Flow (perm)	0	1791	0	913	1844	0	0	0	0	153	0	
Right Turn on Red			No				No				Yes	
Satd. Flow (RTOR)										188		
Link Speed (mph)		30			30					30		
Link Distance (ft)		631			710					600		
Travel Time (s)		14.3			16.1					13.6		
Peak Hour Factor	0.95	0.95	0.95	0.94	0.94	0.94	0.94	0.90	0.90	0.90	0.90	
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	3%	7%	7%	7%	7%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	435	0	101	799	0	0	0	0	356	0	
Turn Type	Perm	NA		Perm	NA			Perm	Perm	NA		
Protected Phases		2			4					8		9
Permitted Phases	2			4				8	8			
Detector Phase	2	2		4	4			8	8	8		
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0			4.0	4.0	4.0		4.0
Minimum Split (s)	8.0	8.0		9.0	9.0			9.0	9.0	9.0		25.0
Total Split (s)	34.0	34.0		35.0	35.0			35.0	35.0	35.0		25.0
Total Split (%)	36.2%	36.2%		37.2%	37.2%			37.2%	37.2%	37.2%		27%
Maximum Green (s)	30.0	30.0		30.0	30.0			30.0	30.0	30.0		22.0
Yellow Time (s)	3.0	3.0		4.0	4.0			4.0	4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0	1.0		0.0
Lost Time Adjust (s)		0.0		0.0	0.0					0.0		
Total Lost Time (s)		4.0		5.0	5.0					5.0		
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0		3.0
Recall Mode	Max	Max		Max	Max			Max	Max	Max		None
Walk Time (s)												7.0
Flash Dont Walk (s)												15.0
Pedestrian Calls (#/hr)												103
Act Effect Green (s)		30.5		30.5	30.5					0.0		
Actuated g/C Ratio		0.34		0.34	0.34					0.00		
v/c Ratio		0.71		0.32	1.27					1.89		
Control Delay		35.2		28.1	161.9					436.3		
Queue Delay		0.0		0.0	0.0					0.0		
Total Delay		35.2		28.1	161.9					436.3		
LOS		D		C	F					F		
Approach Delay		35.2			146.9					436.3		
Approach LOS		D			F					F		

Lanes, Volumes, Timings

1: Prospect St & Webster Ave

12/31/2012

													
Lane Group	NBL2	NBT	NBR	SEL	SET	SER	SER2	NWL2	NWL	NWT	NWR		ø9
Queue Length 50th (ft)		232		46	~631					~210			
Queue Length 95th (ft)		#357		92	#855					#382			
Internal Link Dist (ft)		551			630					520			
Turn Bay Length (ft)													
Base Capacity (vph)		612		312	631					188			
Starvation Cap Reductn		0		0	0					0			
Spillback Cap Reductn		0		0	0					0			
Storage Cap Reductn		0		0	0					0			
Reduced v/c Ratio		0.71		0.32	1.27					1.89			

Intersection Summary

Area Type: Other

Cycle Length: 94

Actuated Cycle Length: 89

Natural Cycle: 140

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.89

Intersection Signal Delay: 179.1

Intersection LOS: F

Intersection Capacity Utilization 95.1%

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: Prospect St & Webster Ave

 ø2	 ø9	 ø4
34 s	25 s	35 s
		 ø8
		35 s

HCM Unsignalized Intersection Capacity Analysis

10: Newton St & Prospect St

12/31/2012

						
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations		↑↑↑↑			↘	
Volume (veh/h)	0	725	0	0	87	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.92	0.92	0.77	0.77
Hourly flow rate (vph)	0	780	0	0	113	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)		733	134			
pX, platoon unblocked						
vC, conflicting volume	0				260	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				260	0
tC, single (s)	4.2				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	100				84	100
cM capacity (veh/h)	1593				712	1091
Direction, Lane #	NB 1	NB 2	NB 3	NE 1		
Volume Total	260	260	260	113		
Volume Left	0	0	0	113		
Volume Right	0	0	0	0		
cSH	1700	1700	1700	712		
Volume to Capacity	0.15	0.15	0.15	0.16		
Queue Length 95th (ft)	0	0	0	14		
Control Delay (s)	0.0	0.0	0.0	11.0		
Lane LOS				B		
Approach Delay (s)	0.0			11.0		
Approach LOS				B		
Intersection Summary						
Average Delay		1.4				
Intersection Capacity Utilization		25.5%		ICU Level of Service	A	
Analysis Period (min)		15				

Lanes, Volumes, Timings
2: Somerville Ave & Prospect St

12/31/2012

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	243	418	0	0	199	7	231	474	91	0	0	776
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	13	12	12	13	12	12	12	12	12	12	12
Satd. Flow (prot)	0	3456	0	0	3502	0	1564	3211	0	0	0	2656
Flt Permitted		0.569					0.950	0.998				
Satd. Flow (perm)	0	2002	0	0	3502	0	1564	3211	0	0	0	2656
Right Turn on Red			Yes			Yes			No			No
Satd. Flow (RTOR)					2							
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		394			201			134			184	
Travel Time (s)		9.0			4.6			3.0			4.2	
Peak Hour Factor	0.96	0.96	0.96	0.71	0.71	0.71	0.87	0.87	0.87	0.85	0.85	0.85
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	5%	5%	5%	7%	7%	7%
Shared Lane Traffic (%)							10%					
Lane Group Flow (vph)	0	688	0	0	290	0	239	677	0	0	0	913
Turn Type	pm+pt	NA			NA		Perm	NA				Over
Protected Phases	5	2			6			8				5
Permitted Phases	2						8					
Detector Phase	5	2			6		8	8				5
Switch Phase												
Minimum Initial (s)	4.0	4.0			4.0		4.0	4.0				4.0
Minimum Split (s)	9.0	8.0			8.0		9.0	9.0				9.0
Total Split (s)	40.0	58.0			18.0		37.0	37.0				40.0
Total Split (%)	34.5%	50.0%			15.5%		31.9%	31.9%				34.5%
Maximum Green (s)	35.0	54.0			14.0		32.0	32.0				35.0
Yellow Time (s)	4.0	3.0			3.0		4.0	4.0				4.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0				1.0
Lost Time Adjust (s)		0.0			0.0		0.0	0.0				0.0
Total Lost Time (s)		4.0			4.0		5.0	5.0				5.0
Lead/Lag	Lead				Lag							Lead
Lead-Lag Optimize?	Yes				Yes							Yes
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0				3.0
Recall Mode	Max	Max			Max		Max	Max				Max
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effect Green (s)		54.0			14.0		32.0	32.0				35.0
Actuated g/C Ratio		0.47			0.12		0.28	0.28				0.30
v/c Ratio		0.50			0.68		0.55	0.76				1.14
Control Delay		22.2			57.6		41.7	45.2				115.5
Queue Delay		0.0			0.0		0.0	0.0				0.0
Total Delay		22.2			57.6		41.7	45.2				115.5
LOS		C			E		D	D				F
Approach Delay		22.2			57.6			44.3				
Approach LOS		C			E			D				
Queue Length 50th (ft)		175			110		168	255				~452
Queue Length 95th (ft)		225			121		250	315				#540
Internal Link Dist (ft)		314			121			54			104	

Lanes, Volumes, Timings

2: Somerville Ave & Prospect St

12/31/2012

Lane Group	ø9
Lane Configurations	
Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	21.0
Total Split (s)	21.0
Total Split (%)	18%
Maximum Green (s)	17.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	8.0
Flash Dont Walk (s)	9.0
Pedestrian Calls (#/hr)	131
Act Effect Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	

Lanes, Volumes, Timings 2: Somerville Ave & Prospect St

12/31/2012

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)												
Base Capacity (vph)		1383			424		431	885				801
Starvation Cap Reductn		0			0		0	0				0
Spillback Cap Reductn		0			0		0	0				0
Storage Cap Reductn		0			0		0	0				0
Reduced v/c Ratio		0.50			0.68		0.55	0.76				1.14

Intersection Summary

Area Type: Other

Cycle Length: 116

Actuated Cycle Length: 116

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.14

Intersection Signal Delay: 63.4

Intersection LOS: E

Intersection Capacity Utilization 59.7%

ICU Level of Service B

Analysis Period (min) 15

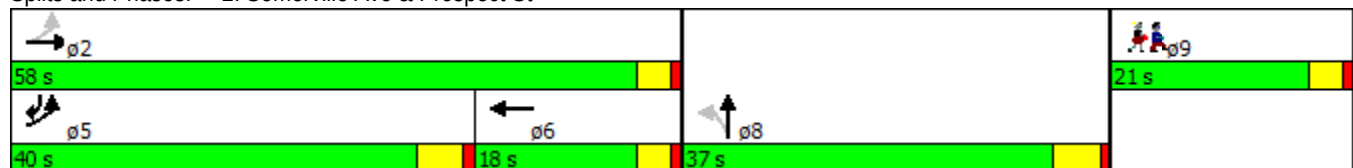
~ Volume exceeds capacity, queue is theoretically infinite.

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: 2: Somerville Ave & Prospect St



Lane Group	ø9
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Lanes, Volumes, Timings
1: Prospect St & Webster Ave

12/31/2012

												
Lane Group	NBL2	NBT	NBR	SEL	SET	SER	SER2	NWL2	NWL	NWT	NWR	ø9
Lane Configurations												
Volume (vph)	16	512	15	85	193	280	21	11	119	0	542	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	15	14	12	12	12	12	12	12	
Storage Length (ft)			0	0		175			0		0	
Storage Lanes			0	1		0			0		0	
Taper Length (ft)				25					25			
Satd. Flow (prot)	0	1835	0	1928	1789	0	0	0	0	1643	0	
Flt Permitted		0.999		0.223						0.193		
Satd. Flow (perm)	0	1835	0	452	1789	0	0	0	0	320	0	
Right Turn on Red			No				No				Yes	
Satd. Flow (RTOR)										235		
Link Speed (mph)		30			30					30		
Link Distance (ft)		631			710					600		
Travel Time (s)		14.3			16.1					13.6		
Peak Hour Factor	0.97	0.97	0.97	0.91	0.91	0.91	0.91	0.89	0.89	0.89	0.89	
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	559	0	93	543	0	0	0	0	755	0	
Turn Type	Perm	NA		Perm	NA			Perm	Perm	NA		
Protected Phases		2			4					8		9
Permitted Phases	2			4				8	8			
Detector Phase	2	2		4	4			8	8	8		
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0			4.0	4.0	4.0		4.0
Minimum Split (s)	8.0	8.0		9.0	9.0			9.0	9.0	9.0		25.0
Total Split (s)	34.0	34.0		35.0	35.0			35.0	35.0	35.0		25.0
Total Split (%)	36.2%	36.2%		37.2%	37.2%			37.2%	37.2%	37.2%		27%
Maximum Green (s)	30.0	30.0		30.0	30.0			30.0	30.0	30.0		22.0
Yellow Time (s)	3.0	3.0		4.0	4.0			4.0	4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0	1.0		0.0
Lost Time Adjust (s)		0.0		0.0	0.0					0.0		
Total Lost Time (s)		4.0		5.0	5.0					5.0		
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0		3.0
Recall Mode	Max	Max		Max	Max			Max	Max	Max		None
Walk Time (s)												7.0
Flash Dont Walk (s)												15.0
Pedestrian Calls (#/hr)												137
Act Effect Green (s)		30.0		30.0	30.0					30.0		
Actuated g/C Ratio		0.32		0.32	0.32					0.32		
v/c Ratio		0.96		0.65	0.95					2.88		
Control Delay		60.7		51.1	60.6					871.1		
Queue Delay		0.0		0.0	0.0					0.0		
Total Delay		60.7		51.1	60.6					871.1		
LOS		E		D	E					F		
Approach Delay		60.7			59.2					871.1		
Approach LOS		E			E					F		

Lanes, Volumes, Timings

1: Prospect St & Webster Ave

12/31/2012

													
Lane Group	NBL2	NBT	NBR	SEL	SET	SER	SER2	NWL2	NWL	NWT	NWR		ø9
Queue Length 50th (ft)		324		47	314					~632			
Queue Length 95th (ft)		#534		#125	#521					#844			
Internal Link Dist (ft)		551			630					520			
Turn Bay Length (ft)													
Base Capacity (vph)		585		144	570					262			
Starvation Cap Reductn		0		0	0					0			
Spillback Cap Reductn		0		0	0					0			
Storage Cap Reductn		0		0	0					0			
Reduced v/c Ratio		0.96		0.65	0.95					2.88			

Intersection Summary

Area Type: Other

Cycle Length: 94

Actuated Cycle Length: 94

Natural Cycle: 150

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 2.88

Intersection Signal Delay: 374.0

Intersection LOS: F

Intersection Capacity Utilization 109.7%

ICU Level of Service H

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: Prospect St & Webster Ave

 ø2	 ø9	 ø4
34 s	25 s	35 s
		 ø8
		35 s

HCM Unsignalized Intersection Capacity Analysis

10: Newton St & Prospect St

12/31/2012

						
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations		↑↑↑			↘	
Volume (veh/h)	0	1153	0	0	68	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.92	0.92	0.69	0.69
Hourly flow rate (vph)	0	1325	0	0	99	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		733	134			
pX, platoon unblocked						
vC, conflicting volume	0				442	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				442	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				82	100
cM capacity (veh/h)	1622				547	1088
Direction, Lane #	NB 1	NB 2	NB 3	NE 1		
Volume Total	442	442	442	99		
Volume Left	0	0	0	99		
Volume Right	0	0	0	0		
cSH	1700	1700	1700	547		
Volume to Capacity	0.26	0.26	0.26	0.18		
Queue Length 95th (ft)	0	0	0	16		
Control Delay (s)	0.0	0.0	0.0	13.0		
Lane LOS				B		
Approach Delay (s)	0.0			13.0		
Approach LOS				B		
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			32.7%		ICU Level of Service	A
Analysis Period (min)			15			

Lanes, Volumes, Timings
2: Somerville Ave & Prospect St

12/31/2012

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	285	347	0	0	321	9	485	603	102	0	0	795
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	13	12	12	13	12	12	12	12	12	12	12
Satd. Flow (prot)	0	3508	0	0	3679	0	1610	3306	0	0	0	2787
Flt Permitted		0.601					0.950	0.994				
Satd. Flow (perm)	0	2156	0	0	3679	0	1610	3306	0	0	0	2787
Right Turn on Red			Yes			Yes			No			No
Satd. Flow (RTOR)					2							
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		394			201			134			184	
Travel Time (s)		9.0			4.6			3.0			4.2	
Peak Hour Factor	0.98	0.98	0.98	0.84	0.84	0.84	0.92	0.92	0.92	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	1%	1%	1%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)							19%					
Lane Group Flow (vph)	0	645	0	0	393	0	427	866	0	0	0	883
Turn Type	pm+pt	NA			NA		Perm	NA				Over
Protected Phases	5	2			6			8				5
Permitted Phases	2						8					
Detector Phase	5	2			6		8	8				5
Switch Phase												
Minimum Initial (s)	4.0	4.0			4.0		4.0	4.0				4.0
Minimum Split (s)	9.0	8.0			8.0		9.0	9.0				9.0
Total Split (s)	40.0	58.0			18.0		37.0	37.0				40.0
Total Split (%)	34.5%	50.0%			15.5%		31.9%	31.9%				34.5%
Maximum Green (s)	35.0	54.0			14.0		32.0	32.0				35.0
Yellow Time (s)	4.0	3.0			3.0		4.0	4.0				4.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0				1.0
Lost Time Adjust (s)		0.0			0.0		0.0	0.0				0.0
Total Lost Time (s)		4.0			4.0		5.0	5.0				5.0
Lead/Lag	Lead				Lag							Lead
Lead-Lag Optimize?	Yes				Yes							Yes
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0				3.0
Recall Mode	Max	Max			Max		Max	Max				Max
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effect Green (s)		54.0			14.0		32.0	32.0				35.0
Actuated g/C Ratio		0.47			0.12		0.28	0.28				0.30
v/c Ratio		0.45			0.88		0.96	0.95				1.05
Control Delay		21.5			72.0		76.3	61.5				85.0
Queue Delay		0.0			0.0		0.0	0.0				0.0
Total Delay		21.5			72.0		76.3	61.5				85.0
LOS		C			E		E	E				F
Approach Delay		21.5			72.0			66.4				
Approach LOS		C			E			E				
Queue Length 50th (ft)		162			153		346	349				~409
Queue Length 95th (ft)		208			#212		#568	#484				#547
Internal Link Dist (ft)		314			121			54			104	

Lanes, Volumes, Timings

2: Somerville Ave & Prospect St

12/31/2012

Lane Group	ø9
Lane Configurations	
Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	21.0
Total Split (s)	21.0
Total Split (%)	18%
Maximum Green (s)	17.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	8.0
Flash Dont Walk (s)	9.0
Pedestrian Calls (#/hr)	175
Act Effect Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	

Lanes, Volumes, Timings

2: Somerville Ave & Prospect St

12/31/2012

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)												
Base Capacity (vph)		1423			445		444	912				840
Starvation Cap Reductn		0			0		0	0				0
Spillback Cap Reductn		0			0		0	0				0
Storage Cap Reductn		0			0		0	0				0
Reduced v/c Ratio		0.45			0.88		0.96	0.95				1.05

Intersection Summary

Area Type: Other

Cycle Length: 116

Actuated Cycle Length: 116

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.05

Intersection Signal Delay: 63.2

Intersection LOS: E

Intersection Capacity Utilization 71.3%

ICU Level of Service C

Analysis Period (min) 15

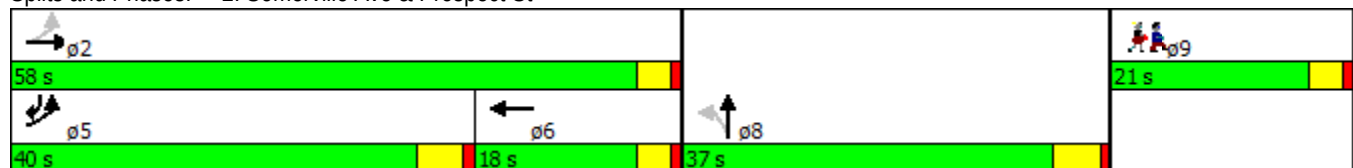
~ Volume exceeds capacity, queue is theoretically infinite.

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: 2: Somerville Ave & Prospect St



Lane Group	Ø9
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Lanes, Volumes, Timings
1: Prospect St & Webster Ave

12/31/2012

												
Lane Group	NBL2	NBT	NBR	SEL	SET	SER	SER2	NWL2	NWL	NWT	NWR	ø9
Lane Configurations												
Volume (vph)	13	377	25	95	435	307	9	17	57	0	247	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	15	14	12	12	12	12	12	12	
Storage Length (ft)			0	0		175			0		0	
Storage Lanes			0	1		0			0		0	
Taper Length (ft)				25					25			
Satd. Flow (prot)	0	1791	0	1928	1844	0	0	0	0	1574	0	
Flt Permitted		0.998		0.450						0.096		
Satd. Flow (perm)	0	1791	0	913	1844	0	0	0	0	153	0	
Right Turn on Red			No				No				Yes	
Satd. Flow (RTOR)										188		
Link Speed (mph)		30			30					30		
Link Distance (ft)		185			710					600		
Travel Time (s)		4.2			16.1					13.6		
Peak Hour Factor	0.95	0.95	0.95	0.94	0.94	0.94	0.94	0.90	0.90	0.90	0.90	
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	3%	7%	7%	7%	7%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	437	0	101	800	0	0	0	0	356	0	
Turn Type	Perm	NA		Perm	NA			Perm	Perm	NA		
Protected Phases		2			4					8		9
Permitted Phases	2			4				8	8			
Detector Phase	2	2		4	4			8	8	8		
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0			4.0	4.0	4.0		4.0
Minimum Split (s)	8.0	8.0		9.0	9.0			9.0	9.0	9.0		25.0
Total Split (s)	34.0	34.0		35.0	35.0			35.0	35.0	35.0		25.0
Total Split (%)	36.2%	36.2%		37.2%	37.2%			37.2%	37.2%	37.2%		27%
Maximum Green (s)	30.0	30.0		30.0	30.0			30.0	30.0	30.0		22.0
Yellow Time (s)	3.0	3.0		4.0	4.0			4.0	4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0	1.0		0.0
Lost Time Adjust (s)		0.0		0.0	0.0					0.0		
Total Lost Time (s)		4.0		5.0	5.0					5.0		
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0		3.0
Recall Mode	Max	Max		Max	Max			Max	Max	Max		None
Walk Time (s)												7.0
Flash Dont Walk (s)												15.0
Pedestrian Calls (#/hr)												103
Act Effect Green (s)		30.5		30.5	30.5					0.0		
Actuated g/C Ratio		0.34		0.34	0.34					0.00		
v/c Ratio		0.71		0.32	1.27					1.89		
Control Delay		35.4		28.1	162.5					436.3		
Queue Delay		0.0		0.0	0.0					0.0		
Total Delay		35.4		28.1	162.5					436.3		
LOS		D		C	F					F		
Approach Delay		35.4			147.5					436.3		
Approach LOS		D			F					F		

Lanes, Volumes, Timings

1: Prospect St & Webster Ave

12/31/2012

												
Lane Group	NBL2	NBT	NBR	SEL	SET	SER	SER2	NWL2	NWL	NWT	NWR	ø9
Queue Length 50th (ft)		233		46	~633					~210		
Queue Length 95th (ft)		#374		92	#856					#382		
Internal Link Dist (ft)		105			630					520		
Turn Bay Length (ft)												
Base Capacity (vph)		612		312	631					188		
Starvation Cap Reductn		0		0	0					0		
Spillback Cap Reductn		0		0	0					0		
Storage Cap Reductn		0		0	0					0		
Reduced v/c Ratio		0.71		0.32	1.27					1.89		

Intersection Summary

Area Type: Other

Cycle Length: 94

Actuated Cycle Length: 89

Natural Cycle: 140

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.89

Intersection Signal Delay: 179.3

Intersection LOS: F

Intersection Capacity Utilization 95.3%

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: Prospect St & Webster Ave

 ø2	 ø9	 ø4
34 s	25 s	35 s
		 ø8
		35 s

HCM Unsignalized Intersection Capacity Analysis

10: Newton St & Prospect St

12/31/2012

						
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations		↑↑↑↑			↘	
Volume (veh/h)	0	727	0	0	87	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.92	0.92	0.77	0.77
Hourly flow rate (vph)	0	782	0	0	113	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		733	134			
pX, platoon unblocked						
vC, conflicting volume	0				261	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				261	0
tC, single (s)	4.2				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	100				84	100
cM capacity (veh/h)	1593				712	1091
Direction, Lane #	NB 1	NB 2	NB 3	NE 1		
Volume Total	261	261	261	113		
Volume Left	0	0	0	113		
Volume Right	0	0	0	0		
cSH	1700	1700	1700	712		
Volume to Capacity	0.15	0.15	0.15	0.16		
Queue Length 95th (ft)	0	0	0	14		
Control Delay (s)	0.0	0.0	0.0	11.0		
Lane LOS				B		
Approach Delay (s)	0.0			11.0		
Approach LOS				B		
Intersection Summary						
Average Delay		1.4				
Intersection Capacity Utilization		25.5%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

15: Prospect St & 70 Prospect Street Driveway

12/31/2012

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	2	2	413	1	1	323
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.50	0.50	0.95	0.25	0.25	0.94
Hourly flow rate (vph)	4	4	435	4	4	344
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						185
pX, platoon unblocked						
vC, conflicting volume	788	437			439	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	788	437			439	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	99			100	
cM capacity (veh/h)	361	624			1132	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	8	439	348			
Volume Left	4	0	4			
Volume Right	4	4	0			
cSH	458	1700	1132			
Volume to Capacity	0.02	0.26	0.00			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	13.0	0.0	0.1			
Lane LOS	B		A			
Approach Delay (s)	13.0	0.0	0.1			
Approach LOS	B					
Intersection Summary						
Average Delay		0.2				
Intersection Capacity Utilization		31.8%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings
2: Somerville Ave & Prospect St

12/31/2012

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	243	418	0	0	199	7	232	475	91	0	0	777
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	13	12	12	13	12	12	12	12	12	12	12
Satd. Flow (prot)	0	3456	0	0	3502	0	1564	3211	0	0	0	2656
Flt Permitted		0.569					0.950	0.998				
Satd. Flow (perm)	0	2002	0	0	3502	0	1564	3211	0	0	0	2656
Right Turn on Red			Yes			Yes			No			No
Satd. Flow (RTOR)					2							
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		394			201			134			184	
Travel Time (s)		9.0			4.6			3.0			4.2	
Peak Hour Factor	0.96	0.96	0.96	0.71	0.71	0.71	0.87	0.87	0.87	0.85	0.85	0.85
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	5%	5%	5%	7%	7%	7%
Shared Lane Traffic (%)							10%					
Lane Group Flow (vph)	0	688	0	0	290	0	240	678	0	0	0	914
Turn Type	pm+pt	NA			NA		Perm	NA				Over
Protected Phases	5	2			6			8				5
Permitted Phases	2						8					
Detector Phase	5	2			6		8	8				5
Switch Phase												
Minimum Initial (s)	4.0	4.0			4.0		4.0	4.0				4.0
Minimum Split (s)	9.0	8.0			8.0		9.0	9.0				9.0
Total Split (s)	40.0	58.0			18.0		37.0	37.0				40.0
Total Split (%)	34.5%	50.0%			15.5%		31.9%	31.9%				34.5%
Maximum Green (s)	35.0	54.0			14.0		32.0	32.0				35.0
Yellow Time (s)	4.0	3.0			3.0		4.0	4.0				4.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0				1.0
Lost Time Adjust (s)		0.0			0.0		0.0	0.0				0.0
Total Lost Time (s)		4.0			4.0		5.0	5.0				5.0
Lead/Lag	Lead				Lag							Lead
Lead-Lag Optimize?	Yes				Yes							Yes
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0				3.0
Recall Mode	Max	Max			Max		Max	Max				Max
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effect Green (s)		54.0			14.0		32.0	32.0				35.0
Actuated g/C Ratio		0.47			0.12		0.28	0.28				0.30
v/c Ratio		0.50			0.68		0.56	0.77				1.14
Control Delay		22.2			57.6		41.8	45.3				115.9
Queue Delay		0.0			0.0		0.0	0.0				0.0
Total Delay		22.2			57.6		41.8	45.3				115.9
LOS		C			E		D	D				F
Approach Delay		22.2			57.6			44.4				
Approach LOS		C			E			D				
Queue Length 50th (ft)		175			110		169	255				~453
Queue Length 95th (ft)		225			121		250	315				#540
Internal Link Dist (ft)		314			121			54			104	

Lanes, Volumes, Timings

2: Somerville Ave & Prospect St

12/31/2012

Lane Group	ø9
Lane Configurations	
Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	21.0
Total Split (s)	21.0
Total Split (%)	18%
Maximum Green (s)	17.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	8.0
Flash Dont Walk (s)	9.0
Pedestrian Calls (#/hr)	131
Act Effect Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	

Lanes, Volumes, Timings

2: Somerville Ave & Prospect St

12/31/2012

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)												
Base Capacity (vph)		1383			424		431	885				801
Starvation Cap Reductn		0			0		0	0				0
Spillback Cap Reductn		0			0		0	0				0
Storage Cap Reductn		0			0		0	0				0
Reduced v/c Ratio		0.50			0.68		0.56	0.77				1.14

Intersection Summary

Area Type: Other

Cycle Length: 116

Actuated Cycle Length: 116

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.14

Intersection Signal Delay: 63.6

Intersection LOS: E

Intersection Capacity Utilization 59.8%

ICU Level of Service B

Analysis Period (min) 15

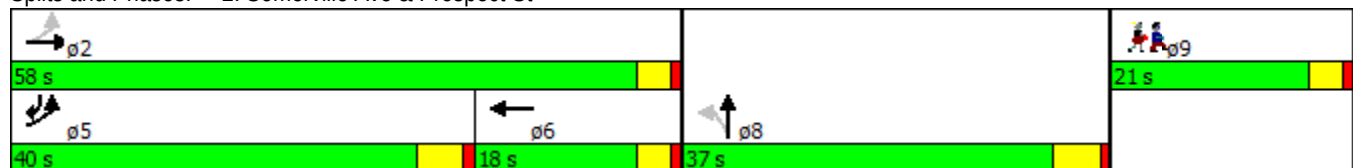
~ Volume exceeds capacity, queue is theoretically infinite.

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: 2: Somerville Ave & Prospect St



Lane Group	ø9
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Lanes, Volumes, Timings
1: Prospect St & Webster Ave

12/31/2012

												
Lane Group	NBL2	NBT	NBR	SEL	SET	SER	SER2	NWL2	NWL	NWT	NWR	ø9
Lane Configurations												
Volume (vph)	16	514	15	85	193	283	21	11	119	0	542	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	15	14	12	12	12	12	12	12	
Storage Length (ft)			0	0		175			0		0	
Storage Lanes			0	1		0			0		0	
Taper Length (ft)				25					25			
Satd. Flow (prot)	0	1835	0	1928	1787	0	0	0	0	1643	0	
Flt Permitted		0.999		0.223						0.187		
Satd. Flow (perm)	0	1835	0	452	1787	0	0	0	0	310	0	
Right Turn on Red			No				No				Yes	
Satd. Flow (RTOR)										235		
Link Speed (mph)		30			30					30		
Link Distance (ft)		185			710					600		
Travel Time (s)		4.2			16.1					13.6		
Peak Hour Factor	0.97	0.97	0.97	0.91	0.91	0.91	0.91	0.89	0.89	0.89	0.89	
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	561	0	93	546	0	0	0	0	755	0	
Turn Type	Perm	NA		Perm	NA			Perm	Perm	NA		
Protected Phases		2			4					8		9
Permitted Phases	2			4				8	8			
Detector Phase	2	2		4	4			8	8	8		
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0			4.0	4.0	4.0		4.0
Minimum Split (s)	8.0	8.0		9.0	9.0			9.0	9.0	9.0		25.0
Total Split (s)	34.0	34.0		35.0	35.0			35.0	35.0	35.0		25.0
Total Split (%)	36.2%	36.2%		37.2%	37.2%			37.2%	37.2%	37.2%		27%
Maximum Green (s)	30.0	30.0		30.0	30.0			30.0	30.0	30.0		22.0
Yellow Time (s)	3.0	3.0		4.0	4.0			4.0	4.0	4.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0	1.0		0.0
Lost Time Adjust (s)		0.0		0.0	0.0					0.0		
Total Lost Time (s)		4.0		5.0	5.0					5.0		
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0		3.0
Recall Mode	Max	Max		Max	Max			Max	Max	Max		None
Walk Time (s)												7.0
Flash Dont Walk (s)												15.0
Pedestrian Calls (#/hr)												137
Act Effect Green (s)		30.0		30.0	30.0					30.0		
Actuated g/C Ratio		0.32		0.32	0.32					0.32		
v/c Ratio		0.96		0.65	0.96					2.93		
Control Delay		61.3		51.1	61.6					891.2		
Queue Delay		0.0		0.0	0.0					0.0		
Total Delay		61.3		51.1	61.6					891.2		
LOS		E		D	E					F		
Approach Delay		61.3			60.1					891.2		
Approach LOS		E			E					F		

Lanes, Volumes, Timings

1: Prospect St & Webster Ave

12/31/2012

													
Lane Group	NBL2	NBT	NBR	SEL	SET	SER	SER2	NWL2	NWL	NWT	NWR		ø9
Queue Length 50th (ft)		326		47	317					~635			
Queue Length 95th (ft)		#537		#125	#526					#848			
Internal Link Dist (ft)		105			630					520			
Turn Bay Length (ft)													
Base Capacity (vph)		585		144	570					258			
Starvation Cap Reductn		0		0	0					0			
Spillback Cap Reductn		0		0	0					0			
Storage Cap Reductn		0		0	0					0			
Reduced v/c Ratio		0.96		0.65	0.96					2.93			

Intersection Summary

Area Type: Other

Cycle Length: 94

Actuated Cycle Length: 94

Natural Cycle: 150

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 2.93

Intersection Signal Delay: 381.4

Intersection LOS: F

Intersection Capacity Utilization 109.9%

ICU Level of Service H

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: Prospect St & Webster Ave

 ø2	 ø9	 ø4
34 s	25 s	35 s
		 ø8
		35 s

HCM Unsignalized Intersection Capacity Analysis

10: Newton St & Prospect St

12/31/2012

						
Movement	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations		↑↑↑			↑	
Volume (veh/h)	0	1155	0	0	68	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.92	0.92	0.69	0.69
Hourly flow rate (vph)	0	1328	0	0	99	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		733	134			
pX, platoon unblocked						
vC, conflicting volume	0				443	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				443	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				82	100
cM capacity (veh/h)	1622				546	1088
Direction, Lane #	NB 1	NB 2	NB 3	NE 1		
Volume Total	443	443	443	99		
Volume Left	0	0	0	99		
Volume Right	0	0	0	0		
cSH	1700	1700	1700	546		
Volume to Capacity	0.26	0.26	0.26	0.18		
Queue Length 95th (ft)	0	0	0	16		
Control Delay (s)	0.0	0.0	0.0	13.0		
Lane LOS				B		
Approach Delay (s)	0.0			13.0		
Approach LOS				B		
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			32.8%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

15: Prospect St & 70 Prospect Street Driveway

12/31/2012

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	2	2	543	2	3	291
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.97	0.50	0.75	0.91
Hourly flow rate (vph)	2	2	560	4	4	320
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						185
pX, platoon unblocked						
vC, conflicting volume	890	562			564	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	890	562			564	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	312	527			1018	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	4	564	324			
Volume Left	2	0	4			
Volume Right	2	4	0			
cSH	392	1700	1018			
Volume to Capacity	0.01	0.33	0.00			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	14.3	0.0	0.1			
Lane LOS	B		A			
Approach Delay (s)	14.3	0.0	0.1			
Approach LOS	B					
Intersection Summary						
Average Delay		0.1				
Intersection Capacity Utilization		38.7%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings

2: Somerville Ave & Prospect St

12/31/2012



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔		↔	↔↔				↔↔
Volume (vph)	285	347	0	0	321	9	486	604	102	0	0	797
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	13	12	12	13	12	12	12	12	12	12	12
Satd. Flow (prot)	0	3508	0	0	3679	0	1610	3306	0	0	0	2787
Flt Permitted		0.601					0.950	0.994				
Satd. Flow (perm)	0	2156	0	0	3679	0	1610	3306	0	0	0	2787
Right Turn on Red			Yes			Yes			No			No
Satd. Flow (RTOR)					2							
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		394			201			134			184	
Travel Time (s)		9.0			4.6			3.0			4.2	
Peak Hour Factor	0.98	0.98	0.98	0.84	0.84	0.84	0.92	0.92	0.92	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	1%	1%	1%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)							19%					
Lane Group Flow (vph)	0	645	0	0	393	0	428	868	0	0	0	886
Turn Type	pm+pt	NA			NA		Perm	NA				Over
Protected Phases	5	2			6			8				5
Permitted Phases	2						8					
Detector Phase	5	2			6		8	8				5
Switch Phase												
Minimum Initial (s)	4.0	4.0			4.0		4.0	4.0				4.0
Minimum Split (s)	9.0	8.0			8.0		9.0	9.0				9.0
Total Split (s)	40.0	58.0			18.0		37.0	37.0				40.0
Total Split (%)	34.5%	50.0%			15.5%		31.9%	31.9%				34.5%
Maximum Green (s)	35.0	54.0			14.0		32.0	32.0				35.0
Yellow Time (s)	4.0	3.0			3.0		4.0	4.0				4.0
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0				1.0
Lost Time Adjust (s)		0.0			0.0		0.0	0.0				0.0
Total Lost Time (s)		4.0			4.0		5.0	5.0				5.0
Lead/Lag	Lead				Lag							Lead
Lead-Lag Optimize?	Yes				Yes							Yes
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0				3.0
Recall Mode	Max	Max			Max		Max	Max				Max
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effect Green (s)		54.0			14.0		32.0	32.0				35.0
Actuated g/C Ratio		0.47			0.12		0.28	0.28				0.30
v/c Ratio		0.45			0.88		0.96	0.95				1.05
Control Delay		21.5			72.0		76.8	61.9				86.1
Queue Delay		0.0			0.0		0.0	0.0				0.0
Total Delay		21.5			72.0		76.8	61.9				86.1
LOS		C			E		E	E				F
Approach Delay		21.5			72.0			66.8				
Approach LOS		C			E			E				
Queue Length 50th (ft)		162			153		347	350				~411
Queue Length 95th (ft)		208			#212		#571	#485				#550
Internal Link Dist (ft)		314			121			54			104	

Lanes, Volumes, Timings

2: Somerville Ave & Prospect St

12/31/2012

Lane Group	ø9
Lane Configurations	
Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	21.0
Total Split (s)	21.0
Total Split (%)	18%
Maximum Green (s)	17.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	8.0
Flash Dont Walk (s)	9.0
Pedestrian Calls (#/hr)	175
Act Effect Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	

Lanes, Volumes, Timings

2: Somerville Ave & Prospect St

12/31/2012

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)												
Base Capacity (vph)		1423			445		444	912				840
Starvation Cap Reductn		0			0		0	0				0
Spillback Cap Reductn		0			0		0	0				0
Storage Cap Reductn		0			0		0	0				0
Reduced v/c Ratio		0.45			0.88		0.96	0.95				1.05

Intersection Summary

Area Type: Other

Cycle Length: 116

Actuated Cycle Length: 116

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.05

Intersection Signal Delay: 63.7

Intersection LOS: E

Intersection Capacity Utilization 71.4%

ICU Level of Service C

Analysis Period (min) 15

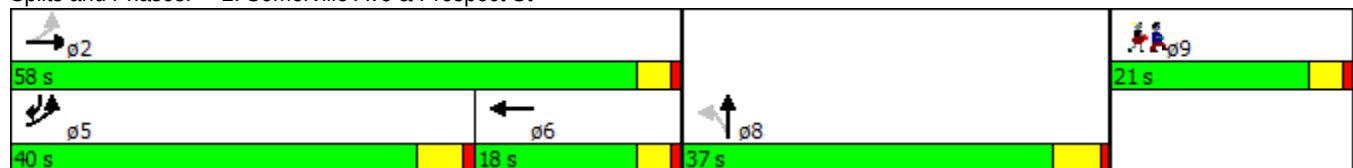
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95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: Somerville Ave & Prospect St



Lane Group	ø9
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	