Transportation Impact Assessment

Proposed Residential Development

Sharon, Massachusetts

Prepared for:

Coneco Engineers & Scientists
Bridgewater, Massachusetts

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TRANSPORTATION IMPACT ASSESSMENT

PROPOSED RESIDENTIAL DEVELOPMENT
SHARON, MASSACHUSETTS

Prepared for:

Coneco Engineers & Scientists
Bridgewater, Massachusetts

September 2017

Prepared by:

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EXECUTIVE SUMMARY

Vanasse and Associates, Inc. (VAI) has completed a detailed assessment of the potential impacts on the transportation infrastructure associated with the proposed 52-unit residential development to be located at 25 Tiot Street in Sharon, Massachusetts. This assessment has been completed in accordance with State and Town standards and those of the Traffic Engineering and Transportation Planning professions for the preparation of such reports. The following specific areas have been evaluated as they relate to the Project: i) access requirements; ii) potential off-site improvements; and iii) safety considerations; under existing and future conditions, both with and without the Project. Based on this assessment, we have concluded the following with respect to the Project:

- A review of accident data researched from MassDOT indicates that area intersections experience accident rates below state averages indicating safe operations.
- Adequate stopping sight distances are achieved at the Site Drive.
- The Project is expected to generate approximately 364 trips on an average weekday (two-way, 24-hour volume, or 182 entering and 182 exiting), with approximately 35 trips (23 entering and 12 exiting) expected during the weekday evening peak-hour. During the Saturday midday peak hour the Project is expected to generate approximately 58 trips (31 entering and 27 exiting).
- The Project is not projected to have a significant impact (increase) on motorist delays from the 2024 No-Build to the 2024 Build conditions.

In summary, a safe environment can be maintained with traffic conditions maintained at manageable levels with the following recommendations.

RECOMMENDATIONS

Project Access

Project access is provided by way of the Spring Valley Country Club's existing full access driveway onto Tiot Street. The following recommendations are offered with respect to the design and operation of the Project site driveway:

- The Site Driveway be placed under STOP-sign (Manual of Uniform Traffic Control Designation R1-1) control, with a painted STOP-bar included.

- All signs and other pavement markings to be installed within the Project site shall conform to the applicable standards of the current Manual on Uniform Traffic Devices (MUTCD).[1]

- Any landscaping or building features should not exceed 24 inches in height or should be placed out of the lines of sight for motorists exiting the site and those approaching the driveway on Tiot Street.

CONCLUSIONS

As documented in this study, project-related traffic increases will not result in significant increases to overall traffic volumes or traffic delays within the study area. The project-related traffic can be adequately accommodated within the existing infrastructure with minimal impact to area traffic operations. The site driveway will provide safe access and egress to the development.

[1]Ibid 4

INTRODUCTION

Vanasse & Associates, Inc. (VAI) has prepared this Transportation Impact Assessment (TIA) to assess the traffic impacts and evaluate the access and egress requirements of the proposed 52-unit residential development to be located at 25 Tiot Street in Sharon, Massachusetts. This report was prepared in accordance with MassDOT guidelines for preparation of a TIA. This report identifies existing traffic parameters within the study area, identifies the impact of traffic generated by the proposed development, and evaluates project-related impacts with regard to capacity and roadway requirements.

PROPOSED PROJECT

The proposed project involves the development of 52 townhouses to be located at 25 Tiot Street in Sharon, Massachusetts. Access to the site will be provided via the Spring Valley County Club's existing driveway onto Tiot Street. The proximity of the project site relative to the regional and local transportation system is displayed on Figure 1.

STUDY METHODOLOGY

This transportation impact assessment is conducted in several stages. The first phase documents existing conditions in the transportation study area including an inventory of roadway geometry, observed traffic volumes, and historic accident characteristics. Next, future year traffic conditions are forecast that account for other planned area development projects, planned transportation improvement projects, normal area growth, and project-related traffic increases. The third phase quantifies operating characteristics of study intersections to identify existing and future year deficiencies for which improvements are warranted. Specific attention is given to the incremental impacts of the proposed project. Finally, recommendations are made to ensure the proposed access design allows for safe and efficient traffic flow to and from the site.

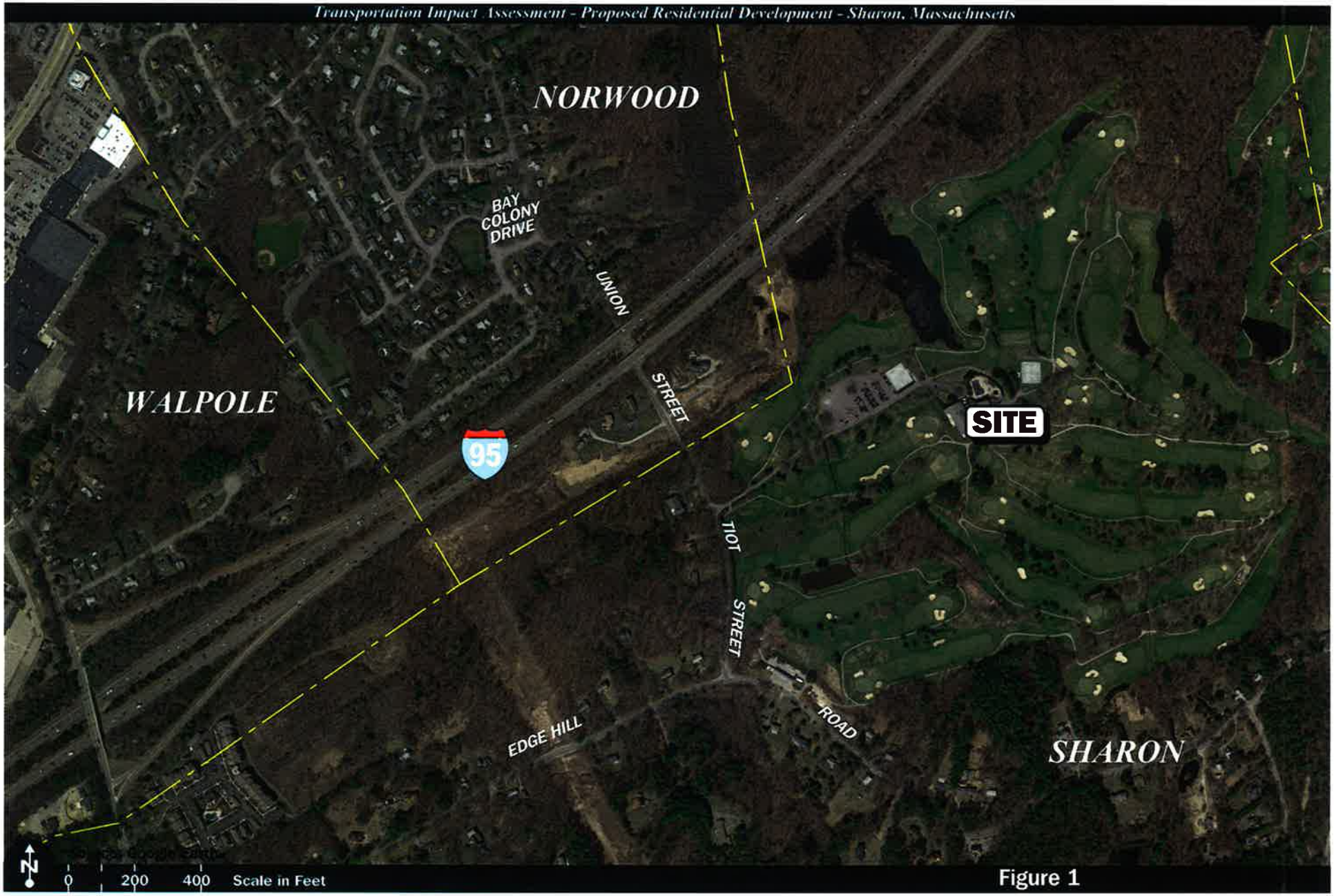

Figure 1

Site Location Map

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EXISTING CONDITIONS

A comprehensive field inventory of existing conditions within the study area was conducted in August 2017. The field investigation consisted of an inventory of existing roadway geometrics; pedestrian and bicycle facilities; traffic volumes; and operating characteristics; as well as posted speed limits, sight distances and land use information within the study area. The study area for the project contains the major roadways which provide access to the project, as well as the intersections which are expected to accommodate the majority of project-related traffic. The study area is listed below and graphically depicted in Figure 2.

1. Union Street at Bay Colony Road
2. Spring Valley Country Club at Tiot Street
3. Tiot Street at Edge Hill Road

The following describes the study area roadways and intersections and is depicted in Figure 3 which summarizes existing lane use and travel lane widths at the study area intersections.

GEOMETRY

Roadways

Tiot Street/Union Street

Tiot Street/Union Street is a two-lane rural minor collector roadway under the jurisdiction of the Town of Sharon and Town of Norwood that traverses the study area in a general north-south orientation, providing connections to Route 1 to the north and Edge Hill Road to the south. Tiot Street/Union Street provides one lane of travel in each direction in the vicinity of the site. Direction of travel is separated by a double yellow centerline. The posted speed limit along Tiot Street/Union Street is 30 miles per hour (mph). Land use along the roadway consist of the Spring Valley Country Club and private residences.

Intersections

Union Street at Bay Colony Drive

Bay Colony Drive intersects Union Street from the west to form this "T"-type intersection. The Bay Colony Drive approach consists of a 37-foot wide roadway. The Union Street northbound approach consist of an

Figure 2

Study Area Map

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Legend:

- Ⓤ **Unsignalized Intersection**
- **Sidewalk**
- XX' **Lane Use and Travel Lane Width**

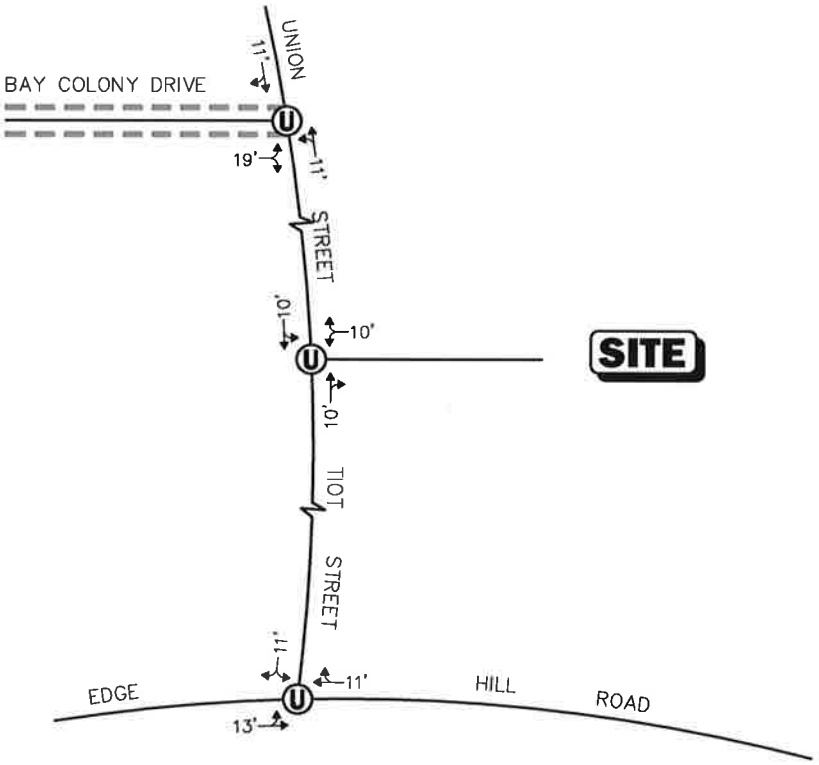

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Figure 3

Existing Intersection Lane Use, Travel Lane Width and Pedestrian Facilities

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11-foot wide general purpose travel lane and the southbound approach consists of an 11-foot wide general purpose travel lane. The direction of travel on Union Street is separated by a double yellow centerline. There are sidewalks provided on both sides of Bay Colony Road. No crosswalks are provided. Land use in the vicinity of the intersection consists of residential properties.

Spring Valley Country Club at Tiot Street

Spring Valley Country Club intersects Tiot Street from the east to form this "T"-type intersection. The Spring Valley Country Club approach consists of a 20-foot wide roadway. The Tiot Street approaches consist of a 10-foot wide general purpose travel lane. The direction of travel on Tiot Street is separated by a double yellow centerline. There are no sidewalks or crosswalks provided. Land use in the vicinity of the intersection consists of the Spring Valley Country Club, residential properties, and areas of open and wooded space.

Tiot Street at Edge Hill Road

Tiot Street intersects Edge Hill Road to form this "T"-type intersection with Tiot Street under STOP-control. The Tiot Street approach consists of an 11-foot wide general purpose travel lane. The Edge Hill Road eastbound approach consist of a 13-foot wide general purpose travel lane and the westbound approach consists of an 11-foot wide general purpose travel lane. The direction of travel on Tiot Street and Edge Hill Road are separated by a double yellow centerline. There are no sidewalks or crosswalks provided. Land use in the vicinity of the intersection consists of residential properties and areas of open and wooded space.

EXISTING TRAFFIC VOLUMES

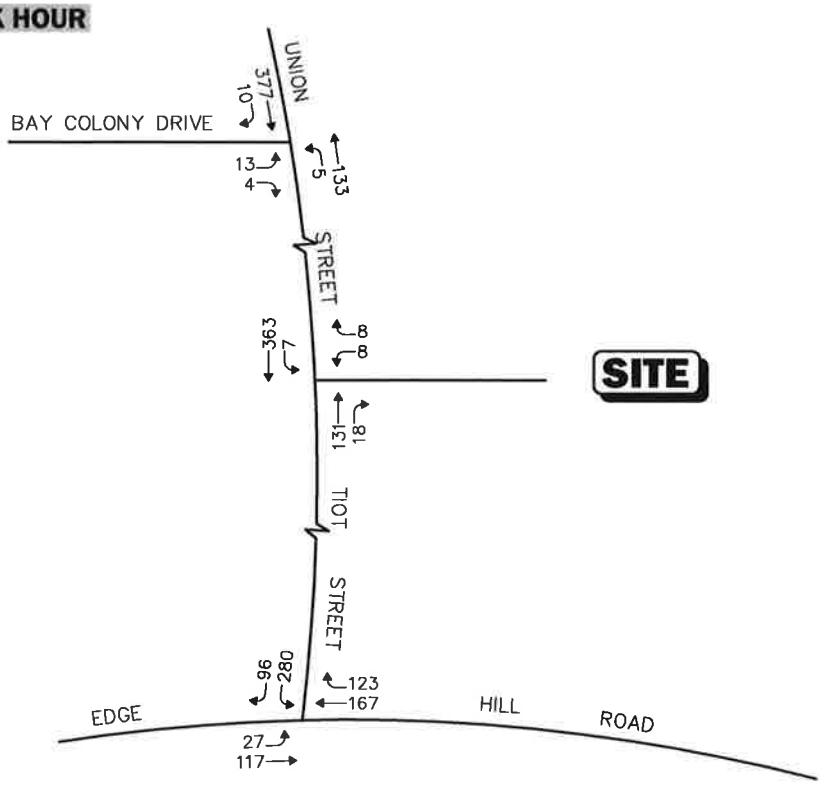
In order to establish existing traffic-volume demands and flow patterns within the study area manual turning movement counts (TMCs), vehicle classification counts, and automatic traffic recorder (ATR) counts were completed in August 2017. Manual TMCs were performed from 4:00 to 6:00 PM for an average weekday and from 11:00 AM to 2:00 PM on Saturday at the study intersections. The ATR was placed on Union Street north of the Spring Valley Country Club driveway.

Traffic Volume Adjustments

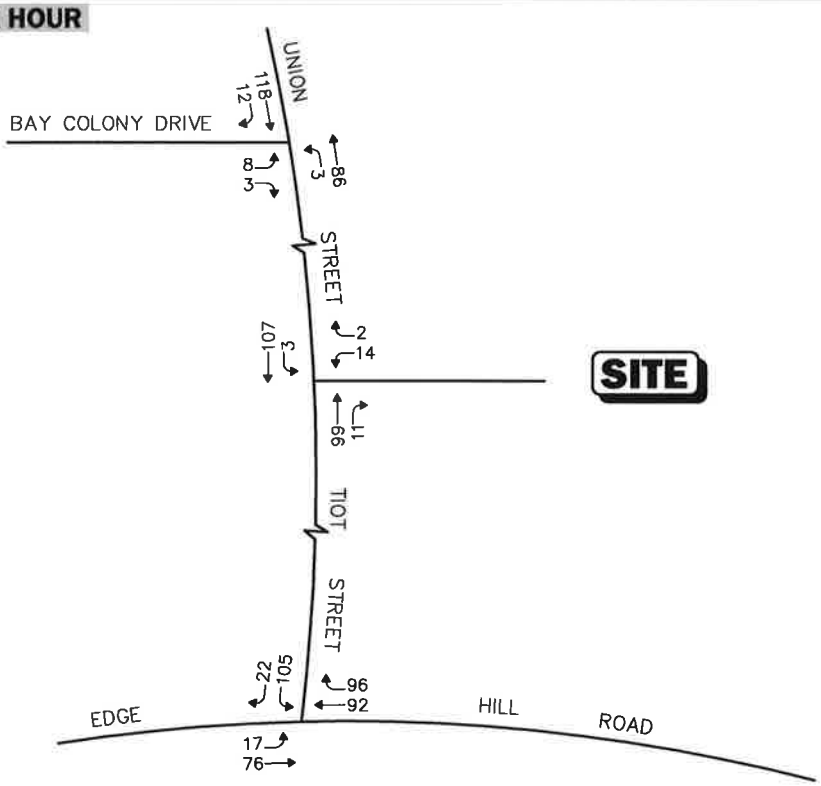
In order to evaluate the potential for seasonal fluctuation of traffic volumes within the study area, traffic count data from MassDOT permanent count station ID 6237[2] located on Amvets Memorial Highway south of Route 139 use used. Station 6237 indicates that August-month volumes are approximately 7 percent higher than average-month volumes. Therefore, the observed volumes were not adjusted in order to provide a conservative analysis. Existing traffic volumes on Union Street are summarized in Table 1 and the existing traffic volumes for all the study area intersections are graphically depicted on Figure 4.

[2]MassDOT Transportation Data Management System; Location ID 6237; Located on Amvets Memorial Highway, south of Route 139.

WEEKDAY EVENING PEAK HOUR



SATURDAY MIDDAY PEAK HOUR



Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.

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Figure 4

2017 Existing
Peak Hour Traffic Volumes

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Table 1
EXISTING ROADWAY TRAFFIC-VOLUME SUMMARY

		Weekday Evening Peak Hour				Saturday Midday Peak Hour		
Location	Daily Volume (vpd)[a]	Volume (vph)[b]	Percent of Daily Traffic[c]	Predominant Flow	Saturday Volume (vpd)[a]	Volume (vph)	Percent of Daily Traffic	Predominant Flow
Tiot Street, north of Spring Valley Country Club driveway.	4,050	509	12.6	73% SB	2,700	211	7.8	52% SB

Source: ATR and TMC counts conducted in August 2017.
[a]Two-way daily traffic expressed in vehicles per day
[b]Two-way peak-hour volume expressed in vehicles per hour.
[c]The percent of daily traffic that occurs during the peak hour.
SB = southbound.

As can be seen in Table 1, Tiot Street was found to accommodate approximately 4,050 vehicles per day (vpd) with 509 vehicles per hour (vph) during the weekday evening peak hour and 211 vph during the Saturday midday peak hour.

PEDESTRIAN AND BICYCLE FACILITIES

A comprehensive field inventory of pedestrian and bicycle facilities within the study area was undertaken in August 2017. The field inventory consisted of a review of the location of sidewalks and pedestrian crossing locations along the study roadways and at the study intersections, as well as the location of bicycle facilities. Sidewalks are provided along both sides of Bay Colony Drive. There are no crosswalks or bicycle accommodations provided within the study area.

PUBLIC TRANSPORTATION

There are no public transportation services provided within the study area.

MOTOR VEHICLE CRASH DATA

Motor vehicle crash information for the study area intersections was provided by the MassDOT Safety Management/Traffic Operations Unit for the most recent five-year period available (2010 through 2014) in order to examine motor vehicle crash trends occurring within the study area. The data is summarized by intersection, type, weather, lighting, pavement condition, and severity.

Table 2
MOTOR VEHICLE CRASH DATA SUMMARY[a]

Scenario	Tiot Street at Edge Hill Road	Spring Valley Country Club at Tiot Street and Union Street	Union Street at Bay Colony Drive
Year:			
2010	2	0	0
2011	0	0	0
2012	2	0	0
2013	1	0	0
2014	1	1	0
Total	6	1	0
Average[a]	1.2	0.2	0.0
Crash Rate[b]	0.51	0.13	--
Significant[c]	No	No	--
Type:			
Angle	1	1	0
Rear-End	2	0	0
Head-On	0	0	0
Sideswipe	0	0	0
Fixed Object	1	0	0
Other	2	0	0
Total	6	1	0
Weather Conditions:			
Clear	1	1	0
Cloudy/Rain	1	0	0
Snow/Ice	2	0	0
Fog	0	0	0
Unknown	2	0	0
Total	6	1	0
Lighting Conditions:			
Daylight	5	0	0
Dawn/Dusk	0	0	0
Dark (lit)	1	1	0
Dark (unlit)	0	0	0
Unknown	0	0	0
Total	6	1	0
Pavement Conditions:			
Dry	2	1	0
Wet	0	0	0
Snow/Ice	3	0	0
Unknown/ Other	1	0	0
Total	6	1	0
Severity:			
Property Damage Only	4	1	0
Personal Injury	2	0	0
Fatality	0	0	0
Unknown	0	0	0
Total	6	1	0

Source: MassDOT Crash Data, 2010 through 2014.
[a]Average crash over five-year period.
[b]Crash rate per million entering vehicles (mev).
[c]Significant if crash rate > 0.76 for signalized intersections or > 0.58 for unsignalized intersections (MassDOT District 5 rates).

As can be seen in Table 2, the intersection of Tiot Street at Edge Hill Road experienced a total of 6 accidents reported at the intersection over the five-year review period, averaging 1.2 accident per year. The majority of the accidents were rear-end collisions (2 out of 6), occurred on snowy/icy pavement (3 out of 6), during the daylight (5 out of 6), in snowy/icy weather (2 out of 6), and caused property damage only (4 out of 6). The intersection of the Spring Valley Country Club driveway at Tiot Street experienced one accident over the five-year review period, averaging 0.2 accidents per year. The accident was an angle collision that occurred on dry pavement, on a dark but lit roadway, in clear weather, and caused property damage only. The intersection of Union Street at Bay Colony Road experienced no crashes over the five year review period. The motor vehicle crash rates, for the study area intersections, fell below the MassDOT District 5 average of 0.58 for unsignalized intersections. No fatalities were reported at any of the study area intersections over the five-year period reviewed.

VEHICLE SPEEDS

Existing vehicle speeds along Tiot Street north of the Spring Valley Country Club driveway were recorded to determine the average and 85th percentile vehicle speeds. The results of the speed measurements are shown in Table 3.

Table 3
OBSERVED VEHICLE SPEEDS – (In Miles Per Hour)

Direction	Posted Speed Limit	Average Speed	85th Percentile Speed[a]
Union Street, north of the Spring Valley County Club driveway			
Northbound	30	35	39
Southbound	30	34	38

[a]The 85th percentile speed is the speed at which 85 percent of the traffic is traveling at or below. It is commonly used for setting speed limits on roadways.

As can be seen from Table 3, the average speed recorded northbound on Tiot Street was 35 mph and the 85th percentile speed recorded was 39 mph. The average speed recorded southbound was 34 mph and the 85th percentile speed was 38 mph. The posted speed limit on Tiot Street is 30 mph.

SIGHT DISTANCE EVALUATION

Sight distances were reviewed at the location of the Spring Valley Country Club driveway onto Tiot Street in accordance with MassDOT and American Association of State Highway and Transportation Officials (AASHTO)[3] standards.

Stopping sight distance (SSD) is the minimum distance required for an approaching driver at a height of 3.5 feet to perceive and react accordingly to a stationary object 2 feet tall in its path. The values are based

[3]*A Policy on Geometric Design of Highway and Streets,* 6th Edition; American Association of State Highway and Transportation Officials (AASHTO); 2011.

on a perception and reaction time of 2.5 seconds and braking distance required under wet, level pavements. Intersection sight distance (ISD) is based on the time required to perceive, react, and complete desired exiting maneuver from a driveway once the driver decides to execute the maneuver. Values for exiting sight distance represent the time to (1) turn left or right, in addition to accelerating to the operating speed of the roadway, without causing approaching vehicles to reduce speed by more than 10 mph, and (2) upon turning left, to clear the near half of the intersection without conflicting with the vehicles approaching from the left. When the roadway is either on an upgrade or downgrade, grade correction factors are applied. Table 4 presents the results of the analysis with values from the AASHTO design reference for 85th percentile and posted speeds, along with values measured in the field.

Table 4
SIGHT DISTANCE MEASUREMENTS[a]

Intersection/Sight Distance	Required Distances (Feet)[a] Posted Speed	85th Percentile Speed	Measured Distances (Feet)
Tiot Street at the Spring Valley County Club driveway			
Stopping Sight Distance:			
Looking north to the driveway	200	290[b]	473
Looking south to the driveway	200	280[c]	500+
Intersection Sight Distance			
Looking north from the driveway	335	430[c]	500+
Looking south from the driveway	335	420[b]	500+

[a]Recommended minimum values obtained from *A Policy on Geometric Design of Highways and Streets,* 6th Edition; American Association of State Highway and Transportation Officials (AASHTO); 2011.

[b]Based on northbound travel speed of 39 mph.

[c]Based on southbound travel speed of 38 mph.

As summarized in Table 4, SSD and ISD are satisfied for both the posted speed limit and the 85th percentile speeds at the Spring Valley Country Club driveway.

FUTURE CONDITIONS

To determine the impact of site-generated traffic volumes on the roadway network under future conditions, baseline traffic volumes in the study area were projected to the year 2024. Traffic volumes on the roadway network at that time, in the absence of the project (that is, the No-Build condition), would include existing traffic, new traffic due to general background traffic growth, and traffic related to specific development by others expected to be completed by 2024. Inclusion of these factors resulted in the development of 2024 No-Build traffic volumes. Anticipated site-generated traffic volumes were then superimposed upon these No-Build traffic-flow networks to develop the 2024 Build traffic-volume conditions.

FUTURE TRAFFIC GROWTH

Traffic growth on area roadways is a function of the expected land development in the immediate area, as well as the surrounding region. Several methods are used to estimate this growth. A procedure frequently employed estimates an annual percentage increase in traffic growth and applies that percentage to all traffic volumes under study. The drawback to such a procedure is that some turning volumes may actually grow at either a higher or a lower rate at particular intersections.

An alternative procedure identifies the location and type of planned development, estimates the traffic to be generated, and assigns it to the area roadway network. This produces a more realistic estimate of growth for local traffic. However, the drawback of this procedure is that the potential growth in population and development external to the study area would not be accounted for in the traffic projections.

To provide a conservative analysis framework, both procedures were used.

General Background Growth

Traffic-volume data compiled by MassDOT from permanent count stations and historic traffic counts in the area were reviewed in order to determine general background traffic growth trends. Based on a review of this data and other area traffic studies, it was determine that the traffic volumes are increasing in the area by approximately 0.9 percent per year, but a 1.0 percent per year compounded annual background traffic growth rate was used in order to conservatively account for future traffic growth and presently unforeseen development within the study area.

Specific Development by Others

The Towns of Sharon and Norwood were contacted in order to determine if there are any planned or

approved specific development projects within the area that would have an impact on future traffic volumes at the study intersections. Based on these discussions the following project was identified.

1420 Boston Providence Turnpike (Route 1) – This project entails the construction of a 2,170 sf Wendy's restaurant and a 400 sf BJ's gas station kiosk with 12 fuel pumps. Traffic volumes expected to be generated from this project have been incorporated in the background growth rate.

Planned Roadway Improvements

The Towns of Sharon and Norwood were contacted in order to determine if there are any planned roadway improvement projects expected to be completed within the study area and seven-year time frame. Based on these discussions no roadway improvement projects beyond general maintenance are planned for this area.

No-Build Traffic Volumes

The 2024 No-Build peak-hour traffic-volume networks for weekday evening and Saturday midday were developed by applying the 1.0 percent per year compounded annual background traffic growth rate to the 2017 peak-hour traffic volumes. The resulting 2024 No-Build weekday evening and Saturday midday peak-hour traffic volume networks are shown on Figure 5.

PROJECT-GENERATED TRAFFIC

The project entails the development of a 52 townhouses. In order to develop the traffic characteristics of the proposed project, trip-generation statistics published by the Institute of Transportation Engineers (ITE)[4] for LUC 230, Residential Condominium/Townhouse were used to develop the traffic characteristics of the project.

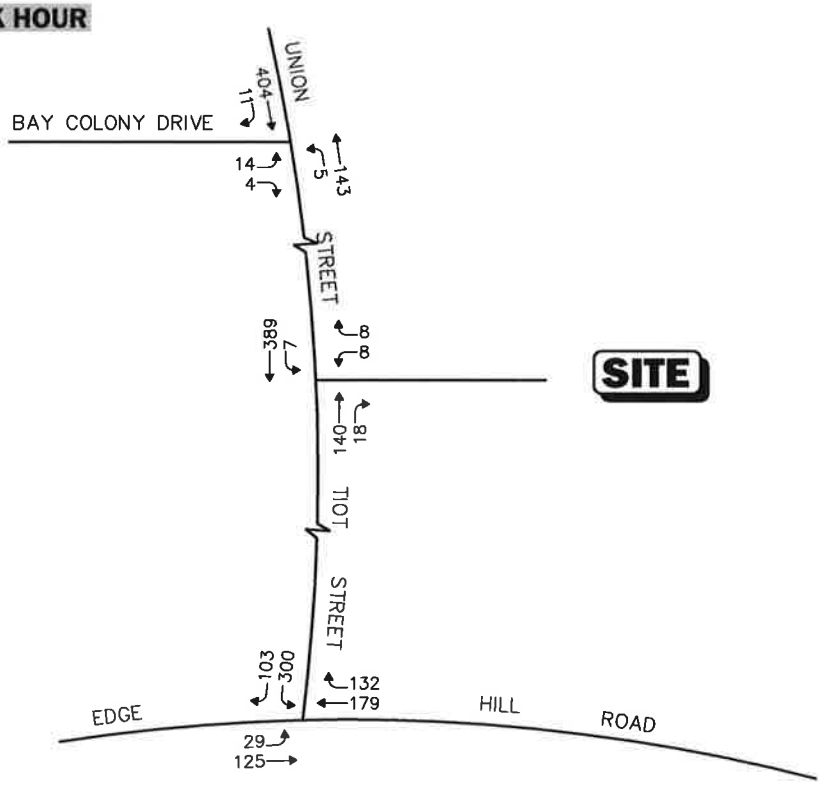
Table 5
TRIP GENERATION SUMMARY[a]

Time Period	Townhouses[a]
Weekday Daily	364
Weekday Evening Peak Hour:	
Entering	23
Exiting	12
Total	35
Saturday Daily	616
Saturday Midday Peak Hour:	
Entering	31
Exiting	27
Total	58

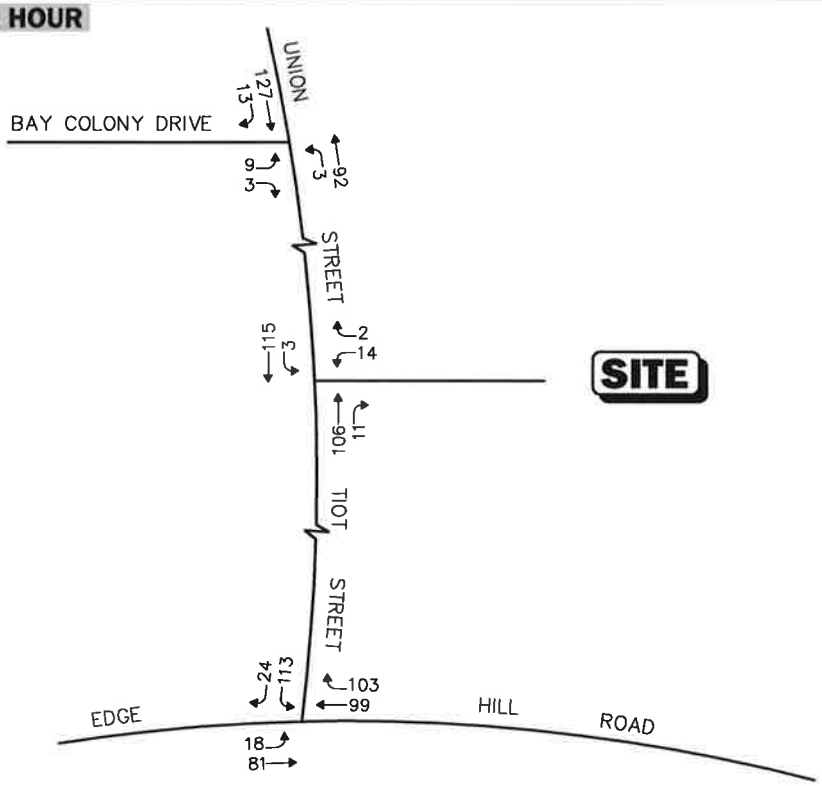
[a]Based on ITE LUC 230, Residential Condominium/ Townhouse; 52 units.

[4]*Trip Generation Manual,* Ninth Edition; Institute of Transportation Engineers; Washington, DC; 2012.

WEEKDAY EVENING PEAK HOUR



SATURDAY MIDDAY PEAK HOUR



Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.

Not To Scale

Figure 5

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2024 No-Build
Peak Hour Traffic Volumes

As can be seen in Table 5, the Project is expected to generate approximately 364 trips on an average weekday (two-way, 24-hour volume, or 182 entering and 182 exiting), with approximately 35 trips (23 entering and 12 exiting) expected during the weekday evening peak-hour. During the Saturday midday peak hour the Project is expected to generate approximately 58 trips (31 entering and 27 exiting).

TRIP DISTRIBUTION AND ASSIGNMENT

The directional distribution of the site-generated trips to and from the proposed development was determined based on a review of existing travel patterns at the study area intersections and Journey to work data for Sharon obtained for the United States Census Bureau[5]. The general trip distribution for the project is summarized in Table 6 and graphically depicted on Figure 6. The weekday evening and Saturday midday peak-hour traffic volumes expected to be generated by the project were assigned on the study area roadway network as shown on Figure 7.

Table 6
TRIP-DISTRIBUTION SUMMARY

Roadway	Direction (To/From)	Percent (To/From)
Edge Hill Road	East	30
Edge Hill Road	West	50
Union Street	North	20
TOTAL		100

FUTURE TRAFFIC VOLUMES – BUILD CONDITION

The 2024 Build condition networks consist of the 2024 No-Build traffic volumes with the anticipated site-generated traffic added to them. The 2024 Build weekday evening and Saturdays midday traffic-volume networks are graphically depicted on Figure 8.

A summary of peak-hour projected traffic-volume increases external to the study area that is the subject of this assessment is shown in Table 7. These volumes are based on the expected increases from the project.

As shown in Table 7, project-related traffic-volume increases external to the study area relative to 2024 No-Build conditions are anticipated to range from 1.2 to 13.5 percent during the peak periods.

[5] *Ibid.*

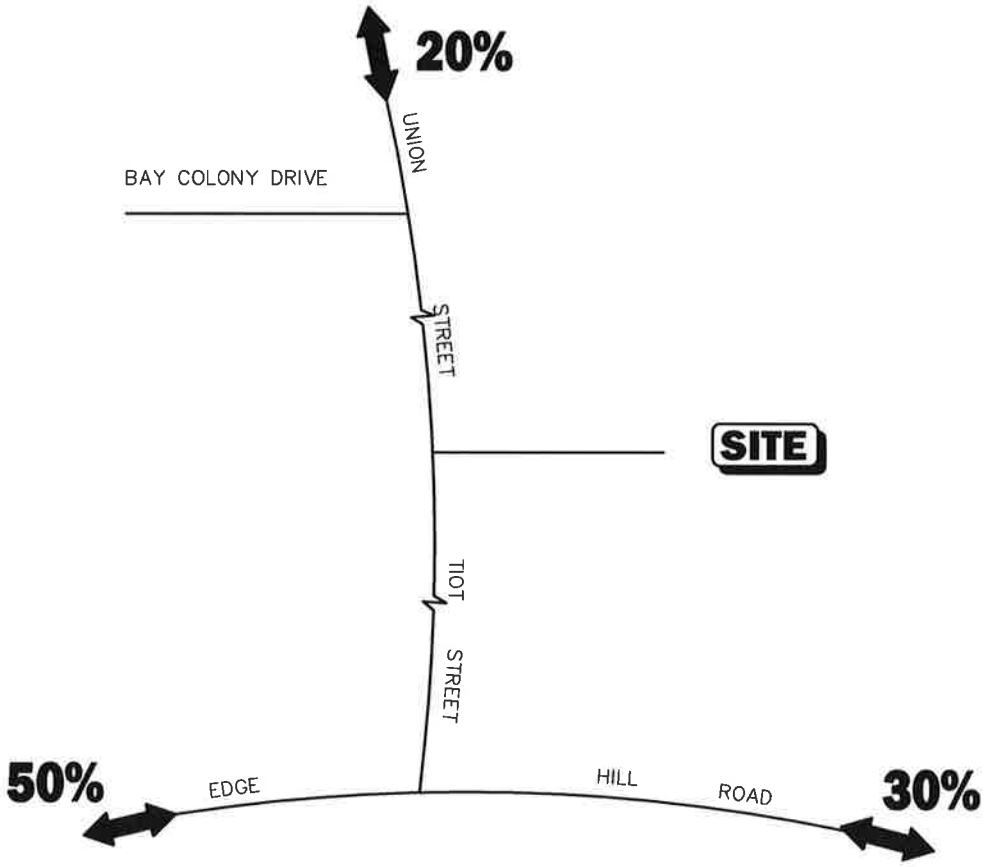

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Figure 6

Trip Distribution Map

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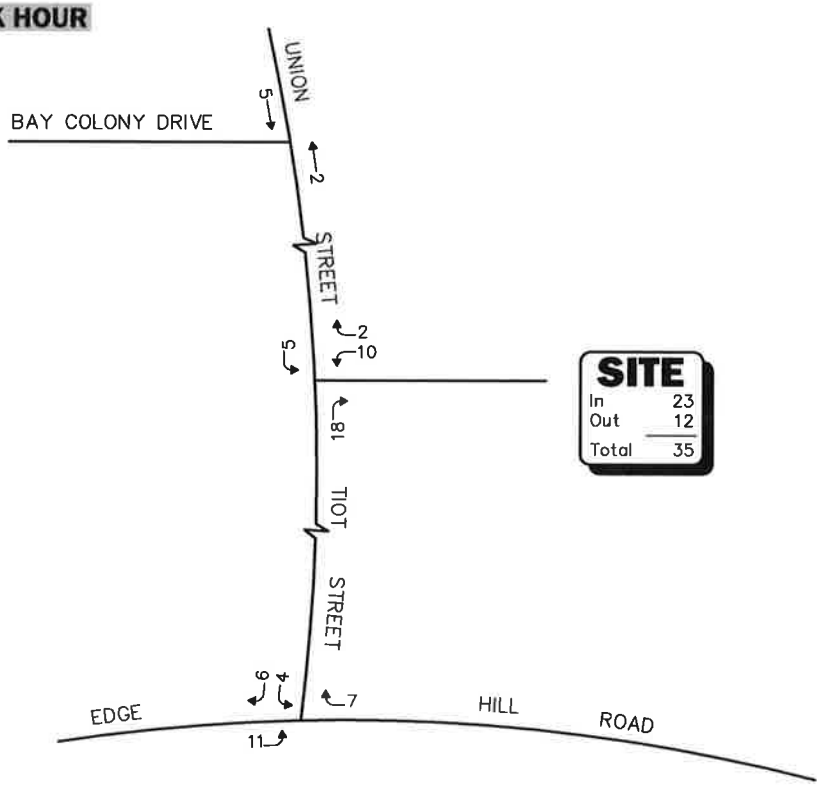
WEEKDAY EVENING PEAK HOUR



SATURDAY MIDDAY PEAK HOUR

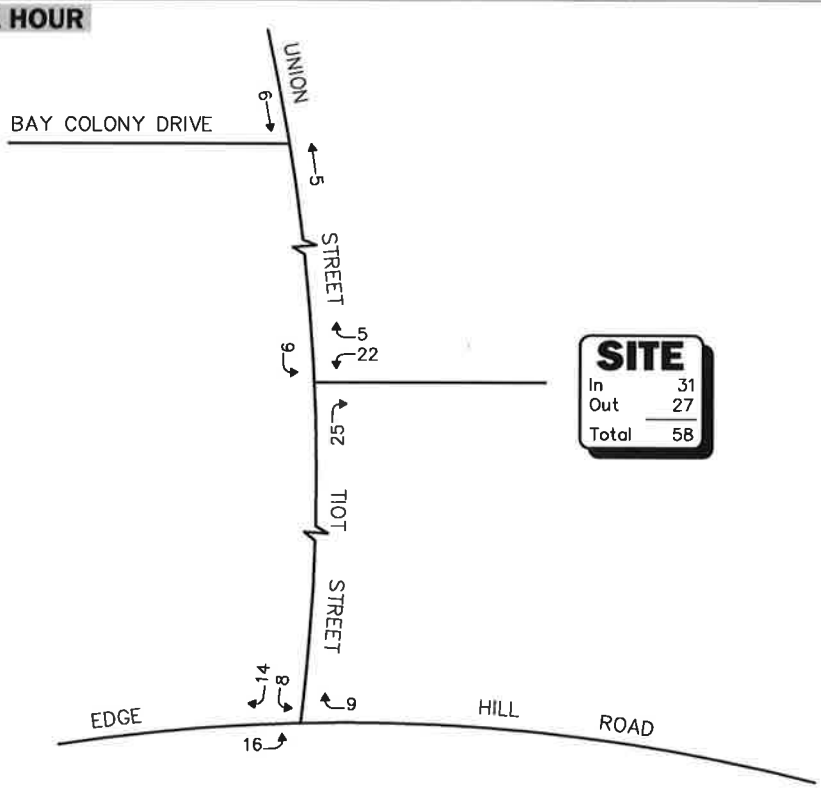


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Figure 7

Site Generated Peak Hour Traffic Volumes

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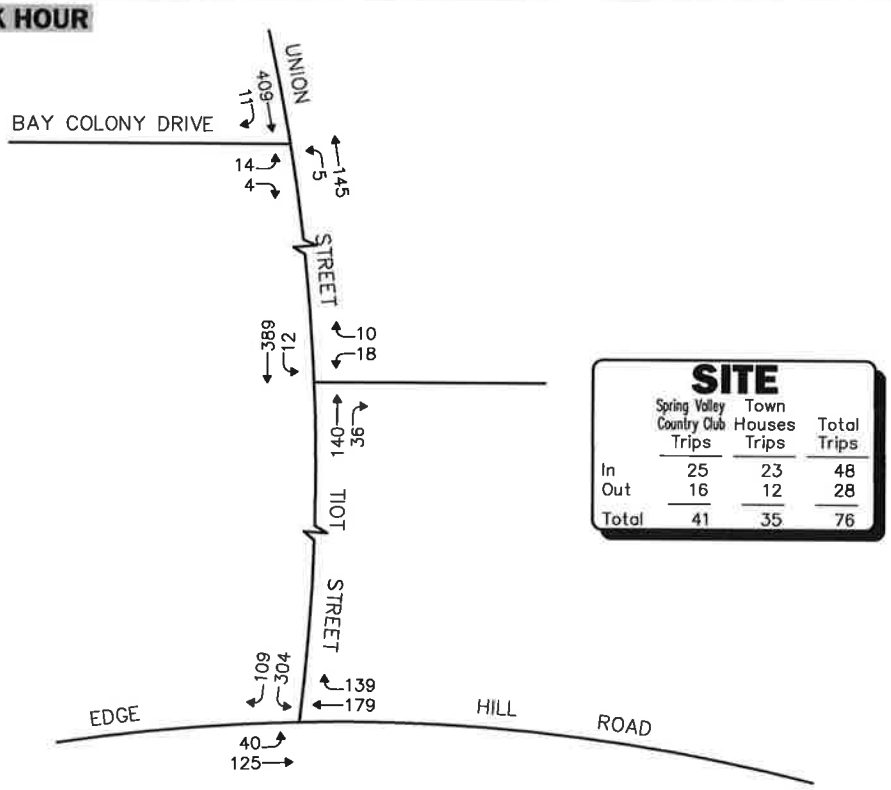
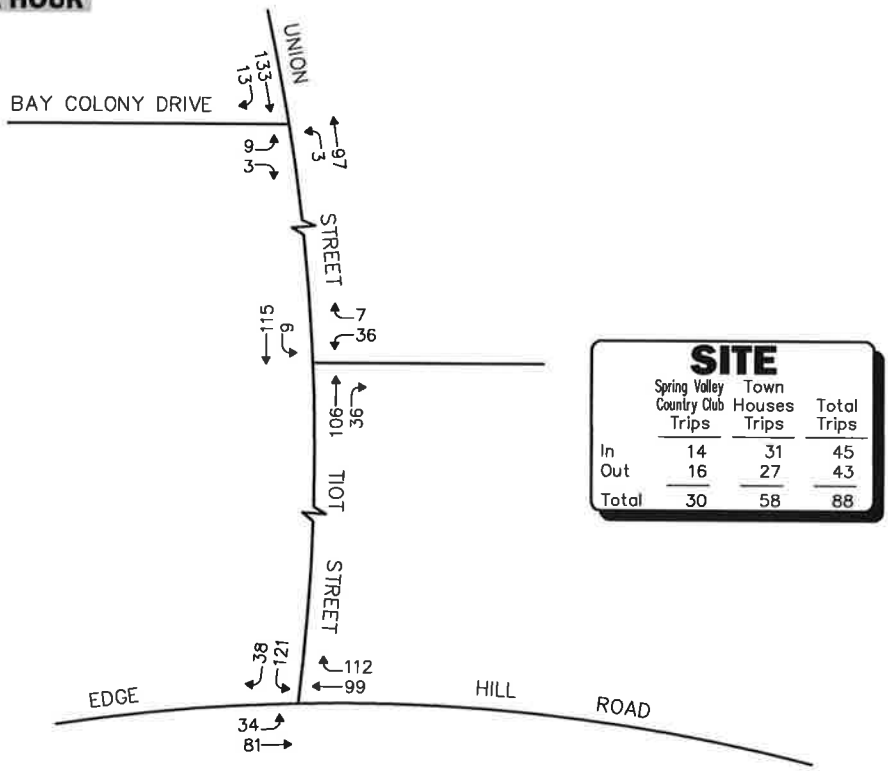
WEEKDAY EVENING PEAK HOUR



SATURDAY MIDDAY PEAK HOUR



Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.

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Figure 8

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2024 Build
Peak Hour Traffic Volumes

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Table 7
PEAK-HOUR TRAFFIC-VOLUME INCREASES

Location/Peak Hour	2024 No-Build	2024 Build	Traffic Volume Increase Over No-Build	Percent Increase Over No-Build
Edge Hill Road, east of Tiot Street:				
Weekday Evening	736	747	11	1.5
Saturday Midday	396	413	17	4.3
Edge Hill Road, west of Tiot Street:				
Weekday Evening	436	453	17	3.9
Saturday Midday	222	252	30	13.5
Union Street, north of Bay Colony Drive:				
Weekday Evening	572	579	7	1.2
Saturday Midday	241	252	11	4.6

TRAFFIC OPERATIONS ANALYSIS

Measuring existing and future traffic volumes quantifies traffic flow within the study area. To assess quality of flow, roadway capacity and vehicle queue analyses were conducted under Existing, No-Build, and Build traffic-volume conditions. Capacity analyses provide an indication of how well the roadway facilities serve the traffic demands placed upon them, with vehicle queue analyses providing a secondary measure of the operational characteristics of an intersection or section of roadway under study.

METHODOLOGY

Levels of Service

A primary result of capacity analyses is the assignment of level of service to traffic facilities under various traffic-flow conditions.[6] The concept of level of service is defined as a qualitative measure describing operational conditions within a traffic stream and their perception by motorists and/or passengers. A level-of-service definition provides an index to quality of traffic flow in terms of such factors as speed, travel time, freedom to maneuver, traffic interruptions, comfort, convenience, and safety.

Six levels of service are defined for each type of facility. They are given letter designations from A to F, with level-of-service (LOS) A representing the best operating conditions and LOS F representing congested or constrained operating conditions.

Since the level of service of a traffic facility is a function of the traffic flows placed upon it, such a facility may operate at a wide range of levels of service, depending on the time of day, day of week, or period of year.

[6]The capacity analysis methodology is based on the concepts and procedures presented in the *Highway Capacity Manual;* Transportation Research Board; Washington, DC; 2010.

Unsignalized Intersections

The six levels of service for unsignalized intersections may be described as follows:

- *LOS A* represents a condition with little or no control delay to minor street traffic.
- *LOS B* represents a condition with short control delays to minor street traffic.
- *LOS C* represents a condition with average control delays to minor street traffic.
- *LOS D* represents a condition with long control delays to minor street traffic.
- *LOS E* represents operating conditions at or near capacity level, with very long control delays to minor street traffic.
- *LOS F* represents a condition where minor street demand volume exceeds capacity of an approach lane, with extreme control delays resulting.

The levels of service of unsignalized intersections are determined by application of a procedure described in the 2010 *Highway Capacity Manual.*[7] Level of service is measured in terms of average control delay. Mathematically, control delay is a function of the capacity and degree of saturation of the lane group and/or approach under study and is a quantification of motorist delay associated with traffic control devices such as traffic signals and STOP signs. Control delay includes the effects of initial deceleration delay approaching a STOP sign, stopped delay, queue move-up time, and final acceleration delay from a stopped condition. Definitions for level of service at unsignalized intersections are also given in the 2010 *Highway Capacity Manual*. Table 8 summarizes the relationship between level of service and average control delay for two way stop controlled and all-way stop controlled intersections.

Table 8
LEVEL-OF-SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS[a]

Level-Of-Service by Volume-to-Capacity Ratio		Average Control Delay (Seconds Per Vehicle)
v/c ≤ 1.0	v/c > 1.0	
A	F	≤10.0
B	F	10.1 to 15.0
C	F	15.1 to 25.0
D	F	25.1 to 35.0
E	F	35.1 to 50.0
F	F	>50.0

[a]Source: *Highway Capacity Manual*; Transportation Research Board; Washington, DC; 2010; page 19-2.

[7]*Highway Capacity Manual*; Transportation Research Board; Washington, DC; 2010.

ANALYSIS RESULTS

Level-of-service analyses were conducted for 2017 Existing, 2024 No-Build, and 2024 Build conditions for the study area intersections. The results of the intersection capacity analysis within the study area are described below, with a tabular summary provided in Table 9.

Edge Hill Road at Tiot Street

Under 2017 Existing conditions, during the weekday evening peak hour, the critical movements at this intersection operate at LOS D or better and during the Saturday midday peak hour the critical movements operate at LOS B or better. Under 2024 No-Build conditions, during the weekday evening peak hour, the critical movements at this intersection operate at LOS E or better and during the Saturday midday peak hour the critical movements operate at LOS B or better. The proposed Project is projected to result in a minimal impact with no change in LOS at this location, as compared to the 2024 No-Build conditions.

Spring Valley Country Club Driveway at Tiot Street

Under 2017 Existing and 2024 No-Build conditions, during the weekday evening and Saturday midday peak hours, the critical movements at this intersection operate at LOS B or better. The proposed Project is projected to result in a minimal impact on approach delays at this location, as compared to the 2024 No-Build conditions.

Union Street at Bay Colony Drive

Under 2017 Existing and 2024 No-Build conditions, during the weekday evening and Saturday midday peak hours, the critical movements at this intersection operate at LOS B or better. The proposed Project is projected to result in a minimal impact on approach delays at this location, as compared to the 2024 No-Build conditions.

Table 9
UNSIGNALIZED INTERSECTION CAPACITY ANALYSIS SUMMARY

Unsignalized Intersection/ Critical Movement/Peak Hour	2017 Existing				2024 No-Build				2024 Build			
	Demand	Delay	LOS	95th Queue	Demand	Delay	LOS	95th Queue	Demand	Delay	LOS	95th Queue
Edge Hill Road at Tiot Street												
Weekday Evening:												
Edge Hill Road EB LT	27	8	A	3	29	8	A	3	40	8	A	3
Tiot Street SB LT/RT	376	27	D	158	403	36	E	208	413	44	E	245
Saturday Midday:												
Edge Hill Road EB LT	17	8	A	0	18	8	A	0	34	8	A	3
Tiot Street SB LT/RT	127	12	B	23	137	12	B	25	159	13	B	33
Spring Valley Country Club Driveway at Tiot Street and Union Street												
Weekday Evening:												
Country Club Driveway WB LT/RT	16	11	B	3	16	11	B	3	28	12	B	5
Union Street SB LT	7	8	A	0	7	8	A	0	12	8	A	0
Saturday Midday:												
Country Club Driveway WB LT/RT	16	10	A	3	16	10	A	3	43	10	B	5
Union Street SB LT	3	7	A	0	3	8	A	0	9	8	A	0
Union Street at Bay Colony Drive												
Weekday Evening:												
Bay Colony Drive EB LT/RT	17	12	B	3	18	13	B	3	18	13	B	3
Union Street NB LT	5	8	A	0	5	8	A	0	5	8	A	0
Saturday Midday:												
Bay Colony Drive EB LT/RT	11	10	A	3	12	10	A	3	12	10	B	3
Union Street NB LT	3	8	A	0	3	8	A	0	3	8	A	0

[a]Demand in vehicles per hour
[b]Delay in seconds per vehicle.
[c]Level of service.
[d]95th Percentile queue in feet.
NB = northbound; SB = southbound; EB = eastbound; WB = westbound; LT = left-turning movements; TH = through movements; RT = right-turning movements

RECOMMENDATIONS AND CONCLUSIONS

RECOMMENDATIONS

The traffic assessment contained herein indicates that the Project will not have substantial impacts at the study area intersections and Project-related traffic increases are expected to be between 1.2 percent and 13.5 percent during the peak hours depending on location. Access to the Project will be provide by the existing Spring Valley Country Club driveway. VAI recommends the following:

- The Site Driveway be placed under STOP-sign (Manual of Uniform Traffic Control Designation R1-1) control, with a painted STOP-bar included.

- All signs and other pavement markings to be installed within the Project site shall conform to the applicable standards of the current Manual on Uniform Traffic Devices (MUTCD).[8]

- Any landscaping or building features should not exceed 24 inches in height or should be placed out of the lines of sight for motorists exiting the site and those approaching the driveway on Tiot/Union Street.

CONCLUSIONS

VAI has completed a detailed transportation assessment of the potential impacts on the surrounding transportation infrastructure associated with the proposed construction of 52 townhouses to be located at 25 Tiot Street in Sharon, Massachusetts. The following specific areas have been evaluated as they relate to the Project: i) access requirements; ii) potential off-site improvements; and iii) safety considerations; under existing and future conditions, both with and without the Project. Based on this assessment, we have concluded the following with respect to the Project:

- A review of accident data researched from MassDOT indicates that area intersections experience accident rates below state averages indicating safe operations.

- Adequate stopping sight distances are achieved at the Site Drive.

- The Project is expected to generate approximately 364 trips on an average weekday (two-way, 24-hour volume, or 182 entering and 182 exiting), with approximately 35 trips (23 entering and

[8]Ibid 4

12 exiting) expected during the weekday evening peak-hour. During the Saturday midday peak hour the Project is expected to generate approximately 58 trips (31 entering and 27 exiting).

- The Project is not projected to have a significant impact (increase) on motorist delays from the 2024 No-Build to the 2024 Build conditions.

Based on the above, VAI has concluded that the Project can be safely accommodated with minor impact on the area road network.

APPENDIX

TRAFFIC COUNT DATA
SEASONAL ADJUSTMENT DATA
MOTOR VEHICLE CRASH DATA
TRIP GENERATION CALCULATIONS
TRIP DISTRIBUTION CALCULATIONS
CAPACITY ANALYSIS

TRAFFIC COUNT DATA

Accurate Counts

978-664-2565

Location : Union Street
Location : North of Spring Valley CC Dwy
City/State: Sharon, MA

7721VOL1

Start Time	8/11/2017 Fri	NB Morning	NB Afternoon	Hour Totals Morning	Hour Totals Afternoon	SB Morning	SB Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		1	26			2	57				
12:15		2	21			1	40				
12:30		0	37			4	23				
12:45		0	26	3	110	0	37	7	157	10	267
01:00		1	28			1	36				
01:15		0	28			0	31				
01:30		0	26			0	37				
01:45		0	30	1	112	0	28	1	132	2	244
02:00		0	29			0	35				
02:15		0	28			0	45				
02:30		1	30			0	31				
02:45		0	23	1	110	0	35	0	146	1	256
03:00		0	23			0	39				
03:15		0	28			1	43				
03:30		0	35			0	48				
03:45		0	29	0	115	1	62	2	192	2	307
04:00		2	28			0	78				
04:15		0	29			0	53				
04:30		1	29			1	75				
04:45		3	27	6	113	2	69	3	275	9	388
05:00		2	32			0	88				
05:15		5	28			1	88				
05:30		7	23			2	71				
05:45		11	31	25	114	5	62	8	309	33	423
06:00		17	21			3	53				
06:15		20	28			7	45				
06:30		29	22			4	27				
06:45		43	29	109	100	13	26	27	151	136	251
07:00		51	21			13	28				
07:15		55	20			21	23				
07:30		68	12			21	27				
07:45		76	15	250	68	12	15	67	93	317	161
08:00		66	11			17	17				
08:15		79	16			24	14				
08:30		44	10			33	16				
08:45		50	10	239	47	23	22	97	69	336	116
09:00		43	3			13	16				
09:15		32	3			18	11				
09:30		27	6			24	5				
09:45		22	9	124	21	12	9	67	41	191	62
10:00		28	5			23	8				
10:15		29	11			17	6				
10:30		19	2			20	10				
10:45		34	5	110	23	23	4	83	28	193	51
11:00		17	1			27	8				
11:15		24	7			32	4				
11:30		27	4			26	3				
11:45		32	6	100	18	31	6	116	21	216	39
Total		968	951			478	1614			1446	2565
Percent		50.4%	49.6%			22.8%	77.2%			36.1%	63.9%

Accurate Counts

978-664-2565

Location : Union Street
Location : North of Spring Valley CC Dwy
City/State: Sharon, MA

7721VOL1

Start	8/12/2017	NB		Hour Totals		SB		Hour Totals		Combined Totals	
Time	Sat	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		2	23			1	30				
12:15		1	23			3	31				
12:30		2	29			2	32				
12:45		0	29	5	104	1	32	7	125	12	229
01:00		1	20			0	29				
01:15		0	15			1	39				
01:30		0	25			2	22				
01:45		1	25	2	85	0	31	3	121	5	206
02:00		0	26			1	33				
02:15		0	21			0	44				
02:30		2	14			2	21				
02:45		1	26	3	87	0	25	3	123	6	210
03:00		2	21			1	28				
03:15		0	22			0	25				
03:30		0	24			0	33				
03:45		1	35	3	102	0	32	1	118	4	220
04:00		0	29			0	31				
04:15		0	27			0	30				
04:30		0	29			0	30				
04:45		0	18	0	103	0	33	0	124	0	227
05:00		4	18			0	24				
05:15		0	24			1	27				
05:30		3	22			2	29				
05:45		7	23	14	87	2	29	5	109	19	196
06:00		8	18			6	28				
06:15		6	22			3	19				
06:30		9	11			3	25				
06:45		12	18	35	69	6	21	18	93	53	162
07:00		6	13			9	21				
07:15		4	7			3	15				
07:30		13	18			11	19				
07:45		18	9	41	47	15	15	38	70	79	117
08:00		13	11			8	18				
08:15		16	8			13	7				
08:30		22	12			14	15				
08:45		25	4	76	35	20	9	55	49	131	84
09:00		18	4			16	14				
09:15		19	9			16	14				
09:30		14	8			15	11				
09:45		23	5	74	26	25	6	72	45	146	71
10:00		11	5			14	9				
10:15		24	5			21	4				
10:30		21	2			31	5				
10:45		24	4	80	16	28	8	94	26	174	42
11:00		20	6			32	4				
11:15		28	8			29	6				
11:30		30	8			20	3				
11:45		23	7	101	29	34	3	115	16	216	45
Total		434	790			411	1019			845	1809
Percent		35.5%	64.5%			28.7%	71.3%			31.8%	68.2%
Grand Total		1402	1741			889	2633			2291	4374
Percent		44.6%	55.4%			25.2%	74.8%			34.4%	65.6%
ADT		ADT 3,332		AADT 3,332							

Accurate Counts

978-664-2565

Location : Union Street
Location : North of Spring Valley CC Dwy
City/State: Sharon, MA

7721VOL1

Start	8/7/2017		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	*	*	*	*	*	*	*	*	3	7	5	7	*	*	4	7
01:00	*	*	*	*	*	*	*	*	1	1	2	3	*	*	2	2
02:00	*	*	*	*	*	*	*	*	1	0	3	3	*	*	2	2
03:00	*	*	*	*	*	*	*	*	0	2	3	1	*	*	2	2
04:00	*	*	*	*	*	*	*	*	6	3	0	0	*	*	3	2
05:00	*	*	*	*	*	*	*	*	25	8	14	5	*	*	20	6
06:00	*	*	*	*	*	*	*	*	109	27	35	18	*	*	72	22
07:00	*	*	*	*	*	*	*	*	**250**	67	41	38	*	*	146	52
08:00	*	*	*	*	*	*	*	*	239	97	76	55	*	*	**158**	76
09:00	*	*	*	*	*	*	*	*	124	67	74	72	*	*	99	70
10:00	*	*	*	*	*	*	*	*	110	83	80	94	*	*	95	88
11:00	*	*	*	*	*	*	*	*	100	**116**	**101**	**115**	*	*	100	**116**
12:00 PM	*	*	*	*	*	*	*	*	110	157	**104**	**125**	*	*	107	141
01:00	*	*	*	*	*	*	*	*	112	132	85	121	*	*	98	126
02:00	*	*	*	*	*	*	*	*	110	146	87	123	*	*	98	134
03:00	*	*	*	*	*	*	*	*	**115**	192	102	118	*	*	**108**	155
04:00	*	*	*	*	*	*	*	*	113	275	103	124	*	*	108	200
05:00	*	*	*	*	*	*	*	*	114	**309**	87	109	*	*	100	**209**
06:00	*	*	*	*	*	*	*	*	100	151	69	93	*	*	84	122
07:00	*	*	*	*	*	*	*	*	68	93	47	70	*	*	58	82
08:00	*	*	*	*	*	*	*	*	47	69	35	49	*	*	41	59
09:00	*	*	*	*	*	*	*	*	21	41	26	45	*	*	24	43
10:00	*	*	*	*	*	*	*	*	23	28	16	26	*	*	20	27
11:00	*	*	*	*	*	*	*	*	18	21	29	16	*	*	24	18
Lane	0	0	0	0	0	0	0	0	1919	2092	1224	1430	0	0	1573	1761
Day	0		0		0		0		4011		2654		0		3334	
AM Peak	-	-	-	-	-	-	-	-	07:00	11:00	11:00	11:00	-	-	08:00	11:00
Vol.	-	-	-	-	-	-	-	-	250	116	101	115	-	-	158	116
PM Peak	-	-	-	-	-	-	-	-	15:00	17:00	12:00	12:00	-	-	15:00	17:00
Vol.	-	-	-	-	-	-	-	-	115	309	104	125	-	-	108	209

Comb. Total	0	0	0	0	4011	2654	0	3334

ADT ADT 3,332 AADT 3,332

Accurate Counts

978-664-2565

Location : Union Street
Location : North of Spring Valley CC Dwy
City/State: Sharon, MA

7721SPD1

NB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
08/11/17	0	0	1	1	0	1	0	0	0	0	0	0	0	0	3
01:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	2	1	3	0	0	0	0	0	0	0	6
05:00	0	0	0	1	3	19	1	1	0	0	0	0	0	0	25
06:00	1	0	1	3	38	49	15	2	0	0	0	0	0	0	109
07:00	2	2	1	6	82	129	25	3	0	0	0	0	0	0	250
08:00	3	0	2	13	78	109	32	1	1	0	0	0	0	0	239
09:00	0	0	1	6	53	51	10	3	0	0	0	0	0	0	124
10:00	3	0	3	14	43	38	8	1	0	0	0	0	0	0	110
11:00	1	2	8	9	35	37	7	1	0	0	0	0	0	0	100
12 PM	6	0	7	10	41	35	9	2	0	0	0	0	0	0	110
13:00	2	1	3	6	29	53	16	2	0	0	0	0	0	0	112
14:00	0	5	0	12	37	46	9	1	0	0	0	0	0	0	110
15:00	3	1	5	7	40	45	9	5	0	0	0	0	0	0	115
16:00	4	1	7	9	39	39	13	0	1	0	0	0	0	0	113
17:00	3	2	8	6	47	35	12	1	0	0	0	0	0	0	114
18:00	0	2	11	11	33	35	8	0	0	0	0	0	0	0	100
19:00	0	1	5	11	25	24	2	0	0	0	0	0	0	0	68
20:00	0	1	4	5	23	9	5	0	0	0	0	0	0	0	47
21:00	0	2	2	5	7	5	0	0	0	0	0	0	0	0	21
22:00	2	1	2	4	10	4	0	0	0	0	0	0	0	0	23
23:00	2	3	2	1	7	3	0	0	0	0	0	0	0	0	18
Total	32	24	73	140	673	767	184	23	3	0	0	0	0	0	1919

Accurate Counts

978-664-2565

Location : Union Street
Location : North of Spring Valley CC Dwy
City/State: Sharon, MA

7721SPD1

NB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
08/12/17	0	0	0	1	2	1	0	1	0	0	0	0	0	0	5
01:00	0	0	0	0	1	0	0	0	0	0	1	0	0	0	2
02:00	0	0	0	0	1	2	0	0	0	0	0	0	0	0	3
03:00	2	0	0	0	0	1	0	0	0	0	0	0	0	0	3
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	5	3	5	0	1	0	0	0	0	0	0	14
06:00	0	0	0	1	11	19	4	0	0	0	0	0	0	0	35
07:00	0	2	0	2	10	18	9	0	0	0	0	0	0	0	41
08:00	1	1	0	2	35	27	8	2	0	0	0	0	0	0	76
09:00	2	2	0	8	24	26	10	2	0	0	0	0	0	0	74
10:00	3	4	1	5	27	27	10	3	0	0	0	0	0	0	80
11:00	3	0	2	4	40	35	17	0	0	0	0	0	0	0	101
12 PM	3	0	4	6	30	45	12	4	0	0	0	0	0	0	104
13:00	0	0	6	3	30	26	20	0	0	0	0	0	0	0	85
14:00	5	1	11	6	20	35	6	3	0	0	0	0	0	0	87
15:00	4	2	6	10	28	38	11	3	0	0	0	0	0	0	102
16:00	3	2	8	7	33	34	14	1	0	1	0	0	0	0	103
17:00	1	3	9	6	30	30	8	0	0	0	0	0	0	0	87
18:00	2	2	2	3	17	33	9	1	0	0	0	0	0	0	69
19:00	0	1	1	6	10	21	7	1	0	0	0	0	0	0	47
20:00	0	0	1	7	16	11	0	0	0	0	0	0	0	0	35
21:00	0	1	0	8	10	7	0	0	0	0	0	0	0	0	26
22:00	0	1	2	2	3	8	0	0	0	0	0	0	0	0	16
23:00	0	7	8	4	5	4	1	0	0	0	0	0	0	0	29
Total	29	29	61	96	386	453	146	22	0	1	1	0	0	0	1224
Grand Total	61	53	134	236	1059	1220	330	45	3	1	1	0	0	0	3143

15th Percentile :	29 MPH
50th Percentile :	35 MPH
85th Percentile :	39 MPH
95th Percentile :	43 MPH

Stats

Mean Speed(Average) :	35 MPH
10 MPH Pace Speed :	31-40 MPH
Number in Pace :	2279
Percent in Pace :	72.5%
Number of Vehicles > 35 MPH :	1600
Percent of Vehicles > 35 MPH :	50.9%

Accurate Counts

978-664-2565

Location : Union Street
Location : North of Spring Valley CC Dwy
City/State: Sharon, MA

7721SPD1

SB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
08/11/17	0	0	0	2	4	1	0	0	0	0	0	0	0	0	7
01:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
04:00	0	0	0	1	0	1	1	0	0	0	0	0	0	0	3
05:00	0	0	0	1	2	5	0	0	0	0	0	0	0	0	8
06:00	0	0	2	0	8	10	7	0	0	0	0	0	0	0	27
07:00	3	1	2	5	24	25	7	0	0	0	0	0	0	0	67
08:00	7	0	3	9	28	41	8	1	0	0	0	0	0	0	97
09:00	0	0	2	8	29	25	3	0	0	0	0	0	0	0	67
10:00	4	0	4	11	33	27	2	2	0	0	0	0	0	0	83
11:00	2	1	3	12	64	30	3	1	0	0	0	0	0	0	116
12 PM	2	0	12	24	60	51	8	0	0	0	0	0	0	0	157
13:00	2	1	6	13	52	54	4	0	0	0	0	0	0	0	132
14:00	3	0	6	25	63	43	6	0	0	0	0	0	0	0	146
15:00	7	2	7	12	78	75	10	1	0	0	0	0	0	0	192
16:00	5	3	6	21	124	104	11	1	0	0	0	0	0	0	275
17:00	8	4	12	30	109	125	17	4	0	0	0	0	0	0	309
18:00	0	0	4	15	53	66	13	0	0	0	0	0	0	0	151
19:00	0	0	1	8	48	29	7	0	0	0	0	0	0	0	93
20:00	0	0	0	12	35	18	4	0	0	0	0	0	0	0	69
21:00	1	1	0	3	24	11	1	0	0	0	0	0	0	0	41
22:00	2	1	0	3	16	2	3	0	1	0	0	0	0	0	28
23:00	0	1	1	6	6	6	1	0	0	0	0	0	0	0	21
Total	46	15	71	221	861	750	116	11	1	0	0	0	0	0	2092

Accurate Counts

978-664-2565

Location : Union Street
Location : North of Spring Valley CC Dwy
City/State: Sharon, MA

7721SPD1

SB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
08/12/17	0	0	0	1	5	1	0	0	0	0	0	0	0	0	7
01:00	0	0	0	0	2	0	1	0	0	0	0	0	0	0	3
02:00	0	0	0	0	1	2	0	0	0	0	0	0	0	0	3
03:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	1	0	2	2	0	0	0	0	0	0	0	0	5
06:00	0	0	4	1	3	5	4	0	0	0	0	1	0	0	18
07:00	1	0	2	8	9	12	5	1	0	0	0	0	0	0	38
08:00	2	2	3	9	15	20	4	0	0	0	0	0	0	0	55
09:00	2	2	4	13	29	18	4	0	0	0	0	0	0	0	72
10:00	2	0	10	15	37	26	4	0	0	0	0	0	0	0	94
11:00	2	4	4	12	56	33	4	0	0	0	0	0	0	0	115
12 PM	3	0	1	15	42	51	12	1	0	0	0	0	0	0	125
13:00	3	2	4	17	55	33	5	2	0	0	0	0	0	0	121
14:00	2	0	4	15	41	46	14	0	1	0	0	0	0	0	123
15:00	3	1	0	6	40	48	19	0	0	1	0	0	0	0	118
16:00	3	6	5	13	50	43	3	1	0	0	0	0	0	0	124
17:00	1	4	12	13	40	35	3	0	1	0	0	0	0	0	109
18:00	3	1	2	11	38	29	9	0	0	0	0	0	0	0	93
19:00	0	0	3	8	32	23	4	0	0	0	0	0	0	0	70
20:00	0	0	1	4	26	17	1	0	0	0	0	0	0	0	49
21:00	0	0	2	7	19	15	2	0	0	0	0	0	0	0	45
22:00	0	0	1	4	9	11	1	0	0	0	0	0	0	0	26
23:00	0	3	3	1	5	1	3	0	0	0	0	0	0	0	16
Total	27	25	66	173	556	471	103	5	2	1	0	1	0	0	1430
Grand Total	73	40	137	394	1417	1221	219	16	3	1	0	1	0	0	3522

15th Percentile :	28 MPH
50th Percentile :	33 MPH
85th Percentile :	38 MPH
95th Percentile :	41 MPH

Stats

Mean Speed(Average) :	34 MPH
10 MPH Pace Speed :	31-40 MPH
Number in Pace :	2638
Percent in Pace :	74.9%
Number of Vehicles > 35 MPH :	1461
Percent of Vehicles > 35 MPH :	41.5%

Accurate Counts

978-664-2565

Location : Union Street
Location : North of Spring Valley CC Dwy
City/State: Sharon, MA

7721SPD1

NB, SB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
08/11/17	0	0	1	3	4	2	0	0	0	0	0	0	0	0	10
01:00	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
02:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
03:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
04:00	0	0	0	1	2	2	4	0	0	0	0	0	0	0	9
05:00	0	0	0	2	5	24	1	1	0	0	0	0	0	0	33
06:00	1	0	3	3	46	59	22	2	0	0	0	0	0	0	136
07:00	5	3	3	11	106	154	32	3	0	0	0	0	0	0	317
08:00	10	0	5	22	106	150	40	2	1	0	0	0	0	0	336
09:00	0	0	3	14	82	76	13	3	0	0	0	0	0	0	191
10:00	7	0	7	25	76	65	10	3	0	0	0	0	0	0	193
11:00	3	3	11	21	99	67	10	2	0	0	0	0	0	0	216
12 PM	8	0	19	34	101	86	17	2	0	0	0	0	0	0	267
13:00	4	2	9	19	81	107	20	2	0	0	0	0	0	0	244
14:00	3	5	6	37	100	89	15	1	0	0	0	0	0	0	256
15:00	10	3	12	19	118	120	19	6	0	0	0	0	0	0	307
16:00	9	4	13	30	163	143	24	1	1	0	0	0	0	0	388
17:00	11	6	20	36	156	160	29	5	0	0	0	0	0	0	423
18:00	0	2	15	26	86	101	21	0	0	0	0	0	0	0	251
19:00	0	1	6	19	73	53	9	0	0	0	0	0	0	0	161
20:00	0	1	4	17	58	27	9	0	0	0	0	0	0	0	116
21:00	1	3	2	8	31	16	1	0	0	0	0	0	0	0	62
22:00	4	2	2	7	26	6	3	0	1	0	0	0	0	0	51
23:00	2	4	3	7	13	9	1	0	0	0	0	0	0	0	39
Total	78	39	144	361	1534	1517	300	34	4	0	0	0	0	0	4011

Accurate Counts

978-664-2565

Location : Union Street
Location : North of Spring Valley CC Dwy
City/State: Sharon, MA

7721SPD1

NB, SB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
08/12/17	0	0	0	2	7	2	0	1	0	0	0	0	0	0	12
01:00	0	0	0	0	3	0	1	0	0	0	1	0	0	0	5
02:00	0	0	0	0	2	4	0	0	0	0	0	0	0	0	6
03:00	2	0	0	0	0	1	1	0	0	0	0	0	0	0	4
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	1	5	5	7	0	1	0	0	0	0	0	0	19
06:00	0	0	4	2	14	24	8	0	0	0	0	1	0	0	53
07:00	1	2	2	10	19	30	14	1	0	0	0	0	0	0	79
08:00	3	3	3	11	50	47	12	2	0	0	0	0	0	0	131
09:00	4	4	4	21	53	44	14	2	0	0	0	0	0	0	146
10:00	5	4	11	20	64	53	14	3	0	0	0	0	0	0	174
11:00	5	4	6	16	96	68	21	0	0	0	0	0	0	0	216
12 PM	6	0	5	21	72	96	24	5	0	0	0	0	0	0	229
13:00	3	2	10	20	85	59	25	2	0	0	0	0	0	0	206
14:00	7	1	15	21	61	81	20	3	1	0	0	0	0	0	210
15:00	7	3	6	16	68	86	30	3	0	1	0	0	0	0	220
16:00	6	8	13	20	83	77	17	2	0	1	0	0	0	0	227
17:00	2	7	21	19	70	65	11	0	1	0	0	0	0	0	196
18:00	5	3	4	14	55	62	18	1	0	0	0	0	0	0	162
19:00	0	1	4	14	42	44	11	1	0	0	0	0	0	0	117
20:00	0	0	2	11	42	28	1	0	0	0	0	0	0	0	84
21:00	0	1	2	15	29	22	2	0	0	0	0	0	0	0	71
22:00	0	1	3	6	12	19	1	0	0	0	0	0	0	0	42
23:00	0	10	11	5	10	5	4	0	0	0	0	0	0	0	45
Total	56	54	127	269	942	924	249	27	2	2	1	1	0	0	2654
Grand Total	134	93	271	630	2476	2441	549	61	6	2	1	1	0	0	6665

15th Percentile :	28 MPH
50th Percentile :	34 MPH
85th Percentile :	39 MPH
95th Percentile :	42 MPH

Stats

Mean Speed(Average) :	34 MPH
10 MPH Pace Speed :	31-40 MPH
Number in Pace :	4917
Percent in Pace :	73.8%
Number of Vehicles > 35 MPH :	3061
Percent of Vehicles > 35 MPH :	45.9%

Accurate Counts

978-664-2565

N/S Street : Union Street
E/W Street : Spring Valley CC
City/State : Sharon, MA
Weather : Clear

File Name : 77210002
Site Code : 77210002
Start Date : 8/10/2017
Page No : 1

Groups Printed- Cars - Trucks

	Union St From North		Spring Valley CC From East		Union St From South		
Start Time	Left	Thru	Left	Right	Thru	Right	Int. Total
04:00 PM	1	70	3	4	30	2	110
04:15 PM	1	66	5	0	37	4	113
04:30 PM	0	73	2	1	21	5	102
04:45 PM	1	78	1	0	41	3	124
Total	3	287	11	5	129	14	449
05:00 PM	3	103	1	4	23	6	140
05:15 PM	0	92	3	2	33	5	135
05:30 PM	3	90	3	2	34	4	136
05:45 PM	2	73	5	2	30	3	115
Total	8	358	12	10	120	18	526
Grand Total	11	645	23	15	249	32	975
Apprch %	1.7	98.3	60.5	39.5	88.6	11.4	
Total %	1.1	66.2	2.4	1.5	25.5	3.3	
Cars	11	645	23	15	249	32	975
% Cars	100	100	100	100	100	100	100
Trucks	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0

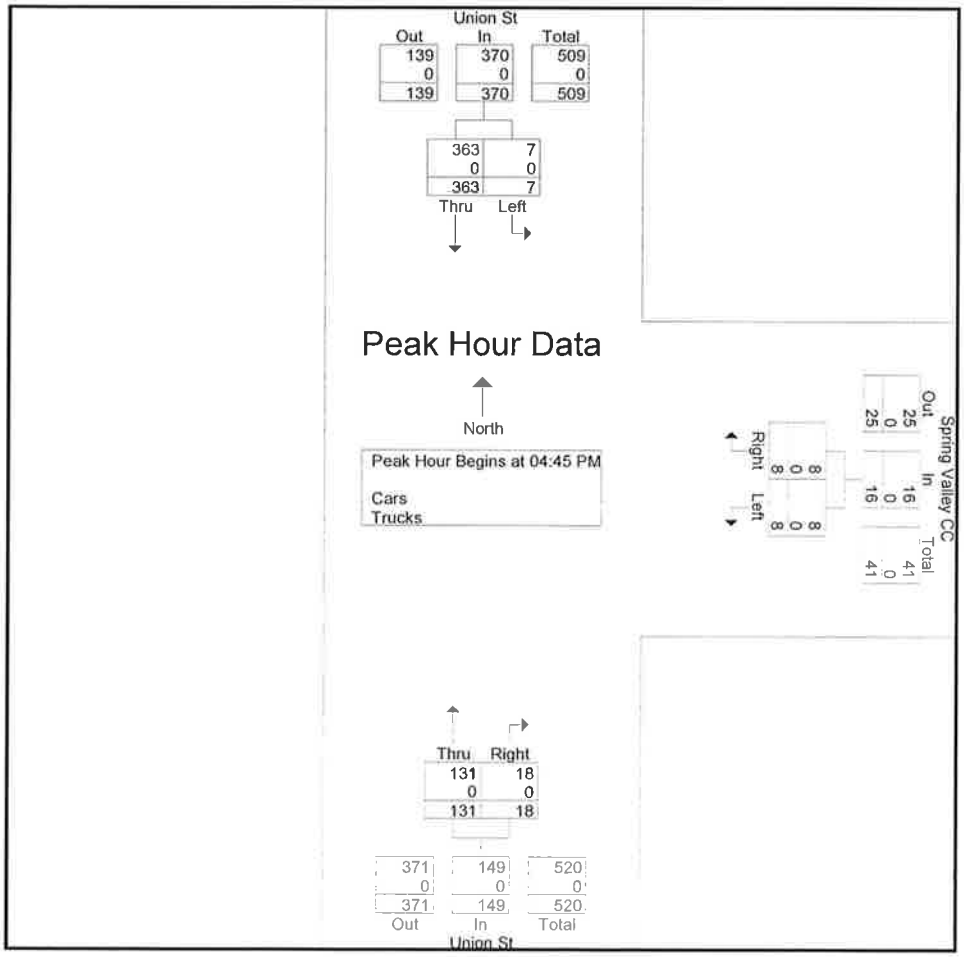
Accurate Counts

978-664-2565

N/S Street : Union Street
E/W Street : Spring Valley CC
City/State : Sharon, MA
Weather : Clear

File Name : 77210002
Site Code : 77210002
Start Date : 8/10/2017
Page No : 2

	Union St From North			Spring Valley CC From East			Union St From South			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	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	1	78	79	1	0	1	**41**	3	**44**	124
05:00 PM	**3**	**103**	**106**	1	**4**	**5**	23	**6**	29	**140**
05:15 PM	0	92	92	**3**	2	5	33	5	38	135
05:30 PM	3	90	93	3	2	5	34	4	38	136
Total Volume	7	363	370	8	8	16	131	18	149	535
% App. Total	1.9	98.1		50	50		87.9	12.1		
PHF	.583	.881	.873	.667	.500	.800	.799	.750	.847	.955
Cars	7	363	370	8	8	16	131	18	149	535
% Cars	100	100	100	100	100	100	100	100	100	100
Trucks	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0



Accurate Counts

978-664-2565

N/S Street : Union Street
E/W Street : Spring Valley CC
City/State : Sharon, MA
Weather : Clear

File Name : 77210002
Site Code : 77210002
Start Date : 8/10/2017
Page No : 7

Groups Printed- Trucks

	Union St From North		Spring Valley CC From East		Union St From South		
Start Time	Left	Thru	Left	Right	Thru	Right	Int. Total
04:00 PM	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0
Apprch %	0	0	0	0	0	0	
Total %							

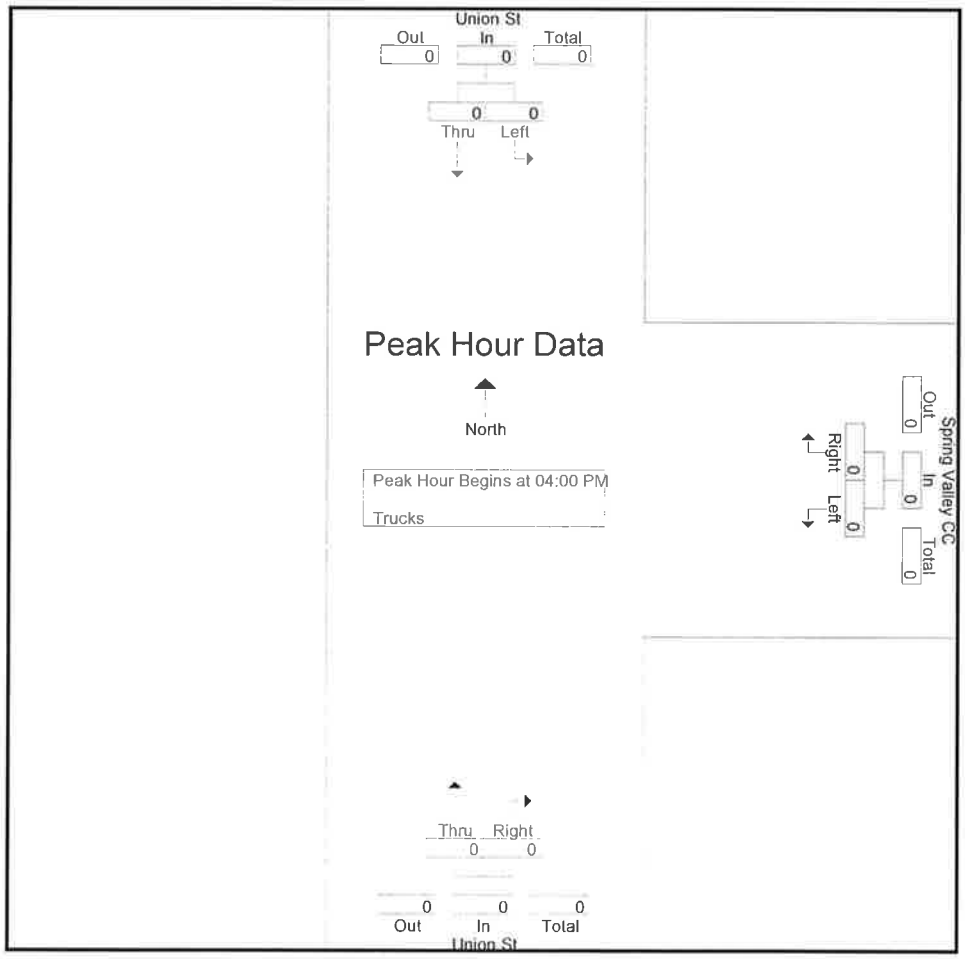
Accurate Counts

978-664-2565

N/S Street : Union Street
E/W Street : Spring Valley CC
City/State : Sharon, MA
Weather : Clear

File Name : 77210002
Site Code : 77210002
Start Date : 8/10/2017
Page No : 8

	Union St From North			Spring Valley CC From East			Union St From South			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	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
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000



Accurate Counts

978-664-2565

N/S Street : Union Street
E/W Street : Spring Valley CC
City/State : Sharon, MA
Weather : Clear

File Name : 77210002
Site Code : 77210002
Start Date : 8/10/2017

Groups Printed- Bikes Peds

	Union St From North			Spring Valley CC From East			Union St From South					
Start Time	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	1	0	0	0	1	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	0	1	1
Grand Total	0	0	0	0	0	0	1	0	0	0	1	1
Apprch %	0	0		0	0		100	0				
Total %	0	0		0	0		100	0		0	100	

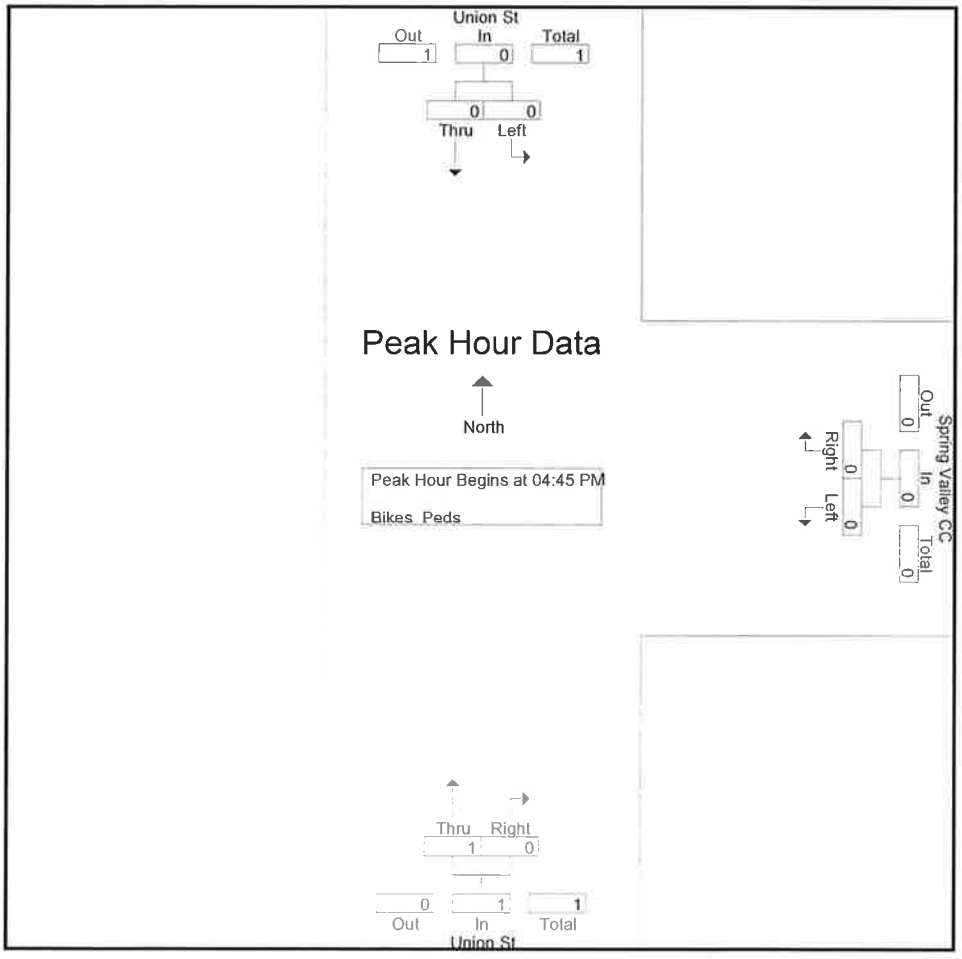
Accurate Counts

978-664-2565

N/S Street : Union Street
E/W Street : Spring Valley CC
City/State : Sharon, MA
Weather : Clear

File Name : 77210002
Site Code : 77210002
Start Date : 8/10/2017
Page No : 11

	Union St From North			Spring Valley CC From East			Union St From South			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	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
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	1	0	1	1
Total Volume	0	0	0	0	0	0	1	0	1	1
% App. Total	0	0		0	0		100	0		
PHF	.000	.000	.000	.000	.000	.000	.250	.000	.250	.250



Accurate Counts

978-664-2565

N/S Street : Union Street
E/W Street : Spring Valley CC
City/State : Sharon, MA
Weather : Clear

File Name : 772100S2
Site Code : 77210002
Start Date : 8/12/2017
Page No : 1

Groups Printed- Cars - Trucks

	Union St From North		Spring Valley CC From East		Union St From South		
Start Time	Left	Thru	Left	Right	Thru	Right	Int. Total
11:00 AM	3	26	1	0	20	7	57
11:15 AM	1	28	3	0	29	2	63
11:30 AM	1	20	3	1	27	4	56
11:45 AM	0	29	5	0	23	2	59
Total	5	103	12	1	99	15	235
12:00 PM	1	30	3	1	20	3	58
12:15 PM	3	29	0	1	23	4	60
12:30 PM	0	29	0	2	24	2	57
12:45 PM	0	31	1	1	26	0	59
Total	4	119	4	5	93	9	234
01:00 PM	0	27	3	1	18	4	53
01:15 PM	1	38	1	0	14	3	57
01:30 PM	2	19	1	2	27	1	52
01:45 PM	3	27	2	1	19	0	52
Total	6	111	7	4	78	8	214
Grand Total	15	333	23	10	270	32	683
Apprch %	4.3	95.7	69.7	30.3	89.4	10.6	
Total %	2.2	48.8	3.4	1.5	39.5	4.7	
Cars	15	332	23	10	270	32	682
% Cars	100	99.7	100	100	100	100	99.9
Trucks	0	1	0	0	0	0	1
% Trucks	0	0.3	0	0	0	0	0.1

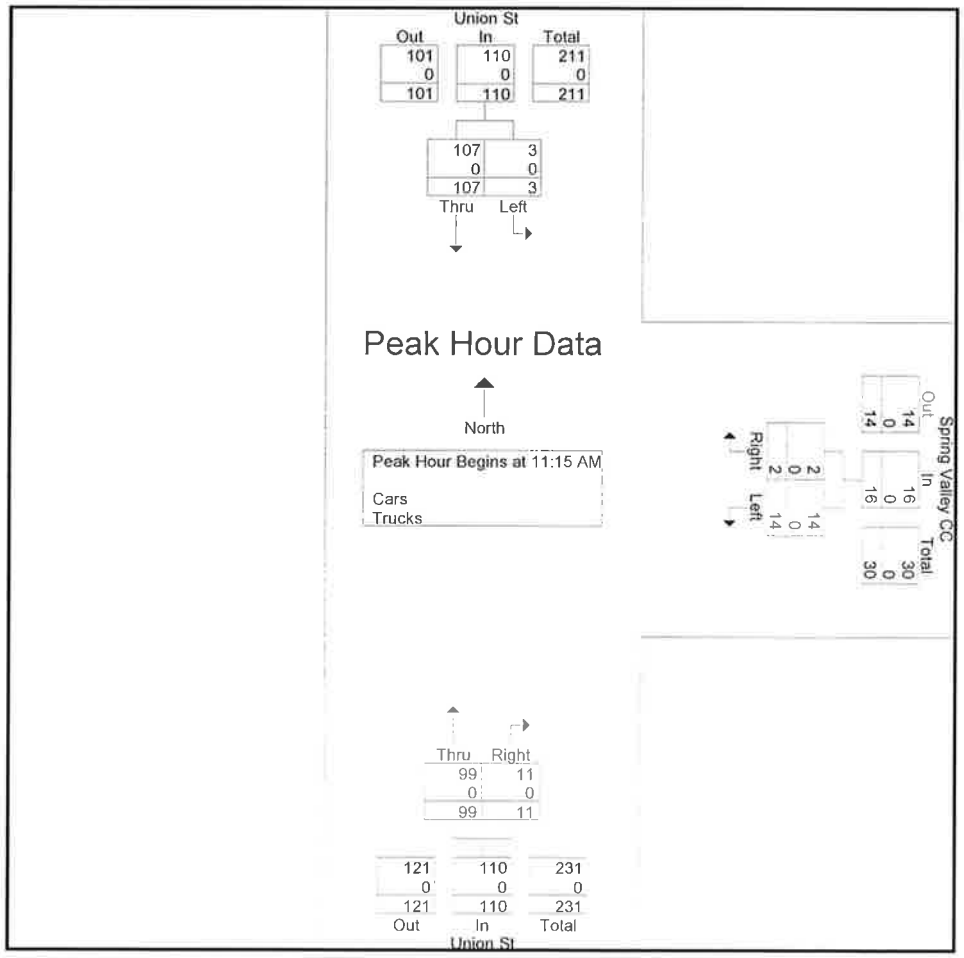
Accurate Counts

978-664-2565

N/S Street : Union Street
E/W Street : Spring Valley CC
City/State : Sharon, MA
Weather : Clear

File Name : 772100S2
Site Code : 77210002
Start Date : 8/12/2017
Page No : 2

	Union St From North			Spring Valley CC From East			Union St From South			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 11:15 AM										
11:15 AM	**1**	28	29	3	0	3	**29**	2	**31**	**63**
11:30 AM	1	20	21	3	**1**	4	27	**4**	31	56
11:45 AM	0	29	29	**5**	0	**5**	23	2	25	59
12:00 PM	1	**30**	**31**	3	1	4	20	3	23	58
Total Volume	3	107	110	**14**	2	16	99	11	110	236
% App. Total	2.7	97.3		87.5	12.5		90	10		
PHF	.750	.892	.887	.700	.500	.800	.853	.688	.887	.937
Cars	3	107	110	14	2	16	99	11	110	236
% Cars	100	100	100	100	100	100	100	100	100	100
Trucks	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0



Accurate Counts

978-664-2565

N/S Street : Union Street
E/W Street : Spring Valley CC
City/State : Sharon, MA
Weather : Clear

File Name : 772100S2
Site Code : 77210002
Start Date : 8/12/2017
Page No : 7

Groups Printed- Trucks

	Union St From North		Spring Valley CC From East		Union St From South		
Start Time	Left	Thru	Left	Right	Thru	Right	Int. Total
11:00 AM	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0
12:45 PM	0	1	0	0	0	0	1
Total	0	1	0	0	0	0	1
01:00 PM	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0
Grand Total	0	1	0	0	0	0	1
Apprch %	0	100	0	0	0	0	
Total %	0	100	0	0	0	0	

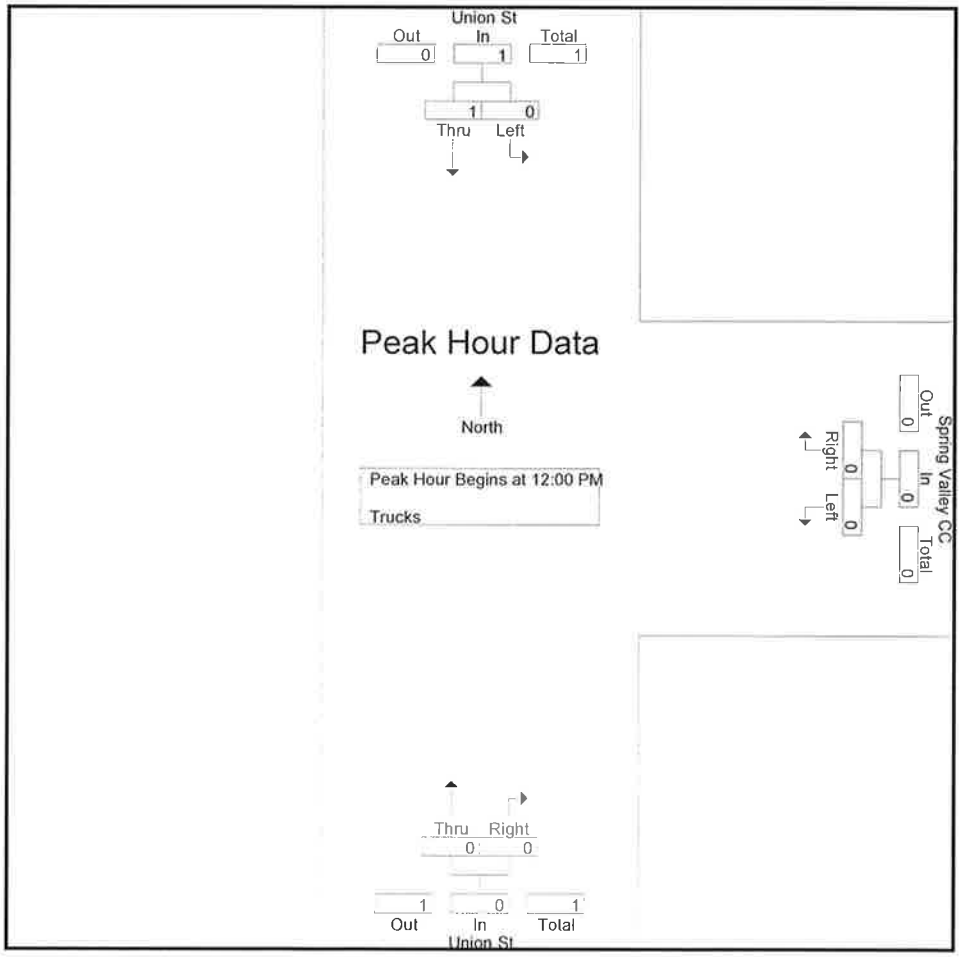
Accurate Counts

978-664-2565

N/S Street : Union Street
E/W Street : Spring Valley CC
City/State : Sharon, MA
Weather : Clear

File Name : 772100S2
Site Code : 77210002
Start Date : 8/12/2017
Page No : 8

	Union St From North			Spring Valley CC From East			Union St From South			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 12:00 PM										
12:00 PM	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	1	1	0	0	0	0	0	0	1
Total Volume	0	1	1	0	0	0	0	0	0	1
% App. Total	0	100		0	0		0	0		
PHF	.000	.250	.250	.000	.000	.000	.000	.000	.000	.250



Accurate Counts

978-664-2565

N/S Street : Union Street
E/W Street : Spring Valley CC
City/State : Sharon, MA
Weather : Clear

File Name : 772100S2
Site Code : 77210002
Start Date : 8/12/2017
Page No : 10

Groups Printed- Bikes Peds

	Union St From North			Spring Valley CC From East			Union St From South					
Start Time	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	1	0	0	0	1	1
Total	0	0	0	0	0	0	1	0	0	0	1	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	1	0	0	0	1	1
Apprch %	0	0		0	0		100	0				
Total %	0	0		0	0		100	0		0	100	

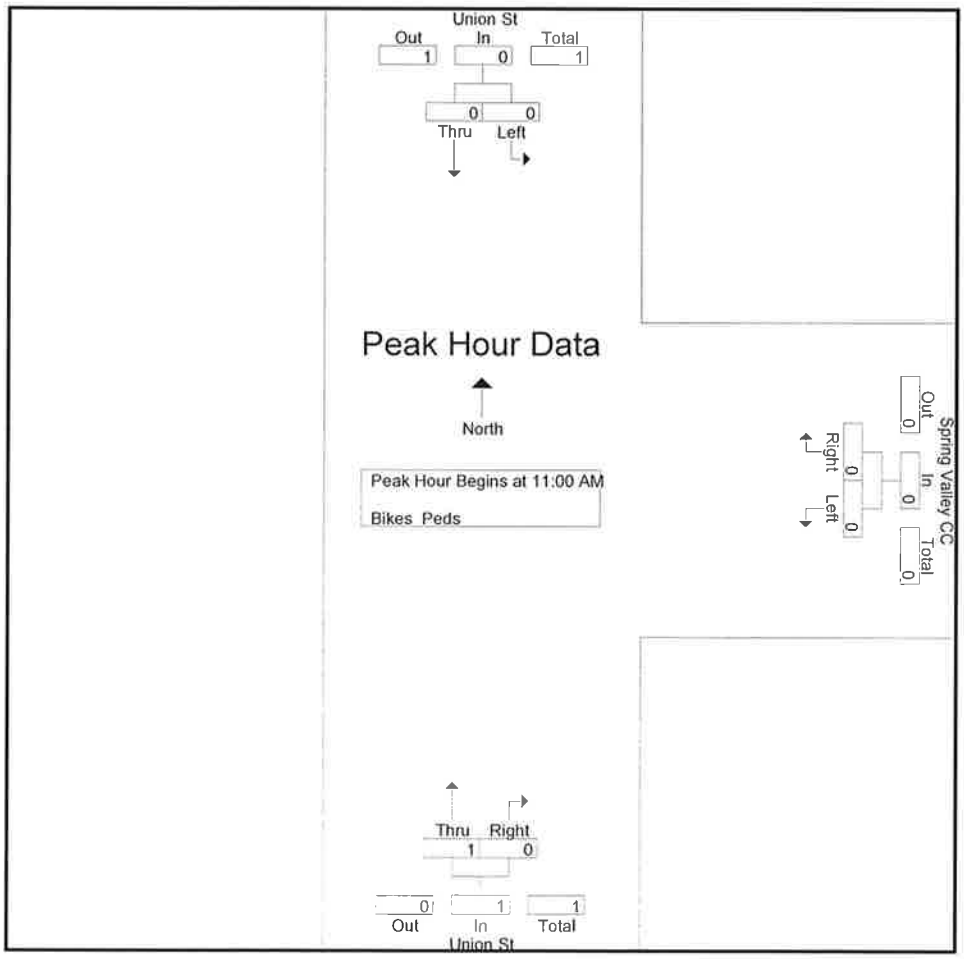
Accurate Counts

978-664-2565

N/S Street : Union Street
E/W Street : Spring Valley CC
City/State : Sharon, MA
Weather : Clear

File Name : 772100S2
Site Code : 77210002
Start Date : 8/12/2017
Page No : 11

	Union St From North			Spring Valley CC From East			Union St From South			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 11:00 AM										
11:00 AM	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	1	0	1	1
Total Volume	0	0	0	0	0	0	1	0	1	1
% App. Total	0	0		0	0		100	0		
PHF	.000	.000	.000	.000	.000	.000	.250	.000	.250	.250



Accurate Counts

978-664-2565

N/S Street : Tiot Street
E/W Street : Edge Hill Road
City/State : Sharon, MA
Weather : Clear

File Name : 77210003
Site Code : 77210003
Start Date : 8/10/2017
Page No : 1

Groups Printed- Cars - Trucks

	Tiot St From North		Edge Hill Rd From East		Edge Hill Rd From West		
Start Time	Left	Right	Thru	Right	Left	Thru	Int. Total
04:00 PM	58	15	30	29	6	34	172
04:15 PM	56	12	37	30	6	34	175
04:30 PM	72	15	30	27	4	28	176
04:45 PM	60	24	37	30	4	42	197
Total	246	66	134	116	20	138	720
05:00 PM	69	28	40	28	7	24	196
05:15 PM	77	28	40	28	13	20	206
05:30 PM	74	16	50	37	3	31	211
05:45 PM	59	18	50	29	5	30	191
Total	279	90	180	122	28	105	804
Grand Total	525	156	314	238	48	243	1524
Apprch %	77.1	22.9	56.9	43.1	16.5	83.5	
Total %	34.4	10.2	20.6	15.6	3.1	15.9	
Cars	525	156	314	238	48	243	1524
% Cars	100	100	100	100	100	100	100
Trucks	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0

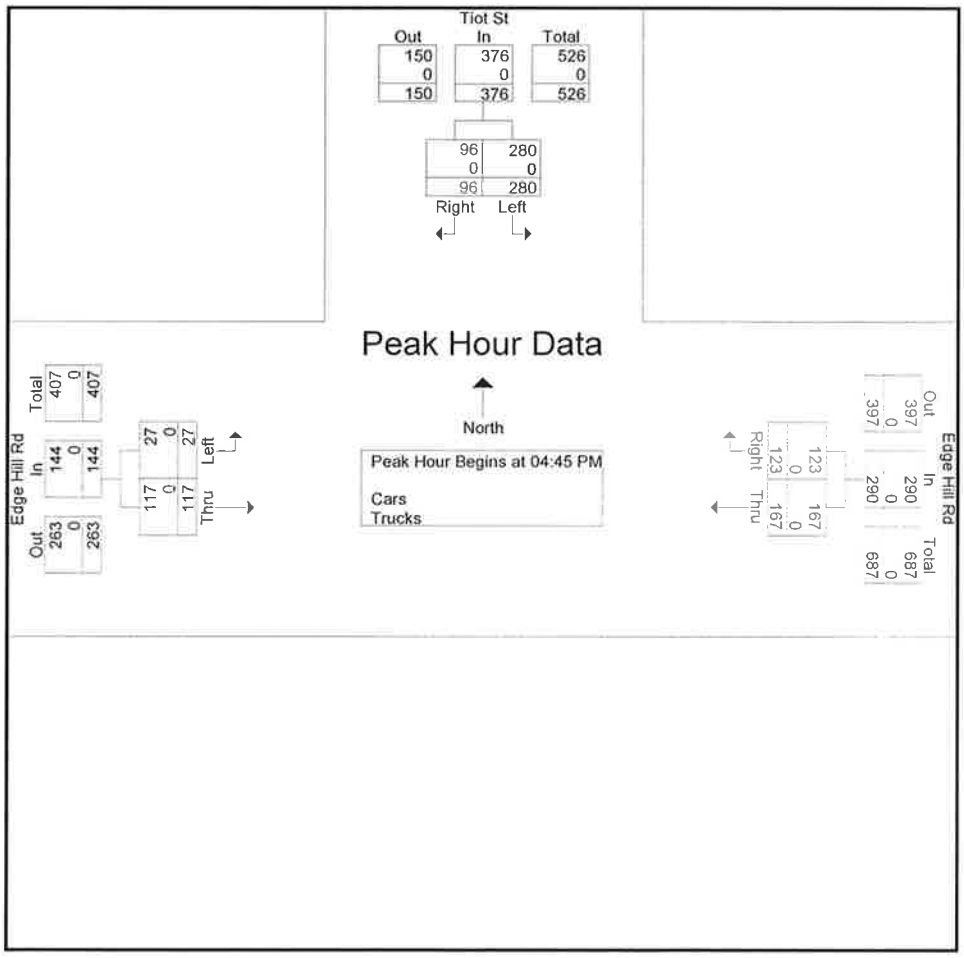
Accurate Counts

978-664-2565

N/S Street : Tiot Street
E/W Street : Edge Hill Road
City/State : Sharon, MA
Weather : Clear

File Name : 77210003
Site Code : 77210003
Start Date : 8/10/2017
Page No : 2

	Tiot St From North			Edge Hill Rd From East			Edge Hill Rd From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	60	24	84	37	30	67	4	**42**	**46**	197
05:00 PM	69	**28**	97	40	28	68	7	24	31	196
05:15 PM	**77**	28	**105**	40	28	68	**13**	20	33	206
05:30 PM	74	16	90	**50**	**37**	**87**	3	31	34	**211**
Total Volume	280	96	376	167	123	290	27	117	144	810
% App. Total	74.5	25.5		57.6	42.4		18.8	81.2		
PHF	.909	.857	.895	.835	.831	.833	.519	.696	.783	.960
Cars	280	96	376	167	123	290	27	117	144	810
% Cars	100	100	100	100	100	100	100	100	100	100
Trucks	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0



Accurate Counts

978-664-2565

N/S Street : Tiot Street
E/W Street : Edge Hill Road
City/State : Sharon, MA
Weather : Clear

File Name : 77210003
Site Code : 77210003
Start Date : 8/10/2017
Page No : 7

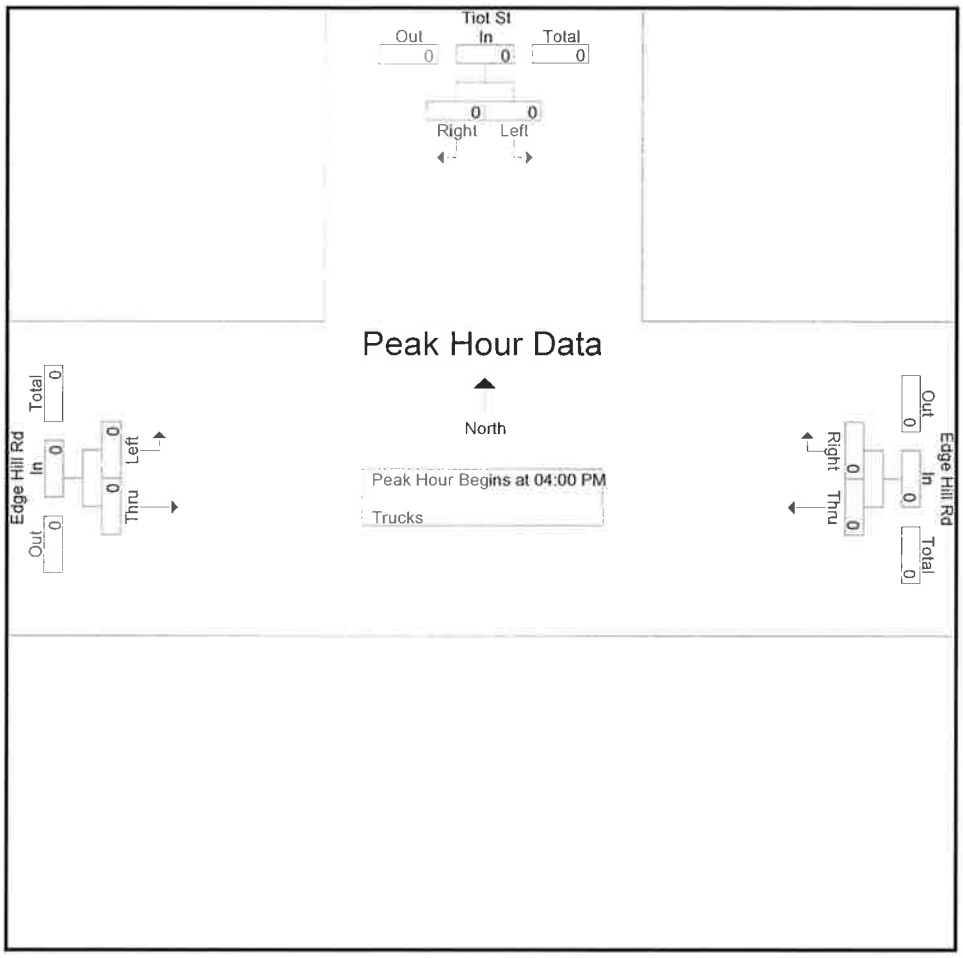
Groups Printed- Trucks

	Tiot St From North		Edge Hill Rd From East		Edge Hill Rd From West		
Start Time	Left	Right	Thru	Right	Left	Thru	Int. Total
04:00 PM	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0
Apprch %	0	0	0	0	0	0	
Total %							

N/S Street : Tiot Street
E/W Street : Edge Hill Road
City/State : Sharon, MA
Weather : Clear

File Name : 77210003
Site Code : 77210003
Start Date : 8/10/2017
Page No : 8

	Tiot St From North			Edge Hill Rd From East			Edge Hill Rd From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000



Accurate Counts

978-664-2565

N/S Street : Tiot Street
E/W Street : Edge Hill Road
City/State : Sharon, MA
Weather : Clear

File Name : 77210003
Site Code : 77210003
Start Date : 8/10/2017
Page No : 10

Groups Printed- Bikes Peds

	Tiot St From North			Edge Hill Rd From East			Edge Hill Rd From West					
Start Time	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	1	0	0	0	0	0	0	1	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	0	0	0	0	0	0	1	1
Grand Total	0	0	0	1	0	0	0	0	0	0	1	1
Apprch %	0	0		100	0		0	0				
Total %	0	0		100	0		0	0		0	100	

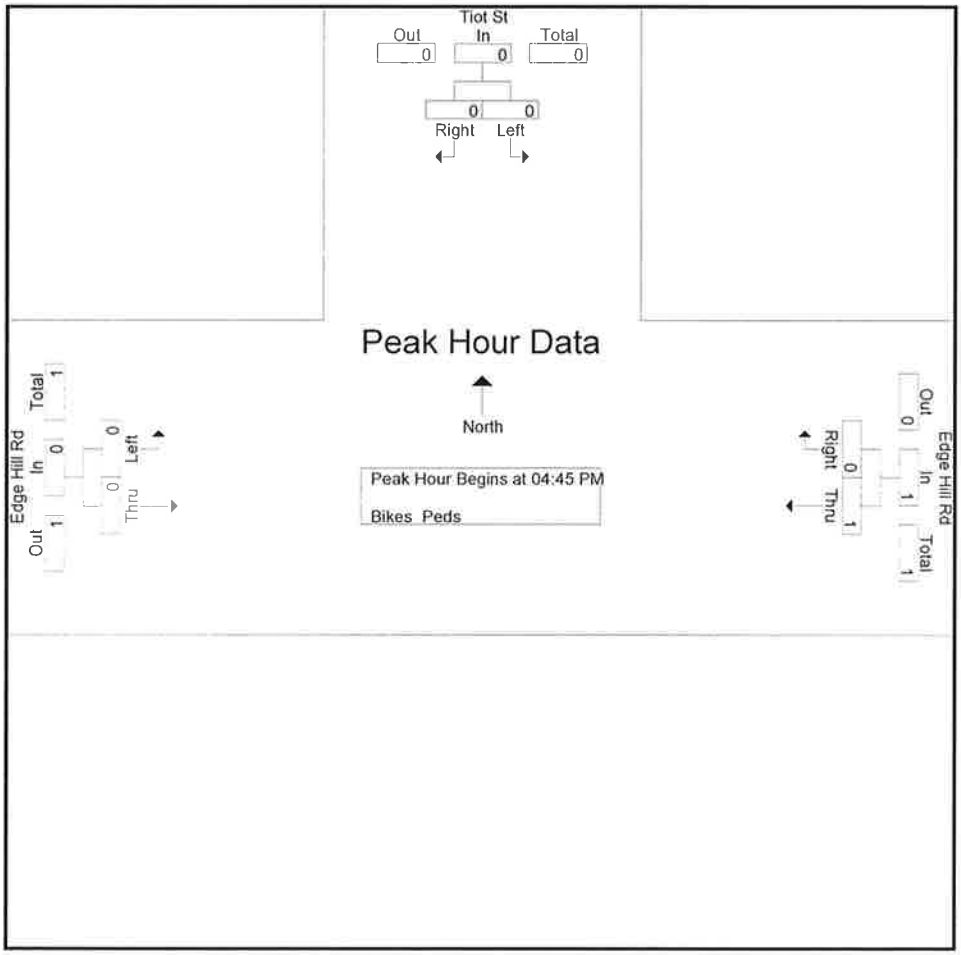
Accurate Counts

978-664-2565

N/S Street : Tiot Street
E/W Street : Edge Hill Road
City/State : Sharon, MA
Weather : Clear

File Name : 77210003
Site Code : 77210003
Start Date : 8/10/2017
Page No : 11

	Tiot St From North			Edge Hill Rd From East			Edge Hill Rd From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	1	0	1	0	0	0	1
Total Volume	0	0	0	1	0	1	0	0	0	1
% App. Total	0	0		100	0		0	0		
PHF	.000	.000	.000	.250	.000	.250	.000	.000	.000	.250



Accurate Counts

978-664-2565

N/S Street : Tiot Street
E/W Street : Edge Hill Road
City/State : Sharon, MA
Weather : Clear

File Name : 772100S3
Site Code : 77210003
Start Date : 8/12/2017
Page No : 1

Groups Printed- Cars - Trucks

	Tiot St From North		Edge Hill Rd From East		Edge Hill Rd From West		
Start Time	Left	Right	Thru	Right	Left	Thru	Int. Total
11:00 AM	21	4	15	18	7	20	85
11:15 AM	26	4	21	29	3	23	106
11:30 AM	19	3	34	27	4	19	106
11:45 AM	30	11	17	24	6	17	105
Total	96	22	87	98	20	79	402
12:00 PM	30	4	20	16	4	17	91
12:15 PM	26	3	19	22	7	24	101
12:30 PM	25	9	22	20	7	16	99
12:45 PM	23	5	25	23	8	19	103
Total	104	21	86	81	26	76	394
01:00 PM	26	6	21	11	8	12	84
01:15 PM	29	6	23	11	4	18	91
01:30 PM	19	3	21	26	5	15	89
01:45 PM	24	4	28	18	2	19	95
Total	98	19	93	66	19	64	359
Grand Total	298	62	266	245	65	219	1155
Apprch %	82.8	17.2	52.1	47.9	22.9	77.1	
Total %	25.8	5.4	23	21.2	5.6	19	
Cars	297	62	266	245	65	219	1154
% Cars	99.7	100	100	100	100	100	99.9
Trucks	1	0	0	0	0	0	1
% Trucks	0.3	0	0	0	0	0	0.1

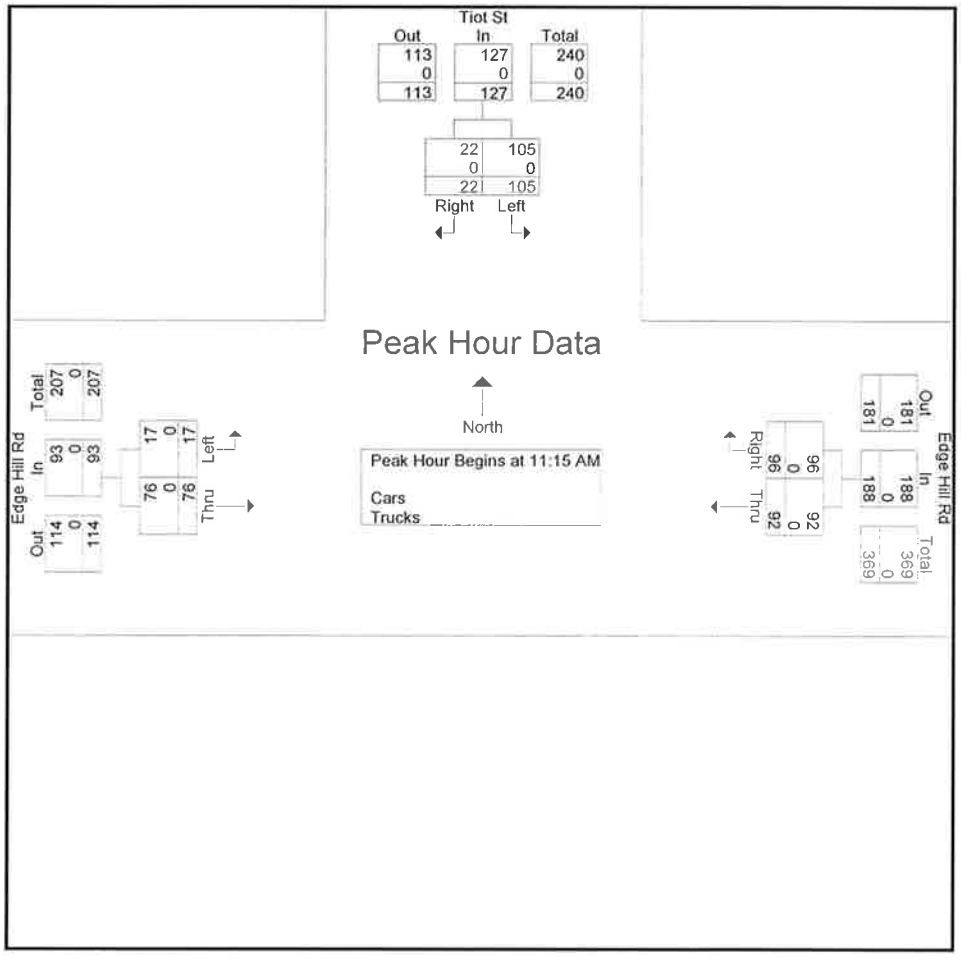
Accurate Counts

978-664-2565

N/S Street : Tiot Street
E/W Street : Edge Hill Road
City/State : Sharon, MA
Weather : Clear

File Name : 772100S3
Site Code : 77210003
Start Date : 8/12/2017
Page No : 2

	Tiot St From North			Edge Hill Rd From East			Edge Hill Rd From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 11:15 AM										
11:15 AM	26	4	30	21	**29**	50	3	**23**	**26**	**106**
11:30 AM	19	3	22	**34**	27	**61**	4	19	23	106
11:45 AM	**30**	**11**	**41**	17	24	41	**6**	17	23	105
12:00 PM	30	4	34	20	16	36	4	17	21	91
Total Volume	105	22	127	92	96	188	17	76	93	408
% App. Total	82.7	17.3		48.9	51.1		18.3	81.7		
PHF	.875	.500	.774	.676	.828	.770	.708	.826	.894	.962
Cars	105	22	127	92	96	188	17	76	93	408
% Cars	100	100	100	100	100	100	100	100	100	100
Trucks	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0



Accurate Counts

978-664-2565

N/S Street : Tiot Street
E/W Street : Edge Hill Road
City/State : Sharon, MA
Weather : Clear

File Name : 772100S3
Site Code : 77210003
Start Date : 8/12/2017
Page No : 7

Groups Printed- Trucks

	Tiot St From North		Edge Hill Rd From East		Edge Hill Rd From West		
Start Time	Left	Right	Thru	Right	Left	Thru	Int. Total
11:00 AM	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0
12:45 PM	1	0	0	0	0	0	1
Total	1	0	0	0	0	0	1
01:00 PM	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0
Grand Total	1	0	0	0	0	0	1
Apprch %	100	0	0	0	0	0	
Total %	100	0	0	0	0	0	

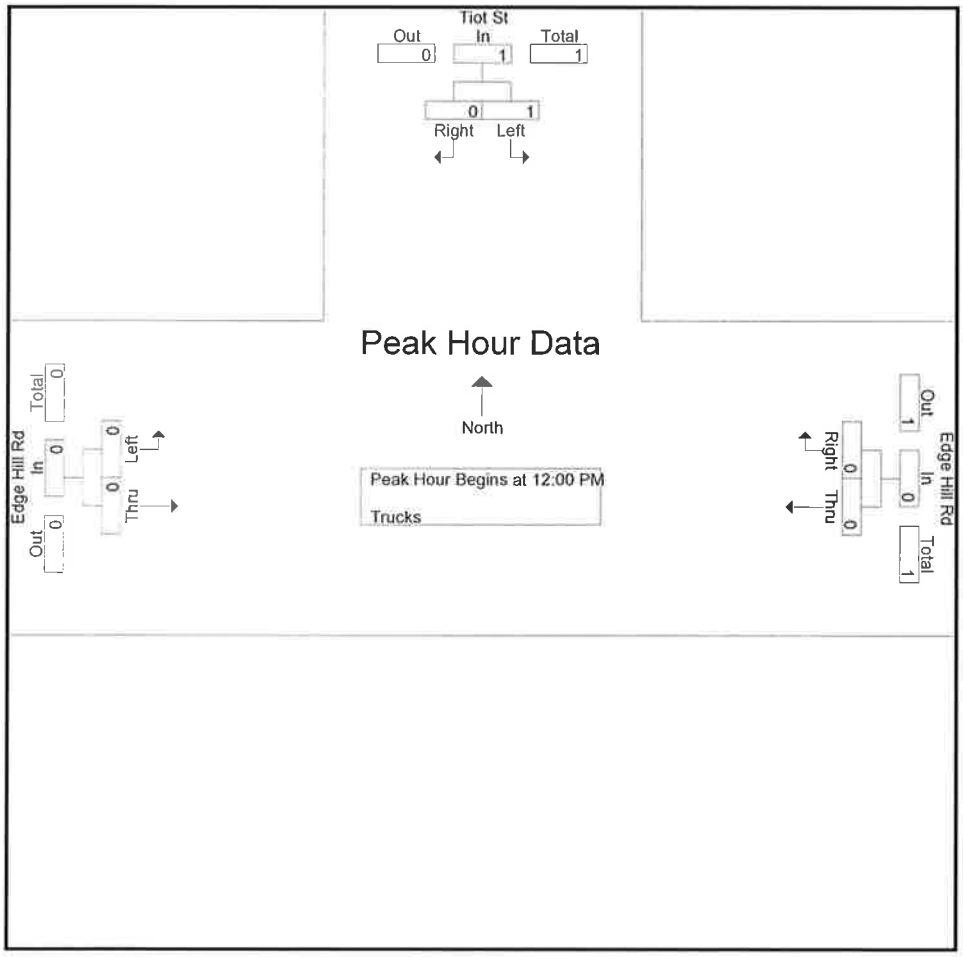
Accurate Counts

978-664-2565

N/S Street : Tiot Street
E/W Street : Edge Hill Road
City/State : Sharon, MA
Weather : Clear

File Name : 772100S3
Site Code : 77210003
Start Date : 8/12/2017
Page No : 8

	Tiot St From North			Edge Hill Rd From East			Edge Hill Rd From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 12:00 PM										
12:00 PM	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0
12:45 PM	1	0	1	0	0	0	0	0	0	1
Total Volume	1	0	1	0	0	0	0	0	0	1
% App. Total	100	0		0	0		0	0		
PHF	.250	.000	.250	.000	.000	.000	.000	.000	.000	.250



Accurate Counts

978-664-2565

N/S Street : Tiot Street
E/W Street : Edge Hill Road
City/State : Sharon, MA
Weather : Clear

File Name : 772100S3
Site Code : 77210003
Start Date : 8/12/2017

Groups Printed- Bikes Peds

	Tiot St From North			Edge Hill Rd From East			Edge Hill Rd From West					
Start Time	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds	Exclu. Total	Inclu. Total	Int. Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	1	0	0	8	0	0	9	9
Total	0	0	0	0	1	0	0	8	0	0	9	9
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	1	0	0	8	0	0	9	9
Apprch %	0	0		0	100		0	100				
Total %	0	0		0	11.1		0	88.9		0	100	

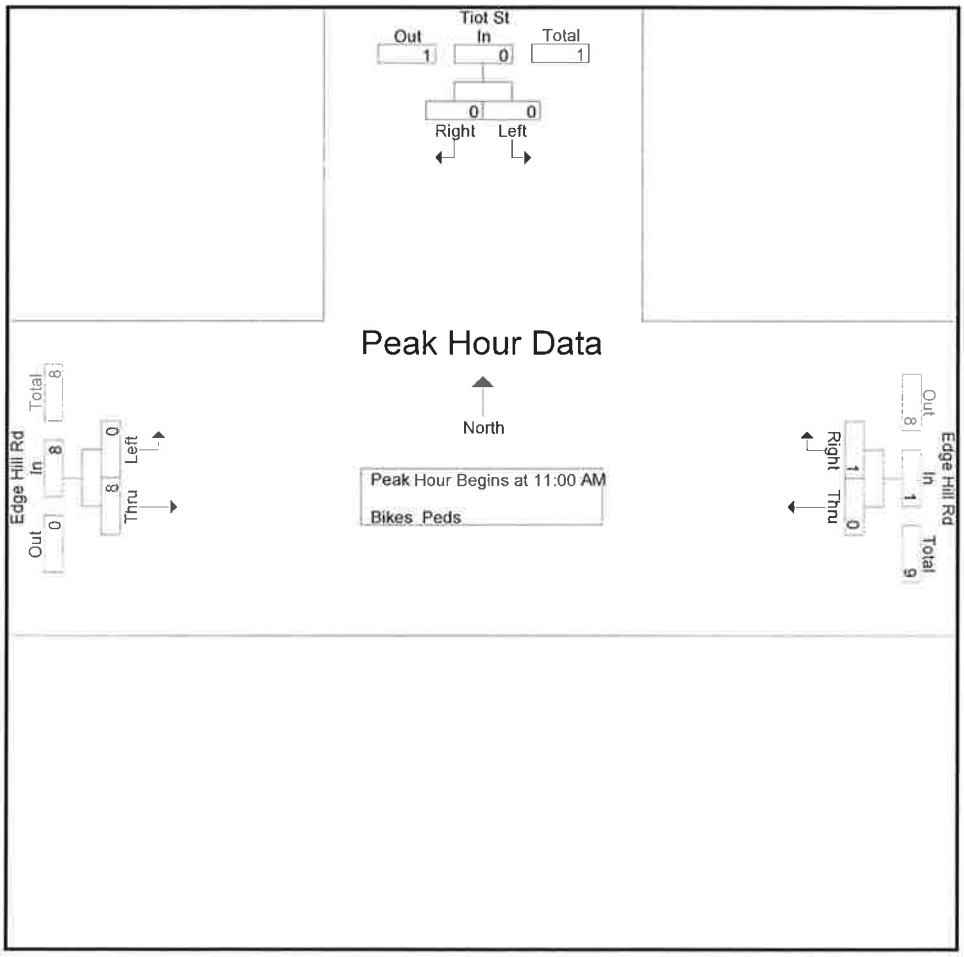
Accurate Counts

978-664-2565

N/S Street : Tiot Street
E/W Street : Edge Hill Road
City/State : Sharon, MA
Weather : Clear

File Name : 772100S3
Site Code : 77210003
Start Date : 8/12/2017
Page No : 11

	Tiot St From North			Edge Hill Rd From East			Edge Hill Rd From West			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 11:00 AM										
11:00 AM	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	1	1	0	8	8	9
Total Volume	0	0	0	0	1	1	0	8	8	9
% App. Total	0	0		0	100		0	100		
PHF	.000	.000	.000	.000	.250	.250	.000	.250	.250	.250



Accurate Counts

978-664-2565

N/S Street : Union Street
E/W Street : Bay Colony Road
City/State : Sharon, MA
Weather : Clear

File Name : 77210001
Site Code : 77210001
Start Date : 8/10/2017
Page No : 1

Groups Printed- Cars - Trucks

	Union St From North		Union St From South		Bay Colony Rd From West		
Start Time	Thru	Right	Left	Thru	Left	Right	Int. Total
04:00 PM	74	0	0	34	2	1	111
04:15 PM	58	0	2	33	3	2	98
04:30 PM	86	3	0	27	1	0	117
04:45 PM	84	4	2	36	3	1	130
Total	302	7	4	130	9	4	456
05:00 PM	106	1	1	30	4	1	143
05:15 PM	103	2	1	31	2	1	140
05:30 PM	84	3	1	36	4	1	129
05:45 PM	73	1	2	26	1	0	103
Total	366	7	5	123	11	3	515
Grand Total	668	14	9	253	20	7	971
Apprch %	97.9	2.1	3.4	96.6	74.1	25.9	
Total %	68.8	1.4	0.9	26.1	2.1	0.7	
Cars	668	14	9	253	20	7	971
% Cars	100	100	100	100	100	100	100
Trucks	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0

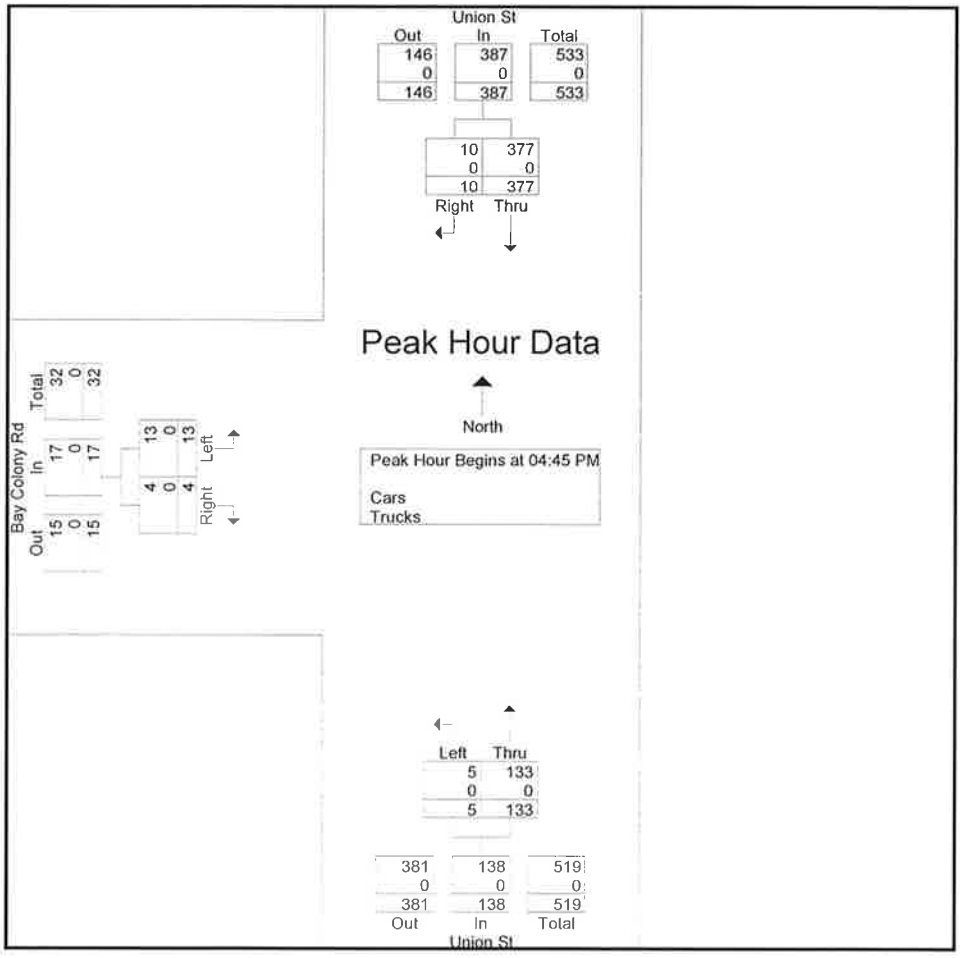
Accurate Counts

978-664-2565

N/S Street : Union Street
E/W Street : Bay Colony Road
City/State : Sharon, MA
Weather : Clear

File Name : 77210001
Site Code : 77210001
Start Date : 8/10/2017
Page No : 2

	Union St From North			Union St From South			Bay Colony Rd From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	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	84	**4**	88	**2**	**36**	**38**	3	**1**	4	130
05:00 PM	**106**	1	**107**	1	30	31	**4**	1	**5**	**143**
05:15 PM	103	2	105	1	31	32	2	1	3	140
05:30 PM	84	3	87	1	36	37	4	1	5	129
Total Volume	377	10	387	5	133	138	13	4	17	542
% App. Total	97.4	2.6		3.6	96.4		76.5	23.5		
PHF	.889	.625	.904	.625	.924	.908	.813	1.00	.850	.948
Cars	377	10	387	5	133	138	13	4	17	542
% Cars	100	100	100	100	100	100	100	100	100	100
Trucks	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0



Accurate Counts

978-664-2565

N/S Street : Union Street
E/W Street : Bay Colony Road
City/State : Sharon, MA
Weather : Clear

File Name : 77210001
Site Code : 77210001
Start Date : 8/10/2017
Page No : 7

Groups Printed- Trucks

	Union St From North		Union St From South		Bay Colony Rd From West		
Start Time	Thru	Right	Left	Thru	Left	Right	Int. Total
04:00 PM	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0
Apprch %	0	0	0	0	0	0	
Total %							

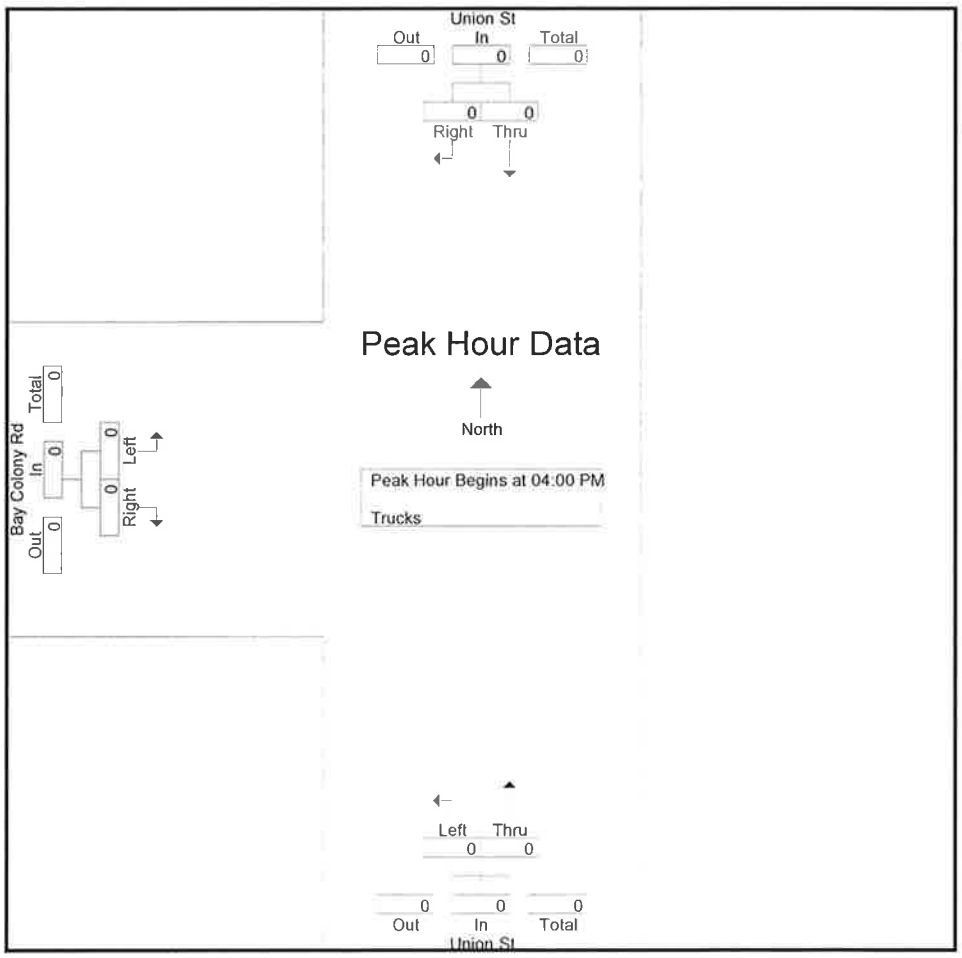
Accurate Counts

978-664-2565

N/S Street : Union Street
E/W Street : Bay Colony Road
City/State : Sharon, MA
Weather : Clear

File Name : 77210001
Site Code : 77210001
Start Date : 8/10/2017
Page No : 8

	Union St From North			Union St From South			Bay Colony Rd From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	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
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000



Accurate Counts

978-664-2565

N/S Street : Union Street
E/W Street : Bay Colony Road
City/State : Sharon, MA
Weather : Clear

File Name : 77210001
Site Code : 77210001
Start Date : 8/10/2017
Page No : 10

Groups Printed- Bikes Peds

	Union St From North			Union St From South			Bay Colony Rd From West					
Start Time	Thru	Right	Peds	Left	Thru	Peds	Left	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0		0	0		0	0				
Total %										0	0	

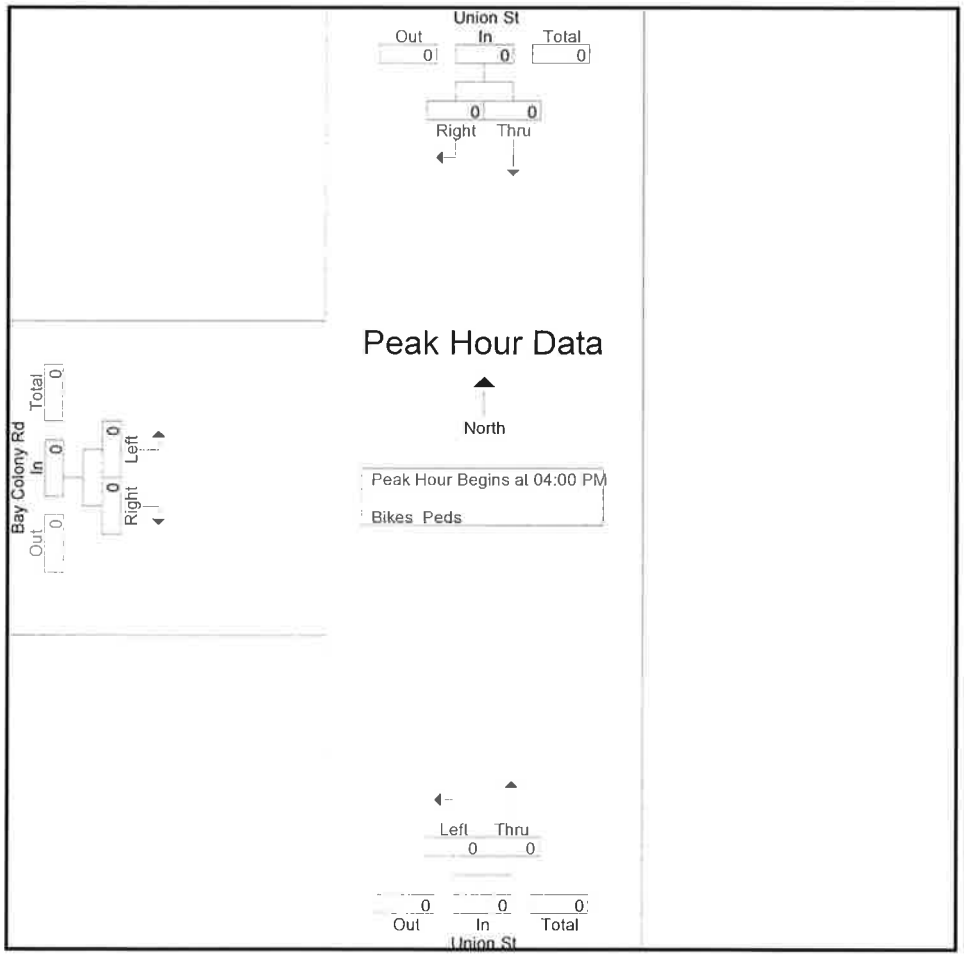
Accurate Counts

978-664-2565

N/S Street : Union Street
E/W Street : Bay Colony Road
City/State : Sharon, MA
Weather : Clear

File Name : 77210001
Site Code : 77210001
Start Date : 8/10/2017
Page No : 11

	Union St From North			Union St From South			Bay Colony Rd From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	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
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000



Accurate Counts

978-664-2565

N/S Street : Union Street
E/W Street : Bay Colony Road
City/State : Sharon, MA
Weather : Clear

File Name : 772100S1
Site Code : 77210001
Start Date : 8/12/2017
Page No : 1

Groups Printed- Cars - Trucks

	Union St From North		Union St From South		Bay Colony Rd From West		
Start Time	Thru	Right	Left	Thru	Left	Right	Int. Total
11:00 AM	28	4	1	18	2	1	54
11:15 AM	21	1	1	28	1	0	52
11:30 AM	22	0	1	25	1	0	49
11:45 AM	37	3	0	23	1	0	64
Total	108	8	3	94	5	1	219
12:00 PM	29	4	1	18	3	0	55
12:15 PM	26	3	0	24	1	1	55
12:30 PM	26	2	2	21	3	2	56
12:45 PM	28	1	2	30	1	2	64
Total	109	10	5	93	8	5	230
01:00 PM	27	3	0	18	1	0	49
01:15 PM	34	2	0	13	2	2	53
01:30 PM	21	0	0	28	1	0	50
01:45 PM	27	2	1	24	1	2	57
Total	109	7	1	83	5	4	209
Grand Total	326	25	9	270	18	10	658
Apprch %	92.9	7.1	3.2	96.8	64.3	35.7	
Total %	49.5	3.8	1.4	41	2.7	1.5	
Cars	326	25	9	270	18	10	658
% Cars	100	100	100	100	100	100	100
Trucks	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0

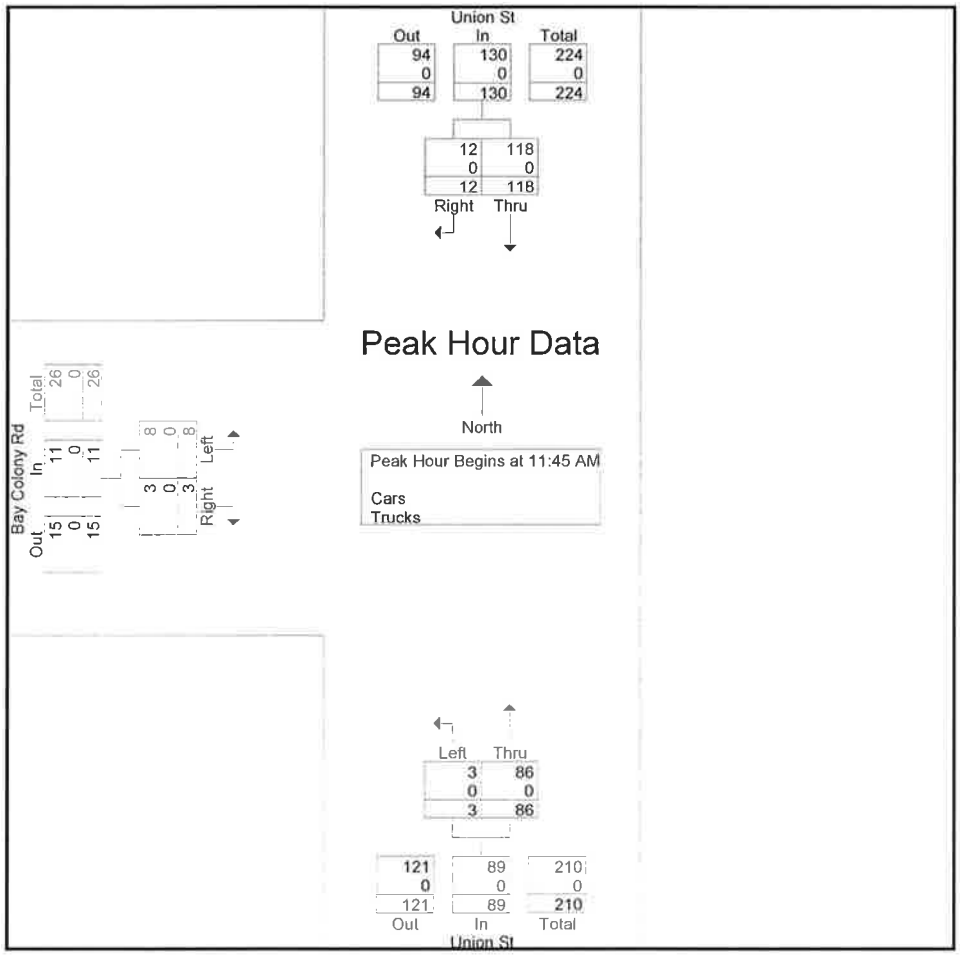
Accurate Counts

978-664-2565

N/S Street : Union Street
E/W Street : Bay Colony Road
City/State : Sharon, MA
Weather : Clear

File Name : 772100S1
Site Code : 77210001
Start Date : 8/12/2017
Page No : 2

	Union St From North			Union St From South			Bay Colony Rd From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 11:45 AM										
11:45 AM	**37**	3	**40**	0	23	23	1	0	1	**64**
12:00 PM	29	**4**	33	1	18	19	**3**	0	3	55
12:15 PM	26	3	29	0	**24**	**24**	1	1	2	55
12:30 PM	26	2	28	**2**	21	23	3	**2**	**5**	56
Total Volume	118	12	130	3	86	89	8	3	11	230
% App. Total	90.8	9.2		3.4	96.6		72.7	27.3		
PHF	.797	.750	.813	.375	.896	.927	.667	.375	.550	.898
Cars	118	12	130	3	86	89	8	3	11	230
% Cars	100	100	100	100	100	100	100	100	100	100
Trucks	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0



Accurate Counts

978-664-2565

N/S Street : Union Street
E/W Street : Bay Colony Road
City/State : Sharon, MA
Weather : Clear

File Name : 772100S1
Site Code : 77210001
Start Date : 8/12/2017

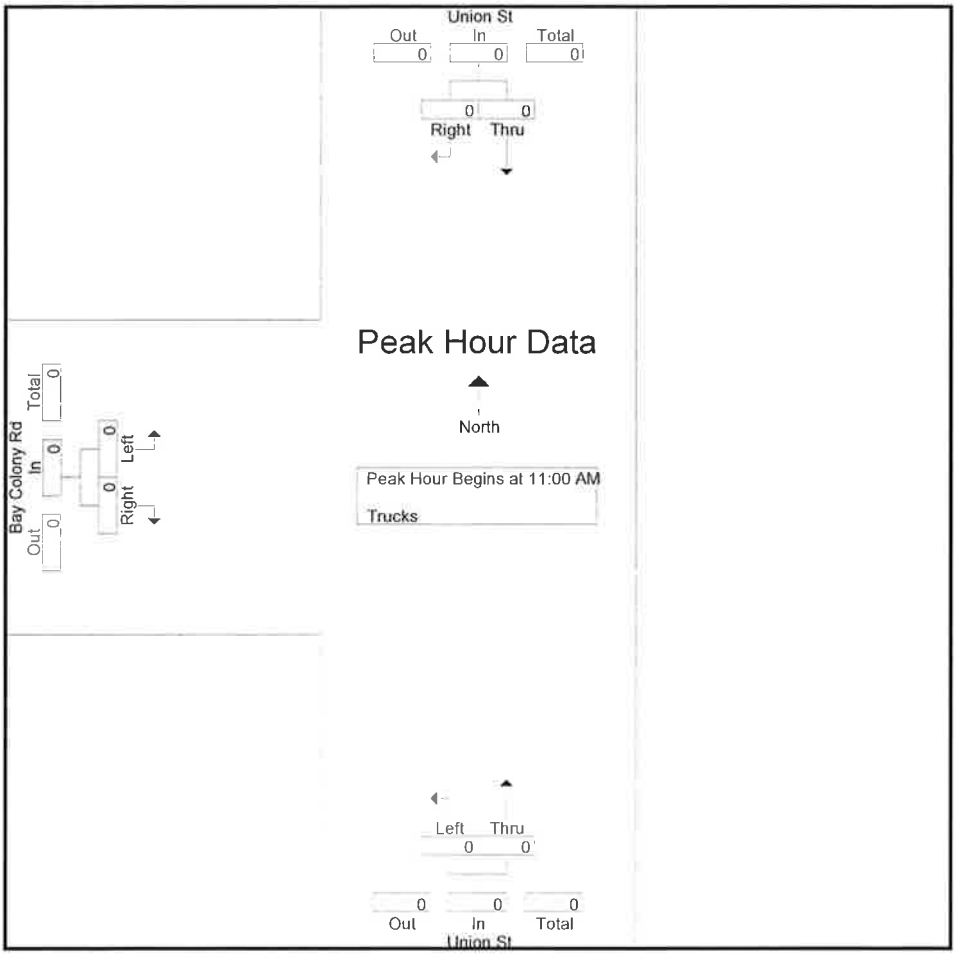
Groups Printed- Trucks

	Union St From North		Union St From South		Bay Colony Rd From West		
Start Time	Thru	Right	Left	Thru	Left	Right	Int. Total
11:00 AM	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0
Apprch %	0	0	0	0	0	0	
Total %							

N/S Street : Union Street
E/W Street : Bay Colony Road
City/State : Sharon, MA
Weather : Clear

File Name : 772100S1
Site Code : 77210001
Start Date : 8/12/2017
Page No : 8

	Union St From North			Union St From South			Bay Colony Rd From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 11:00 AM										
11:00 AM	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000



Accurate Counts

978-664-2565

N/S Street : Union Street
E/W Street : Bay Colony Road
City/State : Sharon, MA
Weather : Clear

File Name : 772100S1
Site Code : 77210001
Start Date : 8/12/2017
Page No : 10

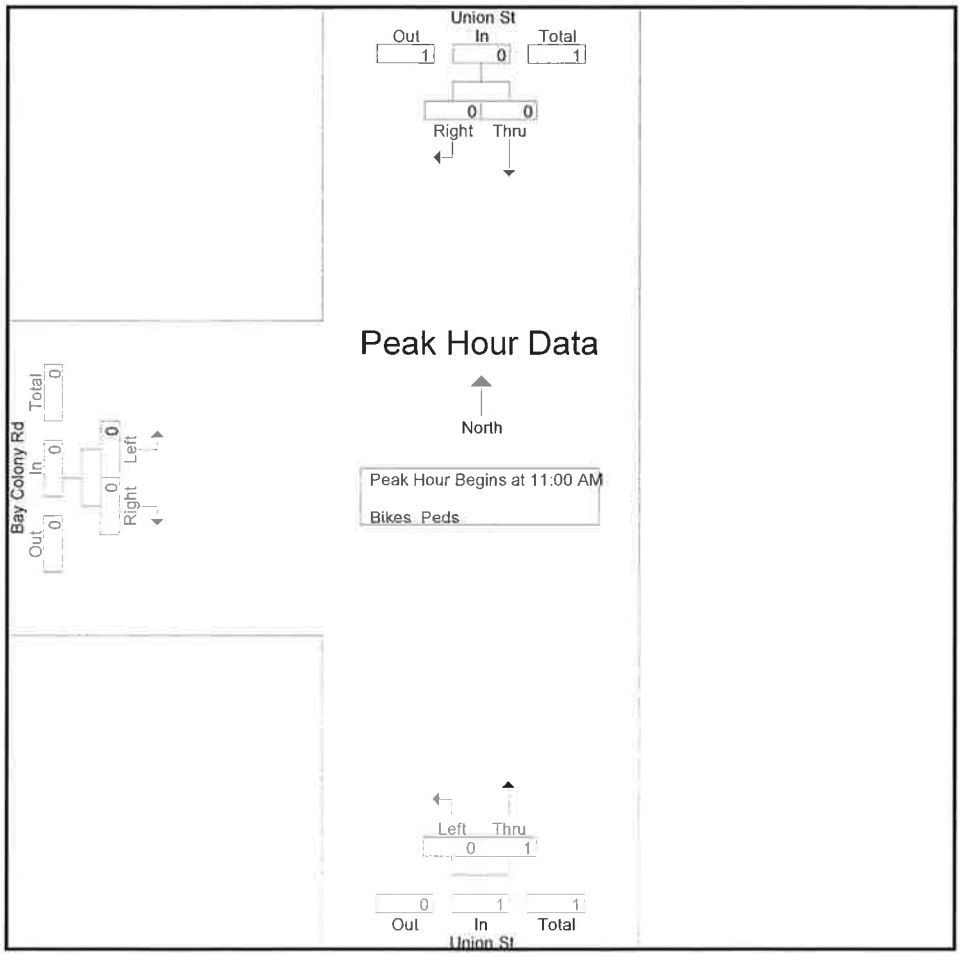
Groups Printed- Bikes Peds

	Union St From North			Union St From South			Bay Colony Rd From West					
Start Time	Thru	Right	Peds	Left	Thru	Peds	Left	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	1	0	0	0	0	0	1	1
Total	0	0	0	0	1	0	0	0	0	0	1	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	1	0	0	0	0	0	1	1
Apprch %	0	0		0	100		0	0				
Total %	0	0		0	100		0	0		0	100	

N/S Street : Union Street
E/W Street : Bay Colony Road
City/State : Sharon, MA
Weather : Clear

File Name : 772100S1
Site Code : 77210001
Start Date : 8/12/2017
Page No : 11

	Union St From North			Union St From South			Bay Colony Rd From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 11:00 AM										
11:00 AM	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	**1**	**1**	0	0	0	**1**
Total Volume	0	0	0	0	1	1	0	0	0	1
% App. Total	0	0		0	100		0	0		
PHF	.000	.000	.000	.000	.250	.250	.000	.000	.000	.250



SEASONAL ADJUSTMENT DATA

Massachusetts Highway Department
6237: Monthly Hourly Volume for 2015-2016

Location ID:	**6237**	**Seasonal Factor Group:**	**U2**
County:	**Norfolk County**	**Daily Factor Group:**	
Funcationl Class	**(2) Freeway & Expressway**	**Axle Factor Group:**	**U2**
Location:	**Amvets Memorial Highway**	**Growth Factor Group:**	**U2**
	South of Route 139		

Year	**Month**	**Volume**	Variation from Avg Month
2016	January	110595.50	0.90
2016	February	113206.96	0.92
2016	March	121823.62	0.99
2016	April	123402.41	1.00
2016	May	125111.43	1.02
2016	June	129854.24	1.05
2016	July	127784.87	1.04
2016	August	131371.50	1.07
2016	September	127269.55	1.03
2016	October	124092.20	1.01
2016	November	123227.43	1.00
2015	December	119277.97	0.97
	Average	**123084.81**	**1.00**

MOTOR VEHICLE CRASH DATA

MassDOT Crash Report for Tiot Street at Edge Hll Road in Sharon 2010-2014

Crash Date	Crash Severity	Manner of Collision	Road Surface	Ambient Light	Weather Condition	Street Number	Roadway
5/26/2010	Non-fatal injury	Angle	Not reported	Daylight	Not Reported		EDGE HILL ROAD / TIOT STREET
12/12/2010	Non-fatal injury	Single vehicle crash	Ice	Daylight	Rain/Rain	174	EDGE HILL ROAD
1/21/2012	Property damage only (none injured)	Rear-end	Snow	Daylight	Snow		TIOT ST / EDGE HILL RD
2/12/2012	Property damage only (none injured)	Single vehicle crash	Dry	Dark - lighted roadway	Unknown/ Unknown		EDGE HILL ROAD / TIOT STREET
1/16/2013	Property damage only (none injured)	Single vehicle crash	Slush	Daylight	Snow/Sleet, hail (freezing rain or drizzle)	178	EDGE HILL RD
8/6/2014	Property damage only (none injured)	Rear-end	Dry	Daylight	Clear/Clear		EDGE HILL RD / TIOT ST

MassHighway

CRASH RATE WORKSHEET

CITY/TOWN : Sharon COUNT DATE : 2017

DISTRICT : 5 UNSIGNALIZED : X SIGNALIZED :

MHD USE ONLY

Source #

~ INTERSECTION DATA ~

MAJOR STREET : Edge Hill Road ST #

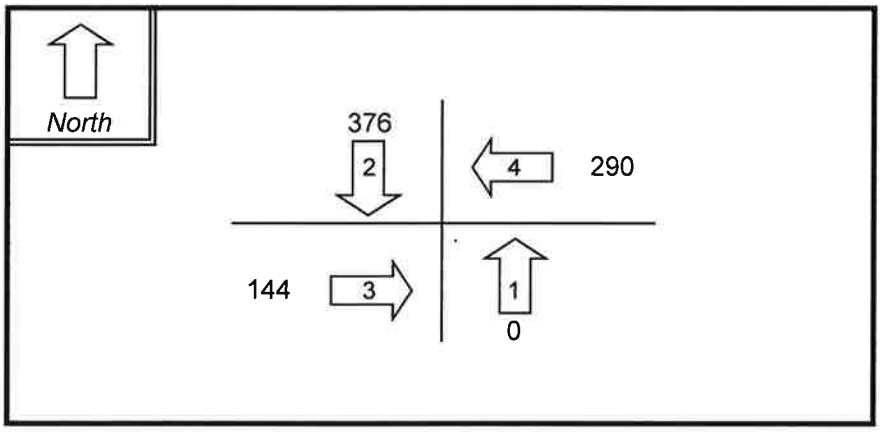
MINOR STREET(S) : Tiot Street ST #

ST #

ST #

ST #

INTERSECTION DIAGRAM (Label Approaches)



INTERSECTION REF #

Peak Hour Volumes

APPROACH :	1	2	3	4	5	Total Entering Vehicles
DIRECTION :	NB	SB	EB	WB		
VOLUMES (AM) :		376	144	290		**810**

" K " FACTOR : **0.126** APPROACH ADT : **6,429** **ADT** = TOTAL VOL/"K" FACT.

TOTAL # OF ACCIDENTS : 6 # OF YEARS : 5 AVERAGE # OF ACCIDENTS (**A**) : **1.20**

CRASH RATE CALCULATION : **0.51** RATE = $\frac{(A * 1{,}000{,}000)}{(ADT * 365)}$

Comments : Accident Rate for District 5 signalized intersections = 0.76

Accident Rate for District 5 unsignalized intersections = 0.58

MassDOT Crash Report for Spring Valley Country Club at Tiot Street and Union Street in Sharon 2010-2014

Crash Date	Crash Severity	Manner of Collision	Road Surface	Ambient Light	Weather Condition	Street Number	Roadway
2/25/2014	Property damage only (none injured)	Angle	Dry	Dark - lighted roadway	Clear		TIOT STREET / SPRING VALLEY

MassHighway

CRASH RATE WORKSHEET

CITY/TOWN : Sharon COUNT DATE : 2017

DISTRICT : 5 UNSIGNALIZED : X SIGNALIZED :

MHD USE ONLY

Source #

~ INTERSECTION DATA ~

MAJOR STREET : Tiot Street/Union Street ST #

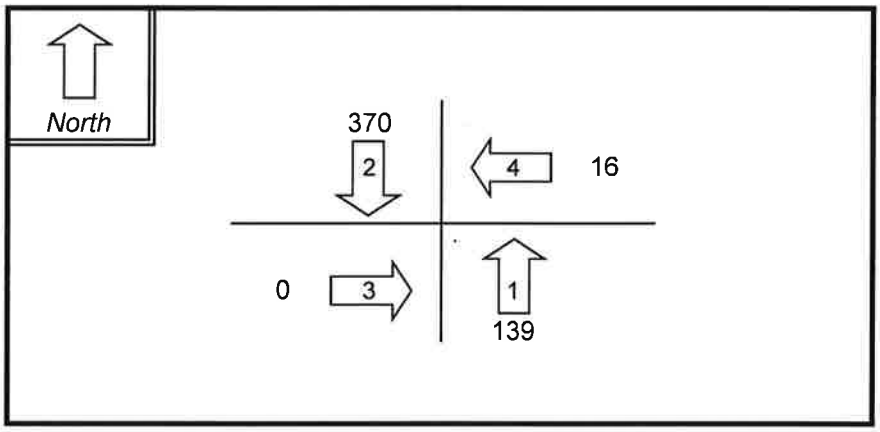
MINOR STREET(S) : Spring Valley Country Club Driveway ST #

ST #

ST #

ST #

INTERSECTION DIAGRAM (Label Approaches)



INTERSECTION REF #

Peak Hour Volumes

APPROACH :	1	2	3	4	5	Total Entering Vehicles
DIRECTION :	NB	SB	EB	WB		
VOLUMES (AM) :	139	370		16		**525**

" K " FACTOR : **0.126** APPROACH ADT : **4,167** **ADT** = TOTAL VOL/"K" FACT.

TOTAL # OF ACCIDENTS : 1 # OF YEARS : 5 AVERAGE # OF ACCIDENTS (**A**) : **0.20**

CRASH RATE CALCULATION : **0.13** RATE = $\frac{(A * 1{,}000{,}000)}{(ADT * 365)}$

Comments : Accident Rate for District 5 signalized intersections = 0.76

Accident Rate for District 5 unsignalized intersections = 0.58

TRIP GENERATION CALCULATIONS

Institute of Transportation Engineers (ITE)
Trip Generation, 9 th Edition
Land Use Code (LUC) 230 - Residential Condominium/Townhouse

Average Vehicle Trips Ends vs: Dwelling Units
Independent Variable (X): 52

AVERAGE WEEKDAY DAILY

Ln T = 0.87 Ln (X) + 2.46
Ln T = 0.87 Ln 52 + (2.46)
Ln T = 5.90
T = 364.16
T = 364 vehicle trips
with 50% (182 vpd) entering and 50% (182 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

Ln T = 0.80 Ln (X) + 0.26
Ln T = 0.80 Ln 52 + (0.26)
Ln T = 3.42
T = 30.60
T = 31 vehicle trips
with 17% (5 vph) entering and 83% (26 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

Ln T = 0.82 Ln (X) + 0.32
Ln T = 0.82 Ln 52 + (0.32)
Ln T = 3.56
T = 35.16
T = 35 vehicle trips
with 67% (23 vph) entering and 33% (12 vph) exiting.

SATURDAY DAILY

T = 3.62 * (X) + 427.93
T = 3.62 * 52 +427.93
T = 616.17
T = 616 vehicle trips
with 50% (308 vph) entering and 50% (308 vph) exiting.

SATURDAY MIDDAY PEAK HOUR OF GENERATOR

T = 0.29 * (X) +42.63
T = 0.29 * 52 +42.63
T = 57.71
T = 58 vehicle trips
with 54% (31 vph) entering and 46% (27 vph) exiting.[1]

TRIP DISTRIBUTION CALCULATIONS

Trip Distribution Based on Journy to Work Data for Sharon MA				
Town/City/County	**Percent**	**Union Street North**	**Edge Hill Road East**	**Edge Hill Road West**
Easton town	1.71		1.71	
Cambridge city	2.46			2.46
Natick town	1.11	1.11		
Newton city	2.19	1.10		1.10
Waltham city	1.03			1.03
Braintree Town city	1.74		1.74	
Brookline town	1.77	1.77		
Canton town	3.95		3.95	
Dedham town	1.26	1.26		
Foxborough town	3.38			3.38
Needham town	1.60	1.60		
Norwood town	5.59	5.59		
Quincy city	2.94		2.94	
Sharon town	15.82	4.75	7.12	3.96
Stoughton town	1.92		1.92	
Walpole town	2.51	2.51		
Wellesley town	1.93	1.93		
Weymouth Town city	1.29			1.29
Brockton city	2.17		2.17	
Boston city	25.68			25.68
Providence city	3.39			3.39
Bristol County	2.43			2.43
Essex County	0.11			0.11
Hampden County	0.08			0.08
Middlesex County	5.12			5.12
Norfolk County	3.99		3.99	
Plymouth County	1.88			1.88
Suffolk County	0.32			0.32
Worcester County	0.65			0.65
Total	**100.00**	**21.61**	**25.54**	**52.85**
TOTAL USED		**20**	**30**	**50**

CAPACITY ANALYSIS

Tiot Street at Edge Hill Road
Spring Valley Country Club Driveway at Tiot Street
Union Street at Bay Colony Drive

Tiot Street at Edge Hill Road

Intersection	
Int Delay, s/veh	12.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	27	117	167	123	280	96
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	83	83	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	35	150	201	148	311	107

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	349	0	-	0	494	275
Stage 1	-	-	-	-	275	-
Stage 2	-	-	-	-	219	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1221	-	-	-	538	769
Stage 1	-	-	-	-	776	-
Stage 2	-	-	-	-	822	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1221	-	-	-	521	769
Mov Cap-2 Maneuver	-	-	-	-	521	-
Stage 1	-	-	-	-	776	-
Stage 2	-	-	-	-	797	-

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	26.9
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1221	-	-	-	568
HCM Lane V/C Ratio	0.028	-	-	-	0.736
HCM Control Delay (s)	8	0	-	-	26.9
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	6.3

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	17	76	92	96	105	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	77	77	77	77
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	19	85	119	125	136	29

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	244	0	-	0	306	182
Stage 1	-	-	-	-	182	-
Stage 2	-	-	-	-	124	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1334	-	-	-	690	866
Stage 1	-	-	-	-	854	-
Stage 2	-	-	-	-	907	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1334	-	-	-	680	866
Mov Cap-2 Maneuver	-	-	-	-	680	-
Stage 1	-	-	-	-	854	-
Stage 2	-	-	-	-	893	-

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	11.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1334	-	-	-	706
HCM Lane V/C Ratio	0.014	-	-	-	0.234
HCM Control Delay (s)	7.7	0	-	-	11.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.9

Intersection	
Int Delay, s/veh	15.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	29	125	179	132	300	103
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	83	83	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	37	160	216	159	333	114

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	375	0	-	0	530	295
Stage 1	-	-	-	-	295	-
Stage 2	-	-	-	-	235	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1195	-	-	-	513	749
Stage 1	-	-	-	-	760	-
Stage 2	-	-	-	-	809	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1195	-	-	-	496	749
Mov Cap-2 Maneuver	-	-	-	-	496	-
Stage 1	-	-	-	-	760	-
Stage 2	-	-	-	-	781	-

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	35.6
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1195	-	-	-	543
HCM Lane V/C Ratio	0.031	-	-	-	0.825
HCM Control Delay (s)	8.1	0	-	-	35.6
HCM Lane LOS	A	A	-	-	E
HCM 95th %tile Q(veh)	0.1	-	-	-	8.3

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	18	81	99	103	113	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	77	77	77	77
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	20	91	129	134	147	31

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	262	0	-	0	326	195
Stage 1	-	-	-	-	195	-
Stage 2	-	-	-	-	131	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1314	-	-	-	672	851
Stage 1	-	-	-	-	843	-
Stage 2	-	-	-	-	900	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1314	-	-	-	661	851
Mov Cap-2 Maneuver	-	-	-	-	661	-
Stage 1	-	-	-	-	843	-
Stage 2	-	-	-	-	886	-

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	12
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1314	-	-	-	688
HCM Lane V/C Ratio	0.015	-	-	-	0.259
HCM Control Delay (s)	7.8	0	-	-	12
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	1

Intersection	
Int Delay, s/veh	19.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	40	125	179	139	304	109
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	83	83	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	51	160	216	167	338	121

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	383	0	-	0	562	299
Stage 1	-	-	-	-	299	-
Stage 2	-	-	-	-	263	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1187	-	-	-	492	745
Stage 1	-	-	-	-	757	-
Stage 2	-	-	-	-	786	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1187	-	-	-	469	745
Mov Cap-2 Maneuver	-	-	-	-	469	-
Stage 1	-	-	-	-	757	-
Stage 2	-	-	-	-	749	-

Approach	EB	WB	SB
HCM Control Delay, s	2	0	44.2
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1187	-	-	-	520
HCM Lane V/C Ratio	0.043	-	-	-	0.882
HCM Control Delay (s)	8.2	0	-	-	44.2
HCM Lane LOS	A	A	-	-	E
HCM 95th %tile Q(veh)	0.1	-	-	-	9.8

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	34	81	99	112	121	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	77	77	77	77
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	38	91	129	145	157	49

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	274	0	-	0	368	201
Stage 1	-	-	-	-	201	-
Stage 2	-	-	-	-	167	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1301	-	-	-	636	845
Stage 1	-	-	-	-	838	-
Stage 2	-	-	-	-	867	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1301	-	-	-	616	845
Mov Cap-2 Maneuver	-	-	-	-	616	-
Stage 1	-	-	-	-	838	-
Stage 2	-	-	-	-	840	-

Approach	EB	WB	SB
HCM Control Delay, s	2.3	0	12.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1301	-	-	-	659
HCM Lane V/C Ratio	0.029	-	-	-	0.313
HCM Control Delay (s)	7.9	0	-	-	12.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1.3

Spring Valley Country Club Driveway at Tiot Street

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	8	8	131	18	7	363
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	85	85	87	87
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	10	10	154	21	8	417

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	598	165	0	0	175	0
Stage 1	165	-	-	-	-	-
Stage 2	433	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	468	885	-	-	1414	-
Stage 1	869	-	-	-	-	-
Stage 2	658	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	465	885	-	-	1414	-
Mov Cap-2 Maneuver	465	-	-	-	-	-
Stage 1	869	-	-	-	-	-
Stage 2	653	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.1	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	610	1414	-
HCM Lane V/C Ratio	-	-	0.033	0.006	-
HCM Control Delay (s)	-	-	11.1	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	14	2	99	11	3	107
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	18	2	111	12	3	120

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	244	117	0	0	124	0
Stage 1	117	-	-	-	-	-
Stage 2	127	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	749	941	-	-	1475	-
Stage 1	913	-	-	-	-	-
Stage 2	904	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	748	941	-	-	1475	-
Mov Cap-2 Maneuver	748	-	-	-	-	-
Stage 1	913	-	-	-	-	-
Stage 2	902	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	768	1475	-
HCM Lane V/C Ratio	-	-	0.026	0.002	-
HCM Control Delay (s)	-	-	9.8	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	8	8	140	18	7	389
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	85	85	87	87
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	10	10	165	21	8	447

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	638	175	0	0	186	0
Stage 1	175	-	-	-	-	-
Stage 2	463	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	444	874	-	-	1401	-
Stage 1	860	-	-	-	-	-
Stage 2	638	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	440	874	-	-	1401	-
Mov Cap-2 Maneuver	440	-	-	-	-	-
Stage 1	860	-	-	-	-	-
Stage 2	633	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	585	1401	-
HCM Lane V/C Ratio	-	-	0.034	0.006	-
HCM Control Delay (s)	-	-	11.4	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	14	2	106	11	3	115
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	18	2	119	12	3	129

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	261	125	0	0	131	0
Stage 1	125	-	-	-	-	-
Stage 2	136	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	732	931	-	-	1467	-
Stage 1	906	-	-	-	-	-
Stage 2	895	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	731	931	-	-	1467	-
Mov Cap-2 Maneuver	731	-	-	-	-	-
Stage 1	906	-	-	-	-	-
Stage 2	893	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.9	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	751	1467	-
HCM Lane V/C Ratio	-	-	0.027	0.002	-
HCM Control Delay (s)	-	-	9.9	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	18	10	140	36	12	389
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	85	85	87	87
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	22	12	165	42	14	447

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	661	186	0	0	207	0
Stage 1	186	-	-	-	-	-
Stage 2	475	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	431	861	-	-	1376	-
Stage 1	851	-	-	-	-	-
Stage 2	630	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	425	861	-	-	1376	-
Mov Cap-2 Maneuver	425	-	-	-	-	-
Stage 1	851	-	-	-	-	-
Stage 2	621	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.4	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	519	1376	-
HCM Lane V/C Ratio	-	-	0.067	0.01	-
HCM Control Delay (s)	-	-	12.4	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	36	7	106	36	9	115
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	45	9	119	40	10	129

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	288	139	0	0	160	0
Stage 1	139	-	-	-	-	-
Stage 2	149	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	707	915	-	-	1432	-
Stage 1	893	-	-	-	-	-
Stage 2	884	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	701	915	-	-	1432	-
Mov Cap-2 Maneuver	701	-	-	-	-	-
Stage 1	893	-	-	-	-	-
Stage 2	877	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.3	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	729	1432	-
HCM Lane V/C Ratio	-	-	0.074	0.007	-
HCM Control Delay (s)	-	-	10.3	7.5	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Union Street at Bay Colony Drive

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	13	4	5	133	377	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	91	91	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	15	5	5	146	419	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	581	424	430	0	-	0
Stage 1	424	-	-	-	-	-
Stage 2	157	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	479	634	1140	-	-	-
Stage 1	664	-	-	-	-	-
Stage 2	876	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	477	634	1140	-	-	-
Mov Cap-2 Maneuver	477	-	-	-	-	-
Stage 1	664	-	-	-	-	-
Stage 2	872	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.4	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1140	-	507	-	-
HCM Lane V/C Ratio	0.005	-	0.039	-	-
HCM Control Delay (s)	8.2	0	12.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	8	3	3	86	118	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	55	55	93	93	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	15	5	3	92	146	15

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	252	153	160	0	-	0
Stage 1	153	-	-	-	-	-
Stage 2	99	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	741	898	1432	-	-	-
Stage 1	880	-	-	-	-	-
Stage 2	930	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	740	898	1432	-	-	-
Mov Cap-2 Maneuver	740	-	-	-	-	-
Stage 1	880	-	-	-	-	-
Stage 2	928	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1432	-	777	-	-
HCM Lane V/C Ratio	0.002	-	0.026	-	-
HCM Control Delay (s)	7.5	0	9.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	14	4	5	143	404	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	91	91	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	16	5	5	157	449	12

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	623	455	461	0	-	0
Stage 1	455	-	-	-	-	-
Stage 2	168	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	453	609	1111	-	-	-
Stage 1	643	-	-	-	-	-
Stage 2	867	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	451	609	1111	-	-	-
Mov Cap-2 Maneuver	451	-	-	-	-	-
Stage 1	643	-	-	-	-	-
Stage 2	863	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.9	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1111	-	479	-	-
HCM Lane V/C Ratio	0.005	-	0.044	-	-
HCM Control Delay (s)	8.3	0	12.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	9	3	3	92	127	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	55	55	93	93	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	16	5	3	99	157	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	270	165	173	0	-	0
Stage 1	165	-	-	-	-	-
Stage 2	105	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	724	885	1416	-	-	-
Stage 1	869	-	-	-	-	-
Stage 2	924	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	723	885	1416	-	-	-
Mov Cap-2 Maneuver	723	-	-	-	-	-
Stage 1	869	-	-	-	-	-
Stage 2	922	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.9	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1416	-	758	-	-
HCM Lane V/C Ratio	0.002	-	0.029	-	-
HCM Control Delay (s)	7.5	0	9.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	14	4	5	145	409	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	91	91	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	16	5	5	159	454	12

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	631	461	467	0	-	0
Stage 1	461	-	-	-	-	-
Stage 2	170	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	448	605	1105	-	-	-
Stage 1	639	-	-	-	-	-
Stage 2	865	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	446	605	1105	-	-	-
Mov Cap-2 Maneuver	446	-	-	-	-	-
Stage 1	639	-	-	-	-	-
Stage 2	861	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1105	-	474	-	-
HCM Lane V/C Ratio	0.005	-	0.045	-	-
HCM Control Delay (s)	8.3	0	13	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	9	3	3	97	133	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	55	55	93	93	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	16	5	3	104	164	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	283	172	180	0	-	0
Stage 1	172	-	-	-	-	-
Stage 2	111	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	711	877	1408	-	-	-
Stage 1	863	-	-	-	-	-
Stage 2	919	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	710	877	1408	-	-	-
Mov Cap-2 Maneuver	710	-	-	-	-	-
Stage 1	863	-	-	-	-	-
Stage 2	917	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1408	-	745	-	-
HCM Lane V/C Ratio	0.002	-	0.029	-	-
HCM Control Delay (s)	7.6	0	10	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-