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MEMORANDUM

TO: Recreation Department
Town of Wayland
66 River Road
Wayland, MA 01778

DATE: February 16, 2017
Updated March 14, 2017

FROM: Samuel W. Gregorio, P.E., PTOE
Douglas S. Halpert, E.I.T.
Eric R. Paquette, E.I.T.

PROJECT NO.: T0558.16

RE: Traffic Assessment – Proposed Trout Brook Road Recreational Field

TEC, Inc. has been retained by The Town of Wayland to perform a Traffic Assessment associated with a proposed recreational field at a property located on Trout Brook Road in Wayland, Massachusetts. The proposed recreational field includes an 11v11 soccer field (130 yards x 110 yards), a 34-space parking lot, and a pathway connecting to the existing Farrar Pond Trail network.

TEC has evaluated the traffic operations for the study area intersections under existing and future conditions. The future year planning horizon examines traffic operations under existing conditions (2017), as well as a five-year design horizon (2022) for traffic-volume projections, which includes an evaluation of the no-build conditions (without the proposed project) and build conditions (with site traffic added). These conditions are compared to determine what, if any, additional off-site mitigation is necessary to provide reasonable traffic operations in the area after the project is complete.

EXISTING CONDITIONS

The study area was selected to contain the major roadways providing local access to the project site. The following intersections were included in the study area:

1. Oxbow Road / Trout Brook Road (safety review only)
2. Oxbow Road / Campbell Road / Farrar Road (safety review only)
3. Concord Road (Route 126) / Oxbow Road
4. Sherman's Bridge Road / Oxbow Road / Alpine Road

The study area intersections are shown graphically in Figure 1.

Geometry

A comprehensive field inventory of existing traffic conditions at the study area intersections was conducted by TEC staff in January 2017 to obtain information related to intersection geometry and lane use. The field investigation consisted of an inventory of existing roadway geometrics, operating characteristics, and safety characteristics. A description of the existing roadway and intersection inventory is provided below.

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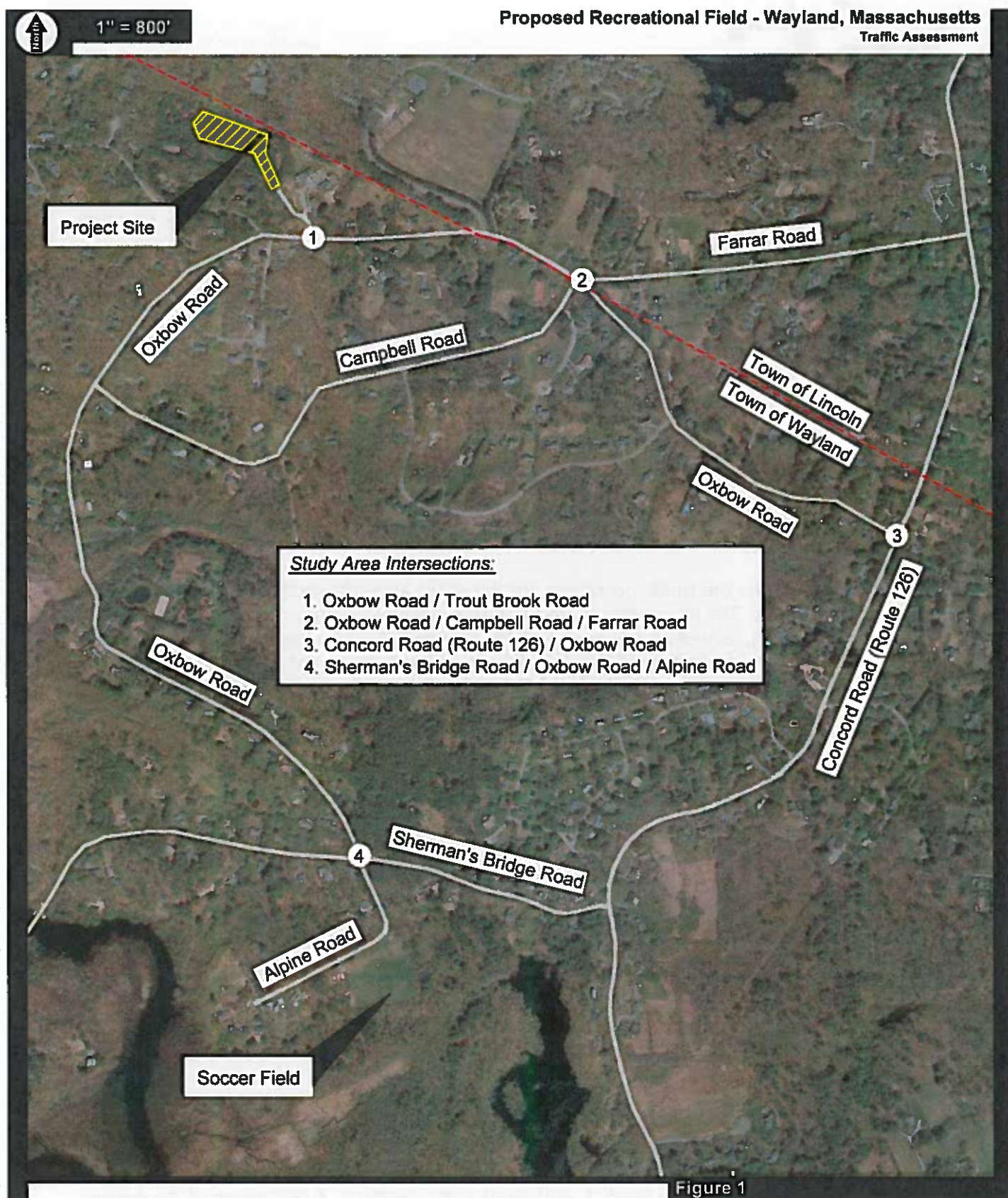


Figure 1

Project Location Map &
Study Area Intersections



Intersections

Oxbow Road / Trout Brook Road

Trout Brook Road intersects Oxbow Road to form a three-legged, unsignalized intersection. Each intersection approach provides a single 11-foot wide general-purpose lane with separation of directional flow unmarked. The Trout Brook Road southbound approach operates under STOP-control while the Oxbow Road eastbound and westbound approaches operate under free-flow conditions. Pedestrian accommodations are not provided.

Oxbow Road / Campbell Road / Farrar Road

Campbell Road and Farrar Road intersect Oxbow Road to form a four-legged, unsignalized intersection. Each intersection approach provides a single 10-foot to 12-foot wide general-purpose lane with separation of directional flow unmarked. The Oxbow Road eastbound approach operates under free-flow conditions while all other approaches operate under STOP-control. Pedestrian accommodations are not provided.

Concord Road (Route 126) / Oxbow Road

Oxbow Road intersects Concord Road (Route 126) to form a three-legged, unsignalized intersection. Each intersection approach provides a single 11-foot wide general-purpose lane. Directional flow along Concord Road is separated by a double-yellow centerline while separation of directional flow along Oxbow Road is unmarked. The Oxbow Road eastbound approach operates under STOP-control while the Concord Road northbound and southbound approaches operate under free-flow conditions. A five-foot sidewalk and variable-width grass buffer are provided along the easterly side of Concord Road.

Sherman's Bridge Road / Oxbow Road / Alpine Road

Oxbow Road and Alpine Road intersect Sherman's Bridge Road to form a four-legged, unsignalized intersection. Each intersection approach provides a single 9.5-foot to 12-foot wide general-purpose lane with separation of directional flow unmarked. The Alpine Road northbound approach and the Oxbow Road southbound approach operate under STOP-control while the Sherman's Bridge Road eastbound and westbound approaches operate under free-flow conditions. Pedestrian accommodations are not provided. The Oxbow Road southbound approach splits at a landscaped island. The easterly split has a faded STOP-bar striped on the roadway; however, "DO NOT ENTER" signage along the southbound approach diverts vehicles to the westerly leg of the split.

Existing Traffic Volumes

To establish existing traffic-volume conditions at the study area intersections, manual Turning Movement Counts (TMCs) were conducted at the Concord Road (Route 126) / Oxbow Road study area intersection during the weekday afternoon (2:00 PM – 5:00 PM) peak period on Thursday, January 19, 2017. A detailed summary of the turning movement counts, partitioned

into 15-minute intervals, is provided within Attachment A. Additional TMCs were conducted at the Sherman's Bridge Road / Oxbow Road / Alpine Road intersection during the weekday evening (4:00 PM – 5:00 PM) peak period on Thursday, February 2, 2017. These counts are also provided within Attachment A.

In addition, Automatic Traffic Recorder (ATR) counts were conducted along Oxbow Road, just west of Kettlehole Road, from Wednesday, January 18, 2017 through Tuesday, January 24, 2017 concurrently with the TMCs to gather a continuous week of daily traffic-volume data. A summary of the weekday ATR traffic data is presented in Table 1. A detailed summary of the ATR data, partitioned into one-hour intervals, is provided within Attachment B.

Table 1 – Existing Weekday Traffic Volume Summary

Location	Weekday Traffic Volume ^(a)	Weekday Morning Peak-Hour			Weekday Evening Peak-Hour		
		Traffic Volume ^(b)	K Factor ^(c)	Directional Distribution ^(d)	Traffic Volume	K Factor	Directional Distribution
Oxbow Road (west of Kettlehole Road)	521	60	11.5	80.0% EB	56	10.7	64.3% WB

^a Daily traffic expressed in vehicles per day

^b Hourly traffic expressed in vehicles per hour

^c Percent of daily traffic volumes which occurs during the peak-hour

^d Percent of peak-hour volume in the predominant direction of travel

Seasonal Adjustment

In accordance with MassDOT standards, traffic volumes are typically adjusted to average-month conditions. Based on a review of historic traffic-volume counts collected by MassDOT at a permanent count station along Route 2 in Concord¹ and along Interstate 95 in Lexington², traffic volumes in January are 4.2 percent lower than average-month conditions. Therefore, the January 2017 traffic volumes were upwardly adjusted by 4.2 percent to reflect average-month conditions. The compiled seasonal adjustment data is provided in Attachment C. The resulting 2017 Existing weekday evening peak-hour traffic-volume network is illustrated in Figure 2.

¹ MassDOT Permanent Count Station 403 – Concord – Route 2 – East of Concord Rotary

² MassDOT Permanent Count Station 4118 – Lexington – I-95 – North of Route 2A

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Proposed Recreational Field - Wayland, Massachusetts
Traffic Assessment

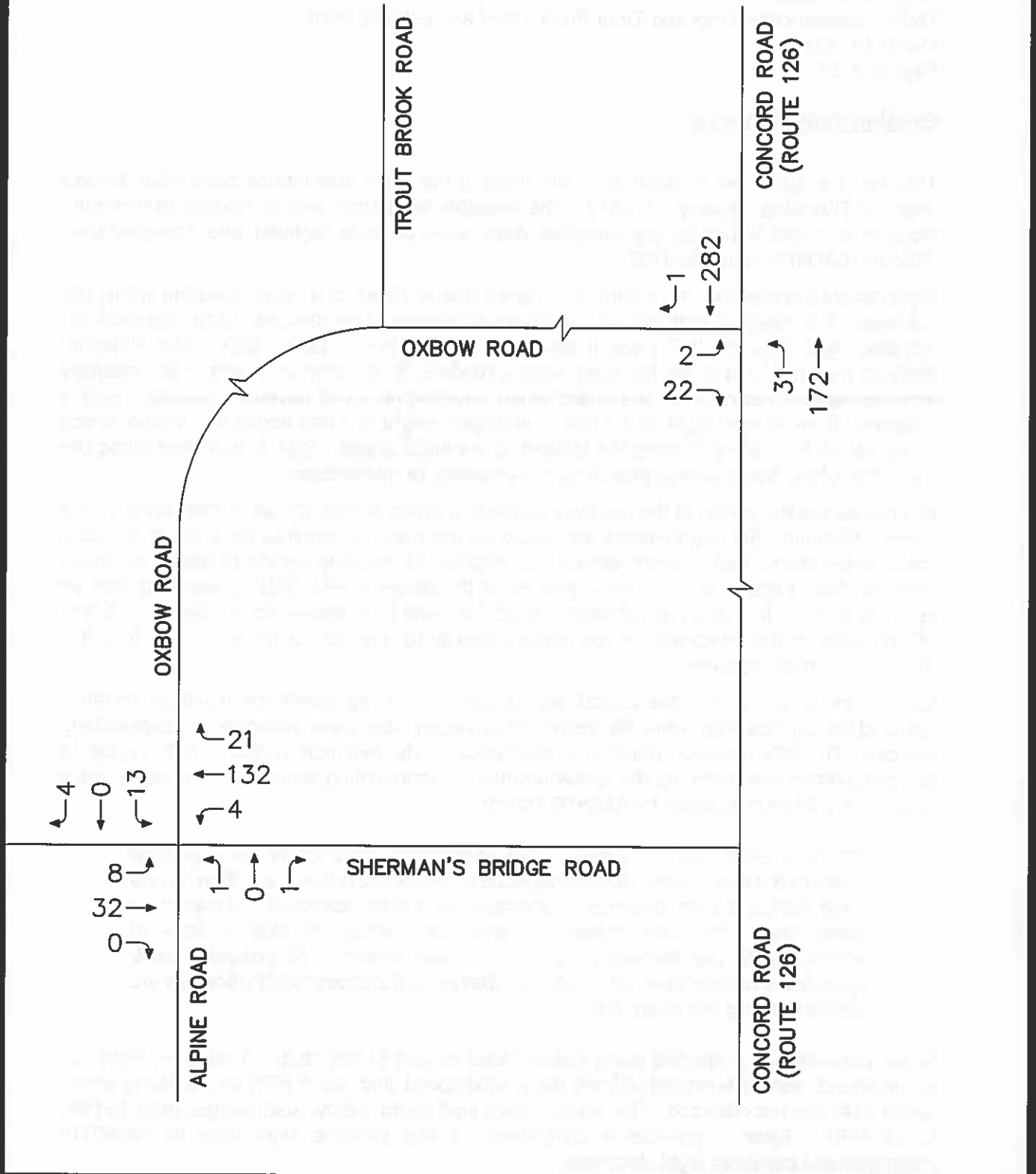


Figure 2

2017 Existing Conditions
Weekday Evening
Peak-Hour Traffic Volumes



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Existing Sight Distance

TEC, Inc. measured the available sight distances at the study area intersections along Oxbow Road on Thursday, January 12, 2017. The available sight lines were compared to minimum requirements established by the American Association of State Highway and Transportation Officials (AASHTO) and MassDOT.

Sight distance represents the length of roadway that is visible to a driver traveling within the roadway. Two types of sight distance are typically evaluated for driveways and intersections: stopping sight distance (SSD) and intersection sight distance (ISD). SSD is the minimum distance required for a driver traveling along a roadway to perceive an object in the roadway and stop safely in advance of the object when traveling on a wet pavement surface. SSD is measured from an eye height of 3.5 feet to an object height of 2 feet above the ground, which is equivalent to a driver viewing the taillight of a vehicle ahead. SSD is measured along the centerline of the travel lane approaching the driveway or intersection.

ISD represents the length of the roadway visible to a driver waiting to exit a driveway or minor street. Minimum ISD requirements are based on the distance required for a driver to exit a minor street onto a major street without requiring an approaching vehicle to reduce its speed from the design speed to less than 70 percent of the design speed. ISD is measured from an eye height of 3.5 feet to an object height of 3.5 feet, and is measured from a distance 15 feet off the edge of the travel-way of the major roadway to represent a driver waiting to exit a driveway or minor roadway.

SSD is typically considered the critical sight distance, as it represents the minimum distance required for safe stopping, while ISD represents an acceptable speed reduction for approaching vehicles. The ISD, however, must be at least equal to the minimum required SSD in order to prevent a driver from entering the roadway when an approaching vehicle is too close to safely stop. The guidance provided by AASHTO states:

"If the available sight distance for an entering or crossing vehicle is at least equal to the appropriate stopping sight distance for the major road, then drivers have sufficient sight distance to anticipate and avoid collisions. However, in some cases, this may require a major-road vehicle to stop or slow to accommodate the maneuver by a minor-road vehicle. To enhance traffic operations, intersection sight distances that exceed stopping sight distances are desirable along the major road."

Speed data was only collected along Oxbow Road as part of this study. Therefore, sight line requirements were determined utilizing the posted speed limit plus 5 MPH on roadways where speed data was not collected. The posted speed limit along Oxbow Road ranges from 20 MPH to 25 MPH. Table 2 provides a comparison of the available sight lines to AASHTO's recommended minimum sight distances.

Table 2 – Existing Sight Distance Measurements

Approach / Direction	Posted Speed	Measured Speed	AASHTO Minimum	Measured (FT)	
				Intersection Sight Distance	Stopping Sight Distance
Oxbow Road at Concord Road: <i>Looking North</i>	30 MPH	32 MPH	200 FT	360	455
<i>Looking South</i>	30 MPH	32 MPH	200 FT	465	>500
Campbell Road at Oxbow Road – Campbell Road NB approach: <i>Looking East</i>	N/A	N/A	0 FT	-	-
<i>Looking West</i>	20 MPH	25 MPH ^a	155 FT	100 ^b	>500
Farrar Road at Oxbow Road – Farrar Road WB approach: <i>Looking East</i>	N/A	N/A	0 FT	-	-
<i>Looking West</i>	20 MPH	25 MPH ^a	155 FT	±100 ^c	>500
Trout Brook Road at Oxbow Road: <i>Looking East</i>	25 MPH	30 MPH ^a	200 FT	305	365
<i>Looking West</i>	25 MPH	30 MPH ^a	200 FT	410	410
Oxbow Road at Sherman's Bridge Road: <i>Looking East</i>	25 MPH	30 MPH ^a	200 FT	390	465
<i>Looking West</i>	25 MPH	30 MPH ^a	200 FT	340	>500
Alpine Road at Sherman's Bridge Road: <i>Looking East</i>	25 MPH	30 MPH ^a	200 FT	275	465
<i>Looking West</i>	25 MPH	30 MPH ^a	200 FT	200 ^d	>500

N/A – sight distance criteria does not apply because that approach is stop sign controlled

^a Measured speed = posted speed + 5 MPH

^b Sight lines limited by a fence along the southerly side of Oxbow Road

^c Sight lines limited by trees along the northerly edge of Farrar Road (potential to be trimmed/removed)

^d Sight lines limited by trees and bushes along the southerly side of Sherman's Bridge Road

As shown in Table 2, the ISD and SSD at each study area intersection exceed the AASHTO and MassDOT minimum recommendations for ISD and SSD except for two (2) ISD measurements. The sight line from Campbell Road, looking west along Oxbow Road, is limited to approximately 100 feet due to a fence located along the right-of-way line. Similarly, the sight line from Farrar Road, looking west along Oxbow Road, is limited to approximately 100 feet due to an overgrown bush along the roadway; this has the potential to be trimmed or removed to restore a sight line.

TEC recommends the Town of Wayland and the Town of Lincoln consider trimming the low-lying brush to improve sight lines at the intersections. If the fence cannot be adjusted due to the proximity of the right-of-way, the Town(s) can install a stop sign on the Oxbow Road eastbound approach to create an all-way stop controlled intersection. TEC will review the intersection safety characteristics with the Wayland Police Department to determine if this will be monitored for a period post-construction before implementing a change in traffic control at this intersection.

Time Trial Run

TEC, Inc. recorded travel times from either end of Oxbow Road to determine travel time to the site. Times were recorded at approximately 11:30 AM on Thursday, January 12, 2017 with the driver obeying the posted speed limit. Table 3 shows the time trial runs.

Table 3 – Time Trial Runs

Approach / Direction	Time
Start: <i>Oxbow Road at Concord Road</i>	0 Seconds
<i>Trout Brook Road</i>	2 Minutes 3 Seconds
<i>Oxbow Road at Sherman's Bridge Road</i>	4 Minutes 16 seconds
Start: <i>Oxbow Road at Sherman's Bridge Road</i>	0 Seconds
<i>Trout Brook Road</i>	2 Minutes 1 Second
<i>Oxbow Road at Concord Road</i>	4 Minutes 20 seconds

Table 3 shows that Trout Brook Road is located approximately half-way between both ends of Oxbow Road, indicating vehicles accessing the site will not have a strong preference for using one access point for Oxbow Road over the other. Time trial runs were performed under free-flow conditions when little to no traffic was present on the roadway, consistent with reasonable assumptions for the off-peak time periods for field use.

FUTURE CONDITIONS

Traffic volumes in the study area were projected to the year 2022, which reflects a five-year planning horizon in accordance with MassDOT standards for Traffic Assessments. The traffic conditions for the year 2022, under No-Build conditions, were developed to document the operating conditions independent of the proposed project, including all existing traffic, new traffic resulting from background growth, and traffic from specific development. Anticipated site-generated traffic volumes for the proposed recreational field were superimposed upon the No-Build traffic networks to reflect the Build conditions with the proposed project.

General Background Growth

Traffic-volume data compiled by MassDOT from permanent, spot count, and historic traffic count stations in Concord^{3,4}, Framingham⁵, Natick^{6,7}, Newton⁸, and Waltham^{9,10} along arterial commuter roadways in the vicinity of the Town of Wayland were reviewed in order to

³ MassDOT Count Station 403 – Concord – Route 2 – East of Concord Rotary

⁴ MassDOT Count Station 4003 – Concord – Route 62 – At Acton Town Line

⁵ MassDOT Count Station 4924 – Framingham – Route 135 – East of Route 126

⁶ MassDOT Count Station 4923 – Natick – Route 135 – East of Newfield Drive

⁷ MassDOT Count Station 4892 – Natick – Route 135 – West of High Street

⁸ MassDOT Count Station 6726 – Newton – Route 16 – West of Interstate 95

⁹ MassDOT Count Station 4911 – Waltham – Route 60 – West of Trapelo Road

¹⁰ MassDOT Count Station 4873 – Waltham – Totten Pond Road – West of Lexington Street

determine traffic growth trends. Based on the MassDOT traffic-volume data, traffic volumes in the area have been increasing at a rate of 0.9 percent per year since 2005. Therefore, to provide a conservative analysis scenario, a 1.0 percent per year compounded annual background traffic growth rate was used to account for potential future traffic growth external to the study area and any presently unforeseen development. Count station data have been included in Attachment D.

Specific Development by Others

TEC coordinated with the Town of Wayland Planning Department to identify nearby private / public development projects in the vicinity of the study area that are either in the planning process or were recently approved but not yet occupied. Based on these discussions, no projects were identified as potential traffic contributors to the study area roadways.

No-Build Traffic Volumes

The 2022 No-Build weekday evening peak-hour traffic-volume network was developed by applying the 1.0 percent per year compounded annual background traffic growth rate to the 2017 Existing Conditions peak-hour traffic volumes over the five-year design horizon. The resulting 2022 No-Build weekday evening peak-hour traffic-volume network is illustrated in Figure 3.

Site Generated Trips

The project consists of constructing a recreational field to be used primarily as an 11v11 soccer field (130 yards x 110 yards) during the spring and fall seasons. The Town of Wayland is also considering striping the field for lacrosse usage during the spring and field hockey usage during the fall. TEC estimated the trips to be generated by the proposed recreational field using standard trip rates contained within the Institute of Transportation Engineers (ITE) publication *Trip Generation, 9th Edition* for Land Use Code (LUC) 488 – Soccer Complex.

The proposed project is anticipated to generate 72 new vehicle trips on an average weekday, with 2 new vehicle trips (1 entering and 1 exiting) during the weekday morning peak-hour and 18 new vehicle trips (12 entering and 6 exiting) during the weekday evening peak-hour. On a typical Saturday, 118 new vehicle trips are anticipated, with 30 new vehicle trips (14 entering and 16 exiting) during the Saturday midday peak-hour. The detailed trip generation calculation worksheets are provided in Attachment E. The resulting site-generated traffic-volume network for the weekday evening peak-hour is presented in Figure 4. Note: the volumes shown represent the likely trips generated during the traditional commuter peak hour when the adjacent roadways are operating at their highest volumes. The recreational use will generate a greater number of trips during other hours before and after the roadway's peak period, when there is more roadway capacity.

To forecast usage of the proposed recreational field, TEC researched operations at the existing 11v11 soccer field located on Alpine Road, less than 1.5 miles south of the project site. Currently, five (5) Town of Wayland soccer teams regularly utilize the field during the spring and fall soccer seasons, with practices typically held after 5:00 PM on weekdays and games

held on Saturdays. In anticipation of lacrosse usage at the proposed recreational field, TEC also researched the practice and game schedules for the Town of Wayland lacrosse teams. Lacrosse teams typically practice two (2) times a week, with practices held after 6:00 PM on weekdays and games held on Sundays. Data for the potential field hockey usage was not available; however, it is anticipated that the times for practices and games will be similar to the soccer and lacrosse uses. From the research, TEC anticipates that the estimated trips to be generated by the proposed recreational field will occur after the traditional weekday evening peak-hour.

Trip Distribution

The distribution of weekday site-generated traffic volumes for the recreational field was based on the TMCs collected at the Concord Road (Route 126) / Oxbow Road and Sherman's Bridge Road / Oxbow Road / Alpine Road intersections. Based on the site's location along the Town of Lincoln's southerly border, it is unlikely that many trips would come from the north along Concord Road (Route 126) on weekdays as only Town of Wayland residents would be utilizing the field for weekday practices. The anticipated weekday site-generated trip distribution is presented in Table 4.

Table 4 – Site-Generated Trip Distribution

Approach / Direction	Percentage
Sherman's Bridge Road (from east)	34%
Sherman's Bridge Road (from west)	14%
Concord Road (from south)	52%

Approximately 52 percent of site-generated trips are expected to access Oxbow Road via Concord Road (Route 126) from the south. The remaining 48 percent are expected to access Oxbow Road via Sherman's Bridge Road, with 34 percent coming from the east and 14 percent coming from the west.

2022 Build Traffic Volumes

The 2022 Build Condition traffic-volume networks consist of the 2022 No-Build traffic-volumes with the addition of the site-generated traffic for the proposed residential development. The resulting 2022 Build weekday evening peak-hour traffic-volume network is presented in Figure 5.

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Not to Scale

Proposed Recreational Field - Wayland, Massachusetts
Traffic Assessment

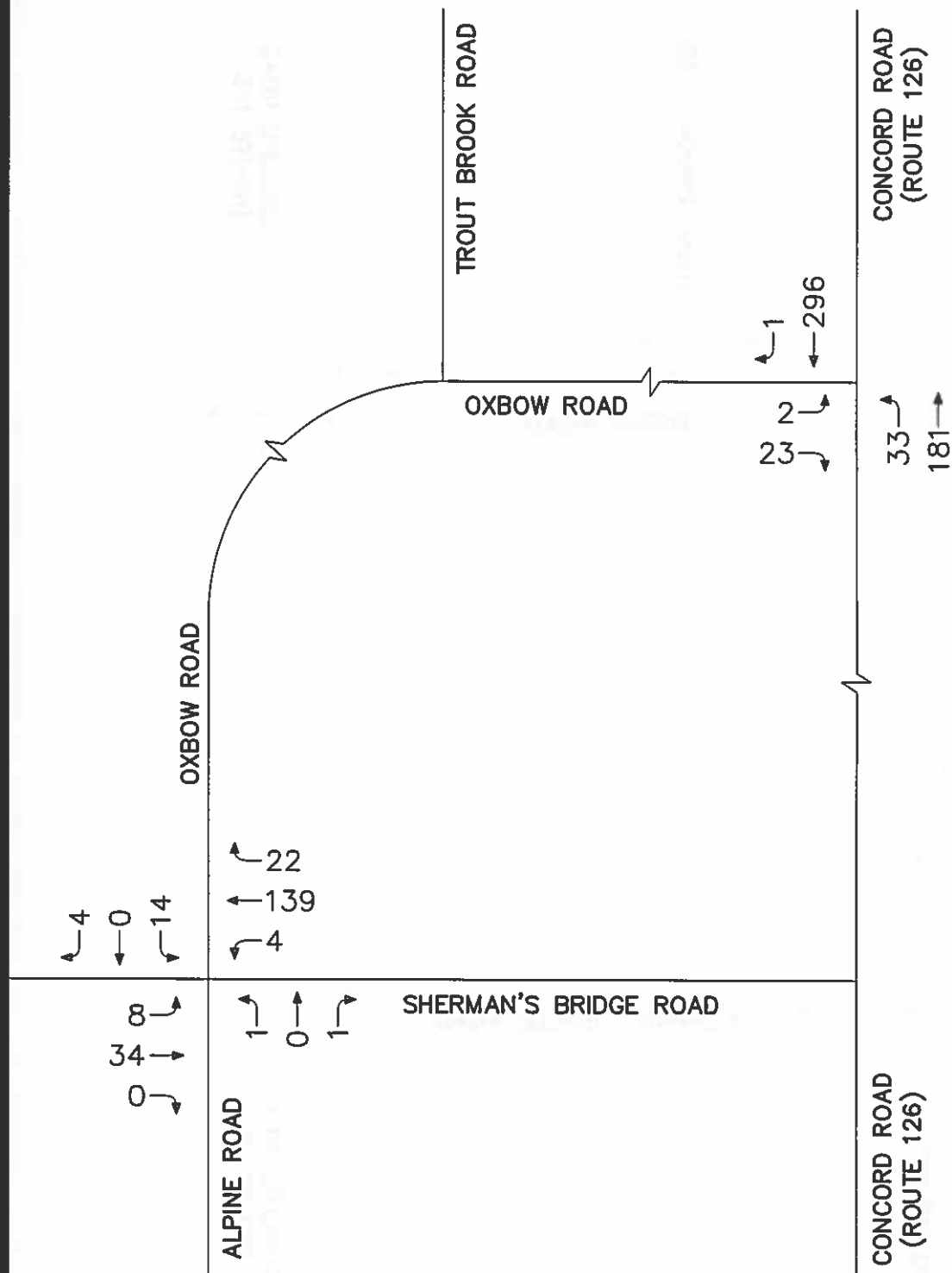


Figure 3

2022 No-Build Conditions
Weekday Evening
Peak-Hour Traffic Volumes



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Proposed Recreational Field - Wayland, Massachusetts Traffic Assessment

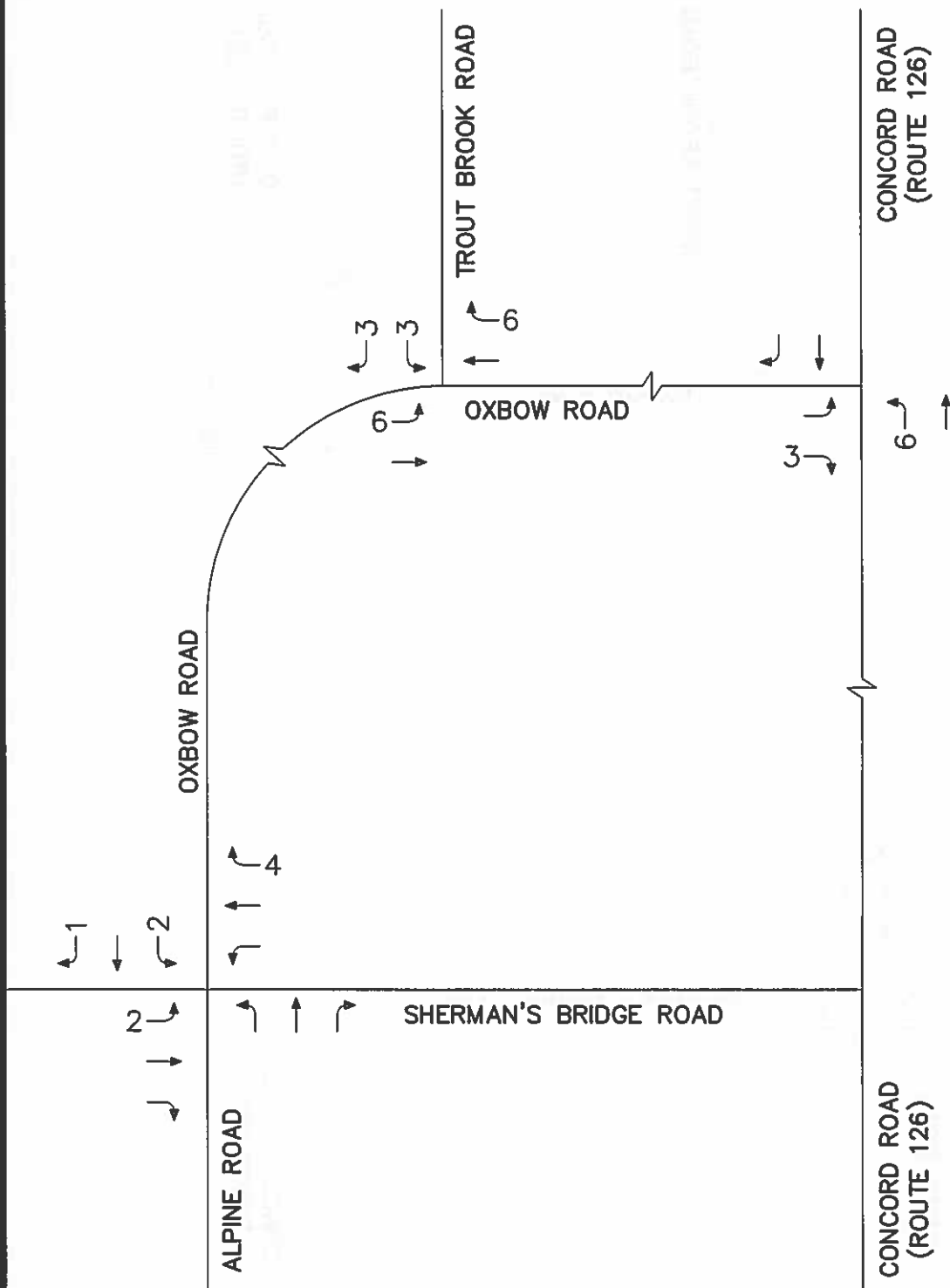


Figure 4

Site-Generated Trips
Weekday Evening
Peak-Hour Traffic Volumes



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Proposed Recreational Field - Wayland, Massachusetts
Traffic Assessment

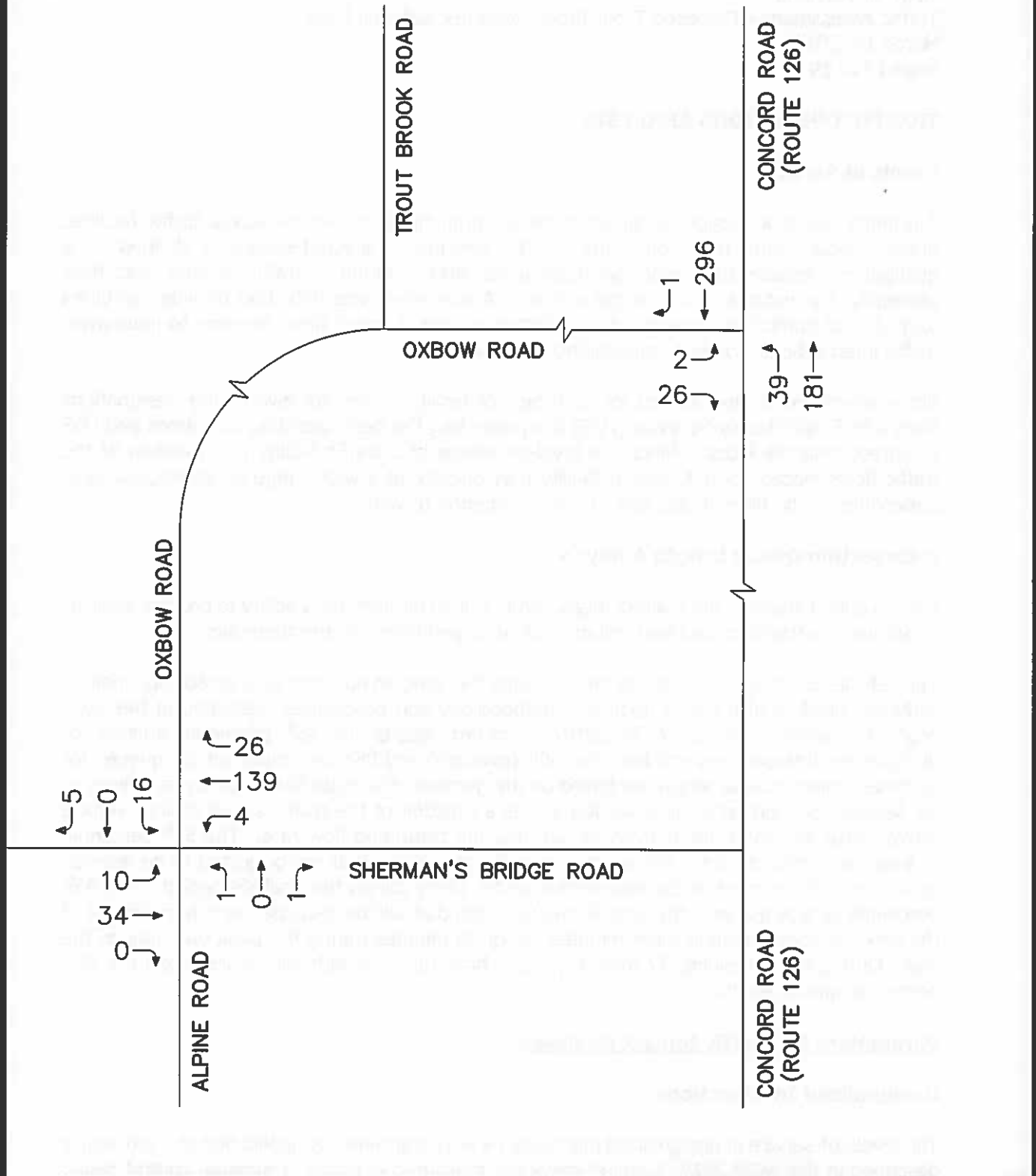


Figure 5

2022 Build Conditions
Weekday Evening
Peak-Hour Traffic Volumes



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TRAFFIC OPERATIONS ANALYSIS

Levels of Service

A primary result of capacity analyses is the assignment of level-of-service to traffic facilities under various traffic-flow conditions.¹¹ 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 the worst. 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.

Intersection Queue Length Analysis

Vehicle queue analyses are a direct measurement of an intersection's ability to process vehicles under various traffic control and volume scenarios and lane use arrangements.

The vehicle queue analysis was performed using the Synchro 8.0 intersection capacity analysis software which is also based upon the methodology and procedures presented in the *2010 Highway Capacity Manual (HCM 2010)*. Synchro reports the 95th percentile queues for unsignalized intersections and both the 50th (average) and 95th percentile vehicle queues for signalized intersections, which are based on the number of vehicles that experience a delay of six seconds or more at an intersection and is a function of the traffic signal timing; vehicle arrival patterns during the analysis period; and the saturation flow rate. The 50th percentile or average vehicle queue is the average number of vehicles that are projected to be delayed by six seconds or more at the intersection under study during the analysis period. The 95th percentile vehicle queue is the vehicle queue length that will be exceeded only five percent of the time; or approximately three minutes out of 60 minutes during the peak one hour of the day. During the remaining 57 minutes, the vehicle queue length will be less than the 95th percentile queue length.

Parameters for Traffic Impact Analyses

Unsignalized Intersections

The levels-of-service of unsignalized intersections are determined by application of a procedure described in the *HCM 2010*. 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

¹¹The capacity analysis methodology is based on the concepts and procedures presented in the *Highway Capacity Manual 2010*, Transportation Research Board; Washington, DC; 2010.

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 *HCM 2010*. Table 5 summarizes the relationship between level-of-service and average control delay.

Table 5 – Level-of-Service Criteria for Unsignalized Intersections^a

Level-of-Service (v/c < 1.0)	Level-of-Service (v/c ≥ 1.0)	Average Control Delay (seconds per vehicle)	Description
A	F	≤10.0	LOS A represents a condition with little or no control delay to minor street traffic.
B	F	10.1 to 15.0	LOS B represents a condition with short control delays to minor street traffic.
C	F	15.1 to 25.0	LOS C represents a condition with average control delays to minor street traffic.
D	F	25.1 to 35.0	LOS D represents a condition with long control delays to minor street traffic.
E	F	35.1 to 50.0	LOS E represents operating conditions at or near capacity level, with very long control delays to minor street traffic.
F	F	>50.0	LOS F represents a condition where minor street demand volume exceeds capacity of an approach lane, with excessive control delays resulting.

^a Source: *Highway Capacity Manual 2010*, Transportation Research Board; Washington D.C.; 2010

Analysis Results

TEC analyzed traffic operations at the Concord Road (Route 126) / Oxbow Road and Sherman's Bridge Road / Oxbow Road / Alpine Road intersections, the two main access points for the proposed recreational field. The traffic to be generated by the proposed recreational field is not anticipated to have any negative effects on the operating conditions at the study area intersections. In the 2022 Build condition, all movements at the study area intersections are expected to operate at acceptable levels-of-service (LOS B or better) and with queues not normally exceeding one vehicle. The detailed Intersection Capacity and Queue Analyses results are provided in Attachment F.

Table 6 – Intersection Capacity and Queue Analysis Summary

Intersection / Lane Group	2017 Existing				2022 No-Build				2022 Build			
	V/C ^(a)	Delay ^(b)	LOS ^(c)	Queue ^(d)	V/C	Delay	LOS	Queue	V/C	Delay	LOS	Queue
Concord Road (Route 126) / Oxbow Road												
<i>Weekday Evening Peak Period</i>												
Oxbow Road EB Approach	0.05	11.0	B	<25	0.05	11.2	B	<25	0.06	11.2	B	<25
Concord Road NB Approach	0.03	8.2	A	<25	0.03	8.2	A	<25	0.04	8.2	A	<25
Sherman's Bridge Road / Oxbow Road / Alpine Road												
<i>Weekday Evening Peak Period</i>												
S. Bridge Road EB Approach	0.01	7.5	A	<25	0.01	7.5	A	<25	0.01	7.5	A	<25
S. Bridge Road WB Approach	0.00	7.3	A	<25	0.00	7.3	A	<25	0.00	7.3	A	<25
Alpine Road NB Approach	0.00	9.2	A	<25	0.00	9.2	A	<25	0.00	9.2	A	<25
Oxbow Road SB Approach	0.02	9.7	A	<25	0.03	9.8	A	<25	0.03	9.9	A	<25

^a Volume-to-capacity ratio

^b Delay expressed in seconds per vehicle (average)

^c Level-of-Service

^d Only 95th Percentile Queue expressed for unsignalized intersections

PARKING ANALYSIS

Institute of Traffic Engineers (ITE) Parking Generation

To estimate the amount of parking required to meet the peak parking demand for the proposed recreational field, TEC utilized the ITE publication *Parking Generation, 4th Edition* for LUC 488 – Soccer Complex. Per a study conducted at 12 locations across the country, the average parking supply ratio for soccer complexes is 38 spaces per field, with an 85th percentile peak parking demand of 61 vehicles per field for a typical weekday. On Saturdays when soccer matches are held, the average peak parking demand increases to 59 vehicles per field, with an 85th percentile peak parking demand of 65 vehicles per field. The parking demand is typically higher on Saturdays versus weekdays because far fewer spectators come to the field for practices than for matches, and practices often include only one team per field as opposed to two teams per field during matches. This data source is expected to be conservative because it does not contemplate active parking management that could space out various events to control the parking demand.

Town of Wayland Zoning Bylaws

As specified in Section 506.1.10 in Article 198-506 Off-Street Parking of the Town of Wayland Zoning Bylaws, any land uses not accounted for in Sections 506.1.1 through 506.1.9 shall be subject to the parking recommendation supplied by the Site Plan Approval Granting Authority. Knowing this, TEC analyzed the parking provided at the nearby soccer field located on Alpine Road, less than 1.5 miles south of the project site. Approximately 26 parking spaces are provided for the Alpine Road soccer field, with the edge of Alpine Road utilized for overflow parking.

Parking Recommendation

The current conceptual plan depicts 34 proposed parking stalls. This supply of parking is appropriate when compared to the 26 parking spaces provided at the nearby Alpine Road soccer field. TEC believes the proposed parking supply should adequately accommodate the average parking demand during weekdays; however, spectators attending matches on Saturdays may be required to park along the edge of Trout Brook Road at times due to a lack of available spaces at periods between the end of one match and the start of another. The Town is also considering a potential phased construction of an additional 21 stalls if project demands warrant it. However, prior to constructing additional stalls, the Recreation Department will consider the feasibility of staggering the times between matches, significantly lowering the parking demand.

TEC recommends that the Town assess the peak parking demands for the other field during the spring 2017 soccer season prior to finalizing the parking design. In an effort to manage the parking demand, TEC recommends a 30-minute buffer between games on this field. If the overlapping parking demands for departing and arriving participants (during the transition between the two events) results in off-site parking, the buffer times can be extended by 15-minutes until there are no resultant off-site parking impacts.

CONCLUSIONS AND RECOMMENDATIONS

TEC has examined the potential traffic impacts associated with the proposed recreational field on the study area roadways. The following is a summary of the results and conclusions of this effort:

- The project consists of constructing a recreational field to be used primarily as an 11v11 soccer field (130 yards x 110 yards) during the spring and fall seasons. The Town of Wayland is also considering striping the field for lacrosse usage during the spring and field hockey usage during the fall.
- The project is anticipated to generate 72 new vehicle trips on an average weekday, with 2 new vehicle trips (1 entering and 1 exiting) during the weekday morning peak-hour and 18 new vehicle trips (12 entering and 6 exiting) during the weekday evening peak-hour. On a typical Saturday, 118 new vehicle trips are anticipated, with 30 new vehicle trips (14 entering and 16 exiting) during the Saturday midday peak-hour. These trip counts could be confirmed by the Town during any spring 2017 soccer and lacrosse activities.
- Approximately 52 percent of site-generated trips are expected to access Oxbow Road via Concord Road (Route 126) from the south. The remaining 48 percent are expected to access Oxbow Road via Sherman's Bridge Road, with 34 percent coming from the east and 14 percent coming from the west.
- The sight distance characteristics meet or exceed industry guidance at most locations. However, the sight line from Campbell Road (looking west along Oxbow Road) is limited to 100 feet due to a fence located along the roadway. Similarly, the sight line from Farrar Road, looking west along Oxbow Road, is limited due to minor brush along the roadway that can be easily cleared. TEC recommends the Town of Wayland and the Town of Lincoln consider trimming or removing some brush to improve sight lines at the intersections. Alternatively, the Towns can introduce a stop sign on the Oxbow Road eastbound approach, making it an all-way stop controlled intersection. These can be evaluated in the field with Town of Wayland Police and DPW staff.
- The traffic to be generated by the proposed recreational field is not anticipated to have any negative effects on the operating conditions at the study area intersections. In the 2022 Build condition, all movements at the study area intersections are expected to operate at acceptable levels-of-service (LOS B or better) and with queues not exceeding one vehicle. Even if the trip generation for the site increased in intensity by two or three times, it would not materially impact the capacity of the surrounding roadway system.
- TEC believes the proposed 34 parking spaces should adequately accommodate the average parking demand during weekdays. The Town should review operations after commencement of the use of the field and stagger game times if the parking demands exceed the supply of stalls as planned. If necessary, the Town can construct the supplemental 21 parking stalls in the adjacent gravel lot and perform periodic assessments to manage the intervals between successive matches or practices.

After reviewing the potential traffic impacts associated with the proposed recreational field, and performing minor vegetation removal, TEC is confident that the proposed project can be

Town of Wayland
Traffic Assessment – Proposed Trout Brook Road Recreational Field
March 14, 2017
Page 19 of 19

accommodated safely and efficiently along the existing roadway network with no acute impacts to the neighborhood.

Attachment A

Turning Movement Counts (TMCs)

Accurate Counts
978-664-2565

N/S Street : Concord Road
E/W Street: Oxbow Road
City/State : Wayland, MA
Weather : Cloudy

File Name : T0558
Site Code : T0558
Start Date : 1/19/2
Page No : 1

Groups Printed- Cars - Trucks

Start Time	Concord Rd From North		Concord Rd From South		Oxbow Rd From West		Int. To
	Thru	Right	Left	Thru	Left	Right	
02:00 PM	35	0	2	39	1	3	
02:15 PM	32	1	11	34	0	0	
02:30 PM	55	1	6	29	1	6	
02:45 PM	47	0	10	63	0	7	1
Total	169	2	29	165	2	16	3
03:00 PM	43	1	4	51	1	5	10
03:15 PM	64	2	7	35	0	6	1
03:30 PM	49	2	3	38	0	3	
03:45 PM	72	1	10	43	1	4	1
Total	228	6	24	167	2	18	4
04:00 PM	68	0	8	37	1	6	1
04:15 PM	60	0	9	48	0	7	1
04:30 PM	49	1	7	48	0	3	10
04:45 PM	94	0	6	32	1	5	1
Total	271	1	30	165	2	21	4
Grand Total	668	9	83	497	6	55	13
Apprch %	98.7	1.3	14.3	85.7	9.8	90.2	
Total %	50.7	0.7	6.3	37.7	0.5	4.2	
Cars	664	9	80	490	6	53	130
% Cars	99.4	100	96.4	98.6	100	96.4	98
Trucks	4	0	3	7	0	2	
% Trucks	0.6	0	3.6	1.4	0	3.6	1

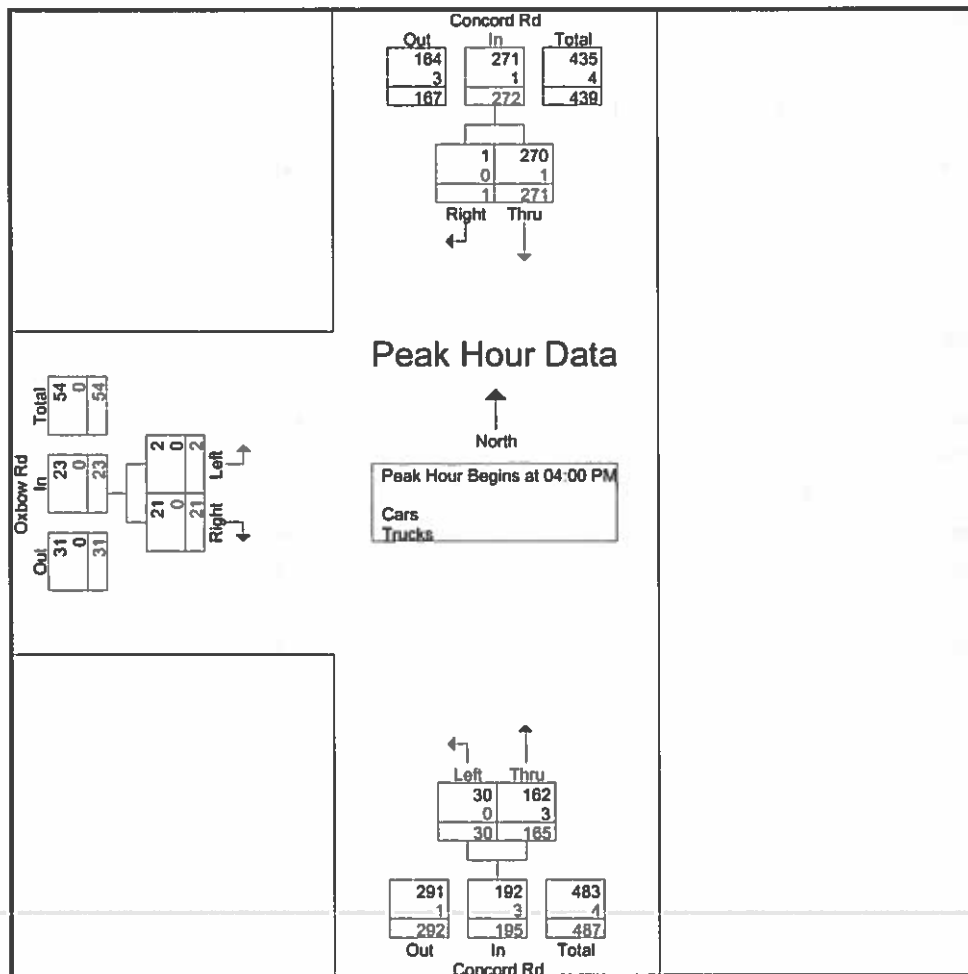
Accurate Counts

978-664-2565

N/S Street : Concord Road
E/W Street: Oxbow Road
City/State : Wayland, MA
Weather : Cloudy

File Name : T05580
Site Code : T05580
Start Date : 1/19/20
Page No : 2

	Concord Rd From North			Concord Rd From South			Oxbow Rd From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Tot
Peak Hour Analysis From 02:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	68	0	68	8	37	45	1	6	7	12
04:15 PM	60	0	60	9	48	57	0	7	7	12
04:30 PM	49	1	50	7	48	55	0	3	3	10
04:45 PM	94	0	94	6	32	38	1	5	6	13
Total Volume	271	1	272	30	165	195	2	21	23	49
% App. Total	99.6	0.4		15.4	84.6		8.7	91.3		
PHF	.721	.250	.723	.833	.859	.855	.500	.750	.821	.88
Cars	270	1	271	30	162	192	2	21	23	48
% Cars	99.6	100	99.6	100	98.2	98.5	100	100	100	99
Trucks	1	0	1	0	3	3	0	0	0	
% Trucks	0.4	0	0.4	0	1.8	1.5	0	0	0	0



Accurate Counts

978-664-2565

N/S Street : Concord Road
E/W Street: Oxbow Road
City/State : Wayland, MA
Weather : Cloudy

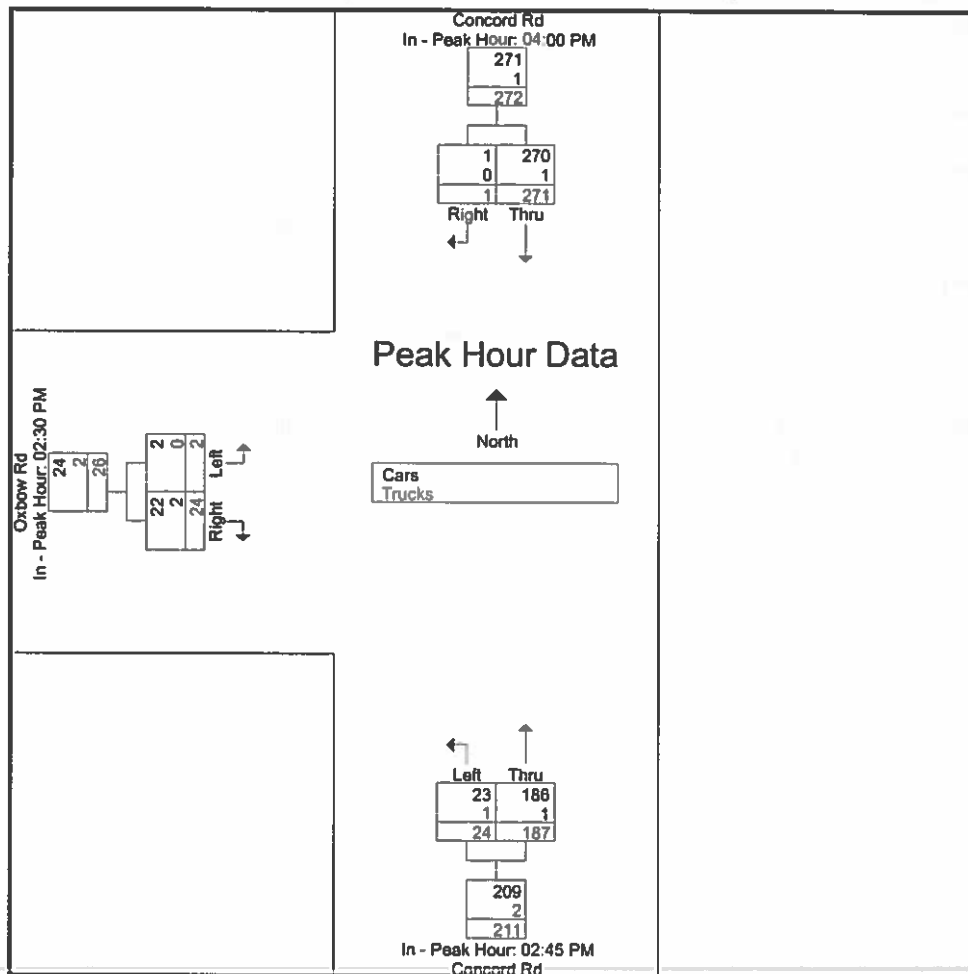
File Name : T0558
Site Code : T0558
Start Date : 1/19/2
Page No : 3

	Concord Rd From North			Concord Rd From South			Oxbow Rd From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Tot

Peak Hour Analysis From 02:00 PM to 04:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:00 PM			02:45 PM			02:30 PM		
+0 mins.	68	0	68	10	63	73	1	6	7
+15 mins.	60	0	60	4	51	55	0	7	7
+30 mins.	49	1	50	7	35	42	1	5	6
+45 mins.	94	0	94	3	38	41	0	6	6
Total Volume	271	1	272	24	187	211	2	24	26
% App. Total	99.6	0.4		11.4	88.6		7.7	92.3	
PHF	.721	.250	.723	.600	.742	.723	.500	.857	.929
Cars	270	1	271	23	186	209	2	22	24
% Cars	99.6	100	99.6	95.8	99.5	99.1	100	91.7	92.3
Trucks	1	0	1	1	1	2	0	2	2
% Trucks	0.4	0	0.4	4.2	0.5	0.9	0	8.3	7.7



Accurate Counts
978-664-2565

N/S Street : Concord Road
E/W Street: Oxbow Road
City/State : Wayland, MA
Weather : Cloudy

File Name : T0558C
Site Code : T0558C
Start Date : 1/19/20
Page No : 4

Groups Printed- Cars

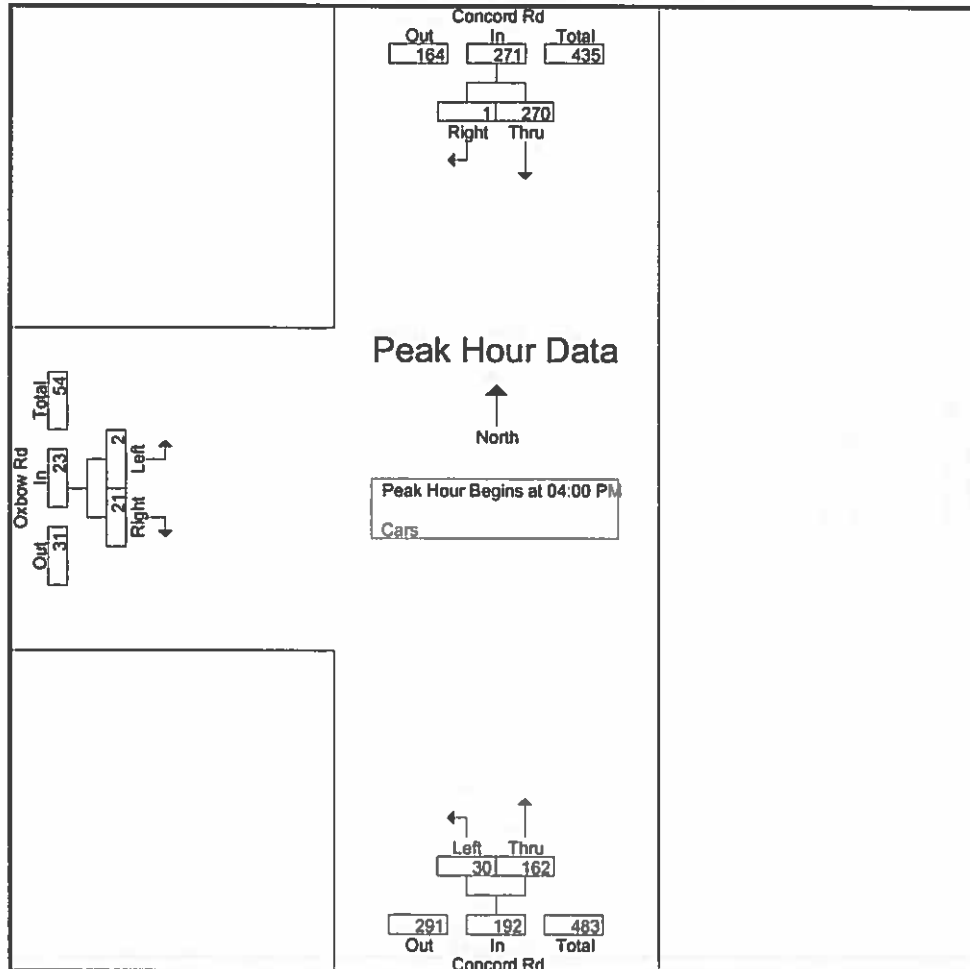
Start Time	Concord Rd From North		Concord Rd From South		Oxbow Rd From West		Int. Tot
	Thru	Right	Left	Thru	Left	Right	
02:00 PM	34	0	2	38	1	3	7
02:15 PM	32	1	11	34	0	0	7
02:30 PM	55	1	4	28	1	6	9
02:45 PM	46	0	10	63	0	7	12
Total	167	2	27	163	2	16	37
03:00 PM	43	1	4	50	1	3	10
03:15 PM	63	2	6	35	0	6	11
03:30 PM	49	2	3	38	0	3	5
03:45 PM	72	1	10	42	1	4	12
Total	227	6	23	165	2	16	42
04:00 PM	67	0	8	37	1	6	11
04:15 PM	60	0	9	46	0	7	12
04:30 PM	49	1	7	47	0	3	10
04:45 PM	94	0	6	32	1	5	12
Total	270	1	30	162	2	21	48
Grand Total	664	9	80	490	6	53	130
Apprch %	98.7	1.3	14	86	10.2	89.8	
Total %	51	0.7	6.1	37.6	0.5	4.1	

Accurate Counts
978-664-2565

N/S Street : Concord Road
E/W Street: Oxbow Road
City/State : Wayland, MA
Weather : Cloudy

File Name : T0558
Site Code : T0558
Start Date : 1/19/2
Page No : 5

	Concord Rd From North			Concord Rd From South			Oxbow Rd From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. To
Peak Hour Analysis From 02:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	67	0	67	8	37	45	1	6	7	1
04:15 PM	60	0	60	9	46	55	0	7	7	1
04:30 PM	49	1	50	7	47	54	0	3	3	10
04:45 PM	94	0	94	6	32	38	1	5	6	1
Total Volume	270	1	271	30	162	192	2	21	23	48
% App. Total	99.6	0.4		15.6	84.4		8.7	91.3		
PHF	.718	.250	.721	.833	.862	.873	.500	.750	.821	.88



Accurate Counts

978-664-2565

N/S Street : Concord Road
E/W Street: Oxbow Road
City/State : Wayland, MA
Weather : Cloudy

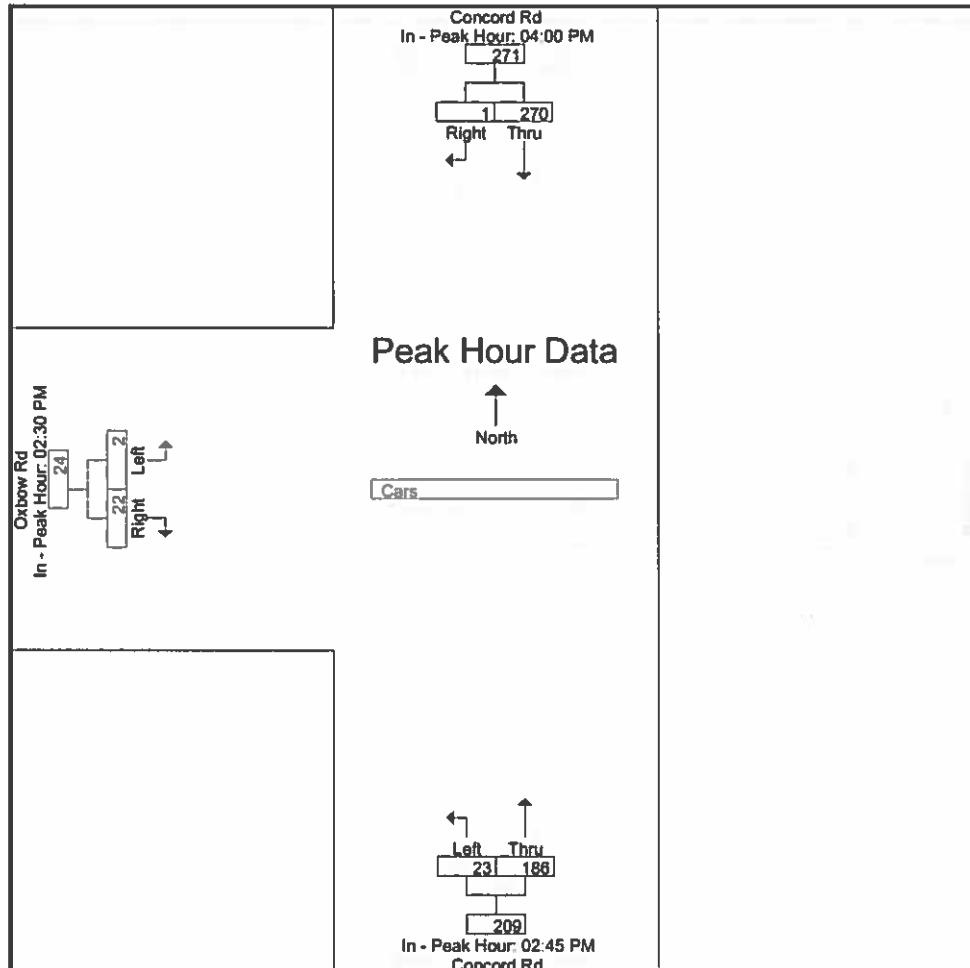
File Name : T05580
Site Code : T05580
Start Date : 1/19/20
Page No : 6

	Concord Rd From North			Concord Rd From South			Oxbow Rd From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Tot

Peak Hour Analysis From 02:00 PM to 04:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:00 PM			02:45 PM			02:30 PM		
+0 mins.	67	0	67	10	63	73	1	6	7
+15 mins.	60	0	60	4	50	54	0	7	7
+30 mins.	49	1	50	6	35	41	1	3	4
+45 mins.	94	0	94	3	38	41	0	6	6
Total Volume	270	1	271	23	186	209	2	22	24
% App. Total	99.6	0.4		11	89		8.3	91.7	
PHF	.718	.250	.721	.575	.738	.716	.500	.786	.857



Accurate Counts
978-864-2565

N/S Street : Concord Road
E/W Street: Oxbow Road
City/State : Wayland, MA
Weather : Cloudy

File Name : T0558
Site Code : T0558
Start Date : 1/19/2
Page No : 7

Groups Printed- Trucks

Start Time	Concord Rd From North		Concord Rd From South		Oxbow Rd From West		Int. To
	Thru	Right	Left	Thru	Left	Right	
02:00 PM	1	0	0	1	0	0	
02:15 PM	0	0	0	0	0	0	
02:30 PM	0	0	2	1	0	0	
02:45 PM	1	0	0	0	0	0	
Total	2	0	2	2	0	0	
03:00 PM	0	0	0	1	0	2	
03:15 PM	1	0	1	0	0	0	
03:30 PM	0	0	0	0	0	0	
03:45 PM	0	0	0	1	0	0	
Total	1	0	1	2	0	2	
04:00 PM	1	0	0	0	0	0	
04:15 PM	0	0	0	2	0	0	
04:30 PM	0	0	0	1	0	0	
04:45 PM	0	0	0	0	0	0	
Total	1	0	0	3	0	0	
Grand Total	4	0	3	7	0	2	
Apprch %	100	0	30	70	0	100	
Total %	25	0	18.8	43.8	0	12.5	

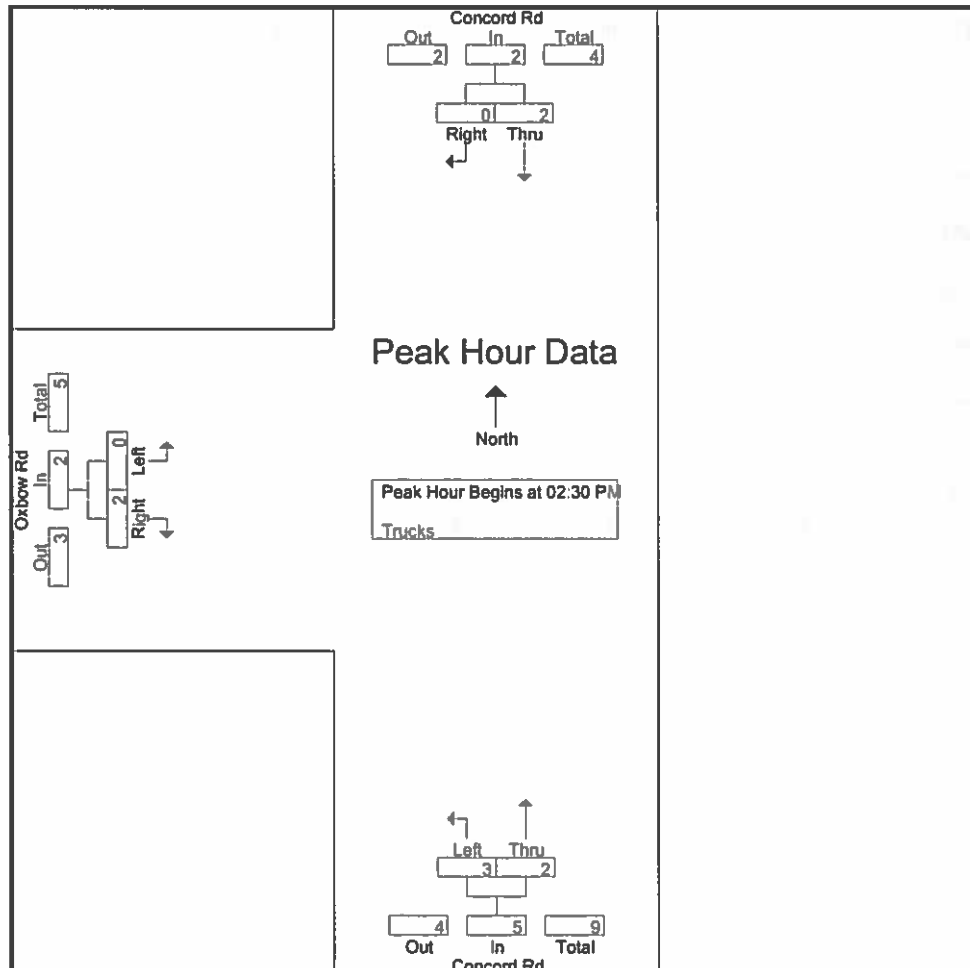
Accurate Counts

978-664-2565

N/S Street : Concord Road
E/W Street: Oxbow Road
City/State : Wayland, MA
Weather : Cloudy

File Name : T0558C
Site Code : T0558C
Start Date : 1/19/20
Page No : 8

	Concord Rd From North			Concord Rd From South			Oxbow Rd From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 02:30 PM										
02:30 PM	0	0	0	2	1	3	0	0	0	
02:45 PM	1	0	1	0	0	0	0	0	0	
03:00 PM	0	0	0	0	1	1	0	2	2	
03:15 PM	1	0	1	1	0	1	0	0	0	
Total Volume	2	0	2	3	2	5	0	2	2	
% App. Total	100	0		60	40		0	100		
PHF	.500	.000	.500	.375	.500	.417	.000	.250	.250	.75



Accurate Counts

978-664-2585

N/S Street : Concord Road
E/W Street: Oxbow Road
City/State : Wayland, MA
Weather : Cloudy

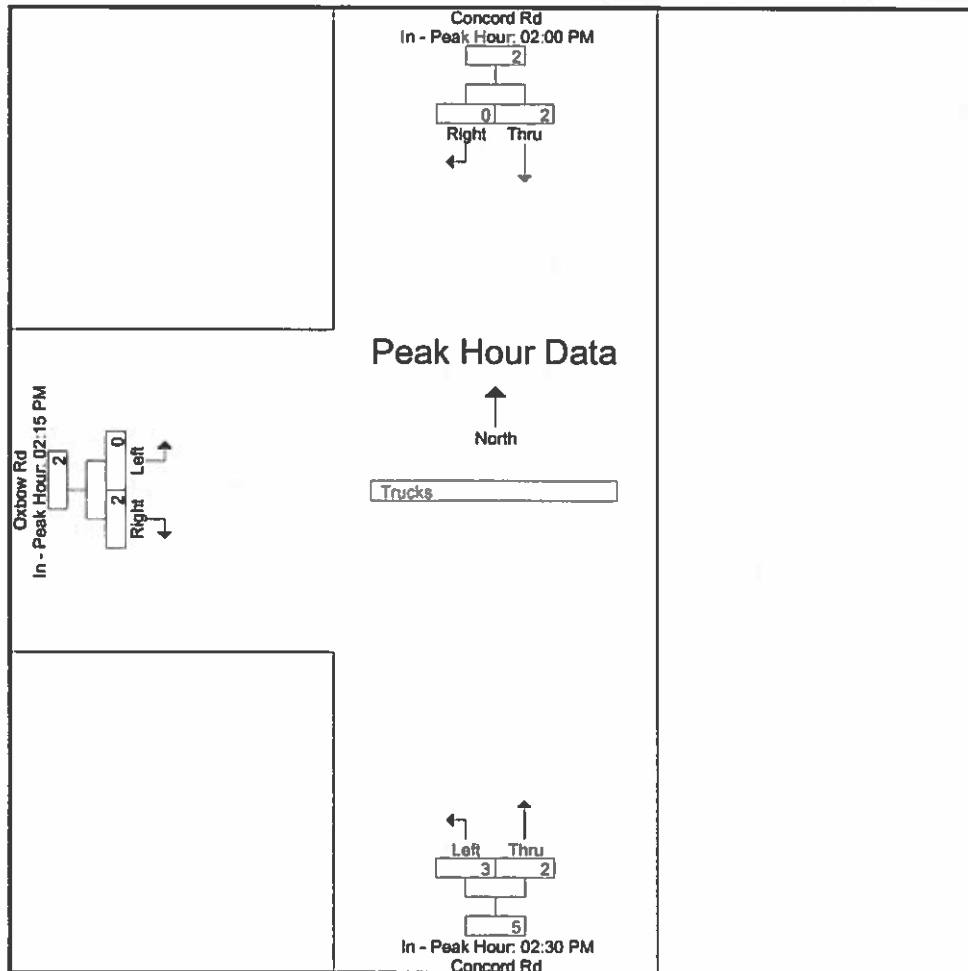
File Name : T0558
Site Code : T0558
Start Date : 1/19/21
Page No : 9

	Concord Rd From North			Concord Rd From South			Oxbow Rd From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Tot

Peak Hour Analysis From 02:00 PM to 04:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	02:00 PM			02:30 PM			02:15 PM		
+0 mins.	1	0	1	2	1	3	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	1	1	0	0	0
+45 mins.	1	0	1	1	0	1	0	2	2
Total Volume	2	0	2	3	2	5	0	2	2
% App. Total	100	0		60	40		0	100	
PHF	.500	.000	.500	.375	.500	.417	.000	.250	.250



Accurate Counts

978-664-2565

N/S Street : Concord Road
E/W Street: Oxbow Road
City/State : Wayland, MA
Weather : Cloudy

File Name : T0558C
Site Code : T0558C
Start Date : 1/19/20
Page No : 10

Groups Printed- Bikes Peds

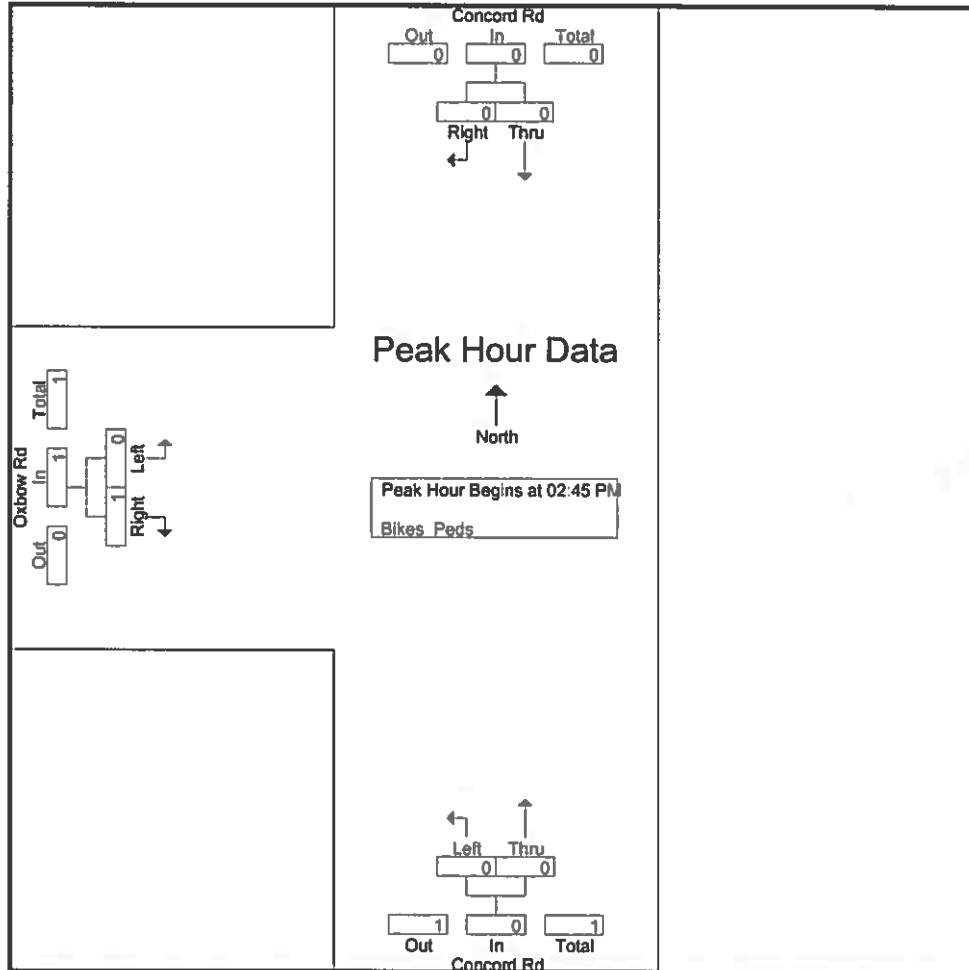
Start Time	Concord Rd From North			Concord Rd From South			Oxbow Rd From West			Exclu. Total	Inclu. Total	Int. Total
	Thru	Right	Peds	Left	Thru	Peds	Left	Right	Peds			
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	1	0	0	0	0	0	0	1	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	0	0	0	0	0	0	1	0	0
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	1	0	0	1	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	1	0	0	1	0
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	1	0	0	0	1	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	1	0	0	0	1	0	0
Grand Total	0	0	1	0	0	1	0	1	0	2	1	0
Apprch %	0	0		0	0		0	100				
Total %	0	0		0	0		0	100		66.7	33.3	

Accurate Counts 978-664-2565

N/S Street : Concord Road
E/W Street: Oxbow Road
City/State : Wayland, MA
Weather : Cloudy

File Name : T0558
Site Code : T0558
Start Date : 1/19/2
Page No : 11

	Concord Rd From North			Concord Rd From South			Oxbow Rd From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. To
Peak Hour Analysis From 02:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 02:45 PM										
02:45 PM	0	0	0	0	0	0	0	0	0	
03:00 PM	0	0	0	0	0	0	0	0	0	
03:15 PM	0	0	0	0	0	0	0	0	0	
03:30 PM	0	0	0	0	0	0	0	1	1	
Total Volume	0	0	0	0	0	0	0	1	1	
% App. Total	0	0		0	0		0	100		
PHF	.000	.000	.000	.000	.000	.000	.000	.250	.250	.25



Accurate Counts 978-664-2565

N/S Street : Concord Road
E/W Street: Oxbow Road
City/State : Wayland, MA
Weather : Cloudy

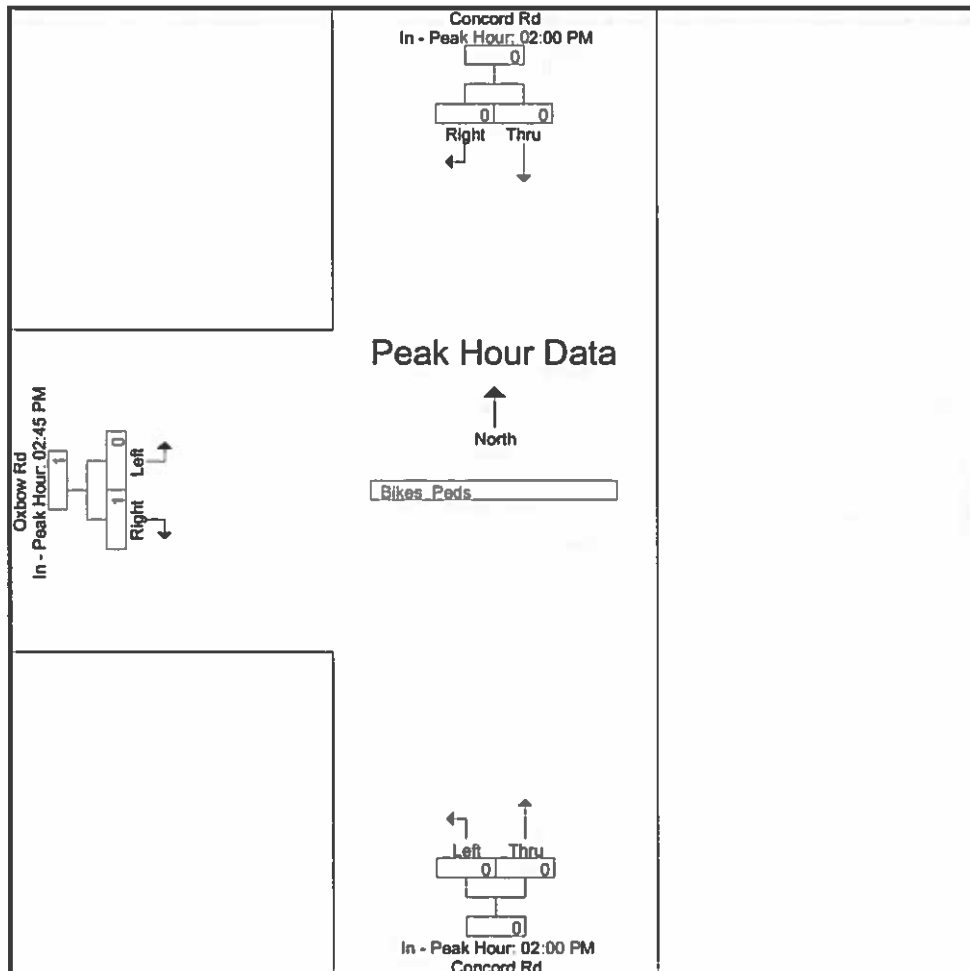
File Name : T05580
Site Code : T05580
Start Date : 1/19/20
Page No : 12

	Concord Rd From North			Concord Rd From South			Oxbow Rd From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Tot

Peak Hour Analysis From 02:00 PM to 04:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	02:00 PM			02:00 PM			02:45 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	1	1
Total Volume	0	0	0	0	0	0	0	1	1
% App. Total	0	0		0	0		0	100	
PHF	.000	.000	.000	.000	.000	.000	.000	.250	.250



Accurate Counts
978-664-2565

N/S Street : Concord Road
E/W Street: Oxbow Road
City/State : Wayland, MA
Weather : Cloudy

File Name : T0558
Site Code : T0558
Start Date : 1/21/21
Page No : 1

Groups Printed- Cars - Trucks

Start Time	Concord Rd From North		Concord Rd From South		Oxbow Rd From West		Int. To
	Thru	Right	Left	Thru	Left	Right	
11:00 AM	27	0	6	32	1	5	
11:15 AM	40	2	2	45	1	10	
11:30 AM	23	1	6	29	2	3	
11:45 AM	26	1	6	26	1	9	
Total	116	4	20	132	5	27	30
12:00 PM	33	0	8	31	0	3	
12:15 PM	35	0	4	35	0	8	
12:30 PM	40	0	4	43	0	6	
12:45 PM	34	1	3	36	1	8	
Total	142	1	19	145	1	25	30
01:00 PM	38	1	9	35	1	6	
01:15 PM	25	0	9	36	0	8	
01:30 PM	25	0	5	38	0	6	
01:45 PM	24	1	7	32	1	7	
Total	112	2	30	141	2	27	30
Grand Total	370	7	69	418	8	79	90
Apprch %	98.1	1.9	14.2	85.8	9.2	90.8	
Total %	38.9	0.7	7.3	44	0.8	8.3	
Cars	370	7	69	416	8	79	90
% Cars	100	100	100	99.5	100	100	99
Trucks	0	0	0	2	0	0	
% Trucks	0	0	0	0.5	0	0	0

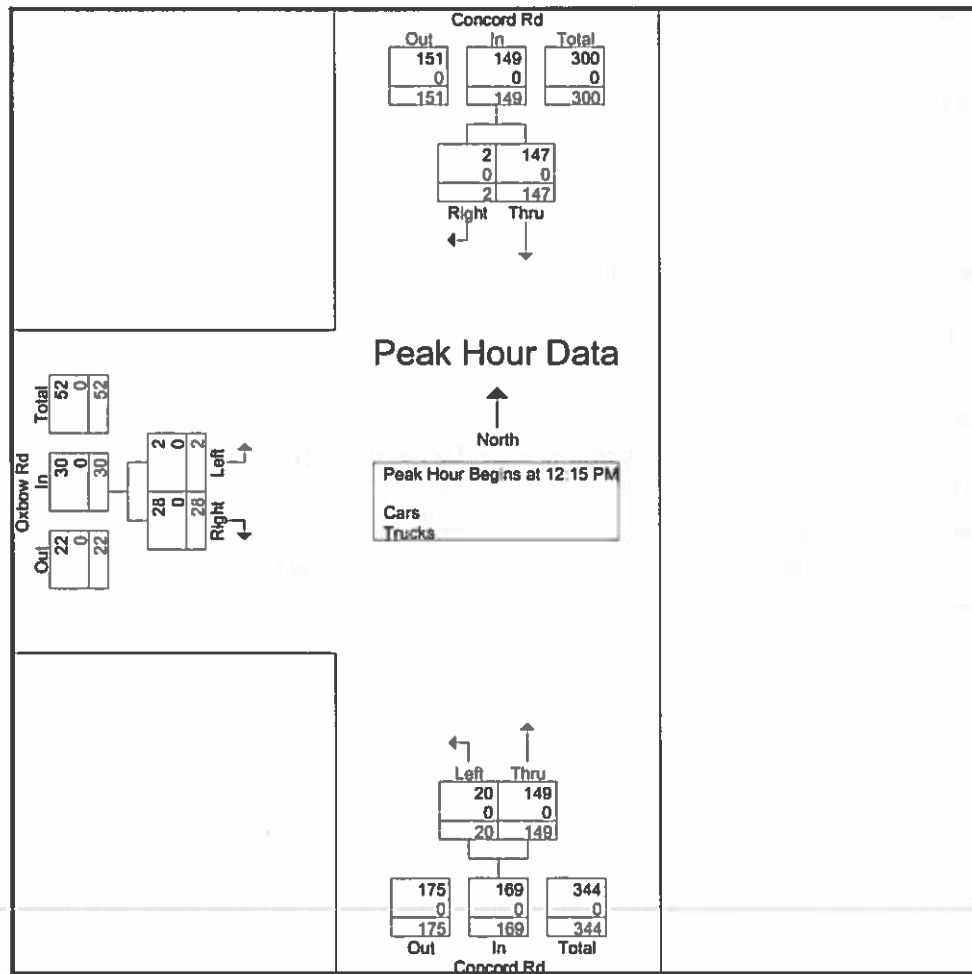
Accurate Counts

978-664-2565

N/S Street : Concord Road
E/W Street: Oxbow Road
City/State : Wayland, MA
Weather : Cloudy

File Name : T05580
Site Code : T05580
Start Date : 1/21/20
Page No : 2

	Concord Rd From North			Concord Rd From South			Oxbow Rd From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Tot
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 12:15 PM										
12:15 PM	35	0	35	4	35	39	0	8	8	8
12:30 PM	40	0	40	4	43	47	0	6	6	9
12:45 PM	34	1	35	3	36	39	1	8	9	8
01:00 PM	38	1	39	9	35	44	1	6	7	9
Total Volume	147	2	149	20	149	169	2	28	30	34
% App. Total	98.7	1.3		11.8	88.2		6.7	93.3		
PHF	.919	.500	.931	.556	.866	.899	.500	.875	.833	.93
Cars	147	2	149	20	149	169	2	28	30	34
% Cars	100	100	100	100	100	100	100	100	100	10
Trucks	0	0	0	0	0	0	0	0	0	
% Trucks	0	0	0	0	0	0	0	0	0	



Accurate Counts

978-664-2565

N/S Street : Concord Road
E/W Street: Oxbow Road
City/State : Wayland, MA
Weather : Cloudy

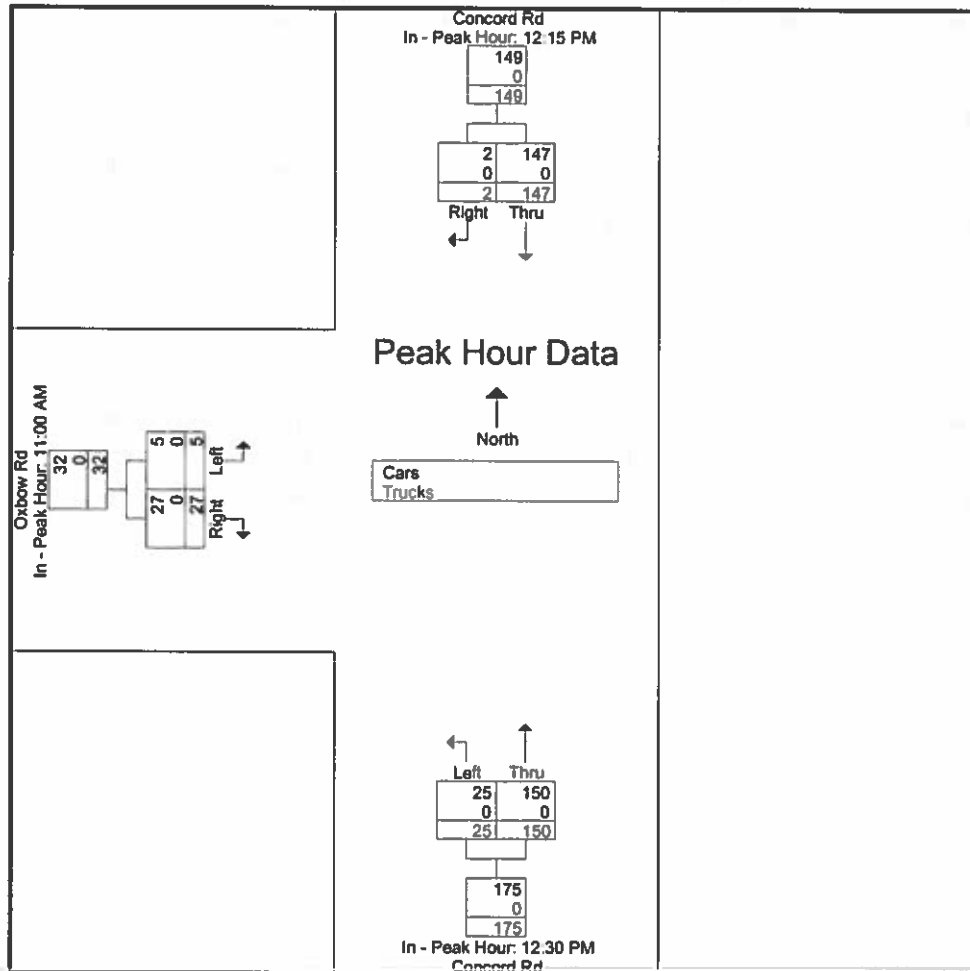
File Name : T0558
Site Code : T0558
Start Date : 1/21/2
Page No : 3

	Concord Rd From North			Concord Rd From South			Oxbow Rd From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. To

Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	12:15 PM			12:30 PM			11:00 AM		
+0 mins.	35	0	35	4	43	47	1	5	6
+15 mins.	40	0	40	3	36	39	1	10	11
+30 mins.	34	1	35	9	35	44	2	3	5
+45 mins.	38	1	39	9	36	45	1	9	10
Total Volume	147	2	149	25	150	175	5	27	32
% App. Total	98.7	1.3		14.3	85.7		15.6	84.4	
PHF	.919	.500	.931	.694	.872	.931	.625	.675	.727
Cars	147	2	149	25	150	175	5	27	32
% Cars	100	100	100	100	100	100	100	100	100
Trucks	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0



Accurate Counts

978-664-2565

N/S Street : Concord Road
E/W Street: Oxbow Road
City/State : Wayland, MA
Weather : Cloudy

File Name : T0558C
Site Code : T0558C
Start Date : 1/21/20
Page No : 4

Groups Printed- Cars

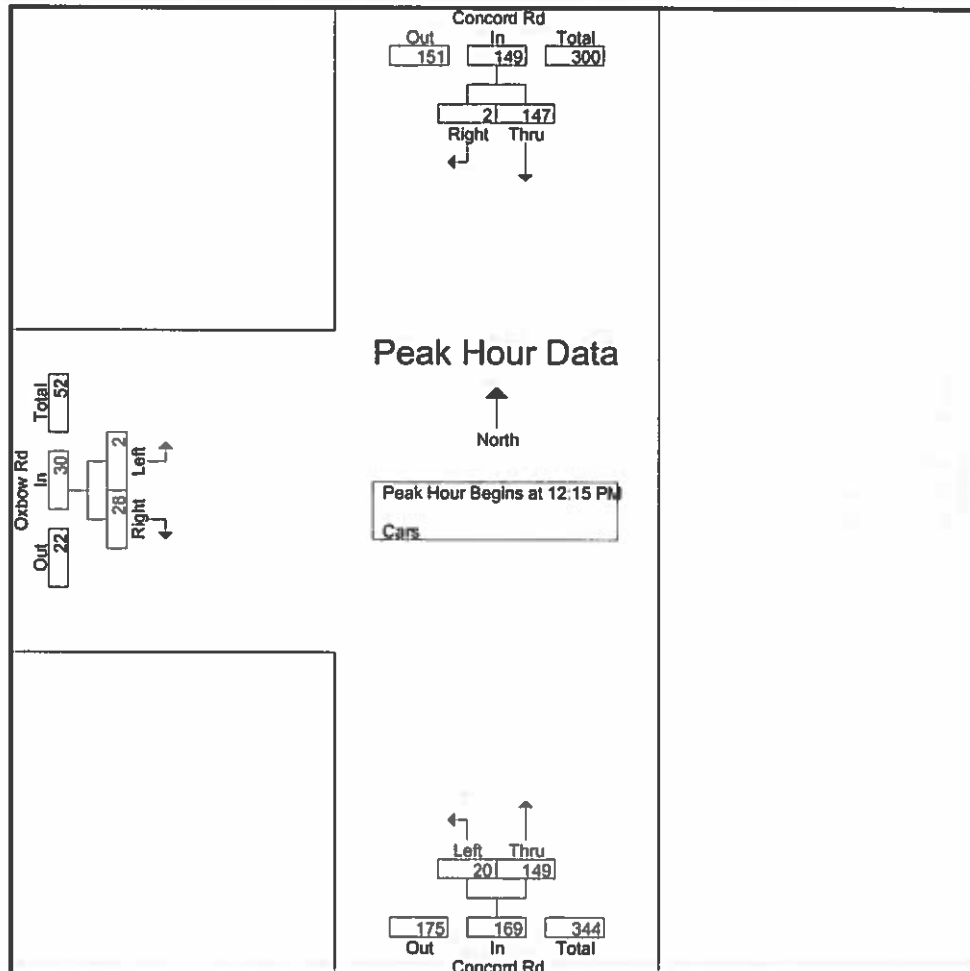
Start Time	Concord Rd From North		Concord Rd From South		Oxbow Rd From West		Int. Tot
	Thru	Right	Left	Thru	Left	Right	
11:00 AM	27	0	6	32	1	5	38
11:15 AM	40	2	2	44	1	10	55
11:30 AM	23	1	6	29	2	3	34
11:45 AM	26	1	6	26	1	9	36
Total	116	4	20	131	5	27	308
12:00 PM	33	0	8	31	0	3	34
12:15 PM	35	0	4	35	0	8	43
12:30 PM	40	0	4	43	0	6	49
12:45 PM	34	1	3	36	1	8	45
Total	142	1	19	145	1	25	338
01:00 PM	38	1	9	35	1	6	45
01:15 PM	25	0	9	36	0	8	43
01:30 PM	25	0	5	38	0	6	43
01:45 PM	24	1	7	31	1	7	43
Total	112	2	30	140	2	27	313
Grand Total	370	7	69	416	8	79	940
Apprch %	98.1	1.9	14.2	85.8	9.2	90.8	
Total %	39	0.7	7.3	43.8	0.8	8.3	

Accurate Counts 978-664-2565

N/S Street : Concord Road
E/W Street: Oxbow Road
City/State : Wayland, MA
Weather : Cloudy

File Name : T0558
Site Code : T0558
Start Date : 1/21/21
Page No : 5

	Concord Rd From North			Concord Rd From South			Oxbow Rd From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Tot
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 12:15 PM										
12:15 PM	35	0	35	4	35	39	0	8	8	
12:30 PM	40	0	40	4	43	47	0	6	6	
12:45 PM	34	1	35	3	36	39	1	8	9	
01:00 PM	38	1	39	9	35	44	1	6	7	
Total Volume	147	2	149	20	149	169	2	28	30	34
% App. Total	98.7	1.3		11.8	88.2		6.7	93.3		
PHF	.919	.500	.931	.556	.866	.899	.500	.875	.833	.92



Accurate Counts 978-664-2565

N/S Street : Concord Road
E/W Street: Oxbow Road
City/State : Wayland, MA
Weather : Cloudy

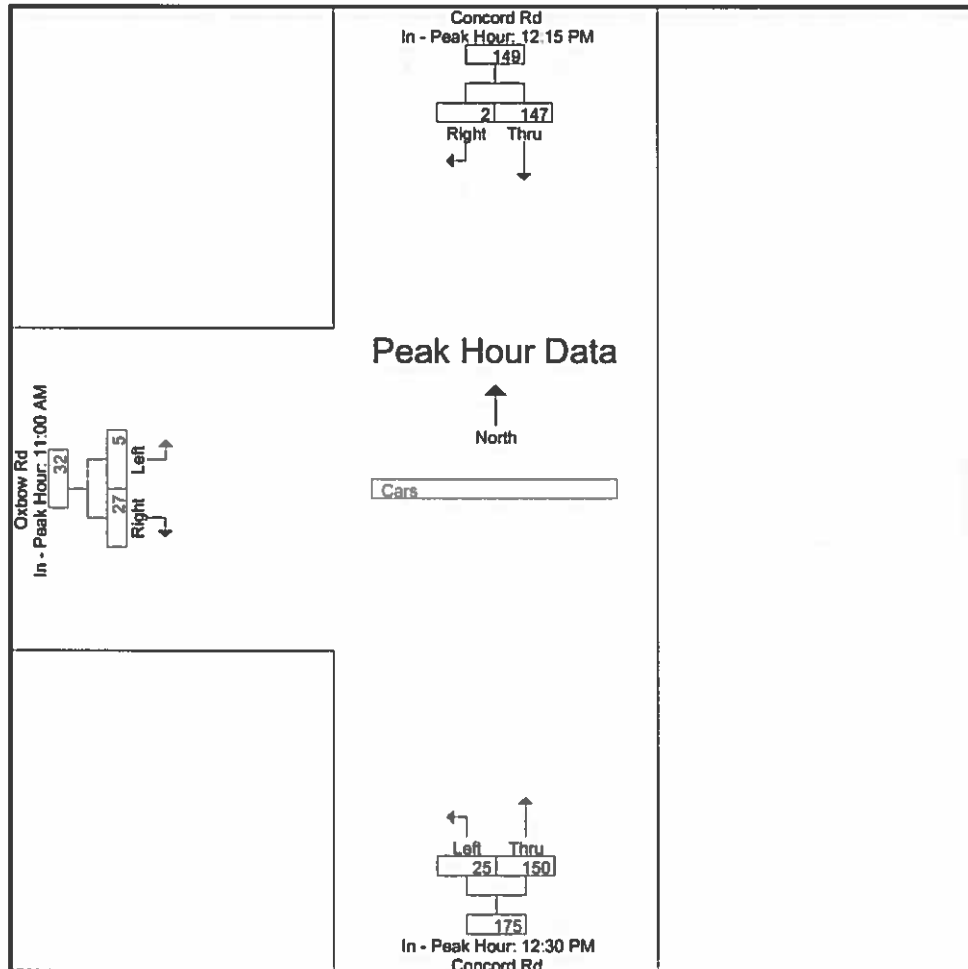
File Name : T05580
Site Code : T05580
Start Date : 1/21/20
Page No : 6

	Concord Rd From North			Concord Rd From South			Oxbow Rd From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Tot

Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	12:15 PM			12:30 PM			11:00 AM		
+0 mins.	35	0	35	4	43	47	1	5	6
+15 mins.	40	0	40	3	36	39	1	10	11
+30 mins.	34	1	35	9	35	44	2	3	5
+45 mins.	38	1	39	9	36	45	1	9	10
Total Volume	147	2	149	25	150	175	5	27	32
% App. Total	98.7	1.3		14.3	85.7		15.6	84.4	
PHF	.919	.500	.931	.694	.872	.931	.625	.675	.727



Accurate Counts
978-664-2565

N/S Street : Concord Road
E/W Street: Oxbow Road
City/State : Wayland, MA
Weather : Cloudy

File Name : T0558/
Site Code : T0558/
Start Date : 1/21/20
Page No : 7

Groups Printed- Trucks

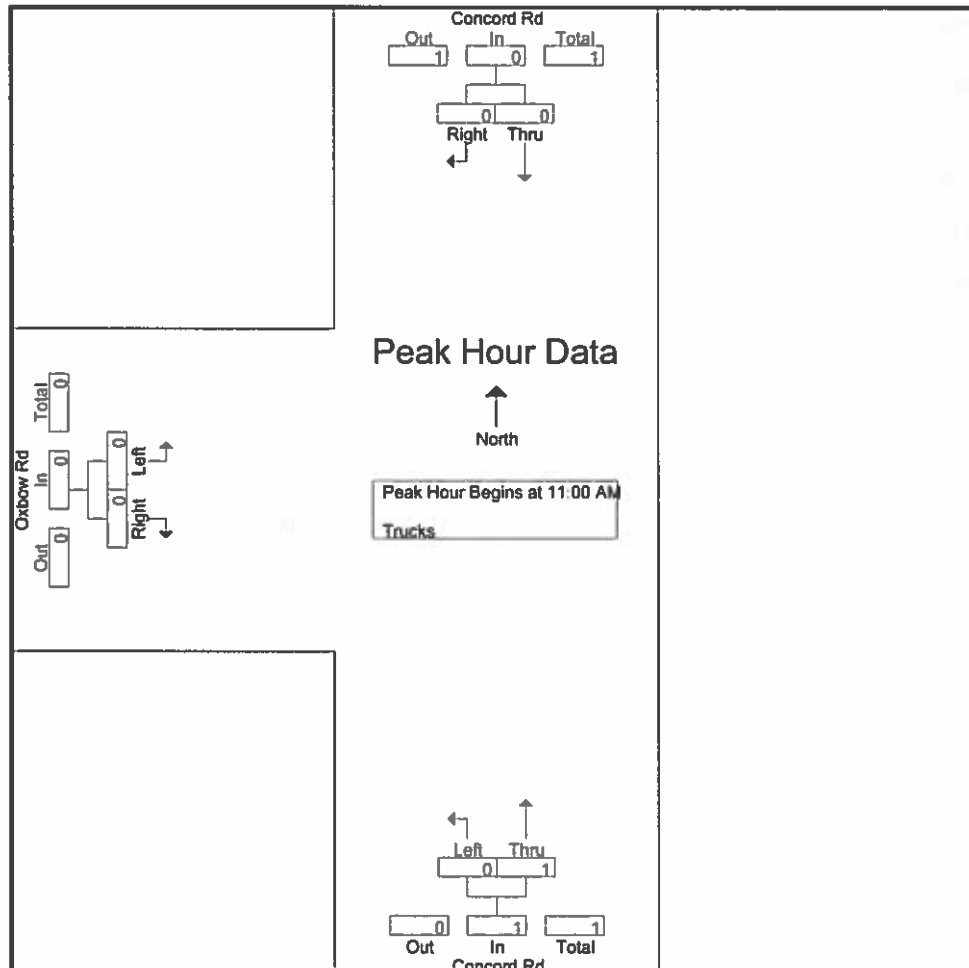
Start Time	Concord Rd From North		Concord Rd From South		Oxbow Rd From West		Int. To
	Thru	Right	Left	Thru	Left	Right	
11:00 AM	0	0	0	0	0	0	
11:15 AM	0	0	0	1	0	0	
11:30 AM	0	0	0	0	0	0	
11:45 AM	0	0	0	0	0	0	
Total	0	0	0	1	0	0	
12:00 PM	0	0	0	0	0	0	
12:15 PM	0	0	0	0	0	0	
12:30 PM	0	0	0	0	0	0	
12:45 PM	0	0	0	0	0	0	
Total	0	0	0	0	0	0	
01:00 PM	0	0	0	0	0	0	
01:15 PM	0	0	0	0	0	0	
01:30 PM	0	0	0	0	0	0	
01:45 PM	0	0	0	1	0	0	
Total	0	0	0	1	0	0	
Grand Total	0	0	0	2	0	0	
Apprch %	0	0	0	100	0	0	
Total %	0	0	0	100	0	0	

Accurate Counts 978-664-2565

N/S Street : Concord Road
E/W Street: Oxbow Road
City/State : Wayland, MA
Weather : Cloudy

File Name : T05580
Site Code : T05580
Start Date : 1/21/20
Page No : 8

	Concord Rd From North			Concord Rd From South			Oxbow Rd From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Tot
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	
11:15 AM	0	0	0	0	1	1	0	0	0	
11:30 AM	0	0	0	0	0	0	0	0	0	
11:45 AM	0	0	0	0	0	0	0	0	0	
Total Volume	0	0	0	0	1	1	0	0	0	
% App. Total	0	0		0	100		0	0		
PHF	.000	.000	.000	.000	.250	.250	.000	.000	.000	.25



Accurate Counts 978-664-2565

N/S Street : Concord Road
E/W Street: Oxbow Road
City/State : Wayland, MA
Weather : Cloudy

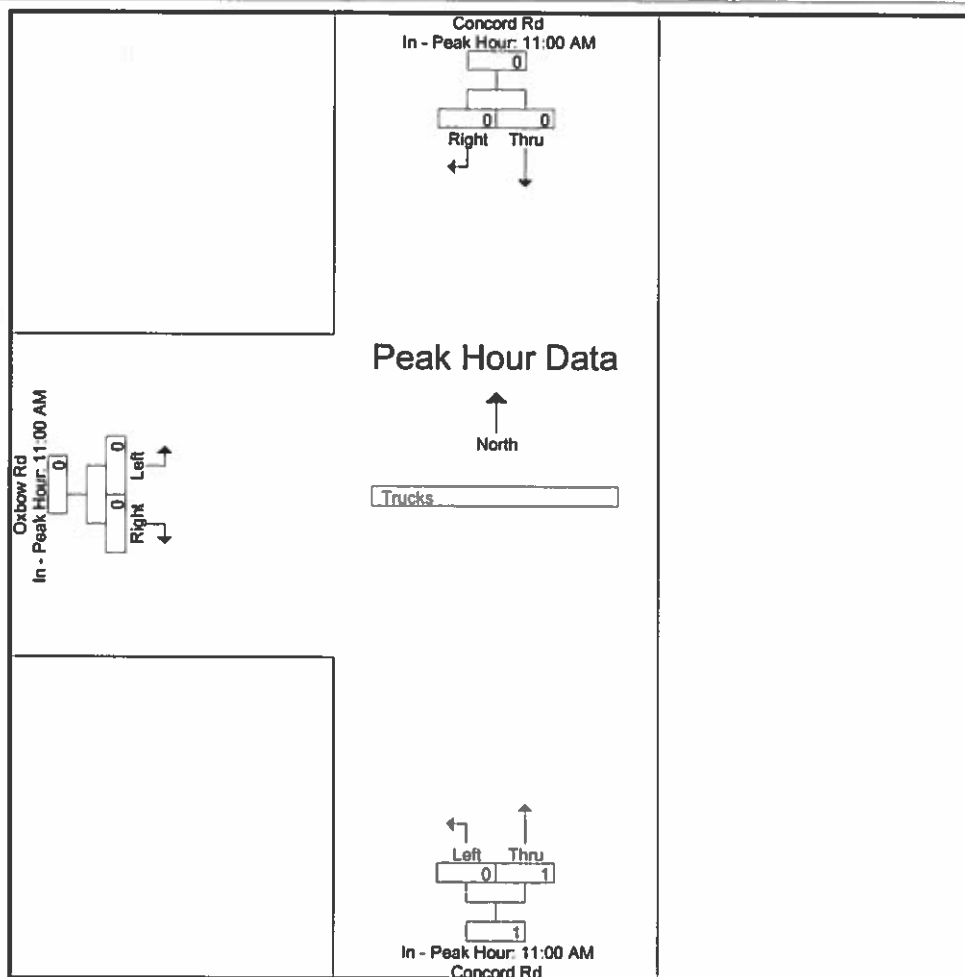
File Name : T0558
Site Code : T0558
Start Date : 1/21/2
Page No : 9

	Concord Rd From North			Concord Rd From South			Oxbow Rd From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. To

Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:00 AM			11:00 AM			11:00 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	1	1	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	1	1	0	0	0
% App. Total	0	0		0	100		0	0	
PHF	.000	.000	.000	.000	.250	.250	.000	.000	.000



Accurate Counts
978-664-2565

N/S Street : Concord Road
E/W Street: Oxbow Road
City/State : Wayland, MA
Weather : Cloudy

File Name : T05580
Site Code : T05580
Start Date : 1/21/20
Page No : 10

Groups Printed- Bikes Peds

Start Time	Concord Rd From North			Concord Rd From South			Oxbow Rd From West			Exclu. Total	Inclu. Total	Int. Tot
	Thru	Right	Peds	Left	Thru	Peds	Left	Right	Peds			
11:00 AM	0	0	0	0	0	0	0	1	0	0	1	
11:15 AM	1	0	0	1	2	0	0	0	0	0	4	
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	
Total	1	0	0	1	2	0	0	1	0	0	5	
12:00 PM	1	0	0	0	0	0	0	0	0	0	1	
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	
12:30 PM	0	0	0	0	1	0	0	0	0	0	1	
12:45 PM	2	0	0	0	1	0	0	0	0	0	3	
Total	3	0	0	0	2	0	0	0	0	0	5	
01:00 PM	2	2	2	1	2	0	0	3	0	2	10	1
01:15 PM	1	0	0	0	0	0	0	0	0	0	1	
01:30 PM	1	0	0	0	0	0	0	2	0	0	3	
01:45 PM	0	0	0	0	1	0	0	0	0	0	1	
Total	4	2	2	1	3	0	0	5	0	2	15	1
Grand Total	8	2	2	2	7	0	0	6	0	2	25	2
Apprch %	80	20		22.2	77.8		0	100				
Total %	32	8		8	28		0	24		7.4	92.6	

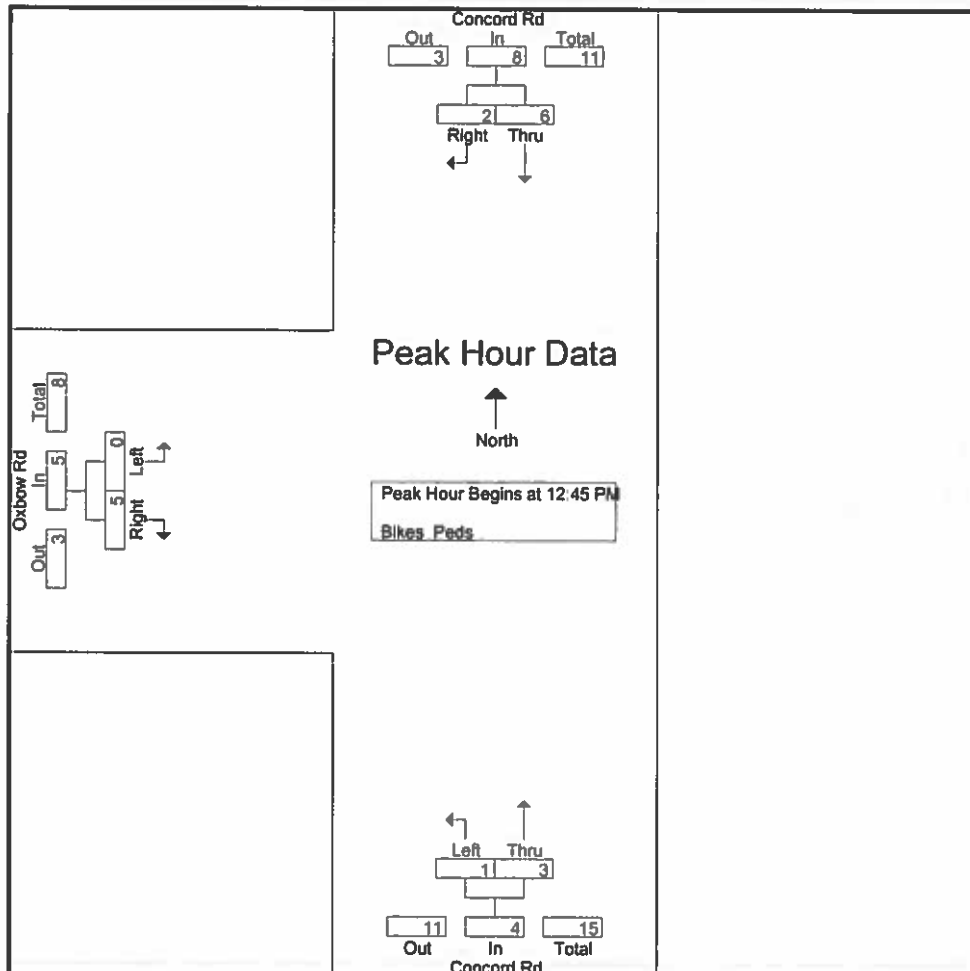
Accurate Counts

978-664-2565

N/S Street : Concord Road
E/W Street: Oxbow Road
City/State : Wayland, MA
Weather : Cloudy

File Name : T0558
Site Code : T0558
Start Date : 1/21/20
Page No : 11

	Concord Rd From North			Concord Rd From South			Oxbow Rd From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Tot
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 12:45 PM										
12:45 PM	2	0	2	0	1	1	0	0	0	
01:00 PM	2	2	4	1	2	3	0	3	3	
01:15 PM	1	0	1	0	0	0	0	0	0	
01:30 PM	1	0	1	0	0	0	0	2	2	
Total Volume	6	2	8	1	3	4	0	5	5	
% App. Total	75	25		25	75		0	100		
PHF	.750	.250	.500	.250	.375	.333	.000	.417	.417	.42



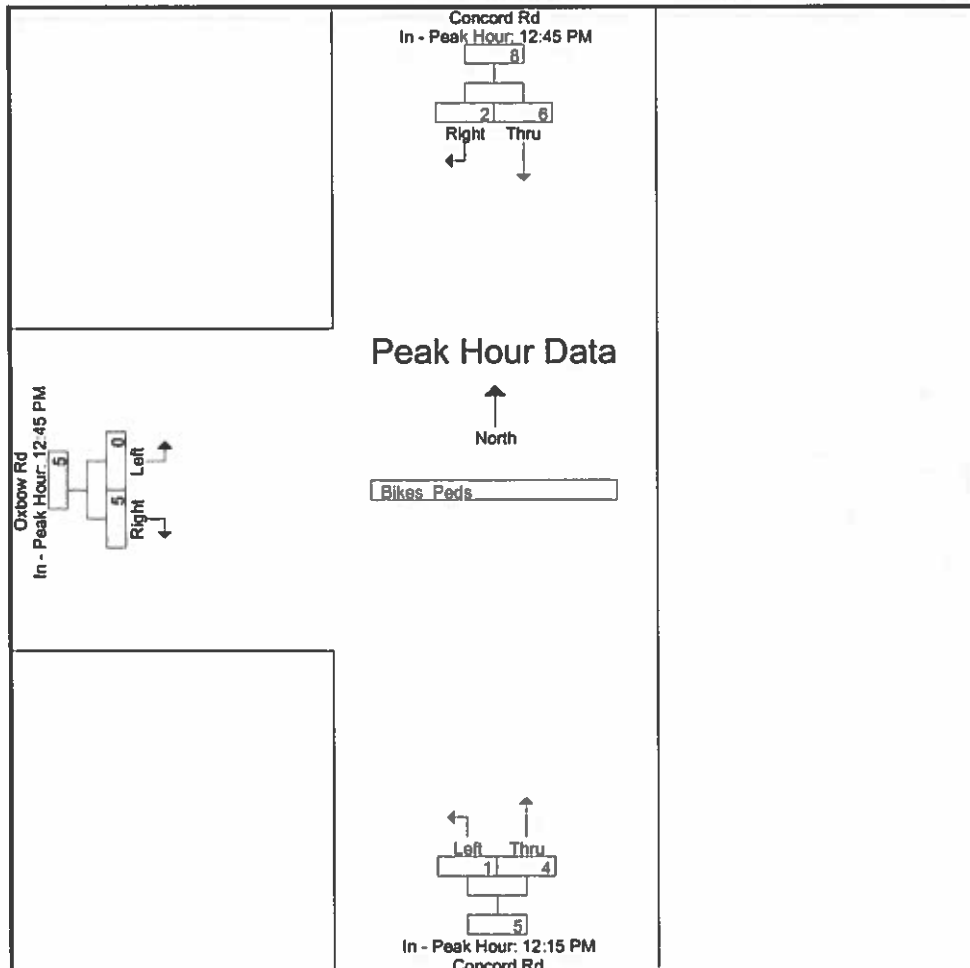
Accurate Counts

978-664-2565

N/S Street : Concord Road
E/W Street: Oxbow Road
City/State : Wayland, MA
Weather : Cloudy

File Name : T0558C
Site Code : T0558C
Start Date : 1/21/20
Page No : 12

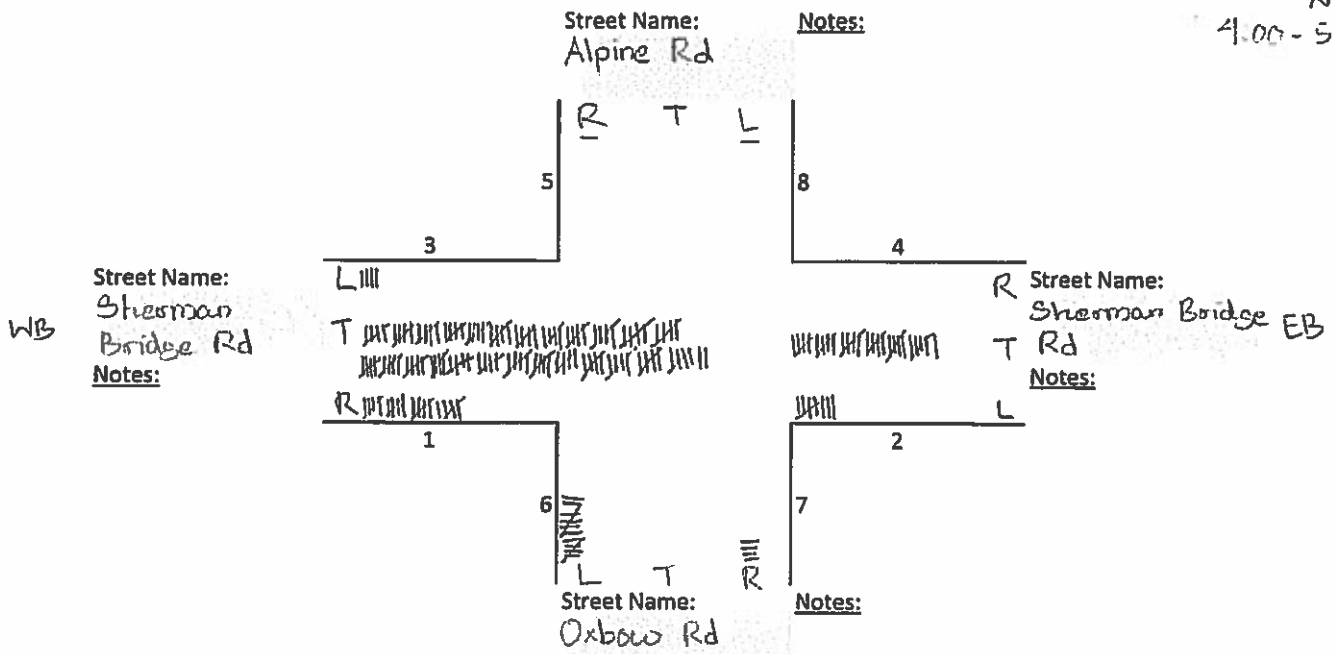
	Concord Rd From North			Concord Rd From South			Oxbow Rd From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Tot
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1										
Peak Hour for Each Approach Begins at:										
	12:45 PM			12:15 PM			12:45 PM			
+0 mins.	2	0	2	0	0	0	0	0	0	
+15 mins.	2	2	4	0	1	1	0	3	3	
+30 mins.	1	0	1	0	1	1	0	0	0	
+45 mins.	1	0	1	1	2	3	0	2	2	
Total Volume	6	2	8	1	4	5	0	5	5	
% App. Total	75	25		20	80		0	100		
PHF	.750	.250	.500	.250	.500	.417	.000	.417	.417	



Project: T0558.16
 Date: 2/2/17
 Recorded by: EA

Measured by:

4:00 - 5:00 PM



	Left	Thru	Right
Sherman Bridge Rd (EB)	8	31	0
Sherman Bridge Rd (WB)	4	127	20
Alpine Rd (WB)	1	0	1
Oxbow Rd (EB)	12	0	4

Attachment B

Automatic Traffic Recorder Counts (ATRs)

Accurate Counts
978-664-2565

Page 1

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA

0558VOL1

Start Time	1/18/2017 Wed	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	9			0	3				
12:15		1	6			1	11				
12:30		0	7			0	2				
12:45		0	7	1	29	0	3	1	19	2	48
01:00		1	4			0	3				
01:15		0	5			1	5				
01:30		0	4			1	9				
01:45		0	1	1	14	0	3	2	20	3	34
02:00		0	6			0	9				
02:15		0	6			0	6				
02:30		0	2			0	3				
02:45		0	5	0	19	0	7	0	25	0	44
03:00		0	4			0	4				
03:15		0	4			0	5				
03:30		0	7			0	5				
03:45		0	4	0	19	0	10	0	24	0	43
04:00		0	6			0	6				
04:15		0	4			0	6				
04:30		0	1			0	5				
04:45		0	3	0	14	0	6	0	23	0	37
05:00		0	2			0	4				
05:15		0	2			0	1				
05:30		0	0			0	4				
05:45		0	5	0	9	0	5	0	14	0	23
06:00		1	1			0	9				
06:15		0	5			0	7				
06:30		2	4			0	10				
06:45		4	6	7	16	0	7	0	33	7	49
07:00		3	5			1	10				
07:15		4	2			0	9				
07:30		3	2			0	14				
07:45		2	2	12	11	2	2	3	35	15	46
08:00		16	0			4	2				
08:15		10	3			2	8				
08:30		13	2			3	4				
08:45		15	0	54	5	2	1	11	15	65	20
09:00		17	1			3	4				
09:15		4	1			2	7				
09:30		5	3			2	5				
09:45		11	0	37	5	3	5	10	21	47	26
10:00		7	2			4	4				
10:15		9	1			4	1				
10:30		5	0			3	8				
10:45		6	0	27	3	2	5	13	18	40	21
11:00		3	1			4	2				
11:15		3	0			4	2				
11:30		2	0			3	0				
11:45		9	1	17	2	5	1	16	5	33	7
Total		156	146			56	252			212	398
Percent		51.7%	48.3%			18.2%	81.8%			34.8%	65.2%

Accurate Counts

978-664-2565

Page 2

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA

0558VOL1

Start Time	1/19/2017 Thu	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		1	2			2	2				
12:15		0	3			3	6				
12:30		1	7			2	10				
12:45		0	9	2	21	0	4	7	22	9	43
01:00		0	8			0	5				
01:15		0	1			0	3				
01:30		0	3			1	4				
01:45		0	2	0	14	0	4	1	16	1	30
02:00		0	2			0	2				
02:15		0	2			0	9				
02:30		0	6			0	6				
02:45		1	5	1	15	0	3	0	20	1	35
03:00		0	2			0	10				
03:15		0	5			0	2				
03:30		0	1			0	5				
03:45		0	1	0	9	0	1	0	18	0	27
04:00		0	3			0	2				
04:15		0	3			0	7				
04:30		0	1			0	2				
04:45		0	5	0	12	0	6	0	17	0	29
05:00		0	2			0	5				
05:15		0	1			0	5				
05:30		0	3			0	4				
05:45		0	5	0	11	0	6	0	20	0	31
06:00		0	1			0	6				
06:15		1	1			0	2				
06:30		1	4			1	5				
06:45		4	6	6	12	0	11	1	24	7	36
07:00		5	1			3	11				
07:15		6	3			2	7				
07:30		5	2			0	6				
07:45		6	3	22	9	2	7	7	31	29	40
08:00		11	4			2	8				
08:15		9	0			4	6				
08:30		13	2			4	5				
08:45		12	2	45	8	2	5	12	24	57	32
09:00		6	1			7	4				
09:15		14	1			2	1				
09:30		14	1			1	4				
09:45		7	3	41	6	1	2	11	11	52	17
10:00		9	2			4	4				
10:15		11	0			1	2				
10:30		5	1			1	3				
10:45		3	0	28	3	2	2	8	11	36	14
11:00		7	0			6	1				
11:15		0	0			0	2				
11:30		12	0			10	1				
11:45		2	1	21	1	3	0	19	4	40	5
Total		166	121			66	218			232	339
Percent		57.8%	42.2%			23.2%	76.8%			40.6%	59.4%

Accurate Counts 978-664-2565

Page 3

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA

0558VOL1

Start Time	1/20/2017 Fri	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		1	5			1	3				
12:15		0	5			3	3				
12:30		0	4			4	4				
12:45		0	5	1	19	0	4	8	14	9	33
01:00		0	5			0	3				
01:15		0	1			0	2				
01:30		0	4			0	3				
01:45		0	1	0	11	2	2	2	10	2	21
02:00		1	2			1	5				
02:15		0	5			0	6				
02:30		0	7			0	7				
02:45		0	5	1	19	1	6	2	24	3	43
03:00		0	7			0	3				
03:15		1	7			1	3				
03:30		0	5			0	5				
03:45		0	3	1	22	0	5	1	16	2	38
04:00		0	7			0	3				
04:15		0	4			0	3				
04:30		0	11			0	5				
04:45		0	4	0	26	0	8	0	19	0	45
05:00		0	3			0	4				
05:15		0	6			0	7				
05:30		0	2			0	6				
05:45		0	6	0	17	0	9	0	26	0	43
06:00		0	0			0	1				
06:15		0	2			0	11				
06:30		2	4			0	5				
06:45		7	4	9	10	0	10	0	27	9	37
07:00		3	6			2	10				
07:15		3	7			1	7				
07:30		8	3			1	10				
07:45		2	0	16	16	2	7	6	34	22	50
08:00		10	4			1	3				
08:15		9	4			4	4				
08:30		15	0			5	3				
08:45		10	1	44	9	4	3	14	13	58	22
09:00		16	1			5	9				
09:15		6	3			3	3				
09:30		7	0			1	3				
09:45		7	2	36	6	2	2	11	17	47	23
10:00		5	0			2	3				
10:15		8	1			1	3				
10:30		0	0			4	2				
10:45		13	2	26	3	3	2	10	10	36	13
11:00		6	1			4	0				
11:15		3	0			6	1				
11:30		6	1			3	1				
11:45		3	1	18	3	2	2	15	4	33	7
Total		152	161			69	214			221	375
Percent		48.6%	51.4%			24.4%	75.6%			37.1%	62.9%

Accurate Counts 978-664-2565

Page 4

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA

0558VOL1

Start Time	1/21/2017 Sat	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	8			1	4				
12:15		2	7			4	4				
12:30		1	4			1	5				
12:45		0	0	3	19	0	5	6	18	9	37
01:00		0	5			0	7				
01:15		0	3			1	4				
01:30		0	3			0	3				
01:45		0	6	0	17	0	5	1	19	1	36
02:00		0	7			0	7				
02:15		0	5			0	6				
02:30		0	6			0	3				
02:45		0	3	0	21	1	3	1	19	1	40
03:00		0	3			0	5				
03:15		0	8			0	7				
03:30		0	7			0	3				
03:45		0	4	0	22	0	1	0	16	0	38
04:00		0	1			0	5				
04:15		0	3			0	2				
04:30		0	8			0	3				
04:45		0	3	0	15	0	1	0	11	0	26
05:00		0	4			0	4				
05:15		0	2			0	2				
05:30		0	5			0	5				
05:45		0	4	0	15	0	3	0	14	0	29
06:00		0	4			0	1				
06:15		0	8			0	6				
06:30		1	4			2	10				
06:45		0	1	1	17	0	3	2	20	3	37
07:00		1	0			1	6				
07:15		3	6			0	3				
07:30		0	5			0	1				
07:45		1	1	5	12	3	1	4	11	9	23
08:00		1	3			0	6				
08:15		6	1			1	2				
08:30		1	4			2	1				
08:45		1	1	9	9	3	4	6	13	15	22
09:00		3	1			0	3				
09:15		4	0			1	2				
09:30		2	1			3	2				
09:45		4	2	13	4	1	3	5	10	18	14
10:00		0	1			2	3				
10:15		5	2			2	2				
10:30		7	1			2	2				
10:45		9	0	21	4	3	1	9	8	30	12
11:00		2	0			3	0				
11:15		5	0			1	3				
11:30		5	0			5	2				
11:45		6	0	18	0	4	2	13	7	31	7
Total		70	155			47	166			117	321
Percent		31.1%	68.9%			22.1%	77.9%			26.7%	73.3%

Accurate Counts 978-664-2565

Page 5

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA

0558VOL1

Start Time	1/22/2017 Sun	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	3			0	4				
12:15		0	4			0	5				
12:30		0	3			1	1				
12:45		2	3	2	13	4	3	5	13	7	26
01:00		0	3			1	5				
01:15		0	2			1	4				
01:30		0	12			0	8				
01:45		0	6	0	23	0	3	2	20	2	43
02:00		1	2			0	5				
02:15		0	3			0	3				
02:30		0	4			0	3				
02:45		0	3	1	12	0	9	0	20	1	32
03:00		0	7			1	4				
03:15		0	2			0	4				
03:30		0	5			0	4				
03:45		0	2	0	16	1	7	2	19	2	35
04:00		0	1			0	4				
04:15		0	2			0	3				
04:30		0	4			0	3				
04:45		0	3	0	10	0	9	0	19	0	29
05:00		0	5			0	1				
05:15		1	2			0	2				
05:30		0	5			0	4				
05:45		0	5	1	17	0	3	0	10	1	27
06:00		0	2			0	1				
06:15		0	2			0	3				
06:30		0	2			0	3				
06:45		0	3	0	9	1	5	1	12	1	21
07:00		0	2			0	1				
07:15		2	5			2	4				
07:30		0	7			0	4				
07:45		2	3	4	17	0	5	2	14	6	31
08:00		0	1			0	5				
08:15		1	1			0	3				
08:30		2	1			0	1				
08:45		2	0	5	3	0	1	0	10	5	13
09:00		4	1			1	3				
09:15		1	2			2	5				
09:30		2	0			1	3				
09:45		7	0	14	3	0	3	4	14	18	17
10:00		3	0			1	2				
10:15		4	3			1	3				
10:30		4	1			3	1				
10:45		4	1	15	5	3	1	8	7	23	12
11:00		5	0			3	2				
11:15		3	0			1	0				
11:30		3	0			1	0				
11:45		3	1	14	1	3	1	8	3	22	4
Total		56	129			32	161			88	290
Percent		30.3%	69.7%			16.6%	83.4%			23.3%	76.7%

Accurate Counts 978-664-2565

Page 6

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA

0558VOL1

Start Time	1/23/2017 Mon	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	3			0	3				
12:15		0	5			0	1				
12:30		1	5			0	3				
12:45		0	1	1	14	0	4	0	11	1	25
01:00		0	3			1	3				
01:15		0	3			0	3				
01:30		0	2			0	4				
01:45		0	1	0	9	0	2	1	12	1	21
02:00		0	3			0	2				
02:15		0	1			0	2				
02:30		0	5			1	1				
02:45		0	5	0	14	0	5	1	10	1	24
03:00		0	4			0	2				
03:15		0	3			0	3				
03:30		0	8			0	5				
03:45		0	3	0	18	0	4	0	14	0	32
04:00		0	7			0	1				
04:15		0	3			0	5				
04:30		0	3			0	11				
04:45		0	4	0	17	0	4	0	21	0	38
05:00		0	6			0	7				
05:15		0	6			0	6				
05:30		0	2			0	2				
05:45		0	4	0	18	0	8	0	23	0	41
06:00		0	1			0	5				
06:15		1	1			0	7				
06:30		1	2			0	8				
06:45		5	4	7	8	0	8	0	28	7	36
07:00		6	4			2	11				
07:15		4	4			0	14				
07:30		2	5			0	9				
07:45		5	1	17	14	4	6	6	40	23	54
08:00		8	4			2	6				
08:15		14	2			4	4				
08:30		15	0			3	7				
08:45		10	1	47	7	4	0	13	17	60	24
09:00		9	0			2	5				
09:15		5	2			1	2				
09:30		6	3			1	1				
09:45		4	0	24	5	2	2	6	10	30	15
10:00		9	1			1	2				
10:15		5	0			2	2				
10:30		5	1			1	5				
10:45		4	3	23	5	3	0	7	9	30	14
11:00		4	2			3	2				
11:15		4	0			1	4				
11:30		2	0			2	1				
11:45		2	0	12	2	3	0	9	7	21	9
Total		131	131			43	202			174	333
Percent		50.0%	50.0%			17.6%	82.4%			34.3%	65.7%

Accurate Counts

978-664-2565

Page 7

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA

0558VOL1

Start Time	1/24/2017 Tue	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	2			1	4				
12:15		0	5			1	3				
12:30		0	3			2	5				
12:45		0	4	0	14	0	5	4	17	4	31
01:00		0	2			1	6				
01:15		0	2			1	6				
01:30		0	3			0	6				
01:45		0	4	0	11	0	3	2	21	2	32
02:00		0	1			0	2				
02:15		0	6			0	3				
02:30		1	6			0	6				
02:45		0	6	1	19	0	6	0	17	1	36
03:00		0	4			0	5				
03:15		0	3			0	1				
03:30		0	5			0	4				
03:45		0	6	0	18	0	5	0	15	0	33
04:00		0	5			0	5				
04:15		0	7			0	8				
04:30		0	5			0	1				
04:45		0	7	0	24	0	5	0	19	0	43
05:00		0	2			0	6				
05:15		0	5			0	6				
05:30		0	0			0	7				
05:45		0	5	0	12	0	7	0	26	0	38
06:00		2	3			0	5				
06:15		0	3			0	13				
06:30		4	7			0	12				
06:45		4	6	10	19	0	11	0	41	10	60
07:00		5	0			1	8				
07:15		4	2			0	8				
07:30		4	2			0	8				
07:45		8	5	21	9	3	7	4	31	25	40
08:00		11	1			2	3				
08:15		17	0			2	1				
08:30		12	2			4	5				
08:45		9	1	49	4	4	3	12	12	61	16
09:00		15	0			4	3				
09:15		8	1			0	1				
09:30		3	1			1	4				
09:45		10	0	36	2	2	2	7	10	43	12
10:00		8	0			2	1				
10:15		5	0			2	0				
10:30		3	1			0	1				
10:45		10	1	26	2	2	0	6	2	32	4
11:00		3	1			4	3				
11:15		2	0			0	1				
11:30		4	0			1	1				
11:45		0	1	9	2	3	0	8	5	17	7
Total		152	136			43	216			195	352
Percent		52.8%	47.2%			16.6%	83.4%			35.6%	64.4%
Grand Total		883	979			356	1429			1239	2408
Percent		47.4%	52.6%			19.9%	80.1%			34.0%	66.0%

ADT

ADT 521

AADT 521

Accurate Counts

978-664-2565

Location : Oxbow Road
 Location : West of Kettlehole Road
 City/State: Wayland, MA

0558VOL1

Start Time	1/16/2017	Tue	Wed	Thu	Fri	Sat	Sun	Week Average
	EB	WB	EB	WB	EB	WB	EB	WB
12:00 AM	*	*	1	2	1	3	2	2
01:00	*	*	1	0	0	0	0	0
02:00	*	*	0	1	1	0	1	1
03:00	*	*	0	0	1	0	0	0
04:00	*	*	0	0	0	0	0	0
05:00	*	*	0	0	0	0	0	0
06:00	*	*	7	6	9	1	0	5
07:00	*	*	12	22	16	5	4	12
08:00	*	*	54	45	44	9	5	31
09:00	*	*	37	41	36	11	14	28
10:00	*	*	27	28	26	10	15	23
11:00	*	*	17	21	18	18	14	18
12:00 PM	*	*	29	21	19	19	13	20
01:00	*	*	14	14	11	17	23	16
02:00	*	*	19	15	19	21	19	17
03:00	*	*	14	9	22	22	16	18
04:00	*	*	14	12	26	15	11	15
05:00	*	*	8	11	17	15	10	15
06:00	*	*	16	12	10	17	17	14
07:00	*	*	11	9	16	12	11	13
08:00	*	*	5	8	9	9	3	7
09:00	*	*	5	6	6	4	3	5
10:00	*	*	3	3	3	4	5	4
11:00	*	*	2	1	3	0	1	1
Lane	0	0	302	287	283	225	185	263
Day	0	0	610	571	596	438	378	522
AM Peak	-	-	08:00	08:00	08:00	10:00	10:00	08:00
Vol.	-	-	54	45	44	21	15	31
PM Peak	-	-	12:00	12:00	16:00	15:00	13:00	12:00
Vol.	-	-	29	21	26	22	23	20
			35	31	34	20	20	25

Accurate Counts

978-664-2565

Location : Oxbow Road
 Location : West of Kettlehole Road
 City/State: Wayland, MA

0558VOL1

Start Time	1/23/2017		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 AM	1	0	0	4	.	.	.	.	.	.	.	.	.	.	0	2
01:00	0	1	0	2	.	.	.	.	.	.	.	.	.	.	0	2
02:00	0	1	1	0	.	.	.	.	.	.	.	.	.	.	0	0
03:00	0	0	0	0	.	.	.	.	.	.	.	.	.	.	0	0
04:00	0	0	0	0	.	.	.	.	.	.	.	.	.	.	0	0
05:00	0	0	0	0	.	.	.	.	.	.	.	.	.	.	0	0
06:00	7	0	10	0	.	.	.	.	.	.	.	.	.	.	8	0
07:00	17	6	21	4	.	.	.	.	.	.	.	.	.	.	19	5
08:00	47	13	49	12	.	.	.	.	.	.	.	.	.	.	48	12
09:00	24	6	36	7	.	.	.	.	.	.	.	.	.	.	30	6
10:00	23	7	26	6	.	.	.	.	.	.	.	.	.	.	24	6
11:00	12	9	9	8	.	.	.	.	.	.	.	.	.	.	10	8
12:00 PM	14	11	14	17	.	.	.	.	.	.	.	.	.	.	14	14
01:00	9	12	11	21	.	.	.	.	.	.	.	.	.	.	10	16
02:00	14	10	19	17	.	.	.	.	.	.	.	.	.	.	16	14
03:00	18	14	18	15	.	.	.	.	.	.	.	.	.	.	18	14
04:00	17	21	24	19	.	.	.	.	.	.	.	.	.	.	20	20
05:00	18	23	12	26	.	.	.	.	.	.	.	.	.	.	15	24
06:00	8	28	19	41	.	.	.	.	.	.	.	.	.	.	14	34
07:00	14	40	9	31	.	.	.	.	.	.	.	.	.	.	12	36
08:00	7	17	4	12	.	.	.	.	.	.	.	.	.	.	6	14
09:00	5	10	2	10	.	.	.	.	.	.	.	.	.	.	4	10
10:00	5	9	2	2	.	.	.	.	.	.	.	.	.	.	4	6
11:00	2	7	2	5	.	.	.	.	.	.	.	.	.	.	2	6
Lane	262	245	288	259	0	0	0	0	0	0	0	0	0	0	274	249
Day	507		547		0	0	0	0	0	0	0	0	0	0	523	
AM Peak	08:00	08:00	08:00	08:00	-	-	-	-	-	-	-	-	-	-	08:00	08:00
Vol.	47	13	49	12	-	-	-	-	-	-	-	-	-	-	48	12
PM Peak	15:00	19:00	16:00	18:00	-	-	-	-	-	-	-	-	-	-	16:00	19:00
Vol.	18	40	24	41	-	-	-	-	-	-	-	-	-	-	20	36

Comb. Total 507 547 610 571 596 438 378 1045

ADT ADT 521 AADT 521

Accurate Counts 978-664-2565

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA
EB

0558CLS1

Start Time	MtrCyc	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
01/18/17	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
07:00	1	11	0	0	0	0	0	0	0	0	0	0	0	12
08:00	4	41	8	0	0	0	0	0	0	0	0	0	0	53
09:00	3	32	2	0	0	0	0	0	0	0	0	0	0	37
10:00	5	21	0	0	0	0	0	0	0	0	0	0	0	26
11:00	0	14	2	0	1	0	0	0	0	0	0	0	0	17
12 PM	2	23	4	0	0	0	0	0	0	0	0	0	0	29
13:00	2	9	1	1	1	0	0	0	0	0	0	0	0	14
14:00	0	17	0	0	2	0	0	0	0	0	0	0	0	19
15:00	0	17	1	0	0	1	0	0	0	0	0	0	0	19
16:00	1	11	0	0	0	0	0	2	0	0	0	0	0	14
17:00	0	7	2	0	0	0	0	0	0	0	0	0	0	9
18:00	3	11	2	0	0	0	0	0	0	0	0	0	0	16
19:00	1	10	0	0	0	0	0	0	0	0	0	0	0	11
20:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5
21:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
22:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
23:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Day Total	22	247	23	1	4	1	0	2	0	0	0	0	0	300
Percent	7.3%	82.3%	7.7%	0.3%	1.3%	0.3%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	08:00	08:00		11:00									08:00
Vol.	5	41	8		1									53
PM Peak	18:00	12:00	12:00	13:00	14:00	15:00		16:00						12:00
Vol.	3	23	4	1	2	1		2						29

Accurate Counts 978-664-2565

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA
EB

0558CLS1

Start Time	MtrCyc	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
01/19/17	0	2	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
07:00	1	18	2	0	0	1	0	0	0	0	0	0	0	22
08:00	4	33	6	0	0	1	0	0	0	0	0	0	0	44
09:00	5	33	2	0	0	0	0	0	0	0	0	0	0	40
10:00	1	26	1	0	0	0	0	0	0	0	0	0	0	28
11:00	2	14	3	0	1	1	0	0	0	0	0	0	0	21
12 PM	1	18	1	0	1	0	0	0	0	0	0	0	0	21
13:00	1	12	1	0	0	0	0	0	0	0	0	0	0	14
14:00	3	9	2	0	0	1	0	0	0	0	0	0	0	15
15:00	1	7	0	0	1	0	0	0	0	0	0	0	0	9
16:00	0	10	0	0	0	0	0	2	0	0	0	0	0	12
17:00	0	10	1	0	0	0	0	0	0	0	0	0	0	11
18:00	3	8	0	0	0	1	0	0	0	0	0	0	0	12
19:00	1	8	0	0	0	0	0	0	0	0	0	0	0	9
20:00	2	6	0	0	0	0	0	0	0	0	0	0	0	8
21:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
22:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
23:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Day Total	25	231	19	0	3	5	0	2	0	0	0	0	0	285
Percent	8.8%	81.1%	6.7%	0.0%	1.1%	1.8%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak Vol.	09:00	08:00	08:00		11:00	07:00								08:00
	5	33	6		1	1								44
PM Peak Vol.	14:00	12:00	14:00		12:00	14:00		16:00						12:00
	3	18	2		1	1		2						21

Accurate Counts 978-664-2565

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA
EB

0558CLS1

Start Time	MtrCyc	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
01/20/17	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	7	2	0	0	0	0	0	0	0	0	0	0	9
07:00	1	14	1	0	0	0	0	0	0	0	0	0	0	16
08:00	1	37	6	0	0	0	0	0	0	0	0	0	0	44
09:00	7	27	1	0	0	0	0	0	0	0	0	0	0	35
10:00	2	20	3	0	0	0	0	0	0	0	0	0	0	25
11:00	0	15	3	0	0	0	0	0	0	0	0	0	0	18
12 PM	0	16	2	0	0	1	0	0	0	0	0	0	0	19
13:00	1	8	0	1	1	0	0	0	0	0	0	0	0	11
14:00	1	13	4	0	1	0	0	0	0	0	0	0	0	19
15:00	4	15	2	0	0	1	0	0	0	0	0	0	0	22
16:00	1	22	2	1	0	0	0	0	0	0	0	0	0	26
17:00	2	14	1	0	0	0	0	0	0	0	0	0	0	17
18:00	0	9	1	0	0	0	0	0	0	0	0	0	0	10
19:00	0	16	0	0	0	0	0	0	0	0	0	0	0	16
20:00	0	9	0	0	0	0	0	0	0	0	0	0	0	9
21:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6
22:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
23:00	0	2	0	0	0	1	0	0	0	0	0	0	0	3
Day Total	20	253	31	2	2	3	0	0	0	0	0	0	0	311
Percent	6.4%	81.4%	10.0%	0.6%	0.6%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	08:00	08:00											08:00
Vol.	7	37	6											44
PM Peak	15:00	16:00	14:00	13:00	13:00	12:00								16:00
Vol.	4	22	4	1	1	1								26

Accurate Counts 978-664-2565

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA
EB

0558CLS1

Start Time	MtrCyc	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
01/22/17	0	2	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	3	0	0	1	0	0	0	0	0	0	0	0	4
08:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
09:00	0	11	2	0	0	1	0	0	0	0	0	0	0	14
10:00	1	13	1	0	0	0	0	0	0	0	0	0	0	15
11:00	0	13	1	0	0	0	0	0	0	0	0	0	0	14
12 PM	1	12	0	0	0	0	0	0	0	0	0	0	0	13
13:00	1	22	0	0	0	0	0	0	0	0	0	0	0	23
14:00	1	11	0	0	0	0	0	0	0	0	0	0	0	12
15:00	2	13	1	0	0	0	0	0	0	0	0	0	0	16
16:00	0	9	1	0	0	0	0	0	0	0	0	0	0	10
17:00	1	14	1	0	0	1	0	0	0	0	0	0	0	17
18:00	0	7	2	0	0	0	0	0	0	0	0	0	0	9
19:00	2	14	1	0	0	0	0	0	0	0	0	0	0	17
20:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
21:00	0	2	0	0	1	0	0	0	0	0	0	0	0	3
22:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5
23:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Day Total	9	161	11	0	2	2	0	0	0	0	0	0	0	185
Percent	4.9%	87.0%	5.9%	0.0%	1.1%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak Vol.	10:00	10:00	09:00		07:00	09:00								10:00
	1	13	2		1	1								15
PM Peak Vol.	15:00	13:00	18:00		21:00	17:00								13:00
	2	22	2		1	1								23

Accurate Counts 978-664-2565

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA
EB

0558CLS1

Start Time	MtrCyc	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
01/23/17	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
07:00	1	15	1	0	0	0	0	0	0	0	0	0	0	17
08:00	2	40	4	0	0	0	0	0	0	0	0	0	0	46
09:00	1	22	1	0	0	0	0	0	0	0	0	0	0	24
10:00	0	20	2	0	1	0	0	0	0	0	0	0	0	23
11:00	1	10	1	0	0	0	0	0	0	0	0	0	0	12
12 PM	0	13	0	0	1	0	0	0	0	0	0	0	0	14
13:00	0	7	1	1	0	0	0	0	0	0	0	0	0	9
14:00	1	8	3	0	1	0	0	0	0	0	0	0	0	13
15:00	1	16	1	0	0	0	0	0	0	0	0	0	0	18
16:00	1	14	1	1	0	0	0	0	0	0	0	0	0	17
17:00	1	14	2	0	0	1	0	0	0	0	0	0	0	18
18:00	0	7	1	0	0	0	0	0	0	0	0	0	0	8
19:00	0	13	1	0	0	0	0	0	0	0	0	0	0	14
20:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
21:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
22:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
23:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Day Total	9	225	20	2	3	1	0	0	0	0	0	0	0	260
Percent	3.5%	86.5%	7.7%	0.8%	1.2%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	08:00	08:00		10:00									08:00
Vol.	2	40	4		1									46
PM Peak	14:00	15:00	14:00	13:00	12:00	17:00								15:00
Vol.	1	16	3	1	1	1								18

Accurate Counts 978-664-2565

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA
EB

0558CLS1

Start Time	MtrCyc	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
01/24/17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	1	8	1	0	0	0	0	0	0	0	0	0	0	10
07:00	2	17	2	0	0	0	0	0	0	0	0	0	0	21
08:00	4	40	4	0	0	0	0	0	0	0	0	0	0	48
09:00	2	29	3	0	1	0	0	0	0	0	0	0	0	35
10:00	1	23	2	0	0	0	0	0	0	0	0	0	0	26
11:00	0	7	1	0	1	0	0	0	0	0	0	0	0	9
12 PM	1	12	0	0	1	0	0	0	0	0	0	0	0	14
13:00	0	8	3	0	0	0	0	0	0	0	0	0	0	11
14:00	0	16	3	0	0	0	0	0	0	0	0	0	0	19
15:00	2	14	0	1	0	1	0	0	0	0	0	0	0	18
16:00	3	16	3	1	0	0	0	0	0	0	0	0	0	23
17:00	0	10	2	0	0	0	0	0	0	0	0	0	0	12
18:00	1	14	1	0	2	1	0	0	0	0	0	0	0	19
19:00	0	8	0	0	0	1	0	0	0	0	0	0	0	9
20:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
21:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
22:00	0	1	0	0	1	0	0	0	0	0	0	0	0	2
23:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Day Total	17	231	26	2	6	3	0	0	0	0	0	0	0	285
Percent	6.0%	81.1%	9.1%	0.7%	2.1%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	08:00	08:00		09:00									08:00
Vol.	4	40	4		1									48
PM Peak	16:00	14:00	13:00	15:00	18:00	15:00								16:00
Vol.	3	16	3	1	2	1								23
Grand Total	120	1537	146	7	21	16	0	4	0	0	0	0	0	1851
Percent	6.5%	83.0%	7.9%	0.4%	1.1%	0.9%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	

Accurate Counts 978-664-2565

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA
WB

0558CLS1

Start Time	MtrCyc	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
01/20/17	0	8	0	0	0	0	0	0	0	0	0	0	0	8
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	4	1	1	0	0	0	0	0	0	0	0	0	6
08:00	0	12	1	1	0	0	0	0	0	0	0	0	0	14
09:00	0	10	0	1	0	0	0	0	0	0	0	0	0	11
10:00	0	7	3	0	0	0	0	0	0	0	0	0	0	10
11:00	0	10	3	1	1	0	0	0	0	0	0	0	0	15
12 PM	0	12	1	0	1	0	0	0	0	0	0	0	0	14
13:00	0	7	0	1	1	0	0	1	0	0	0	0	0	10
14:00	0	20	3	0	1	0	0	0	0	0	0	0	0	24
15:00	0	13	2	1	0	0	0	0	0	0	0	0	0	16
16:00	0	16	2	1	0	0	0	0	0	0	0	0	0	19
17:00	0	23	3	0	0	0	0	0	0	0	0	0	0	26
18:00	0	25	2	0	0	0	0	0	0	0	0	0	0	27
19:00	0	33	1	0	0	0	0	0	0	0	0	0	0	34
20:00	0	11	2	0	0	0	0	0	0	0	0	0	0	13
21:00	0	17	0	0	0	0	0	0	0	0	0	0	0	17
22:00	0	8	2	0	0	0	0	0	0	0	0	0	0	10
23:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
Day Total	0	244	27	7	4	0	0	1	0	0	0	0	0	283
Percent	0.0%	86.2%	9.5%	2.5%	1.4%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		08:00	10:00	07:00	11:00									11:00
Vol.		12	3	1	1									15
PM Peak		19:00	14:00	13:00	12:00			13:00						19:00
Vol.		33	3	1	1			1						34

Accurate Counts 978-664-2565

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA
WB

0558CLS1

Start Time	MtrCyc	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Trlr	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
01/24/17	0	4	0	0	0	0	0	0	0	0	0	0	0	4
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	3	0	1	0	0	0	0	0	0	0	0	0	4
08:00	0	10	0	1	1	0	0	0	0	0	0	0	0	12
09:00	0	6	0	1	0	0	0	0	0	0	0	0	0	7
10:00	0	4	1	0	1	0	0	0	0	0	0	0	0	6
11:00	0	5	1	0	2	0	0	0	0	0	0	0	0	8
12 PM	0	13	2	0	2	0	0	0	0	0	0	0	0	17
13:00	0	18	2	0	1	0	0	0	0	0	0	0	0	21
14:00	0	15	1	0	1	0	0	0	0	0	0	0	0	17
15:00	0	12	0	1	2	0	0	0	0	0	0	0	0	15
16:00	0	15	2	1	1	0	0	0	0	0	0	0	0	19
17:00	0	21	5	0	0	0	0	0	0	0	0	0	0	26
18:00	0	37	1	0	2	1	0	0	0	0	0	0	0	41
19:00	0	30	1	0	0	0	0	0	0	0	0	0	0	31
20:00	0	12	0	0	0	0	0	0	0	0	0	0	0	12
21:00	0	9	1	0	0	0	0	0	0	0	0	0	0	10
22:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
23:00	0	3	1	0	1	0	0	0	0	0	0	0	0	5
Day Total	0	220	19	5	14	1	0	0	0	0	0	0	0	259
Percent	0.0%	84.9%	7.3%	1.9%	5.4%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	10	1	1	11:00									08:00
Vol.					2									12
PM Peak	18:00	37	5	1	12:00	18:00								18:00
Vol.					2	1								41
Grand Total	4	1548	159	34	33	4	0	3	0	0	0	0	0	1785
Percent	0.2%	86.7%	8.9%	1.9%	1.8%	0.2%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	

Accurate Counts 978-664-2565

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA
EB, WB

0558CLS1

Start Time	MtrCyc	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
01/18/17	0	2	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
07:00	1	13	0	1	0	0	0	0	0	0	0	0	0	15
08:00	4	49	9	1	1	0	0	0	0	0	0	0	0	64
09:00	3	37	4	1	2	0	0	0	0	0	0	0	0	47
10:00	5	32	2	0	0	0	0	0	0	0	0	0	0	39
11:00	0	22	4	2	4	1	0	0	0	0	0	0	0	33
12 PM	2	38	8	0	0	0	0	0	0	0	0	0	0	48
13:00	2	24	5	2	1	0	0	0	0	0	0	0	0	34
14:00	1	37	2	1	3	0	0	0	0	0	0	0	0	44
15:00	0	38	3	1	0	1	0	0	0	0	0	0	0	43
16:00	1	30	4	0	0	0	0	2	0	0	0	0	0	37
17:00	0	17	6	0	0	0	0	0	0	0	0	0	0	23
18:00	3	42	4	0	0	0	0	0	0	0	0	0	0	49
19:00	1	43	2	0	0	0	0	0	0	0	0	0	0	46
20:00	0	17	2	0	1	0	0	0	0	0	0	0	0	20
21:00	0	24	2	0	0	0	0	0	0	0	0	0	0	26
22:00	0	18	3	0	0	0	0	0	0	0	0	0	0	21
23:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
Day Total	23	500	60	9	12	2	0	2	0	0	0	0	0	608
Percent	3.8%	82.2%	9.9%	1.5%	2.0%	0.3%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	08:00	08:00	11:00	11:00	11:00								08:00
Vol.	5	49	9	2	4	1								64
PM Peak	18:00	19:00	12:00	13:00	14:00	15:00								18:00
Vol.	3	43	8	2	3	1								49

Accurate Counts 978-664-2565

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA
EB, WB

0558CLS1

Start Time	MtrCyc	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
01/19/17	0	9	0	0	0	0	0	0	0	0	0	0	0	9
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
07:00	1	23	3	1	0	1	0	0	0	0	0	0	0	29
08:00	4	43	7	1	0	1	0	0	0	0	0	0	0	56
09:00	5	40	3	1	0	0	0	2	0	0	0	0	0	51
10:00	1	32	3	0	0	0	0	0	0	0	0	0	0	36
11:00	2	28	7	1	1	1	0	0	0	0	0	0	0	40
12 PM	1	38	3	0	1	0	0	0	0	0	0	0	0	43
13:00	2	24	3	1	0	0	0	0	0	0	0	0	0	30
14:00	3	28	3	0	0	1	0	0	0	0	0	0	0	35
15:00	1	21	1	1	3	0	0	0	0	0	0	0	0	27
16:00	0	26	0	1	0	0	0	2	0	0	0	0	0	29
17:00	0	28	3	0	0	0	0	0	0	0	0	0	0	31
18:00	3	30	2	0	0	1	0	0	0	0	0	0	0	36
19:00	1	36	3	0	0	0	0	0	0	0	0	0	0	40
20:00	4	28	0	0	0	0	0	0	0	0	0	0	0	32
21:00	0	16	1	0	0	0	0	0	0	0	0	0	0	17
22:00	0	13	1	0	0	0	0	0	0	0	0	0	0	14
23:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5
Day Total	28	476	44	7	5	5	0	4	0	0	0	0	0	569
Percent	4.9%	83.7%	7.7%	1.2%	0.9%	0.9%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	08:00	08:00	07:00	11:00	07:00		09:00						08:00
Vol.	5	43	7	1	1	1		2						56
PM Peak	20:00	12:00	12:00	13:00	15:00	14:00		16:00						12:00
Vol.	4	38	3	1	3	1		2						43

Accurate Counts 978-664-2565

0558CLS1

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA
EB, WB

Start Time	MtrCyc	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
01/20/17	0	9	0	0	0	0	0	0	0	0	0	0	0	9
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	1	2	0	0	0	0	0	0	0	0	0	0	3
03:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	7	2	0	0	0	0	0	0	0	0	0	0	9
07:00	1	18	2	1	0	0	0	0	0	0	0	0	0	22
08:00	1	49	7	1	0	0	0	0	0	0	0	0	0	58
09:00	7	37	1	1	0	0	0	0	0	0	0	0	0	46
10:00	2	27	6	0	0	0	0	0	0	0	0	0	0	35
11:00	0	25	6	1	1	0	0	0	0	0	0	0	0	33
12 PM	0	28	3	0	1	1	0	0	0	0	0	0	0	33
13:00	1	15	0	2	2	0	0	1	0	0	0	0	0	21
14:00	1	33	7	0	2	0	0	0	0	0	0	0	0	43
15:00	4	28	4	1	0	1	0	0	0	0	0	0	0	38
16:00	1	38	4	2	0	0	0	0	0	0	0	0	0	45
17:00	2	37	4	0	0	0	0	0	0	0	0	0	0	43
18:00	0	34	3	0	0	0	0	0	0	0	0	0	0	37
19:00	0	49	1	0	0	0	0	0	0	0	0	0	0	50
20:00	0	20	2	0	0	0	0	0	0	0	0	0	0	22
21:00	0	22	1	0	0	0	0	0	0	0	0	0	0	23
22:00	0	11	2	0	0	0	0	0	0	0	0	0	0	13
23:00	0	6	0	0	0	1	0	0	0	0	0	0	0	7
Day Total	20	497	58	9	6	3	0	1	0	0	0	0	0	594
Percent	3.4%	83.7%	9.8%	1.5%	1.0%	0.5%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak Vol.	09:00	08:00	08:00	07:00	11:00									08:00
	7	49	7	1	1									58
PM Peak Vol.	15:00	19:00	14:00	13:00	13:00	12:00		13:00						19:00
	4	49	7	2	2	1		1						50

Accurate Counts 978-664-2565

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA
EB, WB

0558CLS1

Start Time	MtrCyc	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
01/22/17	0	7	0	0	0	0	0	0	0	0	0	0	0	7
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
07:00	0	3	1	0	2	0	0	0	0	0	0	0	0	6
08:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
09:00	0	15	2	0	0	1	0	0	0	0	0	0	0	18
10:00	1	20	2	0	0	0	0	0	0	0	0	0	0	23
11:00	0	21	1	0	0	0	0	0	0	0	0	0	0	22
12 PM	1	25	0	0	0	0	0	0	0	0	0	0	0	26
13:00	1	42	0	0	0	0	0	0	0	0	0	0	0	43
14:00	1	31	0	0	0	0	0	0	0	0	0	0	0	32
15:00	2	30	3	0	0	0	0	0	0	0	0	0	0	35
16:00	0	27	2	0	0	0	0	0	0	0	0	0	0	29
17:00	1	23	2	0	0	1	0	0	0	0	0	0	0	27
18:00	0	19	2	0	0	0	0	0	0	0	0	0	0	21
19:00	2	26	3	0	0	0	0	0	0	0	0	0	0	31
20:00	0	12	1	0	0	0	0	0	0	0	0	0	0	13
21:00	0	14	1	0	2	0	0	0	0	0	0	0	0	17
22:00	0	10	2	0	0	0	0	0	0	0	0	0	0	12
23:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
Day Total	9	341	22	0	4	2	0	0	0	0	0	0	0	378
Percent	2.4%	90.2%	5.8%	0.0%	1.1%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	11:00	09:00		07:00	09:00								10:00
Vol.	1	21	2		2	1								23
PM Peak	15:00	13:00	15:00		21:00	17:00								13:00
Vol.	2	42	3		2	1								43

Accurate Counts

978-664-2565

Location : Oxbow Road
 Location : West of Kettlehole Road
 City/State : Wayland, MA

0558CLS1

EB, WB

Start Time	MtrCyc	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
01/23/17	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
07:00	1	18	3	1	0	0	0	0	0	0	0	0	0	23
08:00	2	50	5	2	0	0	0	0	0	0	0	0	0	59
09:00	1	27	1	1	0	0	0	0	0	0	0	0	0	30
10:00	0	25	4	0	1	0	0	0	0	0	0	0	0	30
11:00	1	18	1	0	0	1	0	0	0	0	0	0	0	21
12 PM	0	23	0	0	1	1	0	0	0	0	0	0	0	25
13:00	0	17	3	1	0	0	0	0	0	0	0	0	0	21
14:00	1	16	3	1	2	0	0	0	0	0	0	0	0	23
15:00	1	29	1	1	0	0	0	0	0	0	0	0	0	32
16:00	1	31	4	2	0	0	0	0	0	0	0	0	0	38
17:00	1	33	6	0	0	1	0	0	0	0	0	0	0	41
18:00	0	32	4	0	0	0	0	0	0	0	0	0	0	36
19:00	0	51	3	0	0	0	0	0	0	0	0	0	0	54
20:00	0	23	1	0	0	0	0	0	0	0	0	0	0	24
21:00	0	12	3	0	0	0	0	0	0	0	0	0	0	15
22:00	0	14	0	0	0	0	0	0	0	0	0	0	0	14
23:00	0	9	0	0	0	0	0	0	0	0	0	0	0	9
Day Total	9	437	43	9	4	3	0	0	0	0	0	0	0	505
Percent	1.8%	86.5%	8.5%	1.8%	0.8%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak Vol.	08:00	08:00	08:00	08:00	10:00	11:00								08:00
	2	50	5	2	1	1								59
PM Peak Vol.	14:00	19:00	17:00	16:00	14:00	12:00								19:00
	1	51	6	2	2	1								54

Accurate Counts 978-664-2565

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA
EB, WB

0558CLS1

Start Time	MtrCyc	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
01/24/17	0	4	0	0	0	0	0	0	0	0	0	0	0	4
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	1	8	1	0	0	0	0	0	0	0	0	0	0	10
07:00	2	20	2	1	0	0	0	0	0	0	0	0	0	25
08:00	4	50	4	1	1	0	0	0	0	0	0	0	0	60
09:00	2	35	3	1	1	0	0	0	0	0	0	0	0	42
10:00	1	27	3	0	1	0	0	0	0	0	0	0	0	32
11:00	0	12	2	0	3	0	0	0	0	0	0	0	0	17
12 PM	1	25	2	0	3	0	0	0	0	0	0	0	0	31
13:00	0	26	5	0	1	0	0	0	0	0	0	0	0	32
14:00	0	31	4	0	1	0	0	0	0	0	0	0	0	36
15:00	2	26	0	2	2	1	0	0	0	0	0	0	0	33
16:00	3	31	5	2	1	0	0	0	0	0	0	0	0	42
17:00	0	31	7	0	0	0	0	0	0	0	0	0	0	38
18:00	1	51	2	0	4	2	0	0	0	0	0	0	0	60
19:00	0	38	1	0	0	1	0	0	0	0	0	0	0	40
20:00	0	15	1	0	0	0	0	0	0	0	0	0	0	16
21:00	0	11	1	0	0	0	0	0	0	0	0	0	0	12
22:00	0	2	1	0	1	0	0	0	0	0	0	0	0	4
23:00	0	5	1	0	1	0	0	0	0	0	0	0	0	7
Day Total	17	451	45	7	20	4	0	0	0	0	0	0	0	544
Percent	3.1%	82.9%	8.3%	1.3%	3.7%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak Vol.	08:00	08:00	08:00	07:00	11:00									08:00
	4	50	4	1	3									60
PM Peak Vol.	16:00	18:00	17:00	15:00	18:00	18:00								18:00
	3	51	7	2	4	2								60
Grand Total	124	3085	305	41	54	20	0	7	0	0	0	0	0	3636
Percent	3.4%	84.8%	8.4%	1.1%	1.5%	0.6%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	

Accurate Counts

978-664-2565

Page 1

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA

0558SPD1

EB

Start Time	1 3	4 6	7 9	10 12	13 15	16 18	19 21	22 24	25 27	28 30	31 33	34 36	37 39	40 999	Total
01/18/17	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	1	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	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	2	1	2	1	1	0	7
07:00	1	0	0	0	1	0	0	0	3	4	1	2	0	0	12
08:00	5	0	0	0	1	1	2	6	9	15	10	4	1	0	54
09:00	5	0	0	0	0	0	0	3	4	9	10	4	1	1	37
10:00	4	0	0	0	3	1	1	0	7	6	2	3	0	0	27
11:00	1	0	0	0	0	0	2	0	1	4	6	3	0	0	17
12 PM	4	0	0	0	0	3	1	1	5	2	8	4	1	0	29
13:00	2	1	0	0	0	0	0	1	1	3	3	2	1	0	14
14:00	3	0	1	0	0	2	3	1	0	6	3	0	0	0	19
15:00	2	0	0	0	0	0	3	0	2	7	4	1	0	0	19
16:00	2	0	1	0	0	0	2	1	1	5	1	1	0	0	14
17:00	0	0	0	0	0	0	2	0	4	0	3	0	0	0	9
18:00	2	0	0	0	0	0	2	3	4	3	2	0	0	0	16
19:00	1	0	0	0	0	3	1	0	2	4	0	0	0	0	11
20:00	0	0	0	0	0	0	0	0	3	1	0	1	0	0	5
21:00	0	0	0	0	0	0	0	0	2	2	1	0	0	0	5
22:00	0	0	0	0	0	0	1	1	0	1	0	0	0	0	3
23:00	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
Total	32	1	2	0	5	10	20	17	50	77	56	26	5	1	302

Daily

15th Percentile : 16 MPH
50th Percentile : 27 MPH
85th Percentile : 32 MPH
95th Percentile : 34 MPH

Mean Speed(Average) : 25 MPH
10 MPH Pace Speed : 25-34 MPH
Number in Pace : 192
Percent in Pace : 63.6%
Number of Vehicles > 25 MPH : 198
Percent of Vehicles > 25 MPH : 65.7%

Accurate Counts 978-664-2565

Page 2

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA

0558SPD1

Start	1	4	7	10	13	16	19	22	25	28	31	34	37	40	
Time	3	6	9	12	15	18	21	24	27	30	33	36	39	999	Total
01/19/17	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	1	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	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	1	2	0	1	2	0	0	6
07:00	1	0	0	0	1	0	0	6	4	6	4	0	0	0	22
08:00	6	0	0	0	0	1	2	3	10	14	5	3	0	1	45
09:00	5	0	1	0	1	2	0	1	5	9	13	3	1	0	41
10:00	3	0	0	0	0	0	1	3	3	7	7	3	0	1	28
11:00	3	0	0	0	1	3	1	2	2	5	3	1	0	0	21
12 PM	1	0	0	0	0	0	3	2	6	4	4	1	0	0	21
13:00	1	0	0	0	0	1	1	1	1	6	0	3	0	0	14
14:00	2	0	0	0	0	5	1	0	1	5	1	0	0	0	15
15:00	1	0	0	0	0	0	0	1	3	2	2	0	0	0	9
16:00	2	0	0	0	0	1	0	2	2	3	2	0	0	0	12
17:00	0	0	0	0	0	1	2	0	1	5	2	0	0	0	11
18:00	2	0	0	0	0	0	1	2	4	1	1	1	0	0	12
19:00	2	0	0	0	0	0	1	1	2	1	2	0	0	0	9
20:00	1	0	0	0	1	0	1	0	2	3	0	0	0	0	8
21:00	1	0	0	0	0	2	1	1	0	1	0	0	0	0	6
22:00	0	0	0	0	0	0	0	1	0	0	2	0	0	0	3
23:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Total	31	0	1	0	4	16	15	28	48	73	50	18	1	2	287

Daily

15th Percentile : 16 MPH
50th Percentile : 26 MPH
85th Percentile : 31 MPH
95th Percentile : 33 MPH

Mean Speed(Average) : 24 MPH
10 MPH Pace Speed : 24-33 MPH
Number in Pace : 180
Percent in Pace : 62.7%
Number of Vehicles > 25 MPH : 176
Percent of Vehicles > 25 MPH : 61.3%

Accurate Counts 978-664-2565

Page 3

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA

0558SPD1

EB

Start Time	1 3	4 6	7 9	10 12	13 15	16 18	19 21	22 24	25 27	28 30	31 33	34 36	37 39	40 999	Total
01/20/17	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
03:00	0	0	0	0	0	0	0	0	0	0	1	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	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	1	4	4	0	0	0	9
07:00	1	0	0	0	0	0	1	1	4	5	2	0	1	1	16
08:00	0	0	0	0	4	0	2	1	8	6	11	8	4	0	44
09:00	6	0	0	0	1	2	1	2	5	9	4	4	2	0	36
10:00	3	0	0	1	1	1	0	3	6	5	3	3	0	0	26
11:00	1	0	0	0	0	2	1	0	4	4	2	2	1	1	18
12 PM	0	0	0	1	0	3	1	2	4	4	0	3	1	0	19
13:00	2	0	0	0	0	0	1	1	1	4	2	0	0	0	11
14:00	3	0	0	0	1	2	0	1	1	7	3	1	0	0	19
15:00	2	0	0	1	0	3	2	1	2	3	5	1	1	1	22
16:00	3	0	0	0	1	1	5	1	6	5	3	1	0	0	26
17:00	1	0	0	1	0	0	1	0	7	2	3	1	1	0	17
18:00	1	0	0	0	0	0	0	0	3	6	0	0	0	0	10
19:00	2	0	0	0	0	1	2	2	4	3	2	0	0	0	16
20:00	0	0	0	0	0	0	1	0	1	3	3	1	0	0	9
21:00	0	0	0	0	0	0	3	1	0	2	0	0	0	0	6
22:00	1	0	0	0	0	0	0	0	1	0	0	0	1	0	3
23:00	0	0	0	0	0	0	0	1	1	1	0	0	0	0	3
Total	26	0	0	4	8	15	21	17	59	74	48	25	13	3	313

Daily

15th Percentile : 16 MPH
50th Percentile : 27 MPH
85th Percentile : 32 MPH
95th Percentile : 35 MPH

Mean Speed(Average) : 25 MPH
10 MPH Pace Speed : 25-34 MPH
Number in Pace : 189
Percent in Pace : 60.4%
Number of Vehicles > 25 MPH : 202
Percent of Vehicles > 25 MPH : 64.6%

Accurate Counts 978-664-2565

Page 4

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA

0558SPD1

Start Time	1 3	4 6	7 9	10 12	13 15	16 18	19 21	22 24	25 27	28 30	31 33	34 36	37 39	40 999	Total
01/21/17	0	0	0	1	0	0	1	0	0	0	0	1	0	0	3
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
07:00	0	0	0	0	0	0	0	0	1	3	1	0	0	0	5
08:00	0	0	0	0	1	1	1	1	2	0	2	0	0	1	9
09:00	1	0	0	0	0	0	0	1	2	3	4	2	0	0	13
10:00	1	0	0	0	2	1	2	1	4	3	6	0	1	0	21
11:00	1	0	0	0	0	1	2	1	1	6	4	2	0	0	18
12 PM	2	0	0	0	1	3	1	0	1	7	2	2	0	0	19
13:00	0	0	0	0	0	2	1	2	5	3	4	0	0	0	17
14:00	1	0	0	0	0	3	1	1	3	6	5	1	0	0	21
15:00	2	0	0	0	0	1	1	4	4	6	3	1	0	0	22
16:00	1	0	0	0	2	1	2	0	3	3	0	3	0	0	15
17:00	1	0	0	0	0	4	1	1	2	4	1	1	0	0	15
18:00	0	0	0	0	0	0	0	1	3	6	2	4	1	0	17
19:00	1	0	0	0	1	0	0	0	4	4	2	0	0	0	12
20:00	0	0	0	0	0	1	0	1	1	3	1	2	0	0	9
21:00	0	0	0	0	0	1	1	0	1	0	0	0	0	1	4
22:00	0	0	0	0	0	0	1	0	0	0	0	3	0	0	4
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	11	0	0	1	7	19	15	14	37	58	37	22	2	2	225

Daily

15th Percentile : 17 MPH
50th Percentile : 27 MPH
85th Percentile : 32 MPH
95th Percentile : 34 MPH

Mean Speed(Average) : 26 MPH
10 MPH Pace Speed : 25-34 MPH
Number in Pace : 139
Percent in Pace : 61.8%
Number of Vehicles > 25 MPH : 146
Percent of Vehicles > 25 MPH : 64.7%

Accurate Counts

978-664-2565

Page 5

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA

0558SPD1

EB

Start Time	1 3	4 6	7 9	10 12	13 15	16 18	19 21	22 24	25 27	28 30	31 33	34 36	37 39	40 999	Total
01/22/17	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	1	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	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	0	0	0	0	0	0	1	1	1	0	1	0	0	4
08:00	0	0	0	0	0	0	0	0	1	3	0	0	0	1	5
09:00	0	0	0	0	0	1	0	0	2	7	4	0	0	0	14
10:00	1	0	0	0	0	1	0	2	5	2	3	1	0	0	15
11:00	0	0	0	0	1	1	0	1	4	5	1	1	0	0	14
12 PM	0	0	0	0	0	3	1	0	2	5	1	1	0	0	13
13:00	2	0	0	0	0	3	1	0	4	8	3	1	1	0	23
14:00	1	0	0	0	2	0	2	1	3	1	1	0	1	0	12
15:00	2	0	0	0	0	3	3	0	1	2	4	1	0	0	16
16:00	0	0	0	0	0	1	0	0	1	3	2	2	1	0	10
17:00	0	0	0	1	1	1	2	3	2	3	3	1	0	0	17
18:00	0	0	0	0	0	0	0	1	3	2	3	0	0	0	9
19:00	2	0	0	0	0	1	1	1	3	5	2	2	0	0	17
20:00	0	0	0	0	0	1	0	0	1	0	1	0	0	0	3
21:00	0	0	0	0	0	0	1	0	1	1	0	0	0	0	3
22:00	0	0	0	0	0	1	0	2	0	1	1	0	0	0	5
23:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Total	8	0	0	1	4	17	12	13	34	50	30	12	3	1	185

Daily

15th Percentile : 17 MPH
50th Percentile : 27 MPH
85th Percentile : 31 MPH
95th Percentile : 34 MPH

Mean Speed(Average) : 26 MPH
10 MPH Pace Speed : 24-33 MPH
Number in Pace : 118
Percent in Pace : 63.8%
Number of Vehicles > 25 MPH : 119
Percent of Vehicles > 25 MPH : 64.1%

Accurate Counts 978-664-2565

Page 6

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA

0558SPD1

Start Time	1 3	4 6	7 9	10 12	13 15	16 18	19 21	22 24	25 27	28 30	31 33	34 36	37 39	40 999	Total
01/23/17	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	2	4	0	0	1	0	7
07:00	1	0	0	0	0	0	0	1	8	4	2	0	1	0	17
08:00	4	0	0	0	2	1	1	2	9	10	12	4	1	1	47
09:00	1	0	0	0	0	0	0	2	4	9	7	0	0	1	24
10:00	0	0	0	0	0	0	0	3	6	1	9	3	1	0	23
11:00	0	0	0	0	0	1	2	0	1	3	2	2	0	1	12
12 PM	1	0	0	1	0	1	1	0	0	4	3	2	0	1	14
13:00	2	0	0	0	0	0	1	1	1	0	1	1	2	0	9
14:00	3	0	0	0	0	0	0	1	1	5	4	0	0	0	14
15:00	2	0	0	1	1	3	0	1	3	4	2	0	1	0	18
16:00	1	0	0	0	0	0	1	2	6	2	5	0	0	0	17
17:00	2	0	0	0	2	2	1	0	2	4	4	1	0	0	18
18:00	0	0	0	0	0	2	1	1	2	1	1	0	0	0	8
19:00	0	0	0	0	1	0	3	1	2	2	1	4	0	0	14
20:00	0	0	0	0	0	0	0	2	0	3	1	1	0	0	7
21:00	0	0	0	0	0	1	0	0	1	0	3	0	0	0	5
22:00	0	0	0	0	0	0	0	1	0	2	1	0	0	1	5
23:00	0	0	0	0	0	0	0	0	0	1	0	1	0	0	2
Total	17	0	0	2	6	11	11	18	48	60	58	19	7	5	262

Daily

15th Percentile : 18 MPH
50th Percentile : 27 MPH
85th Percentile : 32 MPH
95th Percentile : 35 MPH

Mean Speed(Average) : 26 MPH
10 MPH Pace Speed : 25-34 MPH
Number in Pace : 172
Percent in Pace : 65.6%
Number of Vehicles > 25 MPH : 181
Percent of Vehicles > 25 MPH : 69.1%

Accurate Counts 978-664-2565

Page 7

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA

0558SPD1

EB

Start Time	1 3	4 6	7 9	10 12	13 15	16 18	19 21	22 24	25 27	28 30	31 33	34 36	37 39	40 999	Total
01/24/17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	1	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	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	1	0	0	0	1	0	0	0	1	4	2	0	1	0	10
07:00	2	0	0	0	0	0	0	2	6	5	5	1	0	0	21
08:00	4	0	0	0	4	1	1	0	5	16	11	4	2	1	49
09:00	4	0	0	0	0	1	1	3	6	9	8	5	0	1	36
10:00	1	0	0	0	0	0	0	2	4	11	6	2	0	0	26
11:00	1	0	0	0	0	2	0	1	1	2	1	1	0	0	9
12 PM	1	0	0	0	2	2	0	2	0	3	2	2	0	0	14
13:00	0	0	0	1	0	1	1	0	2	1	2	2	1	0	11
14:00	1	0	0	0	1	0	2	0	4	4	3	2	2	0	19
15:00	2	1	0	0	1	0	0	2	2	6	1	2	0	1	18
16:00	4	0	0	1	1	1	2	1	5	5	2	2	0	0	24
17:00	1	0	0	0	0	0	0	2	3	4	1	1	0	0	12
18:00	3	0	0	0	1	1	1	5	6	2	0	0	0	0	19
19:00	1	0	0	0	1	1	1	1	2	2	0	0	0	0	9
20:00	0	0	0	0	0	1	0	1	1	0	1	0	0	0	4
21:00	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
22:00	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2
23:00	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2
Total	26	1	0	2	13	12	9	22	51	76	43	24	6	3	288

Daily

15th Percentile : 15 MPH
50th Percentile : 27 MPH
85th Percentile : 32 MPH
95th Percentile : 34 MPH

Mean Speed(Average) : 25 MPH
10 MPH Pace Speed : 25-34 MPH
Number in Pace : 178
Percent in Pace : 61.8%
Number of Vehicles > 25 MPH : 186
Percent of Vehicles > 25 MPH : 64.6%

Grand Total

151 2 3 10 47 100 103 129 327 468 322 146 37 17 1862

Overall

15th Percentile : 16 MPH
50th Percentile : 27 MPH
85th Percentile : 32 MPH
95th Percentile : 34 MPH

Mean Speed(Average) : 25 MPH
10 MPH Pace Speed : 25-34 MPH
Number in Pace : 1166
Percent in Pace : 62.6%
Number of Vehicles > 25 MPH : 1208
Percent of Vehicles > 25 MPH : 64.9%

Accurate Counts 978-664-2565

Page 8

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA

0558SPD1

WB

Start Time	1 3	4 6	7 9	10 12	13 15	16 18	19 21	22 24	25 27	28 30	31 33	34 36	37 39	40 999	Total
01/18/17	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	0	0	0	0	1	0	1	0	0	1	0	0	0	3
08:00	1	0	0	0	2	1	0	1	2	1	3	0	0	0	11
09:00	1	0	0	0	1	0	2	0	2	2	1	1	0	0	10
10:00	2	0	0	0	1	3	0	0	2	3	0	1	1	0	13
11:00	0	0	0	1	0	1	3	1	5	3	1	1	0	0	16
12 PM	1	0	0	0	1	0	2	2	5	3	4	0	1	0	19
13:00	0	0	0	0	1	2	0	1	3	6	2	4	1	0	20
14:00	5	0	0	0	1	1	1	3	5	5	3	0	0	1	25
15:00	1	0	0	0	0	2	2	2	6	5	3	0	1	0	24
16:00	2	0	0	0	3	1	1	2	4	5	4	1	0	0	23
17:00	0	0	0	0	2	0	0	2	4	4	1	0	1	0	14
18:00	0	0	0	0	0	0	0	3	15	5	5	3	1	1	33
19:00	0	0	0	0	1	2	0	1	12	13	4	2	0	0	35
20:00	0	0	0	0	0	0	0	2	3	8	2	0	0	0	15
21:00	0	0	0	0	0	1	0	1	5	7	7	0	0	0	21
22:00	0	0	0	0	2	1	0	1	1	5	5	2	0	1	18
23:00	0	0	0	0	0	0	0	1	1	3	0	0	0	0	5
Total	13	0	0	1	15	16	11	24	78	79	46	16	6	3	308

Daily

15th Percentile : 18 MPH
50th Percentile : 26 MPH
85th Percentile : 31 MPH
95th Percentile : 34 MPH

Mean Speed(Average) : 26 MPH
10 MPH Pace Speed : 24-33 MPH
Number in Pace : 211
Percent in Pace : 68.5%
Number of Vehicles > 25 MPH : 202
Percent of Vehicles > 25 MPH : 65.6%

Accurate Counts 978-664-2565

Page 9

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA

0558SPD1

WB

Start Time	1 3	4 6	7 9	10 12	13 15	16 18	19 21	22 24	25 27	28 30	31 33	34 36	37 39	40 999	Total
01/19/17	0	0	0	0	0	1	0	0	2	1	2	0	0	1	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	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:00	3	0	0	0	0	0	0	1	1	0	2	0	0	0	7
08:00	4	0	0	0	1	0	1	0	2	2	2	0	0	0	12
09:00	0	0	0	0	1	1	0	1	2	4	1	0	0	1	11
10:00	0	0	0	0	1	2	2	0	0	3	0	0	0	0	8
11:00	2	0	0	1	1	0	1	2	2	7	3	0	0	0	19
12 PM	0	0	0	0	1	1	0	0	6	7	5	1	0	1	22
13:00	1	0	0	0	1	0	0	1	7	3	3	0	0	0	16
14:00	2	0	0	0	0	0	1	3	5	5	3	1	0	0	20
15:00	0	0	0	0	0	0	1	1	2	9	2	2	1	0	18
16:00	0	0	0	0	1	0	0	2	7	3	3	0	1	0	17
17:00	1	0	0	0	0	3	0	1	4	7	3	1	0	0	20
18:00	0	0	0	0	2	0	1	4	5	7	3	1	0	1	24
19:00	2	0	0	0	1	1	1	3	3	7	6	4	2	1	31
20:00	2	0	0	0	1	0	0	1	4	7	6	2	1	0	24
21:00	1	0	0	0	0	0	0	1	3	3	2	0	1	0	11
22:00	0	0	0	0	0	0	0	1	3	0	5	2	0	0	11
23:00	0	0	0	0	0	0	0	1	1	0	1	0	1	0	4
Total	19	0	0	1	11	9	8	24	59	75	52	14	7	5	264

Daily

15th Percentile : 18 MPH
50th Percentile : 27 MPH
85th Percentile : 31 MPH
95th Percentile : 34 MPH

Mean Speed(Average) : 26 MPH
10 MPH Pace Speed : 24-33 MPH
Number in Pace : 194
Percent in Pace : 68.3%
Number of Vehicles > 25 MPH : 192
Percent of Vehicles > 25 MPH : 67.7%

Accurate Counts 978-664-2565

Page 10

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA

0558SPD1

WB

Start Time	1 3	4 6	7 9	10 12	13 15	16 18	19 21	22 24	25 27	28 30	31 33	34 36	37 39	40 999	Total
01/20/17	1	0	0	0	2	0	0	0	1	2	2	0	0	0	8
01:00	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2
02:00	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
03:00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	1	0	0	0	0	0	0	2	0	1	1	1	0	0	6
08:00	2	0	0	0	2	2	0	1	2	2	2	0	1	0	14
09:00	2	0	0	1	0	1	0	1	1	3	1	0	1	0	11
10:00	0	0	0	0	1	0	0	0	2	3	3	0	1	0	10
11:00	0	0	0	0	0	2	1	1	2	5	3	1	0	0	15
12 PM	0	0	0	0	0	1	0	4	1	3	3	1	0	1	14
13:00	0	0	0	0	1	0	0	0	4	1	1	3	0	0	10
14:00	2	0	0	0	3	0	1	2	4	8	3	1	0	0	24
15:00	1	0	0	0	1	1	1	2	3	3	0	4	0	0	16
16:00	0	0	0	0	2	0	0	0	8	4	1	2	1	1	19
17:00	2	0	0	0	2	2	0	2	5	6	5	2	0	0	26
18:00	0	0	0	0	1	0	0	6	4	12	3	0	1	0	27
19:00	0	0	0	0	2	0	0	3	5	13	8	3	0	0	34
20:00	1	0	0	0	2	1	0	1	2	0	5	1	0	0	13
21:00	0	0	0	0	0	2	2	2	5	4	1	1	0	0	17
22:00	0	0	0	0	0	0	0	1	2	3	1	3	0	0	10
23:00	0	0	0	0	0	0	1	0	0	0	2	1	0	0	4
Total	12	0	0	1	19	12	6	29	51	75	45	24	6	3	283

Daily

15th Percentile : 17 MPH
50th Percentile : 27 MPH
85th Percentile : 32 MPH
95th Percentile : 35 MPH

Mean Speed(Average) : 26 MPH
10 MPH Pace Speed : 24-33 MPH
Number in Pace : 181
Percent in Pace : 64.0%
Number of Vehicles > 25 MPH : 187
Percent of Vehicles > 25 MPH : 66.1%

Accurate Counts 978-664-2565

Page 11

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA

0558SPD1

WB

Start Time	1 3	4 6	7 9	10 12	13 15	16 18	19 21	22 24	25 27	28 30	31 33	34 36	37 39	40 999	Total
01/21/17	0	0	0	0	0	0	0	0	1	3	1	0	0	1	6
01:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	1	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	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2
07:00	1	0	0	0	0	1	0	0	0	0	2	0	0	0	4
08:00	2	0	0	0	1	1	0	0	1	0	0	1	0	0	6
09:00	0	0	0	0	1	0	1	1	0	1	1	0	0	0	5
10:00	1	0	0	0	0	0	0	0	2	3	2	1	0	0	9
11:00	0	0	0	0	0	0	0	1	5	2	4	1	0	0	13
12 PM	4	0	0	0	2	3	0	1	1	3	3	1	0	0	18
13:00	0	0	0	0	0	2	0	1	3	6	4	2	1	0	19
14:00	4	0	0	0	0	1	0	0	2	5	7	0	0	0	19
15:00	1	0	0	0	0	1	0	2	5	4	2	0	1	0	16
16:00	2	0	0	0	1	1	1	3	1	1	1	0	0	0	11
17:00	1	0	0	1	0	0	0	2	3	4	1	2	0	0	14
18:00	0	0	0	0	2	0	1	1	5	8	2	1	0	0	20
19:00	0	0	0	0	0	0	2	0	2	2	3	2	0	0	11
20:00	0	0	0	0	1	0	1	1	2	4	2	2	0	0	13
21:00	0	0	0	0	1	0	1	1	1	2	3	1	0	0	10
22:00	0	0	0	0	0	0	0	1	1	4	1	1	0	0	8
23:00	0	0	0	0	0	0	0	0	2	1	1	2	1	0	7
Total	16	0	0	1	10	10	7	15	38	53	40	19	3	1	213

Daily

15th Percentile : 16 MPH
50th Percentile : 27 MPH
85th Percentile : 32 MPH
95th Percentile : 34 MPH

Mean Speed(Average) : 26 MPH
10 MPH Pace Speed : 25-34 MPH
Number in Pace : 137
Percent in Pace : 64.3%
Number of Vehicles > 25 MPH : 141
Percent of Vehicles > 25 MPH : 66.4%

Accurate Counts 978-664-2565

Page 12

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA

0558SPD1

WB

Start Time	1 3	4 6	7 9	10 12	13 15	16 18	19 21	22 24	25 27	28 30	31 33	34 36	37 39	40 999	Total
01/22/17	0	0	0	0	1	0	0	1	0	1	2	0	0	0	5
01:00	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
07:00	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00	1	0	0	0	0	0	0	0	0	1	2	0	0	0	4
10:00	1	0	0	0	0	1	0	0	1	2	2	0	1	0	8
11:00	0	0	0	0	0	0	1	0	4	2	0	1	0	0	8
12 PM	1	0	0	0	1	0	1	2	2	1	5	0	0	0	13
13:00	3	0	0	0	0	3	1	3	3	3	3	1	0	0	20
14:00	3	0	0	0	1	0	0	3	3	4	3	2	1	0	20
15:00	2	0	0	0	0	0	1	1	6	6	2	1	0	0	19
16:00	2	0	0	0	2	2	0	1	5	3	2	2	0	0	19
17:00	2	0	0	0	0	0	0	0	1	1	5	1	0	0	10
18:00	1	0	0	0	1	0	0	0	1	6	2	0	0	1	12
19:00	0	0	0	1	1	0	0	2	2	4	1	3	0	0	14
20:00	1	0	0	0	0	0	0	2	3	1	0	3	0	0	10
21:00	0	0	0	0	0	0	0	3	1	5	4	1	0	0	14
22:00	0	0	0	0	0	0	1	0	0	2	3	1	0	0	7
23:00	0	0	0	0	0	0	0	0	1	2	0	0	0	0	3
Total	17	0	0	1	7	6	5	18	33	45	38	18	4	1	193

Daily

15th Percentile : 16 MPH
50th Percentile : 27 MPH
85th Percentile : 32 MPH
95th Percentile : 35 MPH

Mean Speed(Average) : 26 MPH
10 MPH Pace Speed : 24-33 MPH
Number in Pace : 122
Percent in Pace : 63.2%
Number of Vehicles > 25 MPH : 128
Percent of Vehicles > 25 MPH : 66.3%

Accurate Counts 978-664-2565

Page 13

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA

0558SPD1

WB

Start Time	1 3	4 6	7 9	10 12	13 15	16 18	19 21	22 24	25 27	28 30	31 33	34 36	37 39	40 999	Total
01/23/17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
02:00	0	0	0	0	0	0	1	0	0	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	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	0	0	0	0	0	0	1	0	0	5	0	0	0	6
08:00	0	0	0	0	2	2	1	1	1	3	2	1	0	0	13
09:00	1	0	0	0	0	1	0	1	2	0	0	0	0	1	6
10:00	2	0	0	0	0	0	0	0	2	2	1	0	0	0	7
11:00	0	0	0	0	1	0	0	1	1	3	2	1	0	0	9
12 PM	0	0	0	0	1	1	0	1	0	3	2	1	0	2	11
13:00	0	0	0	0	1	1	0	2	0	3	4	0	0	1	12
14:00	0	0	0	0	1	2	2	0	3	2	0	0	0	0	10
15:00	0	0	0	0	0	1	1	1	3	3	3	2	0	0	14
16:00	2	0	0	0	3	1	0	2	4	7	2	0	0	0	21
17:00	1	0	0	0	1	1	0	2	5	11	1	1	0	0	23
18:00	0	0	0	0	1	3	0	1	3	10	6	2	2	0	28
19:00	1	0	0	0	0	2	0	6	11	9	9	2	0	0	40
20:00	0	0	0	0	0	0	0	0	1	5	6	2	2	1	17
21:00	0	0	0	0	0	1	0	2	2	3	2	0	0	0	10
22:00	0	0	0	0	0	0	0	1	2	2	4	0	0	0	9
23:00	0	0	0	0	0	0	0	2	1	1	2	0	1	0	7
Total	7	0	0	0	11	16	5	24	42	67	51	12	5	5	245

Daily

15th Percentile : 19 MPH
50th Percentile : 27 MPH
85th Percentile : 31 MPH
95th Percentile : 34 MPH

Mean Speed(Average) : 27 MPH
10 MPH Pace Speed : 24-33 MPH
Number in Pace : 168
Percent in Pace : 68.6%
Number of Vehicles > 25 MPH : 168
Percent of Vehicles > 25 MPH : 68.6%

Accurate Counts

978-664-2565

Page 14

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA

0558SPD1

WB

Start Time	1 3	4 6	7 9	10 12	13 15	16 18	19 21	22 24	25 27	28 30	31 33	34 36	37 39	40 999	Total
01/24/17	0	0	0	0	0	0	0	0	0	1	2	1	0	0	4
01:00	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	0	0	0	0	0	0	1	0	0	2	1	0	0	4
08:00	2	0	0	0	1	2	0	1	1	1	3	1	0	0	12
09:00	0	0	0	0	0	2	0	1	1	0	1	1	0	1	7
10:00	0	0	0	0	0	1	1	0	2	0	1	1	0	0	6
11:00	1	0	0	0	1	1	0	1	2	1	0	1	0	0	8
12 PM	1	0	0	0	0	2	0	1	6	4	2	1	0	0	17
13:00	0	0	0	0	1	1	1	3	5	5	5	0	0	0	21
14:00	1	0	0	1	0	0	0	0	5	4	5	0	1	0	17
15:00	2	0	0	0	1	0	2	0	4	3	1	1	1	0	15
16:00	2	0	0	0	1	1	2	3	4	4	1	1	0	0	19
17:00	0	0	0	0	1	4	1	0	4	7	7	1	1	0	26
18:00	2	0	0	2	1	0	0	7	11	9	9	0	0	0	41
19:00	0	0	0	0	0	1	0	4	8	9	7	1	1	0	31
20:00	0	0	0	0	0	0	1	2	3	5	1	0	0	0	12
21:00	0	0	0	0	0	0	0	4	2	2	2	0	0	0	10
22:00	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
23:00	0	0	0	0	1	0	0	1	2	1	0	0	0	0	5
Total	11	0	0	3	8	15	8	29	60	58	50	11	5	1	259

Daily

15th Percentile : 18 MPH
50th Percentile : 26 MPH
85th Percentile : 31 MPH
95th Percentile : 33 MPH

Mean Speed(Average) : 26 MPH
10 MPH Pace Speed : 24-33 MPH
Number in Pace : 178
Percent in Pace : 68.7%
Number of Vehicles > 25 MPH : 165
Percent of Vehicles > 25 MPH : 63.7%

Grand Total

95 0 0 8 81 84 50 163 361 452 322 114 36 19 1785

Overall

15th Percentile : 17 MPH
50th Percentile : 27 MPH
85th Percentile : 31 MPH
95th Percentile : 34 MPH
Mean Speed(Average) : 26 MPH
10 MPH Pace Speed : 24-33 MPH
Number in Pace : 1189
Percent in Pace : 66.6%
Number of Vehicles > 25 MPH : 1184
Percent of Vehicles > 25 MPH : 66.3%

Accurate Counts
978-664-2565

Page 15

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA

0558SPD1

EB, WB

Start	1	4	7	10	13	16	19	22	25	28	31	34	37	40	
Time	3	6	9	12	15	18	21	24	27	30	33	36	39	999	Total
01/18/17	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
01:00	0	0	0	0	0	0	0	0	1	1	0	1	0	0	3
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	2	1	2	1	1	0	7
07:00	1	0	0	0	1	1	0	1	3	4	2	2	0	0	15
08:00	6	0	0	0	3	2	2	7	11	16	13	4	1	0	65
09:00	8	0	0	0	1	0	2	3	8	11	11	5	1	1	47
10:00	6	0	0	0	4	4	1	0	9	9	2	4	1	0	40
11:00	1	0	0	1	0	1	5	1	6	7	7	4	0	0	33
12 PM	5	0	0	0	1	3	3	3	10	5	12	4	2	0	48
13:00	2	1	0	0	1	2	0	2	4	9	5	8	2	0	34
14:00	8	0	1	0	1	3	4	4	5	11	6	0	0	1	44
15:00	3	0	0	0	0	2	5	2	10	12	7	1	1	0	43
16:00	4	0	1	0	3	1	3	3	5	10	5	2	0	0	37
17:00	0	0	0	0	2	0	2	2	8	4	4	0	1	0	23
18:00	2	0	0	0	0	0	2	6	19	8	7	3	1	1	49
19:00	1	0	0	0	1	5	1	1	14	17	4	2	0	0	48
20:00	0	0	0	0	0	0	0	2	6	9	2	1	0	0	20
21:00	0	0	0	0	0	1	0	1	7	9	8	0	0	0	26
22:00	0	0	0	0	2	1	1	2	1	6	5	2	0	1	21
23:00	0	0	0	0	0	0	0	1	1	5	0	0	0	0	7
Total	45	1	2	1	20	26	31	41	128	156	102	42	11	4	610

Daily

15th Percentile : 17 MPH
50th Percentile : 27 MPH
85th Percentile : 31 MPH
95th Percentile : 34 MPH

Mean Speed(Average) : 25 MPH
10 MPH Pace Speed : 24-33 MPH
Number in Pace : 400
Percent in Pace : 65.6%
Number of Vehicles > 25 MPH : 400
Percent of Vehicles > 25 MPH : 65.6%

Accurate Counts 978-664-2565

Page 16

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA

0558SPD1

EB, WB

Start Time	1 3	4 6	7 9	10 12	13 15	16 18	19 21	22 24	25 27	28 30	31 33	34 36	37 39	40 999	Total
01/19/17	0	0	0	0	0	1	0	1	2	2	2	0	0	1	9
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	1	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	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	1	0	0	0	0	0	0	1	2	0	1	2	0	0	7
07:00	4	0	0	0	1	0	0	7	5	6	8	0	0	0	29
08:00	10	0	0	0	1	1	3	3	12	16	7	3	0	1	57
09:00	5	0	1	0	2	3	0	2	7	13	14	3	1	1	52
10:00	3	0	0	0	1	2	3	3	3	10	7	3	0	1	36
11:00	5	0	0	1	2	3	2	4	4	12	6	1	0	0	40
12 PM	1	0	0	0	1	1	3	2	12	11	9	2	0	1	43
13:00	2	0	0	0	1	1	1	2	8	9	3	3	0	0	30
14:00	4	0	0	0	0	5	2	3	6	10	4	1	0	0	35
15:00	1	0	0	0	0	0	1	2	5	11	4	2	1	0	27
16:00	2	0	0	0	1	1	0	4	9	6	5	0	1	0	29
17:00	1	0	0	0	0	4	2	1	5	12	5	1	0	0	31
18:00	2	0	0	0	2	0	2	6	9	8	4	2	0	1	36
19:00	4	0	0	0	1	1	2	4	5	8	8	4	2	1	40
20:00	3	0	0	0	2	0	1	1	6	10	6	2	1	0	32
21:00	2	0	0	0	0	2	1	2	3	4	2	0	1	0	17
22:00	0	0	0	0	0	0	0	2	3	0	7	2	0	0	14
23:00	0	0	0	0	0	0	0	1	1	0	1	1	1	0	5
Total	50	0	1	1	15	25	23	52	107	148	102	32	8	7	571

Daily

15th Percentile : 17 MPH
50th Percentile : 27 MPH
85th Percentile : 31 MPH
95th Percentile : 34 MPH

Mean Speed(Average) : 25 MPH
10 MPH Pace Speed : 24-33 MPH
Number in Pace : 374
Percent in Pace : 65.5%
Number of Vehicles > 25 MPH : 368
Percent of Vehicles > 25 MPH : 64.5%

Accurate Counts
978-664-2565

Page 17

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA

0558SPD1

EB, WB

Start Time	1	4	7	10	13	16	19	22	25	28	31	34	37	40	Total
	3	6	9	12	15	18	21	24	27	30	33	36	39	999	
01/20/17	1	0	0	0	2	0	0	0	1	3	2	0	0	0	9
01:00	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2
02:00	0	0	0	0	0	0	0	0	0	1	0	0	1	1	3
03:00	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	1	4	4	0	0	0	9
07:00	2	0	0	0	0	0	1	3	4	8	3	1	1	1	22
08:00	2	0	0	0	6	2	2	2	10	8	13	8	5	0	58
09:00	8	0	0	1	1	3	1	3	6	12	5	4	3	0	47
10:00	3	0	0	1	2	1	0	3	8	8	6	3	1	0	36
11:00	1	0	0	0	0	4	2	1	6	9	5	3	1	1	33
12 PM	0	0	0	1	0	4	1	6	5	7	3	4	1	1	33
13:00	2	0	0	0	1	0	1	1	5	5	3	3	0	0	21
14:00	5	0	0	0	4	2	1	3	5	15	6	2	0	0	43
15:00	3	0	0	1	1	4	3	3	5	6	5	5	1	1	38
16:00	3	0	0	0	3	1	5	1	14	9	4	3	1	1	45
17:00	3	0	0	1	2	2	1	2	12	8	8	3	1	0	43
18:00	1	0	0	0	1	0	0	6	7	18	3	0	1	0	37
19:00	2	0	0	0	2	1	2	5	9	16	10	3	0	0	50
20:00	1	0	0	0	2	1	1	1	3	3	8	2	0	0	22
21:00	0	0	0	0	0	2	5	3	5	6	1	1	0	0	23
22:00	1	0	0	0	0	0	0	1	3	3	1	3	1	0	13
23:00	0	0	0	0	0	0	1	1	1	1	2	1	0	0	7
Total	38	0	0	5	27	27	27	46	110	149	93	49	19	6	596

Daily

15th Percentile :	17 MPH
50th Percentile :	27 MPH
85th Percentile :	32 MPH
95th Percentile :	35 MPH
Mean Speed(Average) :	26 MPH
10 MPH Pace Speed :	25-34 MPH
Number in Pace :	368
Percent in Pace :	61.7%
Number of Vehicles > 25 MPH :	389
Percent of Vehicles > 25 MPH :	65.3%

Accurate Counts 978-664-2565

Page 18

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA

0558SPD1

EB, WB

Start Time	1 3	4 6	7 9	10 12	13 15	16 18	19 21	22 24	25 27	28 30	31 33	34 36	37 39	40 999	Total
01/21/17	0	0	0	1	0	0	1	0	1	3	1	1	0	1	9
01:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	1	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	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	1	0	0	0	1	1	0	0	0	0	3
07:00	1	0	0	0	0	1	0	0	1	3	3	0	0	0	9
08:00	2	0	0	0	2	2	1	1	3	0	2	1	0	1	15
09:00	1	0	0	0	1	0	1	2	2	4	5	2	0	0	18
10:00	2	0	0	0	2	1	2	1	6	6	8	1	1	0	30
11:00	1	0	0	0	0	1	2	2	6	8	8	3	0	0	31
12 PM	6	0	0	0	3	6	1	1	2	10	5	3	0	0	37
13:00	0	0	0	0	0	4	1	3	8	9	8	2	1	0	36
14:00	5	0	0	0	0	4	1	1	5	11	12	1	0	0	40
15:00	3	0	0	0	0	2	1	6	9	10	5	1	1	0	38
16:00	3	0	0	0	3	2	3	3	4	4	1	3	0	0	26
17:00	2	0	0	1	0	4	1	3	5	8	2	3	0	0	29
18:00	0	0	0	0	2	0	1	2	8	14	4	5	1	0	37
19:00	1	0	0	0	1	0	2	0	6	6	5	2	0	0	23
20:00	0	0	0	0	1	1	1	2	3	7	3	4	0	0	22
21:00	0	0	0	0	1	1	2	1	2	2	3	1	0	1	14
22:00	0	0	0	0	0	0	1	1	1	4	1	4	0	0	12
23:00	0	0	0	0	0	0	0	0	2	1	1	2	1	0	7
Total	27	0	0	2	17	29	22	29	75	111	77	41	5	3	438

Daily

15th Percentile : 16 MPH
50th Percentile : 27 MPH
85th Percentile : 32 MPH
95th Percentile : 34 MPH

Mean Speed(Average) : 26 MPH
10 MPH Pace Speed : 25-34 MPH
Number in Pace : 277
Percent in Pace : 63.2%
Number of Vehicles > 25 MPH : 287
Percent of Vehicles > 25 MPH : 65.5%

Accurate Counts 978-664-2565

Page 19

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA

0558SPD1

EB, WB

Start Time	1	4	7	10	13	16	19	22	25	28	31	34	37	40	Total
	3	6	9	12	15	18	21	24	27	30	33	36	39	999	
01/22/17	0	0	0	0	1	0	1	2	0	1	2	0	0	0	7
01:00	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
02:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
06:00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
07:00	0	0	0	0	0	0	0	1	1	1	1	1	1	0	6
08:00	0	0	0	0	0	0	0	0	1	3	0	0	0	1	5
09:00	1	0	0	0	0	1	0	0	2	8	6	0	0	0	18
10:00	2	0	0	0	0	2	0	2	6	4	5	1	1	0	23
11:00	0	0	0	0	1	1	1	1	8	7	1	2	0	0	22
12 PM	1	0	0	0	1	3	2	2	4	6	6	1	0	0	26
13:00	5	0	0	0	0	6	2	3	7	11	6	2	1	0	43
14:00	4	0	0	0	3	0	2	4	6	5	4	2	2	0	32
15:00	4	0	0	0	0	3	4	1	7	8	6	2	0	0	35
16:00	2	0	0	0	2	3	0	1	6	6	4	4	1	0	29
17:00	2	0	0	1	1	1	2	3	3	4	8	2	0	0	27
18:00	1	0	0	0	1	0	0	1	4	8	5	0	0	1	21
19:00	2	0	0	1	1	1	1	3	5	9	3	5	0	0	31
20:00	1	0	0	0	0	1	0	2	4	1	1	3	0	0	13
21:00	0	0	0	0	0	0	1	3	2	6	4	1	0	0	17
22:00	0	0	0	0	0	1	1	2	0	3	4	1	0	0	12
23:00	0	0	0	0	0	0	0	0	1	2	1	0	0	0	4
Total	25	0	0	2	11	23	17	31	67	95	68	30	7	2	378

Daily

15th Percentile : 17 MPH
50th Percentile : 27 MPH
85th Percentile : 32 MPH
95th Percentile : 34 MPH

Mean Speed(Average) : 26 MPH
10 MPH Pace Speed : 25-34 MPH
Number in Pace : 240
Percent in Pace : 63.5%
Number of Vehicles > 25 MPH : 247
Percent of Vehicles > 25 MPH : 65.3%

Accurate Counts 978-664-2565

Page 20

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA

0558SPD1

EB, WB

Start	1	4	7	10	13	16	19	22	25	28	31	34	37	40	
Time	3	6	9	12	15	18	21	24	27	30	33	36	39	999	Total
01/23/17	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
02:00	0	0	0	0	0	0	1	0	0	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	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	2	4	0	0	1	0	7
07:00	1	0	0	0	0	0	0	2	8	4	7	0	1	0	23
08:00	4	0	0	0	4	3	2	3	10	13	14	5	1	1	60
09:00	2	0	0	0	0	1	0	3	6	9	7	0	0	2	30
10:00	2	0	0	0	0	0	0	3	8	3	10	3	1	0	30
11:00	0	0	0	0	1	1	2	1	2	6	4	3	0	1	21
12 PM	1	0	0	1	1	2	1	1	0	7	5	3	0	3	25
13:00	2	0	0	0	1	1	1	3	1	3	5	1	2	1	21
14:00	3	0	0	0	1	2	2	1	4	7	4	0	0	0	24
15:00	2	0	0	1	1	4	1	2	6	7	5	2	1	0	32
16:00	3	0	0	0	3	1	1	4	10	9	7	0	0	0	38
17:00	3	0	0	0	3	3	1	2	7	15	5	2	0	0	41
18:00	0	0	0	0	1	5	1	2	5	11	7	2	2	0	36
19:00	1	0	0	0	1	2	3	7	13	11	10	6	0	0	54
20:00	0	0	0	0	0	0	0	2	1	8	7	3	2	1	24
21:00	0	0	0	0	0	2	0	2	3	3	5	0	0	0	15
22:00	0	0	0	0	0	0	0	2	2	4	5	0	0	1	14
23:00	0	0	0	0	0	0	0	2	1	2	2	1	1	0	9
Total	24	0	0	2	17	27	16	42	90	127	109	31	12	10	507

Daily

15th Percentile : 18 MPH
50th Percentile : 27 MPH
85th Percentile : 32 MPH
95th Percentile : 34 MPH

Mean Speed(Average) : 26 MPH
10 MPH Pace Speed : 24-33 MPH
Number in Pace : 340
Percent in Pace : 67.1%
Number of Vehicles > 25 MPH : 349
Percent of Vehicles > 25 MPH : 68.8%

Accurate Counts
978-664-2565

Page 21

Location : Oxbow Road
Location : West of Kettlehole Road
City/State: Wayland, MA

0558SPD1

EB, WB

Start Time	1	4	7	10	13	16	19	22	25	28	31	34	37	40	Total
	3	6	9	12	15	18	21	24	27	30	33	36	39	999	
01/24/17	0	0	0	0	0	0	0	0	0	1	2	1	0	0	4
01:00	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2
02:00	0	0	0	0	0	0	0	0	0	1	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	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	1	0	0	0	1	0	0	0	1	4	2	0	1	0	10
07:00	2	0	0	0	0	0	0	3	6	5	7	2	0	0	25
08:00	6	0	0	0	5	3	1	1	6	17	14	5	2	1	61
09:00	4	0	0	0	0	3	1	4	7	9	7	8	0	2	43
10:00	1	0	0	0	0	1	1	2	6	11	7	3	0	0	32
11:00	2	0	0	0	1	3	0	2	3	3	1	2	0	0	17
12 PM	2	0	0	0	2	4	0	3	6	7	4	3	0	0	31
13:00	0	0	0	1	1	2	2	3	7	6	7	2	1	0	32
14:00	2	0	0	1	1	0	2	0	9	8	8	2	3	0	36
15:00	4	1	0	0	2	0	2	2	6	9	2	3	1	1	33
16:00	6	0	0	1	2	2	4	4	9	9	3	3	0	0	43
17:00	1	0	0	0	1	4	1	2	7	11	8	2	1	0	38
18:00	5	0	0	2	2	1	1	12	17	11	9	0	0	0	60
19:00	1	0	0	0	1	2	1	5	10	11	7	1	1	0	40
20:00	0	0	0	0	0	1	1	3	4	5	2	0	0	0	16
21:00	0	0	0	0	0	1	0	4	3	2	2	0	0	0	12
22:00	0	0	0	0	1	0	0	0	1	1	1	0	0	0	4
23:00	0	0	0	0	1	0	0	1	3	2	0	0	0	0	7
Total	37	1	0	5	21	27	17	51	111	134	93	35	11	4	547

Daily

15th Percentile :	16 MPH
50th Percentile :	27 MPH
85th Percentile :	31 MPH
95th Percentile :	34 MPH
Mean Speed(Average) :	25 MPH
10 MPH Pace Speed :	24-33 MPH
Number in Pace :	355
Percent in Pace :	64.9%
Number of Vehicles > 25 MPH :	351
Percent of Vehicles > 25 MPH :	64.2%

Grand Total	246	2	3	18	128	184	153	292	688	920	644	260	73	36	3647
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Overall

15th Percentile :	17 MPH
50th Percentile :	27 MPH
85th Percentile :	32 MPH
95th Percentile :	34 MPH
Mean Speed(Average) :	26 MPH
10 MPH Pace Speed :	24-33 MPH
Number in Pace :	2349
Percent in Pace :	64.4%
Number of Vehicles > 25 MPH :	2392
Percent of Vehicles > 25 MPH :	65.6%

Attachment C

Seasonal Adjustment Data

Project: Recreational Field - Trout Brook Road, Wayland, Massachusetts
Date: January 12, 2017
Analyst: TEC, Inc. / Douglas S. Halpert, E.I.T.
Source: MassDOT Permanent Count Stations 403.4118

Average Adj. = 4.2%

T0558.16_Traffic Data Worksheet

Attachment D

Ambient Growth Data

Average Daily Traffic Summary Table

Project: Recreational Field - Trout Brook Road, Wayland, Massachusetts
 Date: January 12, 2017
 Analyst: TEC, Inc. / Douglas S. Halpert, E.I.T.
 Source: MassDOT Temporary Count Stations

STA.	TOWN	ROUTE/STREET	LOCATION	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
0403 L	CONCORD	RTE. 2	0.2 km EAST OF CONCORD RD.	45,754	45,682	44,847	44,110								
4003	CONCORD	RTE. 62	AT ACTON T.L.	11,200	13,600	13,483	13,089	12,100	12,143	15,458	15,613	11,596	12,234	11,385	-1.21%
4924	FRAMINGHAM	RTE. 135	EAST OF RTE. 126	16,822	16,607	15,700	15,405	15,578	14,400			15,267	16,107	16,284	-0.85%
4923	NATICK	RTE. 135	EAST OF NEWFIELD DR.	18,790	18,550	19,000	18,643	18,852	1,980			17,998	18,988	19,197	2.88%
4892	NATICK	RTE. 135	WEST OF HIGH ST.	16,527	16,316	15,300	15,012	15,181	1,300			14,160	14,839	15,103	2.86%
5726	NEWTON	RTE. 16	WEST OF RTE. 185	18,869	21,400	21,215	20,595	22,400	22,479		21,839	22,286	23,512	20,986	1.41%
4911	WALTHAM	RTE. 60	WEST OF TRAPELO RD.	12,592	12,431	13,000	12,756	12,899	13,800			13,336	14,069	14,224	1.50%
4873	WALTHAM	TOTTEN POND RD.	WEST OF LEXINGTON ST.	19,282	19,035	17,900	17,563	17,761	17,000			17,276	18,226	18,426	-0.51%

Average Annual Ambient Growth =

0.9%

Assume 1% Ambient Growth Rate

Attachment E

Site-Generated Trips

Trip Generation Estimate

Project: T0558.16 - Proposed Recreational Field - Trout Brook Road
Date: February 2, 2017
Analyst: Eric R. Paquette, E.I.T.
Source: Institute of Transportation Engineers - Trip Generation, 9th Edition

ITE Land Use Code (LUC): 488 Soccer Complex

Average Vehicle Trips Ends vs: Fields
Independent Variable (X): 1
Curve Method: Average

AVERAGE WEEKDAY DAILY

$$T = 71.33 * (X)$$

$$T = 71.33 * 1.00$$

$$T = 72 \text{ vehicle trips}$$

with 50% entering (36 vpd) and with 50% exiting (36 vpd)

WEEKDAY MORNING PEAK HOUR

$$T = 1.12 * (X)$$

$$T = 1.12 * 1.00$$

$$T = 2 \text{ vehicle trips}$$

with 57% entering (1 vpd) and with 43% exiting (1 vpd)

WEEKDAY EVENING PEAK HOUR

$$T = 17.70 * (X)$$

$$T = 17.70 * 1.00$$

$$T = 18 \text{ vehicle trips}$$

with 67% entering (12 vpd) and with 33% exiting (6 vpd)

AVERAGE SATURDAY DAILY

$$T = 117.43 * (X)$$

$$T = 117.43 * 1.00$$

$$T = 118 \text{ vehicle trips}$$

with 50% entering (59 vpd) and with 50% exiting (59 vpd)

SATURDAY MIDDAY PEAK HOUR

$$T = 30.34 * (X)$$

$$T = 30.34 * 1.00$$

$$T = 30 \text{ vehicle trips}$$

with 48% entering (14 vpd) and with 52% exiting (16 vpd)

AVERAGE SUNDAY DAILY

$$T = 0.00 * (X)$$

$$T = 0.00 * 1.00$$

$$T = - \text{ vehicle trips}$$

with 50% entering (- vpd) and with 50% exiting (- vpd)

SUNDAY MIDDAY PEAK HOUR

$$T = 28.10 * (X)$$

$$T = 28.10 * 1.00$$

$$T = 28 \text{ vehicle trips}$$

with 41% entering (11 vpd) and with 59% exiting (17 vpd)

Attachment F

Intersection Capacity and Queue Analyses

Project Information		Financial Summary						Other Data		
Item	Description	Category	Sub-Category	Unit	Quantity	Unit Price	Total Price	Notes	Start Date	End Date
1	Material A	Construction	Foundation	cubic yard	100	15.00	1500.00		2017-01-01	2017-03-31
2	Material B	Construction	Foundation	cubic yard	50	20.00	1000.00		2017-01-01	2017-03-31
3	Material C	Construction	Foundation	cubic yard	20	25.00	500.00		2017-01-01	2017-03-31
4	Material D	Construction	Foundation	cubic yard	10	30.00	300.00		2017-01-01	2017-03-31
5	Material E	Construction	Foundation	cubic yard	5	40.00	200.00		2017-01-01	2017-03-31
6	Material F	Construction	Foundation	cubic yard	2	50.00	100.00		2017-01-01	2017-03-31
7	Material G	Construction	Foundation	cubic yard	1	60.00	60.00		2017-01-01	2017-03-31
8	Material H	Construction	Foundation	cubic yard	0.5	70.00	35.00		2017-01-01	2017-03-31
9	Material I	Construction	Foundation	cubic yard	0.2	80.00	16.00		2017-01-01	2017-03-31
10	Material J	Construction	Foundation	cubic yard	0.1	90.00	9.00		2017-01-01	2017-03-31
11	Material K	Construction	Foundation	cubic yard	0.05	100.00	5.00		2017-01-01	2017-03-31
12	Material L	Construction	Foundation	cubic yard	0.02	110.00	2.20		2017-01-01	2017-03-31
13	Material M	Construction	Foundation	cubic yard	0.01	120.00	1.20		2017-01-01	2017-03-31
14	Material N	Construction	Foundation	cubic yard	0.005	130.00	0.65		2017-01-01	2017-03-31
15	Material O	Construction	Foundation	cubic yard	0.002	140.00	0.28		2017-01-01	2017-03-31
16	Material P	Construction	Foundation	cubic yard	0.001	150.00	0.15		2017-01-01	2017-03-31
17	Material Q	Construction	Foundation	cubic yard	0.0005	160.00	0.08		2017-01-01	2017-03-31
18	Material R	Construction	Foundation	cubic yard	0.0002	170.00	0.03		2017-01-01	2017-03-31
19	Material S	Construction	Foundation	cubic yard	0.0001	180.00	0.01		2017-01-01	2017-03-31
20	Material T	Construction	Foundation	cubic yard	0.00005	190.00	0.00		2017-01-01	2017-03-31

2017 Existing Conditions

Lanes, Volumes, Timings
1: Concord Road (Route 126) & Oxbow Road

2017 Existing Conditions
Weekday Evening

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	2	22	31	172	282	1
Future Volume (vph)	2	22	31	172	282	1
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.874					
Flt Protected	0.997			0.992		
Satd. Flow (prot)	1600	0	0	1792	1837	0
Flt Permitted	0.997			0.992		
Satd. Flow (perm)	1600	0	0	1792	1837	0
Adj. Flow (vph)	2	27	36	202	392	1
Lane Group Flow (vph)	29	0	0	238	393	0
Sign Control	Stop			Free	Free	

Intersection Summary

Control Type: Unsignalized

HCM 2010 TWSC
1: Concord Road (Route 126) & Oxbow Road

2017 Existing Conditions
Weekday Evening

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	YY			4	4	
Traffic Vol, veh/h	2	22	31	172	282	1
Future Vol, veh/h	2	22	31	172	282	1
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	82	82	85	85	72	72
Heavy Vehicles, %	0	0	0	2	0	0
Mvmt Flow	2	27	36	202	392	1
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	667	392	393	0	-	0
Stage 1	392	-	-	-	-	-
Stage 2	275	-	-	-	-	-
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	427	661	1177	-	-	-
Stage 1	687	-	-	-	-	-
Stage 2	776	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	412	661	1177	-	-	-
Mov Cap-2 Maneuver	412	-	-	-	-	-
Stage 1	687	-	-	-	-	-
Stage 2	750	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	11		1.2		0	
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1177	-	629	-	-	
HCM Lane V/C Ratio	0.031	-	0.047	-	-	
HCM Control Delay (s)	8.2	0	11	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-	

Lanes, Volumes, Timings

2017 Existing Conditions

2: Alpine Road/Oxbow Road & Sherman's Bridge Road

Weekday Evening

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	32	0	4	132	21	1	0	1	13	0	4
Future Volume (vph)	8	32	0	4	132	21	1	0	1	13	0	4
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.982			0.932			0.970	
Flt Protected		0.990			0.999			0.976			0.963	
Satd. Flow (prot)	0	1721	0	0	1706	0	0	1694	0	0	1624	0
Flt Permitted		0.990			0.999			0.976			0.963	
Satd. Flow (perm)	0	1721	0	0	1706	0	0	1694	0	0	1624	0
Adj. Flow (vph)	9	35	0	4	143	23	1	0	1	14	0	4
Lane Group Flow (vph)	0	44	0	0	170	0	0	2	0	0	18	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Control Type: Unsignalized

Intersection

Int Delay, s/veh 1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	8	32	0	4	132	21	1	0	1	13	0	4
Future Vol, veh/h	8	32	0	4	132	21	1	0	1	13	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	35	0	4	143	23	1	0	1	14	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	143	0	0	35	0	0	206	204	35	205	204	143
Stage 1	-	-	-	-	-	-	52	52	-	152	152	-
Stage 2	-	-	-	-	-	-	154	152	-	53	52	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1440	-	-	1576	-	-	752	692	1038	753	692	905
Stage 1	-	-	-	-	-	-	961	852	-	850	772	-
Stage 2	-	-	-	-	-	-	848	772	-	960	852	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1440	-	-	1576	-	-	743	686	1038	747	686	905
Mov Cap-2 Maneuver	-	-	-	-	-	-	743	686	-	747	686	-
Stage 1	-	-	-	-	-	-	955	847	-	845	770	-
Stage 2	-	-	-	-	-	-	841	770	-	953	847	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	0.2	9.2	9.7
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	866	1440	-	-	1576	-	-	779
HCM Lane V/C Ratio	0.003	0.006	-	-	0.003	-	-	0.024
HCM Control Delay (s)	9.2	7.5	0	-	7.3	0	-	9.7
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Lanes, Volumes, Timings
1: Concord Road (Route 126) & Oxbow Road

2022 No-Build Conditions
Weekday Evening

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	2	23	33	181	296	1
Future Volume (vph)	2	23	33	181	296	1
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.874					
Flt Protected	0.997			0.992		
Satd. Flow (prot)	1600	0	0	1792	1837	0
Flt Permitted	0.997			0.992		
Satd. Flow (perm)	1600	0	0	1792	1837	0
Adj. Flow (vph)	2	28	39	213	411	1
Lane Group Flow (vph)	30	0	0	252	412	0
Sign Control	Stop			Free	Free	

Intersection Summary

Control Type: Unsignalized

HCM 2010 TWSC
1: Concord Road (Route 126) & Oxbow Road

2022 No-Build Conditions
Weekday Evening

Intersection

Int Delay, s/veh 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖			↗	↖	
Traffic Vol, veh/h	2	23	33	181	296	1
Future Vol, veh/h	2	23	33	181	296	1
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	82	82	85	85	72	72
Heavy Vehicles, %	0	0	0	2	0	0
Mvmt Flow	2	28	39	213	411	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	703	412	413	0	-	0
Stage 1	412	-	-	-	-	-
Stage 2	291	-	-	-	-	-
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	407	644	1157	-	-	-
Stage 1	673	-	-	-	-	-
Stage 2	763	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	392	644	1157	-	-	-
Mov Cap-2 Maneuver	392	-	-	-	-	-
Stage 1	673	-	-	-	-	-
Stage 2	734	-	-	-	-	-

Approach	EB		NB		SB
HCM Control Delay, s	11.2		1.3		0
HCM LOS	B				

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1157	-	613	-	-
HCM Lane V/C Ratio	0.034	-	0.05	-	-
HCM Control Delay (s)	8.2	0	11.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Lanes, Volumes, Timings

2022 No-Build Conditions

2: Alpine Road/Oxbow Road & Sherman's Bridge Road

Weekday Evening

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	34	0	4	139	21	1	0	1	14	0	4
Future Volume (vph)	8	34	0	4	139	21	1	0	1	14	0	4
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.983			0.932			0.972	
Flt Protected		0.990			0.999			0.976			0.962	
Satd. Flow (prot)	0	1721	0	0	1707	0	0	1694	0	0	1626	0
Flt Permitted		0.990			0.999			0.976			0.962	
Satd. Flow (perm)	0	1721	0	0	1707	0	0	1694	0	0	1626	0
Adj. Flow (vph)	9	37	0	4	151	23	1	0	1	15	0	4
Lane Group Flow (vph)	0	46	0	0	178	0	0	2	0	0	19	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Control Type: Unsignalized

HCM 2010 TWSC
2: Alpine Road/Oxbow Road & Sherman's Bridge Road

2022 No-Build Conditions
Weekday Evening

Intersection

Int Delay, s/veh 1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	8	34	0	4	139	21	1	0	1	14	0	4
Future Vol, veh/h	8	34	0	4	139	21	1	0	1	14	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	37	0	4	151	23	1	0	1	15	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	151	0	0	37	0	0	216	214	37	215	214	151
Stage 1	-	-	-	-	-	-	54	54	-	160	160	-
Stage 2	-	-	-	-	-	-	162	160	-	55	54	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1430	-	-	1574	-	-	740	684	1035	742	684	895
Stage 1	-	-	-	-	-	-	958	850	-	842	766	-
Stage 2	-	-	-	-	-	-	840	766	-	957	850	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1430	-	-	1574	-	-	731	678	1035	736	678	895
Mov Cap-2 Maneuver	-	-	-	-	-	-	731	678	-	736	678	-
Stage 1	-	-	-	-	-	-	952	845	-	837	764	-
Stage 2	-	-	-	-	-	-	833	764	-	950	845	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	0.2	9.2	9.8
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	857	1430	-	-	1574	-	-	766
HCM Lane V/C Ratio	0.003	0.006	-	-	0.003	-	-	0.026
HCM Control Delay (s)	9.2	7.5	0	-	7.3	0	-	9.8
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Lanes, Volumes, Timings
1: Concord Road (Route 126) & Oxbow Road

2022 Build Conditions
Weekday Evening

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	2	26	39	181	296	1
Future Volume (vph)	2	26	39	181	296	1
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.873					
Flt Protected	0.997			0.991		
Satd. Flow (prot)	1599	0	0	1791	1837	0
Flt Permitted	0.997			0.991		
Satd. Flow (perm)	1599	0	0	1791	1837	0
Adj. Flow (vph)	2	32	46	213	411	1
Lane Group Flow (vph)	34	0	0	259	412	0
Sign Control	Stop			Free	Free	

Intersection Summary

Control Type: Unsignalized

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖			↗	↖	
Traffic Vol, veh/h	2	26	39	181	296	1
Future Vol, veh/h	2	26	39	181	296	1
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	82	82	85	85	72	72
Heavy Vehicles, %	0	0	0	2	0	0
Mvmt Flow	2	32	46	213	411	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	717	412	413	0	-	0
Stage 1	412	-	-	-	-	-
Stage 2	305	-	-	-	-	-
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	399	644	1157	-	-	-
Stage 1	673	-	-	-	-	-
Stage 2	752	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	381	644	1157	-	-	-
Mov Cap-2 Maneuver	381	-	-	-	-	-
Stage 1	673	-	-	-	-	-
Stage 2	718	-	-	-	-	-

Approach	EB		NB		SB
HCM Control Delay, s	11.2		1.5		0
HCM LOS	B				

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1157	-	614	-	-
HCM Lane V/C Ratio	0.04	-	0.056	-	-
HCM Control Delay (s)	8.2	0	11.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Lanes, Volumes, Timings

2: Alpine Road/Oxbow Road & Sherman's Bridge Road

2022 Build Conditions

Weekday Evening

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	34	0	4	139	26	1	0	1	16	0	5
Future Volume (vph)	10	34	0	4	139	26	1	0	1	16	0	5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.979			0.932			0.969	
Flt Protected		0.989			0.999			0.976			0.963	
Satd. Flow (prot)	0	1719	0	0	1700	0	0	1694	0	0	1622	0
Flt Permitted		0.989			0.999			0.976			0.963	
Satd. Flow (perm)	0	1719	0	0	1700	0	0	1694	0	0	1622	0
Adj. Flow (vph)	11	37	0	4	151	28	1	0	1	17	0	5
Lane Group Flow (vph)	0	48	0	0	183	0	0	2	0	0	22	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Control Type: Unsignalized

HCM 2010 TWSC
2: Alpine Road/Oxbow Road & Sherman's Bridge Road

2022 Build Conditions
Weekday Evening

Intersection

Int Delay, s/veh 1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	34	0	4	139	26	1	0	1	16	0	5
Future Vol, veh/h	10	34	0	4	139	26	1	0	1	16	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	37	0	4	151	28	1	0	1	17	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	151	0	0	37	0	0	221	219	37	219	219	151
Stage 1	-	-	-	-	-	-	59	59	-	160	160	-
Stage 2	-	-	-	-	-	-	162	160	-	59	59	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1430	-	-	1574	-	-	735	679	1035	737	679	895
Stage 1	-	-	-	-	-	-	953	846	-	842	766	-
Stage 2	-	-	-	-	-	-	840	766	-	953	846	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1430	-	-	1574	-	-	724	672	1035	730	672	895
Mov Cap-2 Maneuver	-	-	-	-	-	-	724	672	-	730	672	-
Stage 1	-	-	-	-	-	-	945	839	-	835	764	-
Stage 2	-	-	-	-	-	-	832	764	-	944	839	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.7	0.2	9.2	9.9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	852	1430	-	-	1574	-	-	764
HCM Lane V/C Ratio	0.003	0.008	-	-	0.003	-	-	0.03
HCM Control Delay (s)	9.2	7.5	0	-	7.3	0	-	9.9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Attachment G – Receipt from Town Clerk

Attachment H – Supplemental Site Plan

Attachment I – Aerial Photo of Site

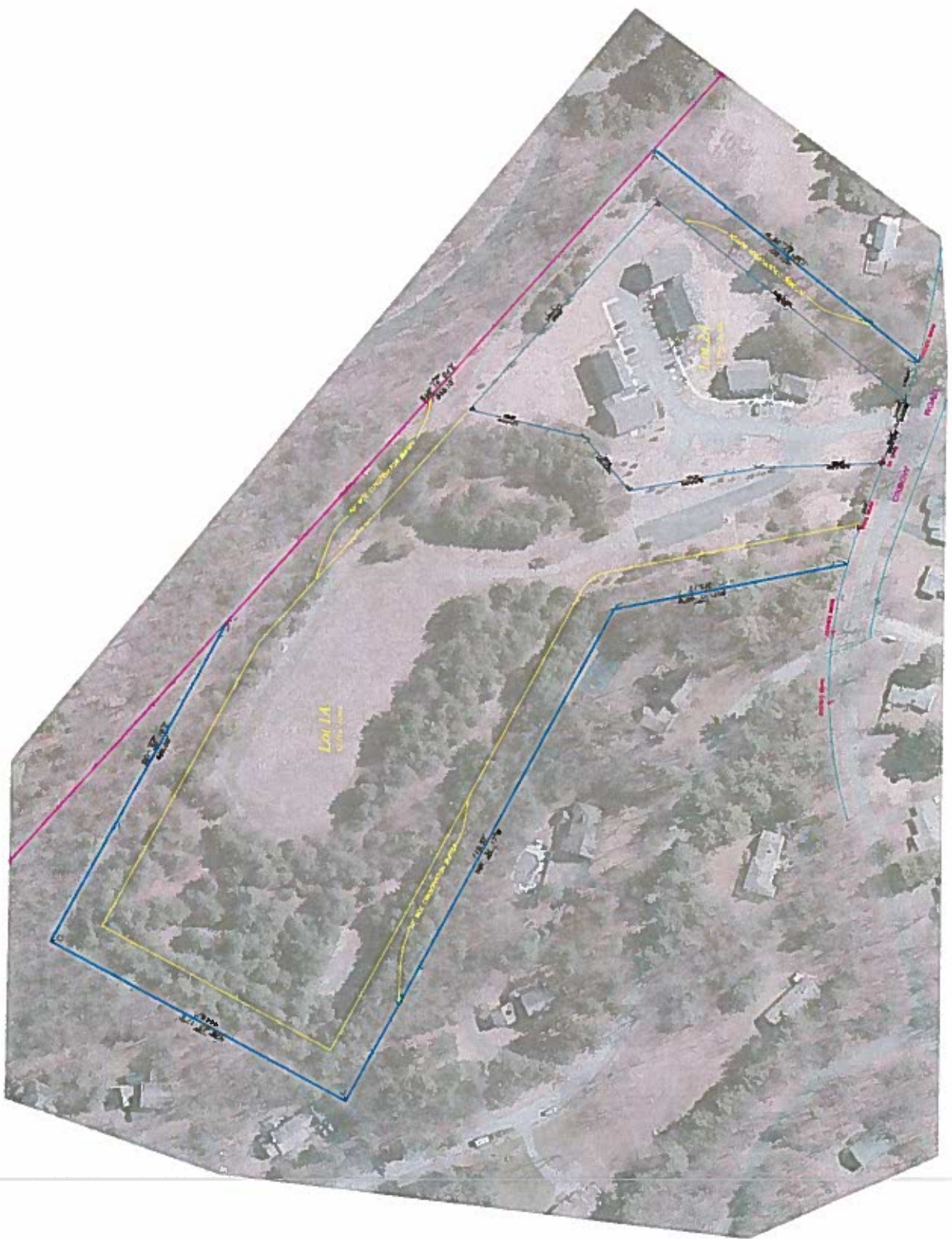
Current Issues

No.	Revision/Notes	Date



NPS Stewardship Report
Former Nike Site
Oxbow Road
Wayland, Massachusetts

NPS Stewardship	
Date	3/27/2023
By	
Scale	1" = 100'



North Arrow

