

# ROAD SAFETY AUDIT

Shawsheen Street from Patten Road to Ronald Drive

Town of Tewksbury

June 20, 2023

Prepared For:  
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## Background

TEC, Inc. (TEC), in cooperation with the Town of Tewksbury, has conducted this Road Safety Audit (RSA) to evaluate the existing traffic safety characteristics along Shawsheen Street from Patten Road to Ronald Drive in Tewksbury, Massachusetts. An RSA was scheduled for this corridor segment and intersections as part of the Town’s project initiation stage for potential state Transportation Improvement Program (TIP) funding.

### **Road Safety Audit Justification**

An RSA, as defined by the Federal Highway Administration (FHWA), is the *formal safety performance examination of an existing or future road or intersection by an independent, multidisciplinary team*. The purpose of the RSA is to observe, identify, and report all safety issues and identify future opportunities for safety enhancement improvements for all roadway users. This includes identifying short-term, mid-term, and long-term safety improvements that can be implemented through general maintenance, immediate installation / removal, or could be potentially incorporated into future improvement projects. Enhancements or improvements can take the form of one or more of the 4 E’s of highway safety: **E**ngineering, **E**ducation, **E**mergency Response, and **E**nforcement.

The U.S. Congress enacted the “Fixing America’s Surface Transportation Act” (FAST Act) in 2015. This act provides guidance and funding for the implementation of a State Highway Safety Improvement Program (HSIP), continuing upon the past SAFETEA-LU legislation from 2005. As part of this Program, all states are required to develop a Strategic Highway Safety Plan (SHSP). MassDOT guidelines require an RSA be conducted where HSIP-eligible crash clusters are present within the audit area of a transportation improvement project. An intersection is defined as HSIP-eligible if the intersection is within the top five (5) percent of clusters in its respective Regional Planning Agency (RPA) boundaries based on Equivalent Property Damage Only (EPDO). The HSIP provides funding for eligible improvements that reduce fatalities and serious injuries on public roads while requiring a data-driven, strategic approach that focuses on performance.

Based on the published Massachusetts Department of Transportation (MassDOT) database, there are no HSIP-eligible crash clusters within the limits of the entire audit area. Although no designation of high crash cluster is attributed to the location, the Town of Tewksbury has identified the intersections and corridor segment adjacent to the Heath Brook School as an area of traffic safety concern. An RSA has been completed for this location to initiate the evaluation of traffic safety challenges at the locations and identify potential countermeasures which can be included in the aforementioned transportation improvement project.

## Project Data

The RSA for Shawsheen Street from Patten Road to Ronald Drive was conducted on Tuesday, May 16, 2023 at 1:00 PM, with the audit meeting held in the Northern Middlesex Regional Emergency

Communications Center Conference (NMRECC) Training Room at 987 Whipple Road in Tewksbury, Massachusetts. A copy of the RSA agenda can be found in Appendix A. TEC and other team members also conducted various field visits to the audit location prior to the RSA meeting.

As presented in Table 1, the audit team consisted of a cross-section of state, regional, and local engineering, enforcement, maintenance, and emergency response professionals and was assembled in conjunction with input from MassDOT’s Traffic Safety Management Unit. Contact information for all participating audit team members is provided in Appendix B.

**Table 1: Participating Audit Team Members**

<b>Audit Team Member</b>	<b>Agency/Affiliation</b>	<b>Email Address</b>
Kevin Hardiman	Tewksbury DPW	<a href="mailto:khardiman@tewksbury-ma.gov">khardiman@tewksbury-ma.gov</a>
Andrew Stack	Tewksbury DPW	<a href="mailto:astack@tewksbury-ma.gov">astack@tewksbury-ma.gov</a>
Jon Marchand	Tewksbury Public Schools	<a href="mailto:jmarchand@tewksbury.k12.ma.us">jmarchand@tewksbury.k12.ma.us</a>
Patrick Harrington	Tewksbury Police Department	<a href="mailto:pharrington@tewksbury-ma.gov">pharrington@tewksbury-ma.gov</a>
Al Rosemond	Tewksbury Fire Department	<a href="mailto:arosemond@tewksbury-ma.gov">arosemond@tewksbury-ma.gov</a>
Alexandra Lowder	Tewksbury Comm Development	<a href="mailto:alowder@tewksbury-ma.gov">alowder@tewksbury-ma.gov</a>
James Terlizzi	MassDOT Traffic Safety	<a href="mailto:James.v.terlizzi@dot.state.ma.us">James.v.terlizzi@dot.state.ma.us</a>
Matt Laskey	MassDOT D4 Projects	<a href="mailto:Matthew.laskey@dot.state.ma.us">Matthew.laskey@dot.state.ma.us</a>
Bob Tragert	MassDOT D4	<a href="mailto:Robert.i.tragert@dot.state.ma.us">Robert.i.tragert@dot.state.ma.us</a>
Samuel Gregorio	TEC, Inc.	<a href="mailto:sgregorio@theengineeringcorp.com">sgregorio@theengineeringcorp.com</a>
Patsy Salazar	TEC, Inc.	<a href="mailto:psalazar@theengineeringcorp.com">psalazar@theengineeringcorp.com</a>

Audit participants were provided with materials to review prior to the audit meeting. The materials included a summary of crash data, collision diagrams, traffic volume data, and a summary of the type and severity of crashes. Participants were encouraged to visit the site prior to the audit and were urged to consider elements on MassDOT’s Safety Review Prompt List.

On the day of the audit, a pre-audit meeting was held to discuss the project’s background, the audit process, review the distributed materials, and discuss some of the issues that Team members had observed individually. The audit site walk consisted of field observations at the several audit intersections. Handwritten notes and photographs documented the observations made by audit team members during the site walk. Following the audit site walk, a post-audit meeting was held where the Team confirmed the observations made in the field and offered solutions to enhance the safety of areas noted in the site walk and pre-audit meeting. The countermeasures included low, medium, and high-cost countermeasures that could be implemented in the short, mid, and long-term.

## Project Location and Description

An audit area location map for Shawsheen Street from Patten Road to Ronald Drive, as well as the key intersections, is provided in Figure 1. A detailed description of the audit area roadways and intersections is provided in the following sections.



1" = 300'

# Shawsheen Street - Tewksbury, Massachusetts

Road Safety Audit



Figure 1

Project Location Map  
Shawsheen Street



## **Existing Geometry and Infrastructure Summary**

### *Roadway: Shawsheen Street*

Shawsheen Street is classified as an urban minor arterial roadway under the jurisdiction of the Town of Tewksbury. Shawsheen Street generally runs in the northeast and southwest and provides regional connections between Billerica to the south and Andover to the north. The corridor is utilized as a commuter cut through to/from Interstate 93 which is located at the easterly end of Shawsheen Street. This route is primarily utilized to avoid Billerica Center. For the purposes of this RSA, the cardinal direction of Shawsheen Street is noted as east-west. Shawsheen Street is approximately 25-feet wide with 11-foot lanes and marked shoulders. A double-yellow centerline separates bidirectional flow along Shawsheen Street. A sidewalk is provided on the southerly side of Shawsheen Street through the audit area and appears to be in a fair to deteriorated condition. Formal bicycle accommodation is not provided along Shawsheen Street. Speed along Shawsheen Street is regulated by MassDOT through Special Speed Regulation 379 & 379-A. For the audit area, the speed is posted at 30 mph. A 20-mph school zone is established in the vicinity of the Heath Brook School. Land uses within the audit area of Shawsheen Street is primarily residential in addition to the Tewksbury Convenient package store and the Heath Brook School.

### *Key Intersection: Shawsheen Street / Patten Road*

Patten Road, which is an urban major collector roadway under the jurisdiction of the Town, intersects Shawsheen Street at a 20-degree angle to form a three-way unsignalized intersection. The Patten Road southbound approach is under stop control while the Shawsheen Street eastbound and westbound approaches are free flowing. Traffic control at the intersection is supplemented by a utility pole mounted flashing beacon which provides a red flashing indication towards Patten Road. Each intersection approach consists of a single general-purpose travel lane with directional flow separated by a marked centerline. A sidewalk is present along the southerly side of Shawsheen Street through the intersection, along the northerly side of Shawsheen Street east of the intersection, and along the easterly side of Patten Road. There is no formal bicycle accommodation at the intersection. The skewed nature of the intersection impacts the location of the stop sign / stop line along the Patten Road southbound approach which is set far back from the Shawsheen Road travel way.

### *Key Intersection: Shawsheen Street / Foster Road / Beech Street*

Foster Road, which is an urban collector roadway under the jurisdiction of the Town, and Beech Street, a local roadway under the jurisdiction of the Town, intersect Shawsheen Street to form a four-way unsignalized intersection. Both Foster Road and Beech Street are under stop control while the Shawsheen Street eastbound and westbound approaches are free flowing. Traffic control at the intersection is also supplemented with an overhead flashing beacon assembly suspended by a span wire between two utility poles with one on the northwest corner and the other on the southeast corner. All four approaches consist of a single general-purpose lane with directional flow separated by a marked centerline. Sidewalks are provided along the southerly side of Shawsheen Street through the intersection, along the northerly side of Shawsheen Street west of the intersection, along the westerly side of Foster Street, and along the easterly

side of Beech Street. A crosswalk is striped across the Shawsheen Street west leg and across the Beech Street leg of the intersection. Ramps from the sidewalk to the crosswalk elevations are provided at each end of the crosswalks except for the Beech Street east side crosswalk end. The existing ramp openings are visibly out of compliance with American with Disabilities Act (ADA) / Architectural Access Board (AAB) standards. Bicycle accommodation is not provided at the intersection.

### **Vehicle Count Data**

Traffic volume data for this audit was obtained at Eastern Avenue for Turning Movement Counts (TMCs) and Automatic Traffic Recorder (ATR) counts conducted at the various audit area intersections. The details of the data collection effort for this audit are described below.

#### *Turning Movement Counts*

To establish existing traffic volume conditions, manual TMCs were conducted during a typical weekday (6:00 AM – 6:00 PM) on Thursday, April 13, 2023 at the various audit area intersections. Area schools, including the adjacent Heath Brook School, were in regular session during the time of the traffic counts. A detailed summary of the TMCs, partitioned into 15-minute intervals, is provided within Appendix D.

#### *Automatic Traffic Recorder Counts*

ATR counts were conducted along Shawsheen Street both west of Patten Road and east of Rhoda Street for a continuous 48-hour period from Wednesday, April 12, 2023, through Thursday, April 13, 2023, concurrent with the TMCs. A summary of the weekday ATR traffic data is presented in Table 1. A detailed summary of the ATR data, partitioned into 15-minute intervals, is provided within Appendix D.

**Table 2: Corridor Traffic Volumes**

<b>Intersection</b>	<b>AWDT<sup>a,b</sup></b>	<b>VPH<sup>b</sup></b>	<b>K Factor</b>	<b>Distribution</b>
Shawsheen Street, west of Patten Road:	7,088	--	--	--
Weekday Morning	--	551	7.8%	59.3% WB
Weekday Evening	--	784	11.1%	53.0% EB
Shawsheen Street, east of Rhoda Street:	10,833	--	--	--
Weekday Morning	--	798	7.4%	56.5% WB
Weekday Evening	--	1,130	10.4%	55.5% WB

<sup>a</sup> Average weekday daily traffic in vehicles per day.

<sup>b</sup> Vehicles per hour.

Shawsheen Street carries approximately 7,100 vehicles per day (vpd) west of Patten Road increasing to approximately 10,850 vpd east of Rhoda Street on a typical weekday. The peak hour traffic volumes along the corridor represent 7% to 11% of the overall daily volume. Directional traffic is generally weighted towards the westbound direction in the weekday morning while the weekday evening traffic flow changes between the eastbound direction west of Patten Road and the westbound direction east of Rhoda Street.

### Vehicle Speed Data

Speed data was collected as part of the ATRs, which were completed from Wednesday, April 12, 2023, through Thursday, April 13, 2022. A summary of the vehicle speed data along Shawsheen Street west of Patten Road indicated that the average speed of vehicles was 36 mph and the 85<sup>th</sup> percentile speed was 40 mph in the eastbound direction while the average speed of vehicles was 37 mph and the 85<sup>th</sup> percentile speed was 41 mph in the westbound direction. The speed data along Shawsheen Street east of Rhoda Street indicated that the average speed of vehicles was 36 mph and the 85<sup>th</sup> percentile speed was 40 mph in the eastbound direction while the average speed of vehicles was 35 mph and the 85<sup>th</sup> percentile speed was 39 mph in the westbound direction. Both the average speed and the 85<sup>th</sup> percentile speed along the Shawsheen Street corridor appear to be well in excess of the posted speed limit.

### General Crash History

Crash reports within the audit area were compiled and analyzed from the Town of Tewksbury Police Department and supplemented by MassDOT crash records for the most-recent consecutive six-year period (2017 - 2022), which includes the most recent four-year period (2017 – 2020) of complete data identified by MassDOT through the Interactive Mapping Portal for Analysis and Crash Tracking (IMPACT) database. The motor vehicle crash reports were reviewed to determine if any crash trends exist within the audit area.

In addition to examining the number of crashes at the audit intersections, an intersection crash rate was calculated by examining the occurrence of crashes over the volume of traffic passing through the audit intersections and comparing that rate to the rates for other similar locations statewide. The crash rate per million entering vehicles (MEV) was calculated using the evening peak-hour volumes from the TMCs, and the K-factor (relation of peak-hour traffic to daily traffic) identified in Table 3. The crash rate at the intersections was compared to the statewide and district-wide averages published by MassDOT in June 2018 to determine the significance of the crash occurrence. Both the statewide and District 4 average for unsignalized intersections is 0.57 crashes per MEV. The statewide average for urban minor arterial corridor segments is 3.49 crashes per million vehicle miles traveled (MVMT).

**Table 3: Crash Rates by Key Intersections**

Intersection	Total Crashes (2017 – 2022)	EPDO <sup>a</sup> (2018-2020)	Crash Rate <sup>b</sup> (2017 – 2019)	Statewide Avg	District-Wide Avg
Shawsheen Street / Patten Road	3	1	0.19	0.57	0.57
Shawsheen Street / Tewksbury Convenient	3	2	0.28	0.57	0.57
Shawsheen Street / Foster Road / Beech Street	8	1	0.50	0.57	0.57

<sup>a</sup> EPDO rank only based on crash data from HSIP-eligible 2018 through 2020 complete years.

<sup>b</sup> Crash rate only based on crash data from 2017 through 2019 complete years. 2020 not included in rate on direction from MassDOT.

The crash history at the audit intersections were also compared against EPDO within the North Middlesex Council of Governments (NMCOG) boundaries. EPDO ranks crashes based on the crash severity for the current 2018-2020 HSIP year of crash data. Within this current methodology, any type of injury crash (including fatal, incapacitating, non-incapacitating, and possible) has a weighting of twenty-

one (21) compared to a property damage only crash. The current NMCOG threshold for HSIP-eligibility is  $\geq 119$ , as reported by MassDOT's Traffic Safety Section.

### ***Intersection Crash Summary***

#### *Shawsheen Street / Patten Road*

This unsignalized intersection of Shawsheen Street / Patten Road experienced three (3) crashes over the most recent six-year period. The crash rate at this intersection was calculated at 0.19 crashes per MEV. The crash rate is significantly lower than the district and statewide average crash rates. The 2020 EPDO for this location was calculated at 1 which is significantly less than the HSIP threshold. Each of the three (3) crashes that occurred at the intersection were distinctively different. The first crash involved a vehicle sliding on snow-covered pavement while slowing for the Patten Road stop sign, then departing from the travel lane and impacting a tree. The second crash involved a vehicle attempting to bypass on the right to turn onto Patten Road from Shawsheen Street westbound. The third crash involved a vehicle exiting Patten Road and striking a vehicle traveling westbound along Shawsheen Street. Two (2) of the crashes occurred during periods of dark sky (dusk, night, or dawn). The crash data did not specifically highlight any crash trend.

#### *Shawsheen Street / Tewksbury Convenient Store Driveway*

This unsignalized intersection of Shawsheen Street / Tewksbury Convenient Store Driveway experienced three (3) crashes over the most recent six-year period. The crash rate at this intersection was calculated at 0.28 crashes per MEV. The crash rate is significantly lower than the district and statewide average crash rates. The 2020 EPDO for this location was calculated at 2 which is significantly less than the HSIP threshold. Each of the three (3) crashes that occurred at the intersection were distinctively different. The first crash involved a vehicle backing out of a head-in parking space and striking a right-turning vehicle along Shawsheen Street that was entering the head-in parking lot. The second crash involved a vehicle attempting to turn right into the head-in parking from Shawsheen Street westbound and being rear-ended by a trailing vehicle traveling along Shawsheen Street. The third crash involved a vehicle exiting Patten Road and striking a vehicle along Shawsheen Street westbound. The third crash occurred within the head-in parking lot outside Shawsheen Street. The vehicle exiting the head-in parking performed a back-up U-turn maneuver which resulted in the vehicle striking another parked vehicle. The maneuver was conducted by the motorist is assumed to occur because the motorist was directly attempting to avoid their vehicle backing into Shawsheen Street. The crash data did not specifically highlight any crash trend.

#### *Shawsheen Street / Foster Road / Beech Street*

This unsignalized intersection of Shawsheen Street / Foster Road / Beech Street experienced eight (8) crashes over the most recent six-year period. The crash rate at this intersection was calculated at 0.50 crashes per MEV. The crash rate is slightly lower than the district and statewide average crash rates. The 2020 EPDO for this location was calculated at 1 which is significantly less than the HSIP threshold. Six (6) of the crashes at this location were angled crashes with five (5) involving a Shawsheen Street westbound vehicle where sight distance is observed as limited. Two (2) specific crash reports indicated a vehicle 'inching' into the intersection which may be occurring because of the limited sight lines. Three

(3) crashes at the intersection resulted in a non-fatal injury. Half (4 of 8) crashes at this location occurred during the evening peak period (3PM-6PM) when traffic volumes are at their peak.

Table 4: Crash Data Summary

Parameter		Shawsheen St / Patten Rd	Shawsheen St / Foster Rd / Beech St	Shawsheen St / Tewksbury Conv Driveway	Shawsheen Street (non-intersection)
<b>Crash Year:</b>	2017	1	6	1	0
	2018	0	1	0	1
	2019	1	0	1	0
	2020	0	0	1	2
	2021	0	0	0	0
	2022	1	1	0	0
<b>TOTAL</b>		<b>3</b>	<b>8</b>	<b>3</b>	<b>3</b>
<b>Annual Average <sup>a</sup></b>		<b>0.66</b>	<b>2.33</b>	<b>1.00</b>	<b>0.33</b>
<b>Crash Rate (MEV or MVMT)</b>		<b>0.19</b>	<b>0.50</b>	<b>0.28</b>	<b>0.37</b>
<b>EPDO (2018-2020 HSIP)</b>		<b>1</b>	<b>1</b>	<b>2</b>	<b>-</b>
<b>Type:</b>	Angled	1	6	1	0
	Rear-End	0	1	1	2
	Sideswipe	1	1	1	0
	Head-on	0	0	0	0
	Single Vehicle	1	0	0	1
	Ped/Bike	0	0	0	0
	Not Reported	0	0	0	0
<b>TOTAL</b>		<b>3</b>	<b>8</b>	<b>3</b>	<b>3</b>
<b>Surface Conditions:</b>	Dry	1	6	3	3
	Wet	1	2	0	0
	Snow/Ice/Slush	1	0	0	0
	Other/Unknown	0	0	0	0
<b>TOTAL</b>		<b>3</b>	<b>8</b>	<b>3</b>	<b>3</b>
<b>Severity:</b>	Property Damage	3	4	3	3
	Non-Fatal Injury	0	4	0	0
	Fatality	0	0	0	0
	Not Reported	0	0	0	0
<b>TOTAL</b>		<b>3</b>	<b>8</b>	<b>3</b>	<b>3</b>
<b>Day of Week:</b>	Monday-Friday	2	8	2	2
	Saturday-Sunday	1	0	1	1
<b>TOTAL</b>		<b>3</b>	<b>8</b>	<b>3</b>	<b>3</b>
<b>Time of Day:</b>	6:00AM-9:00AM	0	2	0	0
	9:00AM-12:00PM	0	0	0	0
	12:00PM-3:00PM	0	0	1	1
	3:00PM-6:00PM	2	4	1	1
	6:00PM-9:00PM	0	2	1	1
	9:00PM-6:00AM	1	0	0	0
<b>TOTAL</b>		<b>3</b>	<b>8</b>	<b>3</b>	<b>3</b>

<sup>a</sup> Based on three years of data (01/01/2017 to 12/31/2019) per MassDOT request to not include 2020 during COVID timeframe.

### ***Corridor Crash Summary***

Separate from the individual key intersections within the audit area, the Shawsheen corridor from Patten Road to Ronald Drive experienced three (3) additional crashes over the most recent six-year period. The crash rate at this arterial segment was calculated at 0.37 crashes per MVMT. The crash rate is significantly lower than the statewide average crash rate for urban minor arterial corridors. Each of the three (3) crashes that occurred along the corridor segment were distinctively different. The first crash involved a vehicle striking a deer adjacent to the Heath Brook School. The second crash involved a vehicle slowing to turn left into Ronald Drive from Shawsheen Street eastbound being rear ended. The third crash involved a vehicle rear ending a second vehicle along Shawsheen Street adjacent to the Heath Brook School. The crash data did not specifically highlight any crash trend.

## **Audit Observations and Potential Safety Enhancements**

Pre- and post- RSA site walk meetings were held at the NMRECC located at 987 Whipple Road in Tewksbury, Massachusetts. The first stage included brief introductions, a review of the RSA process, and an overview of the safety characteristics within the audit area. Each participant was asked to provide their concerns and comments related to the safety issues at the audit intersection. At the end of the discussion about the corridor and intersection deficiencies, the group participated in a site walk to observe the audit location. The third stage of the meeting discussed potential countermeasures for the safety concerns raised during the discussions and site walk.

The RSA Team's field observations and discussions show that the Team has several general concerns about existing conditions along the audit corridor, which may negatively impact safety. Several of these concerns require further evaluation and design work to develop appropriate safety enhancements.

### ***Safety Issue #1: Roadway Geometric Elements***

#### **Specific Observations:**

*Cross-Section of Shawsheen Street* – Shawsheen Street approaching Patten Road from the west and approaching Foster Road / Beech Street from the east is approximately 25-feet wide edge of pavement to edge of pavement. This pavement cross-section significantly increases to 41-feet at the narrowest point between Patten Road and Foster Road / Beech Street. There is also a general lack of definition for vehicle travel / tracking and the head-in parking stalls through the intersection. The expansive pavement area invites excessive travel speeds through the intersections and results in a sizable width to the path of travel. The speed is exacerbated by the sag curvature of the roadway with the low-point adjacent to Patten Road. This sizable path of



**Image 1: Patten Road entering Shawsheen Street looking west showing excessive pavement width.**

travel may contribute to driver confusion where a trailing vehicle or opposing vehicles are unaware of the subject driver's route intent. The crash reports indicated one (1) crash at this intersection where a westbound vehicle attempted to turn right onto Patten around another vehicle where the excessive pavement and lack of travel path definition may have contributed to the crash.

*Angle of Patten Road* – Patten Road enters Shawsheen Street at an acute 20-degree angle with no Patten Road centerline curvature at the intersection to provide a traditional perpendicular intersection. The skew of the intersection results in an extensive area of pavement as well as the stop sign / stop line position significantly far back from the Shawsheen Street edge of travel way. Sight lines to the west along Shawsheen Street from Patten Road are generally nonexistent from the stop sign / stop line along Patten Road. Intersection sight distance (ISD) in this westerly direction along Shawsheen Street, limited by a large public shade tree and other vegetation on the intersection corner, is measured at approximately 240-feet which is insufficient for the eastbound operating speed (85<sup>th</sup> percentile speed = 40 mph) based on minimum recommendations established by the American Association of State Highway and Transportation Officials (AASHTO). The crash reports did not specifically indicate any crashes during the study period resulting from the lack of sight line from Patten Road; however, an audit participant noted that vehicles entering the intersection from Patten Road will usually drive past the stop line and inch into the widened Shawsheen Street westbound lane to view conflicting traffic traveling eastbound.

*Sight Lines from Foster Road / Beech Street* – The stop sign / stop line along Foster Street southbound at Shawsheen Street is 30-feet back from the Shawsheen Street edge of travel way. Sight lines to the east along Shawsheen Street from Foster Road are generally nonexistent from the stop sign / stop line along Patten Road. ISD from Foster Road in this easterly direction along Shawsheen Street, limited by the crest in the roadway's profile, is measured at approximately 360-feet. Similarly, ISD from Beech Street in this easterly direction along Shawsheen Street is also limited by the crest in the roadway's profile and is measured at approximately 240-feet. Both distances are insufficient for the westbound operating speed (85<sup>th</sup> percentile speed = 39 mph) based on desired recommendations established by the AASHTO. An audit participant noted, and witnessed during the RSA, that westbound motorists along Shawsheen Street turning right onto Foster Street block the sight line for vehicles along Foster Road southbound based on the horizontal curvature of the roadway. There is currently no intersection ahead warning signage along Shawsheen Street in advance of the intersection. The crash reports indicate that there were five (5) angle crashes during the study period involving a Foster Road or Beech Street vehicle and a Shawsheen Street westbound vehicle. Crash reports also indicated two (2) crashes where a vehicle "inched" into the intersection which is generally an indication of restricted visibility.

*Corner Radii* – The corner radius on the northeast corner of the Shawsheen Street / Foster Road / Beech Street intersection is approximately 65-feet and results in a large area of pavement which allows for higher travel speed for right-turning vehicles. Upon direct observation during the RSA, heavy commercial vehicles turning right from Shawsheen Street westbound to Foster Street did so with ample space between the outside wheels and the edge of pavement. This indicates that much of the



**Image 2: View of corner radius on Shawsheen Street / Foster Road / Beech Street northeast corner.**

pavement is unnecessary. Although no formal pedestrian accommodations are present on this corner, the excessive corner radius would also contribute to longer pedestrian crossings which are non-uncommon for the neighborhood setting. Similarly, the intersection's southwest corner may be excessive for the vehicle turning needs which concurrently results in an increased pedestrian crossing distance for the approaches crosswalk.

*Potential Safety Enhancements:*

1. Reduce the expansive pavement area of Shawsheen Street to result in a consistent cross-sectional width.
2. Relocate the edge of pavement on the northeast corner of the Shawsheen Street / Patten Road intersection to eliminate confusion for path of travel to/from Patten Road.
3. Within the existing edge of pavement, relocate the stop line / stop sign along Patten Road southbound closer to the Shawsheen Street travel way.
4. Consider reducing the curb-cut width for the head-in parking at the Tewksbury Convenient Store along Shawsheen Street.
5. Consider realigning the Patten Road southbound approach to Shawsheen Street to create a more traditional 90-degree intersection and remove excess pavement.
6. Consider removal of the public shade tree on the northwest corner of the Shawsheen Street / Patten Road intersection to extend the sight line from Patten Road.
7. Relocate the stop line / stop sign along Foster Road southbound closer to the Shawsheen Street travel way.
8. Trim or remove the vegetation / brush on the easterly side of Foster Street to open sight lines to Shawsheen Street.
9. Reconstruct the Shawsheen Street profile east of Foster Road / Beech Street to lower the crest of the roadway's vertical curvature.
10. Evaluate alternative traffic control at the intersection of Shawsheen Street / Foster Road / Beech Street to reduce the impact of insufficient sight lines to the east.
11. Install intersection ahead warning signage along Shawsheen Street in advance of the intersection of Shawsheen Street / Foster Road / Beech Street.
12. Relocate the 'Foster Road' sign from the westerly side of Foster Street to the easterly side to increase visibility of the sign to Shawsheen Street westbound traffic.
13. Relocate the post office mailbox on the easterly side of Beech Street to remove additional visibility obstructions.

14. Reduce the corner radius of the northeast corner of the Shawsheen Street / Foster Road / Beech Street intersection to lower travel speeds and remove excess pavement.
15. Evaluate the corner radius of the southwest corner of the Shawsheen Street / Foster Road / Beech Street intersection to remove excess pavement and shorten pedestrian crossing distance.

### ***Safety Issue #2: School Pick-up Period***

#### **Specific Observations:**

The Heath Brook School services Pre-K through 1<sup>st</sup> grade students. Regular dismissal beginning for the Heath Brook School at 3:05pm with staggered times by grade level. A small number of students are dismissed daily prior to 2:45pm. Audit participants noted that parents will start to arrive at the school nearly one-hour prior to school dismissal to line-up for pick-up. Generally, parents will start stacking for pick-up within the school grounds and continuing along the edge of pavement for Shawsheen Street eastbound extending back to or through the Foster Road / Beech Street intersection. To enter this queue, some Shawsheen Street westbound vehicles approaching the school will bypass the school grounds and U-turn within the widened area of Shawsheen Street between Patten Road and Foster Road. Heavy vehicles along Shawsheen Street will often need to straddle or cross over the centerline of the roadway to avoid sideswiping stacked parent vehicles. Audit participants also noted that is not uncommon for parents to park along the several side-streets on the north side of Shawsheen Street and walk over to the school to pick-up their child.



**Image 3: Visible deterioration of Shawsheen Street edge of pavement adjacent to Heath Brook School.**

The presence of vehicles along the southerly edge of pavement along Shawsheen Street contributes to significant deterioration of the pavement edge, grass panel, and sidewalk. This includes broken pavement, ‘alligator’ cracking, and depressions in the soil which may cause damage to vehicles and/or cause vehicles to lose traction when traveled upon. At night, the lack of clear definition to the roadway edge and the heavy presence of sand results in the pavement surface appearing larger which invites higher travel speeds or could result in vehicles departing the roadway surface.

#### **Potential Safety Enhancements:**

1. Evaluate opportunities to modify pick-up and drop-off procedures for the Heath Brook School in conjunction with the school staff, parents, and the Town which may result in more pick-up vehicles remaining within the school grounds.
2. Consider the construction of a separated stacking lane along Shawsheen Street within the right-of-way to remove and/or reduce potential conflict between parental vehicles and through traffic along Shawsheen Street.

3. Increase enforcement of illegal maneuvers, such as U-turns within Shawsheen Street, to reduce potential vehicle conflicts.
4. Reconstruct the shoulder, curb line, grass panel, and sidewalk along the southerly edge of Shawsheen Street.

### ***Safety Issue #3: Tewksbury Convenient Store Parking***

#### Specific Observations:

The Tewksbury Convenient (#160 Shawsheen Street) package store is located on the northwest corner of the Shawsheen Street / Foster Road / Beech Street intersection. The store has eight (8) head-in parking stalls along Shawsheen Street and eight (8) head-in parking stalls along Foster Road. The parking areas are separated by a raised intersection corner which carries the sidewalk along the westerly side of Foster Road to the crosswalk across Shawsheen Street. Parking stall pavement markings are provided; however, much of the markings are faded.



**Image 4: Head-in parking for Tewksbury Convenient along Shawsheen Street.**

Head-in parking stalls along Foster Road are aligned against the building but the distance from the stalls to Foster Road increases from south to north due to the angle of Foster Street. Visibility challenges for these parking stalls are further exacerbated by the trees along the northerly end of the property which limits the ability of a vehicle backing out of the parking stall to see Foster Street southbound traffic. The front of the head-in parking stalls along Shawsheen Street are staggered to match the staggered building façade. Each parking space along Shawsheen Street is typically 10-15 feet from the Shawsheen travel way and the parking stalls all reside lower in elevation than the adjacent Foster Road / Beech Street intersection. This results in visibility to Shawsheen Street to the east being very limited. The easternmost parking stalls along Shawsheen Street also are blocked by the raised intersection corner which forces parked vehicles to complete a longer backing maneuver to access the curb cut.

Three (3) crashes were reported involving the head-in parking along Shawsheen Street. The first crash involved a vehicle backing-out of a head-in parking space and striking a right-turning vehicle along Shawsheen Street entering the head-in parking. The second crash involved a vehicle attempting to turn right into the head-in parking from Shawsheen Street westbound and being rear-ended by a trailing vehicle along Shawsheen Street. The third crash involved a vehicle exiting Patten Road and striking a vehicle along Shawsheen Street westbound. The third crash occurred within the head-in parking lot outside Shawsheen Street. The vehicle exiting the head-in parking performed a back-up U-turn maneuver which resulted in the vehicle striking another parked vehicle. The maneuver that was conducted by the motorist is assumed to occur because the motorist was directly attempting to avoid backing their vehicle into Shawsheen Street. The crash data did not specifically highlight any crash trend.

Potential Safety Enhancements:

1. Coordinate with the owner of the Tewksbury Convenient Store to reapply pavement markings for head-in parking stalls.
2. In conjunction with the narrowing of Shawsheen Street's cross-section, reconstruct the parking field for the Tewksbury Convenient Store to provide a more traditional parking field.
3. Consider relocating the head-in parking along Shawsheen Street to position the back of stalls to be a consistent and shorter distance to/from the Shawsheen Street travel way.
4. Consider installing pavement markings across the head-in parking areas to define the pedestrian travel way along Foster Road.
5. Consider relocating the head-in parking stalls along Foster Road to position the back of stalls to be a consistent and shorter distance to/from the Foster Road travel way.
6. Trim the vegetation, in coordination with the property owner, at the northern end of head-in parking along Foster Road.
7. Consider modifying the parking fields along Shawsheen Street and Foster Road to accommodate on-street parallel parking stalls and reducing / eliminating the widen curb-cut. This may result in a lower number of available parking stalls.

***Safety Issue #4: Pedestrian and Bicycle Accommodation***

It was indicated at the RSA meeting that a low number of students will walk or bike to/from the Heath Brook School. This may be result of the Pre-K to 1<sup>st</sup> grade level of the school's students as opposed to the facilities.

Specific Observations:

*Pedestrian Accommodation* – Both anecdotal information and the traffic counts note that there is limited pedestrian activity in the audit area. A sidewalk is provided along one side of each roadway within the audit area except for Ronald Drive. Generally, all sidewalks in the audit area are in below average to deteriorated condition. Ramp openings are provided at each end of the crosswalk located within the audit area except for the Beech Street east side crosswalk end and adjacent to Ronald Drive. The existing ramp openings that are present are visibly out of compliance with ADA / AAB standards including those across each Heath Brook School driveway. Warning signage is present at and in advance of each crosswalk across Shawsheen Street; however, each sign has individual deficiencies:

- Shawsheen Street EB approach to crosswalk across Shawsheen Street, west of Foster Street – The advance warning sign is 500-feet in advance of the crosswalk where the message conveyance may be lost due to distance.

- Shawsheen Street WB approach to crosswalk across Shawsheen Street, west of Foster Street – The advance warning sign is faded and colored standard orange as opposed to fluorescent yellow-green similar to each other pedestrian sign. The pedestrian warning sign at the crosswalk is also 40-feet in advance of the crosswalk.
- Shawsheen Street EB and WB approaches to the crosswalk across Shawsheen Street, west of Ronald Drive – Both the advance warning sign and crosswalk warning sign are a diamond style S1-1 sign to represent a “school crossing.” The S1-1 designation is meant to be within a pentagon shape per the *Manual on Uniform Traffic Control Devices* (MUTCD).



**Image 5: Pedestrian signage 40-feet in advance of the crosswalk across Shawsheen Street.**

The sidewalk along the westerly side of Foster Road terminates at Shawsheen Street within a raised island with minimal definition to the existing crosswalk and the head-in parking for the Tewksbury Convenient package store. A pedestrian standing in the traditional ramp location to cross Shawsheen Street is currently in direct alignment with a potential backing vehicle from the head-in parking with no vertical separation or other barrier.

*Lack of Bicycle Accommodation* – There is currently no formal bicycle accommodation provided along the Shawsheen Street corridor within the audit area. Shoulder width along this corridor segment is limited which requires bicycles to ride slightly within the travel lane or atop the sidewalk.

Potential Safety Enhancements:

1. Reconstruct all sidewalks within the study area to provide full ADA/AAB compliance. Reset or install new curbing to provide vertical separation between pedestrian and vehicular traffic.
2. Reconstruct all existing accessible pedestrian ramps with ADA/AAB compliance.
3. Install a new accessible pedestrian ramp and pedestrian landing on the northerly end of the Shawsheen Street crosswalk at Ronald Drive.
4. Install a new accessible pedestrian ramp on the easterly end of the Beech Street crosswalk at Shawsheen Street.
5. Relocate the advance pedestrian warning sign along Shawsheen Street eastbound approaching Foster Road to be in closer proximity to the crosswalk.
6. Replace the advance pedestrian warning sign along Shawsheen Street westbound approaching Foster Road to be fluorescent yellow-green.
7. Relocate the pedestrian warning sign along Shawsheen Street westbound at the crosswalk to be directly adjacent to the crosswalk.

8. Remove existing pedestrian signage associated with the Shawsheen Street crosswalk at and in advance of Foster Road to the standard W11-2 sign without the depicted “crosswalk.”

9. Remove existing school crossing signage associated with the Shawsheen Street crosswalk at and in advance of Ronald Drive and within the Heath Brook School established school zone to the standard S1-1 pentagon shape.



MUTCD Sign: S1-1

10. Provide barrier or vertical separation between the pedestrian ramp location on the northerly side of the Shawsheen Street crosswalk adjacent to the Tewksbury Convenient package store.

11. Evaluate opportunities to install bicycle specific facilities along Shawsheen Street through and beyond the audit limits.

### ***Safety Issue #5: Traffic Control Devices***

#### ***Specific Observations:***



**Image 6: Pole mounted flashing beacon facing Patten Road with overhead flasher in distance at 4-way intersection.**

*Overhead Flashers* – Two way stop control at the intersection of Shawsheen Street / Foster Road / Beech Street is supplemented by an overhead flashing beacon assembly with red indications facing both Foster Road and Beech Street while yellow indications face the Shawsheen Street approaches. The direction of the flasher indication towards Shawsheen Street eastbound is also directly visible to Patten Road because of the approaches skewed angle. In addition, a pole-mounted flashing red beacon indication is present above the terminus of Patten Road. This indication is in deteriorated condition and is generally not reasonably visible to Patten Road traffic as the indication is to the side of the roadway and not overhead. Both indications visible from Patten Road are directly conflicting and may be difficult to assess during night-time hours.

*School Zone Flashers* – Solar-powered school zone flasher assemblies with posted ‘SPEED LIMIT 20 MPH WHEN FLASHING’ signage are present in both the Shawsheen Street eastbound and westbound directions in advance of the Heath Brook School. Each flasher assembly is in excellent condition and appropriately positioned based on *Massachusetts* MUTCD guidance for establishment of school zones. Although the position of the school zone flasher along Shawsheen Street westbound is per *Massachusetts* MUTCD guidance, a traditional 30 mph speed limit sign is also positioned approximately 75-feet beyond the school zone flasher which may convey a confusing message to motorist. Note that the position of the 30-mph speed limit sign is based on MassDOT’s Special Speed Regulation 379-A.

*Pavement Markings* – Many of the pavement markings in the vicinity of the audit area are faded, particularly the several crosswalk markings. Much of the Shawsheen Street double yellow center line is

also crossed over by more recent crack sealing of the asphalt pavement. In addition, the five crosswalk markings within the compacted audit area are three separate styles (crosswalk across Shawsheen Street, west of Ronald Drive is partially a continental style over more recent resurfacing work as compared to the former ladder style). Head-in parking stalls for the Tewksbury Convenient package store are also visibly faded.

*Potential Safety Enhancements:*

1. Install louvers within or an angled tunnel visor on the Shawsheen Street eastbound flashing beacon indication to block visibility from Patten Road.
2. Install retroreflective backplates to all overhead flashing beacon housing within the audit area.
3. Replace and relocate the Patten Road flashing beacon indication to a position over the travel lane path. The location and use of beacon may change with any approach realignment.
4. Replace the Patten Road flashing beacon with an LED flashing stop sign.
5. Consider relocation of the school zone flasher assembly along Shawsheen Street westbound in relation to the 30-mph speed limit sign.
6. Conduct discussions with MassDOT on the modification to the Special Speed Regulation to reposition the start of the 30-mph zone further east along Shawsheen Street.
7. Reapply all crosswalk markings within the audit area to be high visibility. Modify crosswalk styles to be consistent within the audit area and in the general vicinity.
8. Reapply the Shawsheen Street double yellow centerline to be fully visible atop the recently applied crack seal.
9. Relocate portable speed feedback signs to Shawsheen Street in vicinity of audit area.

***Safety Issue #6: Dark-Sky Crashes***

*Specific Observations:*

Nearly 35 percent of crashes (6 of 17) within the audit area occurred during periods of dark-sky or dawn/dusk. Field observations show that street lighting in the form of LED cobra-head luminaries approximately every two utility poles along Shawsheen Street and along the first utility poles for Foster Road, Beech Street, and Patten Road. In addition to street lighting, there appears to be ambient light from the adjacent homes and the Tewksbury Convenient package store parking area during the nighttime hours.

*Potential Safety Enhancements:*

1. Consider the installation of additional LED street luminaries along Shawsheen Street corridor.

2. Consider the installation of street-level lighting to enhance the overall light conditions in the audit area.
3. Provide enhanced, but balanced, lighting for each luminaire location within the audit area.

## Summary of Road Safety Audit

Each improvement considered has been categorized as short-term, mid-term, or long-term. Additionally, a cost category has been assigned to each improvement based on the definitions shown in Table 5 includes a summary of the potential safety enhancements. Safety benefit estimates are subjective, based on engineering experience and the relative percentage of crashes that may be reduced by the enhancement based on known and documented crash reduction factors (such as FHWA documented crash reduction factors).

Note that some costs are noted with two cost thresholds. This is included as some enhancements may require additional measures to ensure regulatory compliance. In addition, some enhancements are defined to mitigate multiple safety issues. For those enhancements identified for multiple issues, the enhancement has only been listed once in Table 6.

Table 5: Estimated Time Frame and Costs Breakdown

Time Frame		Costs	
Short-Term	<1 Year	Low	<\$10,000
Mid-Term	1-3 Years	Medium	\$10,001-\$50,000
Long-Term	>3 Years	High	>\$50,000

**Table 6: Potential Safety Enhancement Summary**

<b>Safety Issue</b>	<b>Potential Safety Enhancement</b>	<b>Safety Payoff</b>	<b>Time Frame</b>	<b>Cost</b>	<b>Jurisdiction</b>
Roadway Geometric Elements	Reduce the expansive pavement area of Shawsheen Street to result in a consistent cross-sectional width.	High	Long-Term	High-Cost	Town of Tewksbury
Roadway Geometric Elements	Relocate the edge of pavement on the northeast corner of the Shawsheen Street / Patten Road intersection.	Medium	Mid-Term	Mid-Cost	Town of Tewksbury
Roadway Geometric Elements	Within the existing edge of pavement, relocate the stop line / stop sign along Patten Road southbound closer to the Shawsheen Street travel way.	Medium	Short-Term	Low-Cost	Town of Tewksbury
Roadway Geometric Elements	Consider reducing the curb-cut width for the head-in parking at the Tewksbury Convenient Store along Shawsheen Street.	Medium	Mid-Term	Mid-Cost	Town of Tewksbury / Tewksbury Convenient
Roadway Geometric Elements	Consider realigning the Patten Road southbound approach to Shawsheen Street to create a more traditional 90-degree intersection and remove excess pavement.	High	Long-Term	Mid- to High-Cost	Town of Tewksbury
Roadway Geometric Elements	Consider removal of the public shade tree on the northwest corner of the Shawsheen Street / Patten Road intersection.	Medium	Mid-Term	Mid-Cost	Town of Tewksbury / Property Owner
Roadway Geometric Elements	Relocate the stop line / stop sign along Foster Road southbound closer to the Shawsheen Street travel way.	Medium	Short-Term	Low-Cost	Town of Tewksbury
Roadway Geometric Elements	Trim or remove the vegetation / brush on the easterly side of Foster Street.	Medium	Short-Term	Low-Cost	Town of Tewksbury

**Table 6: Potential Safety Enhancement Summary**

<b>Safety Issue</b>	<b>Potential Safety Enhancement</b>	<b>Safety Payoff</b>	<b>Time Frame</b>	<b>Cost</b>	<b>Jurisdiction</b>
Roadway Geometric Elements	Reconstruct the Shawsheen Street profile east of Foster Road / Beech Street to lower the crest of the roadway’s vertical curvature.	High	Long-Term	High-Cost	Town of Tewksbury
Roadway Geometric Elements	Evaluate alternative traffic control at the intersection of Shawsheen Street / Foster Road / Beech Street to reduce the impact of insufficient sight lines to the east.	High	Long-Term	Mid- to High-Cost	Town of Tewksbury
Roadway Geometric Elements	Install intersection ahead warning signage along Shawsheen Street in advance of the intersection of Shawsheen Street / Foster Road / Beech Street.	Medium	Short-Term	Low-Cost	Town of Tewksbury
Roadway Geometric Elements	Relocate the ‘Foster Road’ sign from the westerly side of Foster Street to the easterly side.	Medium	Short-Term	Low-Cost	Town of Tewksbury
Roadway Geometric Elements	Relocate the post office mailbox on the easterly side of Beech Street.	Low	Short-Term	Low-Cost	Town of Tewksbury
Roadway Geometric Elements	Reduce the corner radius of the northeast corner of the Shawsheen Street / Foster Road / Beech Street intersection.	Medium	Short-Term	Low-Cost	Town of Tewksbury
Roadway Geometric Elements	Evaluate the corner radius of the southwest corner of the Shawsheen Street / Foster Road / Beech Street intersection.	Medium	Short-Term	Low-Cost	Town of Tewksbury

**Table 6: Potential Safety Enhancement Summary**

Safety Issue	Potential Safety Enhancement	Safety Payoff	Time Frame	Cost	Jurisdiction
School Pick-up Period	Evaluate opportunities to modify pick-up and drop-off procedures for the Heath Brook School in conjunction with the school staff, parents, and the Town.	High	Mid-Term	Low- to Mid-Cost	Town of Tewksbury / Heath Brook School
School Pick-up Period	Consider the construction of a separated stacking lane along Shawsheen Street within the right-of-way.	High	Long-Term	High-Cost	Town of Tewksbury
School Pick-up Period	Increase enforcement of illegal maneuvers, such as U-turns within Shawsheen Street.	Medium	Short-Term	Low-Cost	Town of Tewksbury
School Pick-up Period	Reconstruct the shoulder, curb line, grass panel, and sidewalk along the southerly edge of Shawsheen Street.	Medium	Mid-Term	Mid-Cost	Town of Tewksbury
Tewksbury Convenient Parking	Coordinate with the owner of the Tewksbury Convenient to reapply pavement markings for head-in parking stalls.	Low	Short-Term	Low-Cost	Town of Tewksbury / Tewksbury Convenient
Tewksbury Convenient Parking	In conjunction with the narrowing of Shawsheen Street’s cross-section, reconstruct the parking field for the Tewksbury Convenient to provide a more traditional parking field.	High	Long-Term	Mid- to High-Cost	Town of Tewksbury / Tewksbury Convenient
Tewksbury Convenient Parking	Consider relocating the head-in parking along Shawsheen Street to position the back of stalls to be a consistent and shorter distance to/from the Shawsheen Street travel way.	Medium	Short-Term	Low-Cost	Town of Tewksbury / Tewksbury Convenient

**Table 6: Potential Safety Enhancement Summary**

Safety Issue	Potential Safety Enhancement	Safety Payoff	Time Frame	Cost	Jurisdiction
Tewksbury Convenient Parking	Consider installing pavement markings across the head-in parking areas to define the pedestrian travel way along Foster Road.	Medium	Short-Term	Low-Cost	Town of Tewksbury
Tewksbury Convenient Parking	Trim the vegetation, in coordination with the property owner, at the northern end of head-in parking along Foster Road.	Medium	Short-Term	Low-Cost	Town of Tewksbury
Tewksbury Convenient Parking	Consider modifying the parking fields along Shawsheen Street and Foster Road to accommodate on-street parallel parking stalls and reducing / eliminating the widen curb-cut.	Medium	Mid-Term	Mid-Cost	Town of Tewksbury / Tewksbury Convenient
Pedestrian and Bicycle Accommodation	Reconstruct all sidewalks within the study area to provide full ADA/AAB compliance. Reset or install new curbing to provide vertical separation between pedestrian and vehicular traffic.	High	Mid- to Long Term	Mid- to High-Cost	Town of Tewksbury
Pedestrian and Bicycle Accommodation	Reconstruct all existing accessible pedestrian ramps with ADA/AAB compliance.	Medium	Short- to Mid-Term	Mid-Cost	Town of Tewksbury
Pedestrian and Bicycle Accommodation	Install a new accessible pedestrian ramp and pedestrian landing on the northerly end of the Shawsheen Street crosswalk at Ronald Drive.	Medium	Short-Term	Low-Cost	Town of Tewksbury
Pedestrian and Bicycle Accommodation	Install a new accessible pedestrian ramp on the easterly end of the Beech Street crosswalk at Shawsheen Street.	Medium	Short-Term	Low-Cost	Town of Tewksbury

**Table 6: Potential Safety Enhancement Summary**

Safety Issue	Potential Safety Enhancement	Safety Payoff	Time Frame	Cost	Jurisdiction
Pedestrian and Bicycle Accommodation	Relocate the advance pedestrian warning sign along Shawsheen Street eastbound approaching Foster Road to be in closer proximity to the crosswalk.	Medium	Short-Term	Low-Cost	Town of Tewksbury
Pedestrian and Bicycle Accommodation	Replace the advance pedestrian warning sign along Shawsheen Street westbound approaching Foster Road to be fluorescent yellow-green.	Low	Short-Term	Low-Cost	Town of Tewksbury
Pedestrian and Bicycle Accommodation	Relocate the pedestrian warning sign along Shawsheen Steet westbound at the crosswalk to be directly adjacent to the crosswalk	Medium	Short-Term	Low-Cost	Town of Tewksbury
Pedestrian and Bicycle Accommodation	Remove existing pedestrian signage associated with the Shawsheen Street crosswalk at and in advance of Foster Road to the standard W11-2 sign without the depicted “crosswalk.”	Low	Short-Term	Low-Cost	Town of Tewksbury
Pedestrian and Bicycle Accommodation	Remove existing school crossing signage associated with the Shawsheen Street crosswalk at and in advance of Ronald Drive and within the Heath Brook School established school zone to the standard S1-1 pentagon shape.	Low	Short-Term	Low-Cost	Town of Tewksbury
Pedestrian and Bicycle Accommodation	Provide barrier or vertical separation between the pedestrian ramp location on the northerly side of the Shawsheen Street crosswalk adjacent to the Tewksbury Convenient package store.	Medium	Mid-Term	Mid-Cost	Town of Tewksbury

**Table 6: Potential Safety Enhancement Summary**

<b>Safety Issue</b>	<b>Potential Safety Enhancement</b>	<b>Safety Payoff</b>	<b>Time Frame</b>	<b>Cost</b>	<b>Jurisdiction</b>
Pedestrian and Bicycle Accommodation	Evaluate opportunities to install bicycle specific facilities along Shawsheen Street through and beyond the audit limits.	High	Long-Term	Mid- to High-Cost	Town of Tewksbury
Traffic Control Devices	Install louvers within or an angled tunnel visor on the Shawsheen Street eastbound flashing beacon indication to block visibility from Patten Road.	Medium	Short-Term	Low-Cost	Town of Tewksbury
Traffic Control Devices	Install retroreflective backplates to all overhead flashing beacon housing within the audit area.	Medium	Short-Term	Low-Cost	Town of Tewksbury
Traffic Control Devices	Replace and relocate the Patten Road flashing beacon indication to a position over the travel lane path.	Medium	Short-Term	Low-Cost	Town of Tewksbury
Traffic Control Devices	Replace the Patten Road flashing beacon with an LED flashing stop sign.	Medium	Short-Term	Low-Cost	Town of Tewksbury
Traffic Control Devices	Consider relocation of the school zone flasher assembly along Shawsheen Street westbound in relation to the 30-mph speed limit sign.	Low	Short-Term	Low-Cost	Town of Tewksbury
Traffic Control Devices	Conduct discussions with MassDOT on the modification to the Special Speed Regulation to reposition the start of the 30-mph zone further east along Shawsheen Street.	Low	Mid-Term	Low-Cost	Town of Tewksbury / MassDOT
Traffic Control Devices	Reapply the Shawsheen Steet double yellow centerline to be fully visible atop the recently applied crack seal.	Medium	Short-Term	Low-Cost	Town of Tewksbury

**Table 6: Potential Safety Enhancement Summary**

<b>Safety Issue</b>	<b>Potential Safety Enhancement</b>	<b>Safety Payoff</b>	<b>Time Frame</b>	<b>Cost</b>	<b>Jurisdiction</b>
Traffic Control Devices	Relocate portable speed feedback signs to Shawsheen Street in vicinity of audit area	Low	Short-Term	Low-Cost	Town of Tewksbury
Dark Sky Crashes	Consider the installation of additional LED street luminaries along Shawsheen Street corridor.	Medium	Mid-Term	Mid-Cost	Town of Tewksbury
Dark Sky Crashes	Consider the installation of street-level lighting to enhance the overall light conditions in the audit area.	High	Long-Term	High-Cost	Town of Tewksbury
Dark Sky Crashes	Provide enhanced, but balanced, lighting for each luminaire location within the audit area.	Medium	Short-Term	Low to Mid-Cost	Town of Tewksbury

## Appendix A. RSA Meeting Agenda

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# Agenda

## Road Safety Audit

### LOCATION

Meeting Location:  
NMRECC – Training Room  
987 Whipple Road  
Tewksbury, Massachusetts  
Tuesday, May 16, 2023  
1:00 PM – 4:00 PM

Type of meeting: High Crash Location – Road Safety Audit  
Attendees: Invited Participants to Comprise a Multidisciplinary Team  
Please bring: Thoughts and Enthusiasm!

1:00 PM Welcome and Introductions  
• Introductions

1:15 PM Review of Site-Specific Material  
• Crash Summaries – provided in advance.  
• Existing Geometries and Conditions  
• Traffic Operations

2:00 PM Visit the Site (Shawsheen Street from Patten Road to Ronald Drive)  
• Conduct Field Visit  
• As a group, identify areas for improvement

3:00 AM Post Visit Discussion / Completion of RSA  
• Discuss observations and finalize findings  
• Discuss potential improvements and finalize recommendations

4:00 PM Adjourn for the Day – but the RSA has not ended

### Instructions for Participants:

- Before attending the RSA on May 16, 2023, participants are encouraged to drive through the Shawsheen Street location and complete / consider elements on the RSA Prompt List, with a focus on safety.
- All participants will be actively involved throughout the RSA process. Participants are encouraged to come with thoughts and ideas; however, remember that the synergy that develops and respect for others' opinions are key elements to the success of the overall RSA process.
- After the RSA meeting, participants will be asked to comment and respond to the document materials to assure it is reflective of the RSA completed by the multidisciplinary team.

## Appendix B. RSA Audit Team Contact List

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## Participating Audit Team Members

Date: May 16, 2023

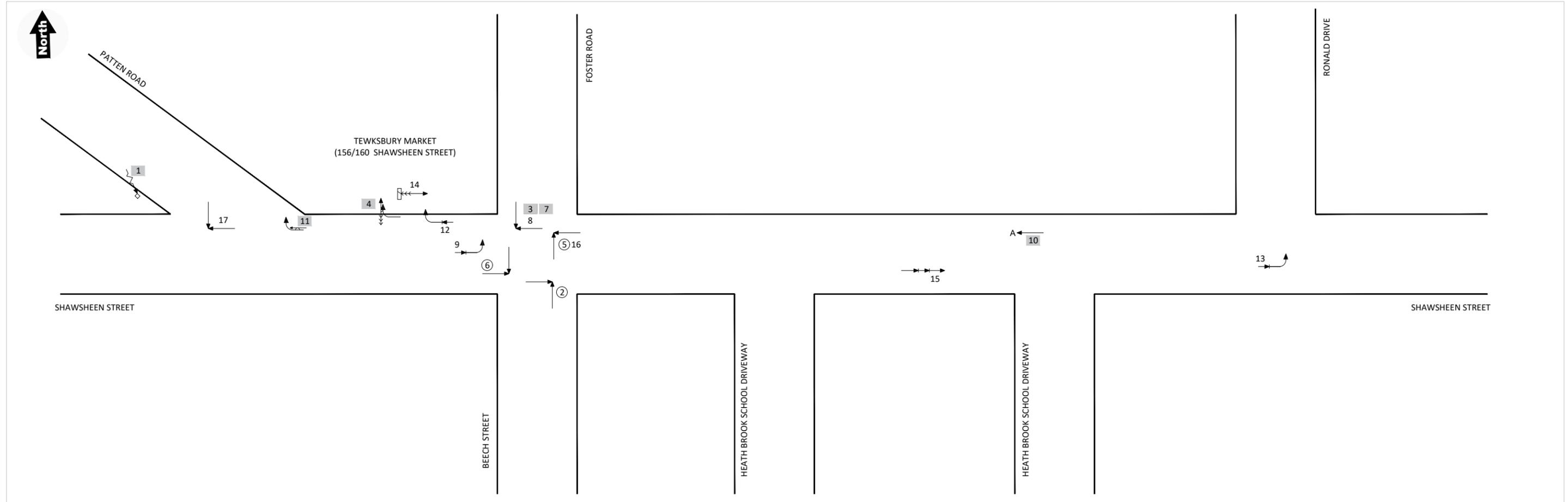
<b>Audit Team Members</b>	<b>Agency/Affiliation</b>	<b>Email Address</b>
Name	Agency	Email
Kevin Hardiman	Tewksbury DPW	<a href="mailto:khardiman@tewksbury-ma.gov">khardiman@tewksbury-ma.gov</a>
Andrew Stack	Tewksbury DPW	<a href="mailto:astack@tewksbury-ma.gov">astack@tewksbury-ma.gov</a>
Jon Marchand	Tewksbury Public Schools	<a href="mailto:jmarchand@tewksbury.k12.ma.us">jmarchand@tewksbury.k12.ma.us</a>
Patrick Harrington	Tewksbury Police Department	<a href="mailto:pharrington@tewksbury-ma.gov">pharrington@tewksbury-ma.gov</a>
Al Rosemond	Tewksbury Fire Department	<a href="mailto:arosemond@tewksbury-ma.gov">arosemond@tewksbury-ma.gov</a>
Alexandra Lowder	Tewksbury Comm Development	<a href="mailto:alowder@tewksbury-ma.gov">alowder@tewksbury-ma.gov</a>
James Terlizzi	MassDOT Traffic Safety	<a href="mailto:James.v.terlizzi@dot.state.ma.us">James.v.terlizzi@dot.state.ma.us</a>
Matt Laskey	MassDOT D4 Projects	<a href="mailto:Matthew.laskey@dot.state.ma.us">Matthew.laskey@dot.state.ma.us</a>
Bob Tragert	MassDOT D4	<a href="mailto:Robert.i.tragert@dot.state.ma.us">Robert.i.tragert@dot.state.ma.us</a>
Samuel Gregorio	TEC, Inc.	<a href="mailto:sgregorio@theengineeringcorp.com">sgregorio@theengineeringcorp.com</a>
Patsy Salazar	TEC, Inc.	<a href="mailto:psalazar@theengineeringcorp.com">psalazar@theengineeringcorp.com</a>

## Appendix C. Detailed Crash Data

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Not to Scale

LOCATION: Shawsheen Street from Patten Road to Ronald Drive  
 CITY/STATE: Tewksbury, Massachusetts  
 TIME PERIOD: 01/01/2017- 12/31/2022  
 PREPARED BY: TEC, Inc.  
 SOURCE: Tewksbury Police Department & Massachusetts Department of Transportation



LEGEND			SHOW FOR COLLISION		
→	VEHICLE PATH	↔	HEAD-ON COLLISION	□	FIXED OBJECT
↔	BACKING VEHICLE	↘	ANGLED COLLISION	⊗	MOVEABLE OBJECT
↔	SIDESWIPE COLLISION	→	FIXED OBJECT COLLISION	⊞	PARKED VEHICLE
→	PEDESTRIAN COLLISION	→	OVERTURNED VEHICLE	○	PERSONAL INJURY
→	CYCLIST COLLISION	→	OUT-OF-CONTROL VEHICLE	⊙	FATALITY
→	REAR-END COLLISION	■	NIGHT TIME CRASH	A	ANIMAL

SUMMARY OF CRASHES ON DIAGRAM								
	REAR-END	SIDESWIPE	HEAD-ON	ANGLED	SINGLE VEH	PED/BIKE	OTHER / UNK	TOTAL
PROPERTY DAMAGE ONLY	4	2	0	5	2	0	0	13
FATAL / NON-FATAL INJURY	0	0/1	0	0/3	0	0/0	0	4
UNKNOWN / NOT REPORTED	0	0	0	0	0	0	0	0
TOTAL	4	3	0	8	2	0	0	17

Figure C-1  
Collision Diagram  
2017 - 2022 Crash Data

T:\1350\CAD\HIGHWAY\GRAPHICS\1350\_COLLISION DIAGRAM.DWG 5/13/2023 12:48 PM

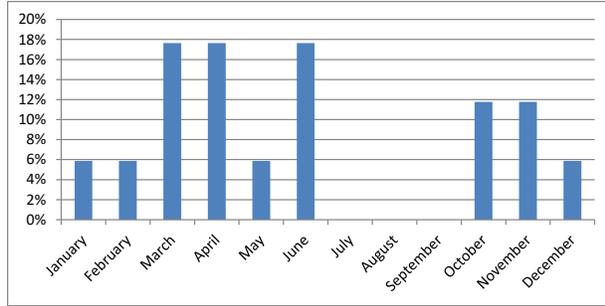
**Crash Data Summary Tables**  
 Foster Road, Beech Street, Patten Road @ Shawsheen Street - Tewksbury, Massachusetts  
 01/01/2017 - 12/31/2022

Collision Diagram	Crash Date	Crash Time	Ambient Light	Weather Condition	Road Surface	Number of Vehicles	Crash Severity	Number of NonFatal Injuries	Manner of Collision	Driver Contributing Codes	Detailed Narrative (from Crash Report)
1	1/8/2017	2:19 AM	Dark - Not Lighted	Snow	Snow	1	Property Damage Only	0	Single Vehicle	Not Reported	MV1 traveling along Patten Road SB preparing to stop at stop sign for Shawsheen Street. Vehicle begins to slid on snow covered roadway and strikes tree at #20 Patten Road.
2	4/20/2017	3:53 PM	Daylight	Clear	Dry	2	Non-fatal injury	1	Angled	Failure to Yield Right-of-Way	MV1 traveling Beech Street NB crossing Shawsheen Street. MV1 comes to a stop and before crossing Shawsheen Street. MV2 traveling Shawsheen Street EB passing Beech Street strikes driver's side of MV1.
3	4/21/2017	5:00 PM	Dusk	Clear	Dry	2	Non-fatal Injury	1	Angled	Failure to Yield Right-of-Way	MV2 traveling Shawsheen Street WB passing Foster Road. MV1 traveling Foster Road SB straight through the intersection, MV2 strikes the left side of MV1.
4	5/21/2017	7:18 PM	Dusk	Clear	Dry	2	Property Damage Only	0	Sideswipe	Other	MV1 backing out of space at 156 Shawsheen Street. MV2 turns right into 156 Shawsheen Street from WB and swipes the front left side of MV1.
5	6/16/2017	5:24 PM	Daylight	Rain	Wet	2	Non-fatal Injury	1	Angled	Failure to Yield Right-of-Way	MV1 traveling Shawsheen Street WB passing Beech Street. MV2 traveling Beech Street NB crossing through intersection strikes front of MV1.
6	6/30/2017	4:26 PM	Daylight	Clear	Dry	2	Non-fatal injury	2	Sideswipe	Other	MV1 traveling Foster Street SB inches into the intersection. MV2 (motorcycle) traveling Shawsheen Street EB swipes the front of MV1, causing driver of MV2 to be ejected from vehicle.
7	11/1/2017	7:19 AM	Dawn	Clear	Dry	2	Property Damage Only	0	Angled	Failure to Yield Right-of-Way	MV1 traveling Foster Street SB crossing Shawsheen Street. MV2 traveling Shawsheen Street WB passing Beech Street / Foster Street. MV1 did not observe MV2 behind other vehicle turning, MV1 struck right side of MV2.
8	11/30/2017	8:37 AM	Daylight	Clear	Dry	2	Property Damage Only	0	Angled	No Improper Driving	MV2 traveling Foster Street SB approaching Shawsheen Street with MV1 traveling Shawsheen Street WB. MV2 crashes into MV1.
9	6/4/2018	6:23 PM	Daylight	Rain	Wet	2	Property Damage Only	0	Rear-end	No Improper Driving	MV1 traveling Shawsheen Street EB slows to a stop to turn left onto Foster Street. MV2 following on Shawsheen Street EB does not stop in time and strikes back on MV1.
10	12/31/2018	6:08 PM	Dark - Lighted	Clear	Dry	1	Property Damage Only	0	Single Vehicle	No Improper Driving	MV1 traveling Shawsheen Street WB near Heath Brook School collides with deer.
11	3/28/2019	5:10 PM	Dusk	Clear	Dry	2	Property Damage Only	0	Sideswipe	Failure to Keep in Proper Lane	MV1 and MV2 traveling Shawsheen Street WB. MV2 starts to turn right onto Patten Road. MV1 attempts to pass MV2 on the right. MV1 swipes the right side on MV2.
12	4/25/2019	1:58 PM	Daylight	Clear	Dry	2	Property Damage Only	0	Rear-end	Followed Too Closely	MV1 and MV2 traveling Shawsheen Street WB. MV1 starts to turn right into 156 Shawsheen Street. MV2 continues straight and strikes back of MV1.
13	2/29/2020	12:00 PM	Daylight	Clear	Dry	2	Property Damage Only	0	Rear-end	Erratic / Aggressive / Reckless Driving	MV1 and MV2 traveling Shawsheen Street EB approaching Ronald Drive. MV2 stopped in EB lane of Shawsheen Street to turn left onto Ronald Dr. MV1 rear ends MV2.
14	10/9/2020	3:01 PM	Daylight	Clear	Dry	2	Property Damage Only	0	Angled	Inattention / Distracted	At 156 Shawsheen St. MV1 is parked facing north in head-in parking off Shawsheen Street adjacent to Patten Road. MV2 parked facing north, backs out of space too far and strikes back of MV1. Parking maneuver may be required based on proximity to Shawsheen Street.
15	10/27/2020	5:30 PM	Daylight	Clear	Dry	3	Property Damage Only	0	Rear-end	Followed Too Closely	MV1, MV2, and MV3 traveling Shawsheen Street EB adjacent to Heath Brook School., MV1 came to a stop causing MV2 to rear-end MV1 and MV3 rear-end MV2.
16	3/16/2022	8:58 AM	Daylight	Clear	Dry	2	Property Damage Only	0	Angled	Failure to Yield Right-of-Way	MV1 traveling Beech Street NB came to a stop at Shawsheen Street then inched out into the middle of the intersection. MV2 traveling Shawsheen Street WB struck by MV1 on the left side.
17	3/24/2022	3:08 PM	Daylight	Rain	Wet	2	Property Damage Only	0	Angled	Failure to Yield Right-of-Way	MV1 traveling Shawsheen Street WB passing Patten Road. MV2 traveling Patten Road EB pulls out in front of MV1 causing MV1 to strike front of MV2.

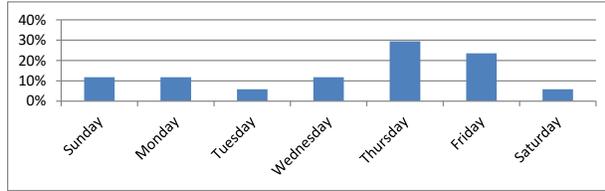
**Crash Data Summary Charts**  
 Foster Road, Beech Street, Patten Road @ Shawsheen Street - Tewksbury, Massachusetts  
 01/01/2017 - 12/31/2022

**Foster Road, Beech Street, & Patten Road @ Shawsheen Street** 17

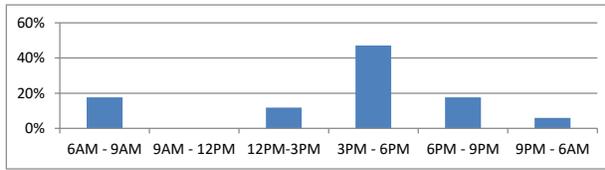
Month	#	%
January	1	6%
February	1	6%
March	3	18%
April	3	18%
May	1	6%
June	3	18%
July	0	0%
August	0	0%
September	0	0%
October	2	12%
November	2	12%
December	1	6%



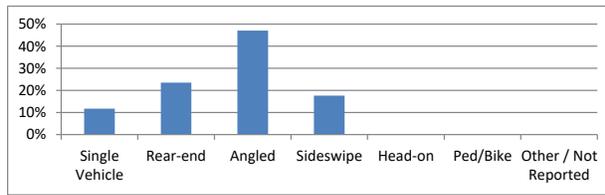
Day of Week	#	%
Sunday	2	12%
Monday	2	12%
Tuesday	1	6%
Wednesday	2	12%
Thursday	5	29%
Friday	4	24%
Saturday	1	6%



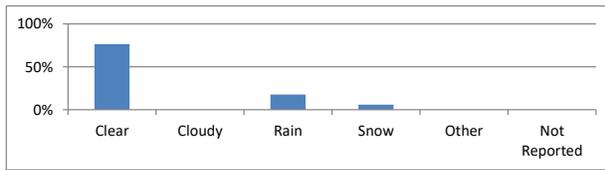
Time of Day	#	%
6AM - 9AM	3	18%
9AM - 12PM	0	0%
12PM-3PM	2	12%
3PM - 6PM	8	47%
6PM - 9PM	3	18%
9PM - 6AM	1	6%



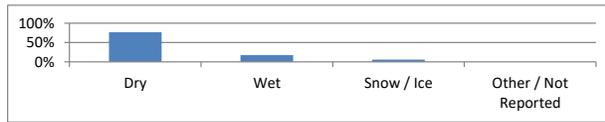
Manner of Collision	#	%
Single Vehicle	2	12%
Rear-end	4	24%
Angled	8	47%
Sideswipe	3	18%
Head-on	0	0%
Ped/Bike	0	0%
Other / Not Reported	0	0%



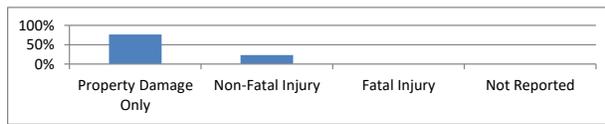
Weather Conditions	#	%
Clear	13	76%
Cloudy	0	0%
Rain	3	18%
Snow	1	6%
Other	0	0%
Not Reported	0	0%



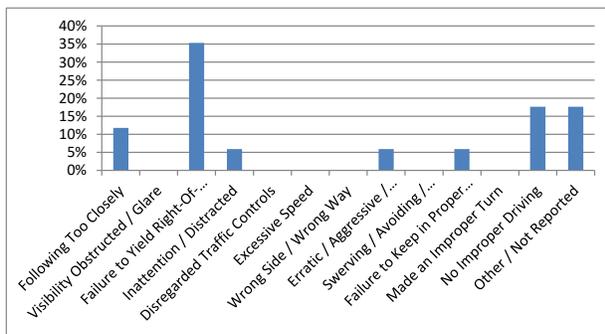
Road Surface	#	%
Dry	13	76%
Wet	3	18%
Snow / Ice	1	6%
Other / Not Reported	0	0%



Crash Severity	#	%
Property Damage Only	13	76%
Non-Fatal Injury	4	24%
Fatal Injury	0	0%
Not Reported	0	0%



Main Contributing Factor from Narrative	#	%
Following Too Closely	2	12%
Visibility Obstructed / Glare	0	0%
Failure to Yield Right-Of-Way	6	35%
Inattention / Distracted	1	6%
Disregarded Traffic Controls	0	0%
Excessive Speed	0	0%
Wrong Side / Wrong Way	0	0%
Erratic / Aggressive / Reckless Driving	1	6%
Swerving / Avoiding / Over-Steering / Over-Correcting	0	0%
Failure to Keep in Proper Lane	1	6%
Made an Improper Turn	0	0%
No Improper Driving	3	18%
Other / Not Reported	3	18%









## SEGMENT CRASH RATE WORKSHEET

CITY/TOWN : Tewksbury COUNT DATE : 4/13/2023

DISTRICT : 4

~ SEGMENT DATA ~

ROADWAY NAME: Shawsheen Street

START POINT: Patten Road

END POINT: Ronald Drive

FUNCTIONAL CLASSIFICATION OF ROADWAY: Urban Minor Arterial

ROADWAY DIAGRAM (LABEL ROADWAY AND CROSS STREETS)



AVERAGE DAILY TRAFFIC

SEGMENT LENGTH IN MILES ( L ): **0.2272727**

AVERAGE DAILY TRAFFIC VOLUME ( V ): 10,833

TOTAL # OF CRASHES: **1** # OF YEARS: **3** AVERAGE # OF CRASHES PER YEAR ( A ): **0.33**

CRASH RATE CALCULATION :

**0.37**

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

Comments : \_\_\_\_\_

Project Title & Date: Road Safety Audit - Tewksbury, MA

## Appendix D. Additional Information

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PDI File #: 239283 A  
 Location: N: Driveway NE: Lot NW: Patten Road  
 Location: E: Shawsheen Street W: Shawsheen Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350  
 Count Date: Thursday, April 13, 2023  
 Start Time: 6:00 AM  
 End Time: 6:00 PM  
 Class:



**Cars and Heavy Vehicles (Combined)**

	Driveway						Lot						Shawsheen Street						Shawsheen Street						Patten Road						Total
	from North						from Northeast						from East						from West						from Northwest						
	Hard Right	Right	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	U-Turn	Total	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	Total	
6:00 AM	0	0	0	0	0	0	0	0	1	1	0	2	0	0	6	24	0	30	18	0	0	0	0	18	0	16	0	0	0	16	66
6:15 AM	0	0	0	0	0	0	0	1	0	1	0	2	2	1	15	36	0	54	31	0	0	0	0	31	0	20	1	0	0	21	108
6:30 AM	0	0	0	0	0	0	0	1	0	4	0	5	2	0	13	49	0	64	41	0	0	0	0	41	0	12	1	0	0	13	123
6:45 AM	0	0	0	0	0	0	0	2	0	0	0	2	1	0	19	70	0	90	48	1	0	0	0	49	0	30	1	0	0	31	172
Total	0	0	0	0	0	0	0	4	1	6	0	11	5	1	53	179	0	238	138	1	0	0	0	139	0	78	3	0	0	81	469
7:00 AM	0	0	0	0	0	0	0	2	1	0	0	3	0	0	25	78	0	103	42	0	0	0	0	42	0	14	1	0	0	15	163
7:15 AM	0	1	1	0	0	2	0	0	2	0	0	2	1	0	20	66	0	87	58	0	0	0	0	58	0	16	0	0	0	16	165
7:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	2	0	15	95	0	112	67	1	0	0	0	68	0	14	0	0	0	14	195
7:45 AM	0	0	1	0	0	1	0	0	2	2	0	4	4	1	15	77	0	97	52	0	0	0	0	52	0	16	0	0	0	16	170
Total	0	1	2	0	0	3	0	2	6	2	0	10	7	1	75	316	0	399	219	1	0	0	0	220	0	60	1	0	0	61	693
8:00 AM	0	0	0	0	0	0	0	0	1	1	0	2	0	0	21	82	0	103	46	2	0	0	0	48	0	16	1	0	0	17	170
8:15 AM	0	0	0	0	0	0	0	1	2	0	0	3	1	0	27	68	0	96	58	1	0	1	0	60	0	10	2	0	0	12	171
8:30 AM	0	0	0	0	0	0	0	2	0	2	0	4	0	0	24	81	0	105	50	2	0	0	0	52	0	19	1	0	0	20	181
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9:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	1	0	17	52	0	70	45	1	0	1	0	47	0	14	1	0	0	15	133
9:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	2	0	15	49	0	66	52	0	0	0	0	52	1	11	0	1	0	13	132
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10:15 AM	0	0	0	0	0	0	0	0	1	3	0	4	0	1	13	41	0	55	39	1	0	0	1	41	0	6	0	0	0	6	106
10:30 AM	0	0	1	0	0	1	0	1	0	0	0	1	1	0	14	49	0	64	38	0	0	0	0	38	0	8	0	0	0	8	112
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PDI File #: 239283 A  
 Location: N: Driveway NE: Lot NW: Patten Road  
 Location: E: Shawsheen Street W: Shawsheen Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350  
 Count Date: Thursday, April 13, 2023  
 Start Time: 6:00 AM  
 End Time: 6:00 PM  
 Class:



**Cars and Heavy Vehicles (Combined)**

	Driveway						Lot						Shawsheen Street						Shawsheen Street						Patten Road						Total
	from North						from Northeast						from East						from West						from Northwest						
	Hard Right	Right	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	U-Turn	Total	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	Total	
4:15 PM	0	0	1	0	0	1	0	1	1	2	0	4	4	0	61	89	0	154	96	1	0	0	0	97	1	28	2	0	0	31	287
4:30 PM	0	1	0	0	0	1	0	0	2	4	0	6	1	0	40	91	0	132	98	1	0	0	0	99	2	20	0	0	0	22	260
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	1	2	0	39	91	0	132	106	0	0	0	0	106	0	27	0	0	0	27	266
<b>Total</b>	0	1	1	0	0	2	0	2	6	9	0	17	12	0	190	355	0	557	393	3	0	0	0	396	3	98	2	0	0	103	1075
5:00 PM	1	0	1	0	0	2	0	2	0	0	0	2	3	0	39	81	0	123	93	0	0	0	0	93	0	21	0	0	0	21	241
5:15 PM	0	0	0	0	0	0	1	0	2	1	0	4	1	0	33	98	0	132	115	0	0	0	0	115	0	25	0	0	0	25	276
5:30 PM	0	0	0	0	0	0	0	2	0	0	0	2	1	0	28	75	0	104	102	0	0	2	0	104	1	33	2	0	0	36	246
5:45 PM	0	1	0	0	0	1	0	1	1	4	0	6	2	0	26	70	0	98	108	1	0	1	0	110	0	25	0	0	0	25	240
<b>Total</b>	1	1	1	0	0	3	1	5	3	5	0	14	7	0	126	324	0	457	418	1	0	3	0	422	1	104	2	0	0	107	1003
<b>Grand Total</b>	5	4	7	0	0	16	1	34	33	63	0	131	75	4	1120	2789	0	3988	2873	30	1	8	2	2914	12	753	28	3	0	796	7845
Approach %	31.3	25.0	43.8	0.0	0.0		0.8	26.0	25.2	48.1	0.0		1.9	0.1	28.1	69.9	0.0		98.6	1.0	0.0	0.3	0.1		1.5	94.6	3.5	0.4	0.0		
Total %	0.1	0.1	0.1	0.0	0.0	0.2	0.0	0.4	0.4	0.8	0.0	1.7	1.0	0.1	14.3	35.6	0.0	50.8	36.6	0.4	0.0	0.1	0.0	37.1	0.2	9.6	0.4	0.0	0.0	10.1	
Exiting Leg Total	9						133						3696						2840						1167						7845
Cars	4	4	7	0	0	15	1	34	33	60	0	128	72	3	1084	2696	0	3855	2781	30	0	7	2	2820	10	723	28	3	0	764	7582
% Cars	80.0	100.0	100.0	0.0	0.0	93.8	100.0	100.0	100.0	95.2	0.0	97.7	96.0	75.0	96.8	96.7	0.0	96.7	96.8	100.0	0.0	87.5	100.0	96.8	83.3	96.0	100.0	100.0	0.0	96.0	96.6
Exiting Leg Total	7						130						3571						2745						1129						7582
Heavy Vehicles	1	0	0	0	0	1	0	0	0	3	0	3	3	1	36	93	0	133	92	0	1	1	0	94	2	30	0	0	0	32	263
% Heavy Vehicles	20.0	0.0	0.0	0.0	0.0	6.3	0.0	0.0	0.0	4.8	0.0	2.3	4.0	25.0	3.2	3.3	0.0	3.3	3.2	0.0	100.0	12.5	0.0	3.2	16.7	4.0	0.0	0.0	0.0	4.0	3.4
Exiting Leg Total	2						3						125						95						38						263

AM Peak Hour Analysis from 06:00 AM to 10:00 AM begins at:

	Driveway						Lot						Shawsheen Street						Shawsheen Street						Patten Road						Total
	from North						from Northeast						from East						from West						from Northwest						
	Hard Right	Right	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	U-Turn	Total	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	Total	
7:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	2	0	15	95	0	112	67	1	0	0	0	68	0	14	0	0	0	14	195
7:45 AM	0	0	1	0	0	1	0	0	2	2	0	4	4	1	15	77	0	97	52	0	0	0	0	52	0	16	0	0	0	16	170
8:00 AM	0	0	0	0	0	0	0	0	1	1	0	2	0	0	21	82	0	103	46	2	0	0	0	48	0	16	1	0	0	17	170
8:15 AM	0	0	0	0	0	0	0	1	2	0	0	3	1	0	27	68	0	96	58	1	0	1	0	60	0	10	2	0	0	12	171
<b>Total Volume</b>	0	0	1	0	0	1	0	1	6	3	0	10	7	1	78	322	0	408	223	4	0	1	0	228	0	56	3	0	0	59	706
% Approach Total	0.0	0.0	100.0	0.0	0.0		0.0	10.0	60.0	30.0	0.0		1.7	0.2	19.1	78.9	0.0		97.8	1.8	0.0	0.4	0.0		0.0	94.9	5.1	0.0	0.0		
PHF	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.250	0.750	0.375	0.000	0.625	0.438	0.250	0.722	0.847	0.000	0.911	0.832	0.500	0.000	0.250	0.000	0.838	0.000	0.875	0.375	0.000	0.000	0.868	0.905
Cars	0	0	1	0	0	1	0	1	6	3	0	10	6	1	74	314	0	395	207	4	0	1	0	212	0	53	3	0	0	56	674
Cars %	0.0	0.0	100.0	0.0	0.0	100.0	0.0	100.0	100.0	100.0	0.0	100.0	85.7	100.0	94.9	97.5	0.0	96.8	92.8	100.0	0.0	100.0	0.0	93.0	0.0	94.6	100.0	0.0	0.0	94.9	95.5
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	1	0	4	8	0	13	16	0	0	0	0	16	0	3	0	0	0	3	32
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.3	0.0	5.1	2.5	0.0	3.2	7.2	0.0	0.0	0.0	0.0	7.0	0.0	5.4	0.0	0.0	0.0	5.1	4.5
Cars Enter Leg	0	0	1	0	0	1	0	1	6	3	0	10	6	1	74	314	0	395	207	4	0	1	0	212	0	53	3	0	0	56	674
Heavy Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	1	0	4	8	0	13	16	0	0	0	0	16	0	3	0	0	0	3	32
<b>Total Entering Leg</b>	0	0	1	0	0	1	0	1	6	3	0	10	7	1	78	322	0	408	223	4	0	1	0	228	0	56	3	0	0	59	706
Cars Exiting Leg	1						13						264						320						76						674
Heavy Exiting Leg	0						1						19						8						4						32
<b>Total Exiting Leg</b>	1						14						283						328						80						706

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

	Driveway						Lot						Shawsheen Street						Shawsheen Street						Patten Road						Total
	from North						from Northeast						from East						from West						from Northwest						
	Hard Right	Right	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	U-Turn	Total	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	Total	
1:45 PM	0	0	0	0	0	0	0	1	1	0	0	2	0	0	26	36	0	62	58	1	0	0	0	59	0	13	1	1	0	15	138
2:00 PM	0	0	0	0	0	0	0	1	0	0	0	1	1	0	18	51	0	70	54	0	0	0	0	54	0	19	0	0	0	19	144
2:15 PM	0	0	0	0	0	0	0	0	0	2	0	2	4	0	31	59	0	94	61	0	0	0	0	61	0	20	0	0	0	20	177
2:30 PM	0	1	0	0	0	1	0	2	0	1	0	3	4	0	26	50	0	80	68	1	0	0	0	69	0	9	2	0	0	11	164
<b>Total Volume</b>	0	1	0	0	0	1	0	4	1	3	0	8	9	0	101	196	0	306	241	2	0	0	0	243	0	61	3	1	0	65	623
% Approach Total	0.0	100.0	0.0	0.0	0.0		0.0	50.0	12.5	37.5	0.0		2.9	0.0	33.0	64.1	0.0		99.2	0.8	0.0	0.0	0.0		0.0	93.8	4.6	1.5	0.0		
PHF	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.500	0.250	0.375	0.000	0.667	0.563	0.000	0.815	0.831	0.000	0.814	0.886	0.500	0.000	0.000	0.000	0.880	0.000	0.763	0.375	0.250	0.000	0.813	0.880

PDI File #: 239283 A  
 Location: N: Driveway NE: Lot NW: Patten Road  
 Location: E: Shawsheen Street W: Shawsheen Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350  
 Count Date: Thursday, April 13, 2023  
 Start Time: 6:00 AM  
 End Time: 6:00 PM  
 Class:



**Cars and Heavy Vehicles (Combined)**

	Driveway						Lot						Shawsheen Street						Shawsheen Street						Patten Road						Total
	from North						from Northeast						from East						from West						from Northwest						
	Hard Right	Right	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	U-Turn	Total	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	Total	
Cars	0	1	0	0	0	1	0	4	1	3	0	8	9	0	98	187	0	294	235	2	0	0	0	237	0	59	3	1	0	63	603
Cars %	0.0	100.0	0.0	0.0	0.0	100.0	0.0	100.0	100.0	100.0	0.0	100.0	100.0	0.0	97.0	95.4	0.0	96.1	97.5	100.0	0.0	0.0	0.0	97.5	0.0	96.7	100.0	100.0	0.0	96.9	96.8
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	9	0	12	6	0	0	0	0	6	0	2	0	0	0	2	20
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	4.6	0.0	3.9	2.5	0.0	0.0	0.0	0.0	2.5	0.0	3.3	0.0	0.0	0.0	3.1	3.2
Cars Enter Leg	0	1	0	0	0	1	0	4	1	3	0	8	9	0	98	187	0	294	235	2	0	0	0	237	0	59	3	1	0	63	603
Heavy Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	9	0	12	6	0	0	0	0	6	0	2	0	0	0	2	20
Total Entering Leg	0	1	0	0	0	1	0	4	1	3	0	8	9	0	101	196	0	306	241	2	0	0	0	243	0	61	3	1	0	65	623
Cars Exiting Leg																									14	189	102	603			
Heavy Exiting Leg																									0	8	3	20			
Total Exiting Leg																									1	197	105	623			

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

4:00 PM	Driveway						Lot						Shawsheen Street						Shawsheen Street						Patten Road						Total
	from North						from Northeast						from East						from West						from Northwest						
	Hard Right	Right	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	U-Turn	Total	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	0	0	3	3	0	6	5	0	50	84	0	139	93	1	0	0	0	94	0	23	0	0	0	23	262
4:15 PM	0	0	1	0	0	1	0	1	1	2	0	4	4	0	61	89	0	154	96	1	0	0	0	97	1	28	2	0	0	31	287
4:30 PM	0	1	0	0	0	1	0	0	2	4	0	6	1	0	40	91	0	132	98	1	0	0	0	99	2	20	0	0	0	22	260
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	1	2	0	39	91	0	132	106	0	0	0	0	106	0	27	0	0	0	27	266
Total Volume	0	1	1	0	0	2	0	2	6	9	0	17	12	0	190	355	0	557	393	3	0	0	0	396	3	98	2	0	0	103	1075
% Approach Total	0.0	50.0	50.0	0.0	0.0	0.0	0.0	11.8	35.3	52.9	0.0	0.0	2.2	0.0	34.1	63.7	0.0	0.0	99.2	0.8	0.0	0.0	0.0	0.0	2.9	95.1	1.9	0.0	0.0	0.0	0.0
PHF	0.000	0.250	0.250	0.000	0.000	0.500	0.000	0.500	0.500	0.563	0.000	0.708	0.600	0.000	0.779	0.975	0.000	0.904	0.927	0.750	0.000	0.000	0.000	0.934	0.375	0.875	0.250	0.000	0.000	0.831	0.936
Cars	0	1	1	0	0	2	0	2	6	8	0	16	11	0	186	347	0	544	391	3	0	0	0	394	3	98	2	0	0	103	1059
Cars %	0.0	100.0	100.0	0.0	0.0	100.0	0.0	100.0	100.0	88.9	0.0	94.1	91.7	0.0	97.9	97.7	0.0	97.7	99.5	100.0	0.0	0.0	0.0	99.5	100.0	100.0	100.0	0.0	0.0	100.0	98.5
Heavy Vehicles	0	0	0	0	0	0	0	0	0	1	0	1	1	0	4	8	0	13	2	0	0	0	0	2	0	0	0	0	0	0	16
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.1	0.0	5.9	8.3	0.0	2.1	2.3	0.0	2.3	0.5	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	1.5
Cars Enter Leg	0	1	1	0	0	2	0	2	6	8	0	16	11	0	186	347	0	544	391	3	0	0	0	394	3	98	2	0	0	103	1059
Heavy Enter Leg	0	0	0	0	0	0	0	0	0	1	0	1	1	0	4	8	0	13	2	0	0	0	0	2	0	0	0	0	0	0	16
Total Entering Leg	0	1	1	0	0	2	0	2	6	9	0	17	12	0	190	355	0	557	393	3	0	0	0	396	3	98	2	0	0	103	1075
Cars Exiting Leg																									16	498	188	1059			
Heavy Exiting Leg																									0	3	4	16			
Total Exiting Leg																									0	17	192	1075			

PDI File #: 239283 A  
 Location: N: Driveway NE: Lot NW: Patten Road  
 Location: E: Shawsheen Street W: Shawsheen Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350  
 Count Date: Thursday, April 13, 2023  
 Start Time: 6:00 AM  
 End Time: 6:00 PM  
 Class:



Cars

	Driveway						Lot						Shawsheen Street						Shawsheen Street						Patten Road						Total
	from North						from Northeast						from East						from West						from Northwest						
	Hard Right	Right	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	U-Turn	Total	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	Total	
6:00 AM	0	0	0	0	0	0	0	0	1	1	0	2	0	0	6	23	0	29	18	0	0	0	0	18	0	16	0	0	0	16	65
6:15 AM	0	0	0	0	0	0	0	1	0	1	0	2	2	1	15	35	0	29	29	0	0	0	0	29	0	20	1	0	0	21	105
6:30 AM	0	0	0	0	0	0	0	1	0	4	0	5	2	0	13	48	0	63	40	0	0	0	0	40	0	12	1	0	0	13	121
6:45 AM	0	0	0	0	0	0	0	2	0	0	0	2	1	0	19	66	0	86	47	1	0	0	0	48	0	25	1	0	0	26	162
Total	0	0	0	0	0	0	0	4	1	6	0	11	5	1	53	172	0	231	134	1	0	0	0	135	0	73	3	0	0	76	453
7:00 AM	0	0	0	0	0	0	0	2	1	0	0	3	0	0	24	76	0	100	39	0	0	0	0	39	0	13	1	0	0	14	156
7:15 AM	0	1	1	0	0	2	0	0	2	0	0	2	1	0	20	63	0	84	56	0	0	0	0	56	0	14	0	0	0	14	158
7:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	2	0	14	92	0	108	60	1	0	0	0	61	0	13	0	0	0	13	183
7:45 AM	0	0	1	0	0	1	0	0	2	2	0	4	3	1	14	74	0	92	48	0	0	0	0	48	0	15	0	0	0	15	160
Total	0	1	2	0	0	3	0	2	6	2	0	10	6	1	72	305	0	384	203	1	0	0	0	204	0	55	1	0	0	56	657
8:00 AM	0	0	0	0	0	0	0	0	1	1	0	2	0	0	19	82	0	101	44	2	0	0	0	46	0	16	1	0	0	17	166
8:15 AM	0	0	0	0	0	0	0	1	2	0	0	3	1	0	27	66	0	94	55	1	0	1	0	57	0	9	2	0	0	11	165
8:30 AM	0	0	0	0	0	0	0	2	0	1	0	3	0	0	22	78	0	100	47	2	0	0	0	49	0	17	1	0	0	18	170
8:45 AM	1	0	0	0	0	1	0	1	1	1	0	3	1	0	17	66	0	84	48	1	0	0	0	49	0	13	2	0	0	15	152
Total	1	0	0	0	0	1	0	4	4	3	0	11	2	0	85	292	0	379	194	6	0	1	0	201	0	55	6	0	0	61	653
9:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	1	0	16	51	0	68	43	1	0	1	0	45	0	14	1	0	0	15	129
9:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	2	0	15	45	0	62	49	0	0	0	0	49	1	11	0	1	0	13	125
9:30 AM	1	0	0	0	0	1	0	1	0	1	0	2	1	0	19	46	0	66	42	1	0	0	0	43	0	13	0	1	0	14	126
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	45	0	56	42	0	0	0	0	42	0	12	1	0	0	13	111
Total	1	0	0	0	0	1	0	1	1	2	0	4	4	0	61	187	0	252	176	2	0	1	0	179	1	50	2	2	0	55	491
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	11	53	0	65	47	1	0	1	0	49	0	4	0	0	0	4	118
10:15 AM	0	0	0	0	0	0	0	0	1	3	0	4	0	0	13	41	0	54	37	1	0	0	1	39	0	4	0	0	0	4	101
10:30 AM	0	0	1	0	0	1	0	1	0	0	0	1	1	0	12	43	0	56	36	0	0	0	0	36	0	8	0	0	0	8	102
10:45 AM	0	0	0	0	0	0	0	1	0	1	0	2	0	0	13	40	0	53	39	0	0	0	0	39	0	12	0	0	0	12	106
Total	0	0	1	0	0	1	0	2	1	4	0	7	2	0	49	177	0	228	159	2	0	1	1	163	0	28	0	0	0	28	427
11:00 AM	0	0	0	0	0	0	0	1	1	1	0	3	3	0	11	40	0	54	40	0	0	0	1	41	0	12	1	0	0	13	111
11:15 AM	0	0	0	0	0	0	0	0	0	3	0	3	1	0	17	39	0	57	44	2	0	0	0	46	1	14	0	0	0	15	121
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	1	23	34	0	60	45	0	0	0	0	45	0	5	0	0	0	5	110
11:45 AM	1	0	1	0	0	2	0	2	2	1	0	5	5	0	11	26	0	42	32	0	0	1	0	33	0	11	0	0	0	11	93
Total	1	0	1	0	0	2	0	3	3	5	0	11	11	1	62	139	0	213	161	2	0	1	1	165	1	42	1	0	0	44	435
12:00 PM	0	0	0	0	0	0	0	0	1	2	0	3	2	0	28	29	0	59	55	2	0	0	0	57	0	13	0	0	0	13	132
12:15 PM	0	0	0	0	0	0	0	1	2	1	0	4	1	0	19	38	0	58	46	1	0	0	0	47	1	12	0	0	0	13	122
12:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	25	45	0	70	44	1	0	0	0	45	0	9	1	0	0	10	126
12:45 PM	0	0	0	0	0	0	0	1	1	0	0	2	1	0	16	41	0	58	44	0	0	1	0	45	0	13	1	0	0	14	119
Total	0	0	0	0	0	0	0	2	4	4	0	10	4	0	88	153	0	245	189	4	0	1	0	194	1	47	2	0	0	50	499
1:00 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	15	38	0	53	41	0	0	0	0	41	1	10	2	0	0	13	109
1:15 PM	0	0	1	0	0	1	0	0	0	2	0	2	0	0	18	35	0	53	50	2	0	0	0	52	0	14	0	0	0	14	122
1:30 PM	0	0	0	0	0	0	0	0	1	1	0	2	1	0	26	47	0	74	50	0	0	0	0	50	1	8	1	0	0	10	136
1:45 PM	0	0	0	0	0	0	0	1	1	0	0	2	0	0	26	34	0	60	58	1	0	0	0	59	0	12	1	1	0	14	135
Total	0	0	1	0	0	1	0	1	2	5	0	8	1	0	85	154	0	240	199	3	0	0	0	202	2	44	4	1	0	51	502
2:00 PM	0	0	0	0	0	0	0	1	0	0	0	1	1	0	17	47	0	65	52	0	0	0	0	52	0	19	0	0	0	19	137
2:15 PM	0	0	0	0	0	0	0	0	0	2	0	2	4	0	30	57	0	91	58	0	0	0	0	58	0	19	0	0	0	19	170
2:30 PM	0	1	0	0	0	1	0	2	0	1	0	3	4	0	25	49	0	78	67	1	0	0	0	68	0	9	2	0	0	11	161
2:45 PM	0	0	0	0	0	0	0	1	0	5	0	6	3	0	23	58	0	84	66	1	0	0	0	67	1	13	0	0	0	14	171
Total	0	1	0	0	0	1	0	4	0	8	0	12	12	0	95	211	0	318	243	2	0	0	0	245	1	60	2	0	0	63	639
3:00 PM	0	0	0	0	0	0	0	0	0	2	0	2	1	0	31	58	0	90	80	0	0	0	0	80	0	5	1	0	0	6	178
3:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	33	59	0	92	83	1	0	0	0	84	0	17	0	0	0	17	194
3:30 PM	0	0	0	0	0	0	0	1	0	4	0	5	1	0	26	55	0	82	75	1	0	0	0	76	0	23	2	0	0	25	188
3:45 PM	0	0	0	0	0	0	0	3	1	2	0	6	5	0	33	69	0	107	79	1	0	0	0	80	0	22	0	0	0	22	215
Total	0	0	0	0	0	0	0	4	2	8	0	14	7	0	123	241	0	371	317	3	0	0	0	320	0	67	3	0	0	70	775
4:00 PM	0	0	0	0	0	0	0	0	3	2	0	5	4	0	49	82	0	135	91	1	0	0	0	92	0	23	0	0	0	23	255

PDI File #: 239283 A  
 Location: N: Driveway NE: Lot NW: Patten Road  
 Location: E: Shawsheen Street W: Shawsheen Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350  
 Count Date: Thursday, April 13, 2023  
 Start Time: 6:00 AM  
 End Time: 6:00 PM  
 Class:



**Cars**

	Driveway						Lot						Shawsheen Street						Shawsheen Street						Patten Road						Total
	from North						from Northeast						from East						from West						from Northwest						
	Hard Right	Right	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	U-Turn	Total	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	Total	
4:15 PM	0	0	1	0	0	1	0	1	1	2	0	4	4	0	60	85	0	149	96	1	0	0	0	97	1	28	2	0	0	31	282
4:30 PM	0	1	0	0	0	1	0	0	2	4	0	6	1	0	39	89	0	129	98	1	0	0	0	99	2	20	0	0	0	22	257
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	1	2	0	38	91	0	131	106	0	0	0	0	106	0	27	0	0	0	27	265
<b>Total</b>	0	1	1	0	0	2	0	2	6	8	0	16	11	0	186	347	0	544	391	3	0	0	0	394	3	98	2	0	0	103	1059
5:00 PM	1	0	1	0	0	2	0	2	0	0	0	2	3	0	38	78	0	119	92	0	0	0	0	92	0	21	0	0	0	21	236
5:15 PM	0	0	0	0	0	0	1	0	2	1	0	4	1	0	33	98	0	132	113	0	0	0	0	113	0	25	0	0	0	25	274
5:30 PM	0	0	0	0	0	0	0	2	0	0	0	2	1	0	28	72	0	101	102	0	0	1	0	103	1	33	2	0	0	36	242
5:45 PM	0	1	0	0	0	1	0	1	1	4	0	6	2	0	26	70	0	98	108	1	0	1	0	110	0	25	0	0	0	25	240
<b>Total</b>	1	1	1	0	0	3	1	5	3	5	0	14	7	0	125	318	0	450	415	1	0	2	0	418	1	104	2	0	0	107	992
Grand Total	4	4	7	0	0	15	1	34	33	60	0	128	72	3	1084	2696	0	3855	2781	30	0	7	2	2820	10	723	28	3	0	764	7582
Approach %	26.7	26.7	46.7	0.0	0.0		0.8	26.6	25.8	46.9	0.0		1.9	0.1	28.1	69.9	0.0		98.6	1.1	0.0	0.2	0.1		1.3	94.6	3.7	0.4	0.0		
Total %	0.1	0.1	0.1	0.0	0.0	0.2	0.0	0.4	0.4	0.8	0.0	1.7	0.9	0.0	14.3	35.6	0.0	50.8	36.7	0.4	0.0	0.1	0.0	37.2	0.1	9.5	0.4	0.0	0.0	10.1	
Exiting Leg Total	7						130						3571						2745						1129		7582				

AM Peak Hour Analysis from 06:00 AM to 10:00 AM begins at:

	Driveway						Lot						Shawsheen Street						Shawsheen Street						Patten Road						Total
	from North						from Northeast						from East						from West						from Northwest						
	Hard Right	Right	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	U-Turn	Total	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	Total	
7:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	2	0	14	92	0	108	60	1	0	0	0	61	0	13	0	0	0	13	183
7:45 AM	0	0	1	0	0	1	0	0	2	2	0	4	3	1	14	74	0	92	48	0	0	0	0	48	0	15	0	0	0	15	160
8:00 AM	0	0	0	0	0	0	0	0	1	1	0	2	0	0	19	82	0	101	44	2	0	0	0	46	0	16	1	0	0	17	166
8:15 AM	0	0	0	0	0	0	0	1	2	0	0	3	1	0	27	66	0	94	55	1	0	1	0	57	0	9	2	0	0	11	165
Total Volume	0	0	1	0	0	1	0	1	6	3	0	10	6	1	74	314	0	395	207	4	0	1	0	212	0	53	3	0	0	56	674
% Approach Total	0.0	0.0	100.0	0.0	0.0		0.0	10.0	60.0	30.0	0.0		1.5	0.3	18.7	79.5	0.0		97.6	1.9	0.0	0.5	0.0		0.0	94.6	5.4	0.0	0.0		
PHF	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.250	0.750	0.375	0.000	0.625	0.500	0.250	0.685	0.853	0.000	0.914	0.863	0.500	0.000	0.250	0.000	0.869	0.000	0.828	0.375	0.000	0.000	0.824	0.921
Entering Leg	0	0	1	0	0	1	0	1	6	3	0	10	6	1	74	314	0	395	207	4	0	1	0	212	0	53	3	0	0	56	674
Exiting Leg	1						13						264						320						76		674				
<b>Total</b>	2						23						659						532						132		1348				

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

	Driveway						Lot						Shawsheen Street						Shawsheen Street						Patten Road						Total
	from North						from Northeast						from East						from West						from Northwest						
	Hard Right	Right	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	U-Turn	Total	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	Total	
1:45 PM	0	0	0	0	0	0	0	1	1	0	0	2	0	0	26	34	0	60	58	1	0	0	0	59	0	12	1	1	0	14	135
2:00 PM	0	0	0	0	0	0	0	1	0	0	0	1	1	0	17	47	0	65	52	0	0	0	0	52	0	19	0	0	0	19	137
2:15 PM	0	0	0	0	0	0	0	0	0	2	0	2	4	0	30	57	0	91	58	0	0	0	0	58	0	19	0	0	0	19	170
2:30 PM	0	1	0	0	0	1	0	2	0	1	0	3	4	0	25	49	0	78	67	1	0	0	0	68	0	9	2	0	0	11	161
Total Volume	0	1	0	0	0	1	0	4	1	3	0	8	9	0	98	187	0	294	235	2	0	0	0	237	0	59	3	1	0	63	603
% Approach Total	0.0	100.0	0.0	0.0	0.0		0.0	50.0	12.5	37.5	0.0		3.1	0.0	33.3	63.6	0.0		99.2	0.8	0.0	0.0	0.0		0.0	93.7	4.8	1.6	0.0		
PHF	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.500	0.250	0.375	0.000	0.667	0.563	0.000	0.817	0.820	0.000	0.808	0.877	0.500	0.000	0.000	0.000	0.871	0.000	0.776	0.375	0.250	0.000	0.829	0.887
Entering Leg	0	1	0	0	0	1	0	4	1	3	0	8	9	0	98	187	0	294	235	2	0	0	0	237	0	59	3	1	0	63	603
Exiting Leg	1						14						297						189						102		603				
<b>Total</b>	2						22						591						426						165		1206				

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

	Driveway						Lot						Shawsheen Street						Shawsheen Street						Patten Road						Total
	from North						from Northeast						from East						from West						from Northwest						
	Hard Right	Right	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	U-Turn	Total	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	0	0	3	2	0	5	4	0	49	82	0	135	91	1	0	0	0	92	0	23	0	0	0	23	255
4:15 PM	0	0	1	0	0	1	0	1	1	2	0	4	4	0	60	85	0	149	96	1	0	0	0	97	1	28	2	0	0	31	282

PDI File #: 239283 A  
 Location: N: Driveway NE: Lot NW: Patten Road  
 Location: E: Shawsheen Street W: Shawsheen Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350  
 Count Date: Thursday, April 13, 2023  
 Start Time: 6:00 AM  
 End Time: 6:00 PM  
 Class:



**Cars**

	Driveway						Lot						Shawsheen Street						Shawsheen Street						Patten Road						Total
	from North						from Northeast						from East						from West						from Northwest						
	Hard Right	Right	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	U-Turn	Total	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	Total	
4:30 PM	0	1	0	0	0	1	0	0	2	4	0	6	1	0	39	89	0	129	98	1	0	0	0	99	2	20	0	0	0	22	257
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	1	2	0	38	91	0	131	106	0	0	0	0	106	0	27	0	0	0	27	265
Total Volume	0	1	1	0	0	2	0	2	6	8	0	16	11	0	186	347	0	544	391	3	0	0	0	394	3	98	2	0	0	103	1059
% Approach Total	0.0	50.0	50.0	0.0	0.0	0.0	0.0	12.5	37.5	50.0	0.0	0.0	2.0	0.0	34.2	63.8	0.0	99.2	0.8	0.0	0.0	0.0	0.0	2.9	95.1	1.9	0.0	0.0	0.0		
PHF	0.000	0.250	0.250	0.000	0.000	0.500	0.000	0.500	0.500	0.500	0.000	0.667	0.688	0.000	0.775	0.953	0.000	0.913	0.922	0.750	0.000	0.000	0.000	0.929	0.375	0.875	0.250	0.000	0.000	0.831	0.939
Entering Leg	0	1	1	0	0	2	0	2	6	8	0	16	11	0	186	347	0	544	391	3	0	0	0	394	3	98	2	0	0	103	1059
Exiting Leg	0					0						16						498						357						188	1059
Total						2						32						1042						751						291	2118

PDI File #: 239283 A  
 Location: N: Driveway NE: Lot NW: Patten Road  
 Location: E: Shawsheen Street W: Shawsheen Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350  
 Count Date: Thursday, April 13, 2023  
 Start Time: 6:00 AM  
 End Time: 6:00 PM  
 Class:



**Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Driveway						Lot						Shawsheen Street						Shawsheen Street						Patten Road						Total
	from North						from Northeast						from East						from West						from Northwest						
	Hard Right	Right	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	U-Turn	Total	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	Total	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	2	0	0	0	0	0	3	
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	1	0	0	0	0	0	2	
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	1	0	0	0	0	1	0	5	0	0	0	5	10
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	7	4	0	0	0	0	4	0	5	0	0	0	5	16
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	3	0	0	0	0	3	0	1	0	0	0	1	7
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	2	0	0	0	0	2	0	2	0	0	0	2	7
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	4	7	0	0	0	0	7	0	1	0	0	0	1	12
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3	0	5	4	0	0	0	0	4	0	1	0	0	0	1	10
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	3	11	0	15	16	0	0	0	0	16	0	5	0	0	0	0	5	36
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2	0	0	0	0	2	0	0	0	0	0	0	4
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	3	0	0	0	0	3	0	1	0	0	0	1	6
8:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	2	3	0	5	3	0	0	0	0	3	0	2	0	0	0	2	11
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	3	0	0	0	0	3	0	1	0	0	0	1	6
Total	0	0	0	0	0	0	0	0	0	1	0	1	0	0	4	7	0	11	11	0	0	0	0	11	0	4	0	0	0	4	27
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	2	0	0	0	0	2	0	0	0	0	0	0	4
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	3	0	0	0	0	3	0	0	0	0	0	0	7
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	1	0	0	0	0	1	0	0	0	0	0	0	3
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	1	0	1	0	0	0	1	3
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	1	7	0	9	7	0	0	0	0	7	0	1	0	0	0	0	1	17
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	2	0	0	0	0	2	0	0	0	0	0	0	5
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	0	0	0	0	2	0	2	0	0	0	2	5
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	6	0	8	2	0	0	0	0	2	0	0	0	0	0	0	10
10:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2	0	2	1	0	0	0	0	1	0	0	0	0	0	0	4
Total	0	0	0	0	0	0	0	0	0	1	0	1	0	1	3	10	0	14	7	0	0	0	0	7	0	2	0	0	0	2	24
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	1	0	0	0	0	1	0	1	0	0	0	1	4
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	4	3	0	0	0	0	3	0	0	0	0	0	0	7
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	2	0	0	0	0	2	1	0	0	0	0	1	5
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3	0	0	0	0	3	0	1	0	0	0	1	5
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	6	0	9	9	0	0	0	0	9	1	2	0	0	0	3	21
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	2	0	6	1	0	0	0	0	1	0	0	0	0	0	0	7
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	4	0	0	0	0	4	0	1	0	0	0	1	8
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	0	0	0	0	2	0	0	0	0	0	0	4
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	0	3
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	6	0	11	10	0	0	0	0	10	0	1	0	0	0	1	22
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	1	0	0	0	0	1	1	0	0	0	0	1	5
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	1	0	0	0	0	1	0	2	0	0	0	2	6
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	1	0	0	0	1	3
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	7	0	9	2	0	0	0	0	2	1	3	0	0	0	4	15
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	5	2	0	0	0	0	2	0	0	0	0	0	0	7
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	3	0	0	0	0	3	0	1	0	0	0	1	7
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	1	0	0	0	0	1	0	0	0	0	0	0	3
2:45 PM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2	4	0	6	2	0	0	0	0	2	0	2	0	0	0	2	11
Total	1	0	0	0	0	1	0	0	0	0	0	0	0	0	5	11	0	16	8	0	0	0	0	8	0	3	0	0	0	3	28
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	0	5	5	0	0	0	0	5	0	2	0	0	0	2	12
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	2	0	1	0	0	3	0	1	0	0	0	1	7
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	2	0	1	0	0	0	1	4
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	4	0	0	0	0	4	0	0	0	0	0	0	7
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	7	0	12	13	0	1	0	0	14	0	4	0	0	0	4	30
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	1	0	1	2	0	4	2	0	0	0	0	2	0	0	0	0	0	0	7



PDI File #: 239283 A  
 Location: N: Driveway NE: Lot NW: Patten Road  
 Location: E: Shawsheen Street W: Shawsheen Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350  
 Count Date: Thursday, April 13, 2023  
 Start Time: 6:00 AM  
 End Time: 6:00 PM  
 Class:



**Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Driveway						Lot						Shawsheen Street						Shawsheen Street						Patten Road						Total
	from North						from Northeast						from East						from West						from Northwest						
	Hard Right	Right	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	U-Turn	Total	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	Total	
	Hard Right	Right	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	U-Turn	Total	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	Total	
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	6	0	8	2	0	0	0	0	2	0	0	0	0	0	0	10
10:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2	0	2	1	0	0	0	0	1	0	0	0	0	0	0	4
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	1	0	0	0	0	1	0	1	0	0	0	1	4
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	4	3	0	0	0	0	3	0	0	0	0	0	0	7
Total Volume	0	0	0	0	0	0	0	0	0	1	0	1	0	0	4	12	0	16	7	0	0	0	0	7	0	1	0	0	0	1	25
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	25.0	75.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.500	0.500	0.000	0.500	0.583	0.000	0.000	0.000	0.000	0.583	0.000	0.250	0.000	0.000	0.000	0.250	0.625
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	1	0	0	0	0	1	0	0	0	0	0	0	4
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	16.7	0.0	18.8	14.3	0.0	0.0	0.0	0.0	14.3	0.0	0.0	0.0	0.0	0.0	0.0	16.0
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	1	0	1	0	0	3	10	0	13	5	0	0	0	0	5	0	1	0	0	0	1	20
Single-Unit %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	75.0	83.3	0.0	81.3	71.4	0.0	0.0	0.0	0.0	71.4	0.0	100.0	0.0	0.0	0.0	100.0	80.0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.3	0.0	0.0	0.0	0.0	14.3	0.0	0.0	0.0	0.0	0.0	0.0	4.0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	1	0	0	0	0	1	0	0	0	0	0	0	4
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	1	0	1	0	0	3	10	0	13	5	0	0	0	0	5	0	1	0	0	0	1	20
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
Total Entering Leg	0	0	0	0	0	0	0	0	0	1	0	1	0	0	4	12	0	16	7	0	0	0	0	7	0	1	0	0	0	1	25
Buses						0						0					1						2						1	4	
Single-Unit Trucks						0						0					7						10						3	20	
Articulated Trucks						0						0					1						0						0	1	
Total Exiting Leg						0						0					9						12						4	25	

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

	Driveway						Lot						Shawsheen Street						Shawsheen Street						Patten Road						Total
	from North						from Northeast						from East						from West						from Northwest						
	Hard Right	Right	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	U-Turn	Total	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	Total	
	Hard Right	Right	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	U-Turn	Total	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	Total	
2:45 PM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2	4	0	6	2	0	0	0	0	2	0	2	0	0	0	2	11
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	0	5	5	0	0	0	0	5	0	2	0	0	0	2	12
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	2	0	1	0	0	3	0	1	0	0	0	1	7
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	2	0	1	0	0	0	1	4
Total Volume	1	0	0	0	0	1	0	0	0	0	0	0	0	0	5	10	0	15	11	0	1	0	0	12	0	6	0	0	0	6	34
% Approach Total	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	66.7	0.0	91.7	0.0	8.3	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0		
PHF	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.625	0.000	0.625	0.550	0.000	0.250	0.000	0.000	0.600	0.000	0.750	0.000	0.000	0.000	0.750	0.708
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	0	5	2	0	0	0	0	2	0	3	0	0	0	3	10
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	80.0	10.0	0.0	33.3	18.2	0.0	0.0	0.0	0.0	16.7	0.0	50.0	0.0	0.0	0.0	50.0	29.4
Single-Unit Trucks	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	6	0	6	5	0	0	0	0	5	0	1	0	0	0	1	13
Single-Unit %	100.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.0	0.0	40.0	45.5	0.0	0.0	0.0	0.0	41.7	0.0	16.7	0.0	0.0	0.0	16.7	38.2
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	4	4	0	1	0	0	5	0	2	0	0	0	2	11
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	30.0	0.0	26.7	36.4	0.0	100.0	0.0	0.0	41.7	0.0	33.3	0.0	0.0	0.0	33.3	32.4
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	0	5	2	0	0	0	0	2	0	3	0	0	0	3	10
Single-Unit Trucks	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	6	0	6	5	0	0	0	0	5	0	1	0	0	0	1	13
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	4	4	0	1	0	0	5	0	2	0	0	0	2	11
Total Entering Leg	1	0	0	0	0	1	0	0	0	0	0	0	0	0	5	10	0	15	11	0	1	0	0	12	0	6	0	0	0	6	34
Buses						0						0					5						1						4	10	
Single-Unit Trucks						0						0					6						6						1	13	
Articulated Trucks						1						0					6						3						1	11	
Total Exiting Leg						1						0					17						10						6	34	

PDI File #: 239283 A  
 Location: N: Driveway NE: Lot NW: Patten Road  
 Location: E: Shawsheen Street W: Shawsheen Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350  
 Count Date: Thursday, April 13, 2023  
 Start Time: 6:00 AM  
 End Time: 6:00 PM  
 Class:



**Buses**

	Driveway						Lot						Shawsheen Street						Shawsheen Street						Patten Road						Total
	from North						from Northeast						from East						from West						from Northwest						
	Hard Right	Right	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	U-Turn	Total	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	Total	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	5	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	1	0	0	0	0	1	0	5	0	0	0	5		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	1	0	1	0	0	0	1		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1		
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1		
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1		
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	1	0	0	0	0	1	0	2	0	0	0	0	2		
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	1	0	0	0	0	0	2		
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1		
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	1	0	1	0	0	0	1		
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1		
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	1	0	0	0	0	1	0	0	0	0	0	0	3		
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1		
Total	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	1	0	0	0	0	1	0	0	0	0	0	0	0	4		
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	1	1	0	0	0	0	1	3		
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	1	1	0	0	0	0	0	1	3		
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1		
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	2	0	1	0	0	0	1	4		
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1		
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	1	0	1	0	0	0	1	3		
Total	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	3	0	0	0	0	3	0	2	0	0	0	0	2	8		
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	0	1	0	0	0	1	4	4		
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	1	2	2		
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1		
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	2		
Total	0	0	0	0	0	0	0	0	0	0	0	4	1	0	5	2	0	0	0	0	2	0	2	0	0	0	0	2	9		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2		

PDI File #: 239283 A  
 Location: N: Driveway NE: Lot NW: Patten Road  
 Location: E: Shawsheen Street W: Shawsheen Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350  
 Count Date: Thursday, April 13, 2023  
 Start Time: 6:00 AM  
 End Time: 6:00 PM  
 Class:



**Buses**

	Driveway						Lot						Shawsheen Street						Shawsheen Street						Patten Road						Total
	from North						from Northeast						from East						from West						from Northwest						
	Hard Right	Right	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	U-Turn	Total	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	Total	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Grand Total</b>	0	0	0	0	0	0	0	0	0	0	0	0	1	0	11	10	0	22	10	0	0	0	0	10	1	13	0	0	0	14	46
Approach %	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		4.5	0.0	50.0	45.5	0.0	100.0	0.0	0.0	0.0	0.0		7.1	92.9	0.0	0.0	0.0			
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	23.9	21.7	0.0	47.8	21.7	0.0	0.0	0.0	0.0	21.7	2.2	28.3	0.0	0.0	0.0	30.4	
Exiting Leg Total	0						1						23						11						11	46					

AM Peak Hour Analysis from 06:00 AM to 10:00 AM begins at:

	Driveway						Lot						Shawsheen Street						Shawsheen Street						Patten Road						Total
	from North						from Northeast						from East						from West						from Northwest						
	Hard Right	Right	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	U-Turn	Total	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	Total	
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	5	0	0	0	5	7
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	1	0	1	0	0	0	1	3
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	1	0	0	0	0	1	0	7	0	0	0	7	12
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0			
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.500	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.350	0.000	0.000	0.000	0.350	0.429
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	1	0	0	0	0	1	0	7	0	0	0	7	12
Exiting Leg	0						0						8						4						0	12					
<b>Total</b>	0						0						12						5						7	24					

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

	Driveway						Lot						Shawsheen Street						Shawsheen Street						Patten Road						Total
	from North						from Northeast						from East						from West						from Northwest						
	Hard Right	Right	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	U-Turn	Total	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	Total	
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	2	0	1	0	0	0	1	4
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	2	0	0	0	0	2	0	2	0	0	0	2	6
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	50.0	50.0	0.0	100.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0			
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.500	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.500	0.000	0.000	0.000	0.500	0.375
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	2	0	0	0	0	2	0	2	0	0	0	2	6
Exiting Leg	0						0						4						1						0	6					
<b>Total</b>	0						0						6						3						3	12					

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

	Driveway						Lot						Shawsheen Street						Shawsheen Street						Patten Road						Total
	from North						from Northeast						from East						from West						from Northwest						
	Hard Right	Right	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	U-Turn	Total	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	Total	
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	2	0	1	0	0	0	1	4
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0

PDI File #: 239283 A  
 Location: N: Driveway NE: Lot NW: Patten Road  
 Location: E: Shawsheen Street W: Shawsheen Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350  
 Count Date: Thursday, April 13, 2023  
 Start Time: 6:00 AM  
 End Time: 6:00 PM  
 Class:



**Buses**

	Driveway						Lot						Shawsheen Street						Shawsheen Street						Patten Road						Total
	from North						from Northeast						from East						from West						from Northwest						
	Hard Righ	Right	Left	Hard Left	U-Turn	Total	Hard Righ	Right	Bear Right	Hard Left	U-Turn	Total	Hard Righ	Right	Bear Right	Thru	U-Turn	Total	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Left	Left	Hard Left	U-Turn	Total	
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	1	0	1	0	0	0	1	3
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	1	0	0	0	0	1	0	1	0	0	0	1	4
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	0	5	4	0	0	0	0	4	0	3	0	0	0	3	12
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	80.0	20.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.750	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.250	0.000	0.625	0.500	0.000	0.000	0.000	0.000	0.500	0.000	0.750	0.000	0.000	0.000	0.750	0.750
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	0	5	4	0	0	0	0	4	0	3	0	0	0	3	12
Exiting Leg	0					0						0						7						1						4	12
Total						0						0						12						5						7	24

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 Location: E: Shawsheen Street W: Shawsheen Street  
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 Class:



Single-Unit Trucks

	Driveway						Lot						Shawsheen Street						Shawsheen Street						Patten Road						Total	
	from North						from Northeast						from East						from West						from Northwest							
	Hard Right	Right	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	U-Turn	Total	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	Total		
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1		
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	1	0	0	0	0	0	2		
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1		
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	1	0	0	0	0	0	1	0	0	0	0	3		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5	2	0	0	0	0	2	0	0	0	0	0	7		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	2	0	0	0	0	2	0	0	0	0	0	4		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2	0	0	2	3		
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3	0	0	0	0	3	0	0	0	0	0	4		
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	0	3	2	0	0	0	0	2	0	1	0	0	0	6		
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	1	5	0	7	7	0	0	0	0	7	0	3	0	0	0	3	17		
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	1	0	0	0	0	0	2		
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	0	0	0	0	2	0	0	0	0	0	4		
8:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	3	0	3	3	0	0	0	0	3	0	2	0	0	0	9		
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	3	0	0	0	0	3	0	1	0	0	0	6		
Total	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	7	0	8	9	0	0	0	0	9	0	3	0	0	0	3	21	
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	2	0	0	0	0	2	0	0	0	0	0	4		
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	3	0	0	0	0	3	0	0	0	0	0	7		
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0	0	2		
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	1	0	1	0	0	0	1	3	
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	1	6	0	8	7	0	0	0	0	7	0	1	0	0	0	0	1	16	
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	1	0	0	0	0	1	0	0	0	0	0	4		
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	0	0	0	0	2	0	2	0	0	0	2	5	
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	0	6	1	0	0	0	0	1	0	0	0	0	0	7		
10:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	1	1	0	0	0	0	1	0	0	0	0	0	0	3	
Total	0	0	0	0	0	0	0	0	0	1	0	1	0	1	2	8	0	11	5	0	0	0	0	5	0	2	0	0	0	2	19	
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	1	0	0	0	0	1	0	1	0	0	0	1	4	
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	4	2	0	0	0	0	2	0	0	0	0	0	6		
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	1	0	0	0	0	0	2		
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	2	0	1	0	0	0	1	4	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	6	0	8	6	0	0	0	0	6	0	2	0	0	0	2	16	
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	2	0	6	1	0	0	0	0	1	0	0	0	0	0	7		
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	3	0	0	0	0	3	0	1	0	0	0	1	7	
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	0	0	0	0	2	0	0	0	0	0	0	4	
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	0	3	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	6	0	11	9	0	0	0	0	9	0	1	0	0	0	1	21	
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	1	0	0	0	0	1	1	0	0	0	0	1	4	
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	1	0	0	0	0	1	0	2	0	0	0	2	6	
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	6
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	6	0	8	2	0	0	0	0	2	1	2	0	0	0	3	13	
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	5	2	0	0	0	0	2	0	0	0	0	0	0	7	
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	1	0	0	0	0	1	0	0	0	0	0	0	3	
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	1	0	0	0	0	0	0	2	
2:45 PM	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	1	0	0	0	0	0	0	3	
Total	1	0	0	0	0	0	1	0	0	0	0	0	0	0	2	7	0	9	5	0	0	0	0	5	0	0	0	0	0	0	15	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	1	0	0	0	0	1	0	0	0	0	0	0	4	
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	1	0	0	0	0	1	0	0	0	0	0	0	3	
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	1	0	0	0	1	3	
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	3	0	0	0	0	3	0	0	0	0	0	0	5	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6	0	7	7	0	0	0	0	7	0	1	0	0	0	1	15	
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2	0	2	2	0	0	0	0	2	0	0	0	0	0	0	5	

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 Site Code: T1350  
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 End Time: 6:00 PM  
 Class:



**Single-Unit Trucks**

	Driveway						Lot						Shawsheen Street						Shawsheen Street						Patten Road						Total
	from North						from Northeast						from East						from West						from Northwest						
	Hard Right	Right	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	U-Turn	Total	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	Total	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
<b>Total</b>	0	0	0	0	0	0	0	0	0	1	0	1	0	0	3	7	0	10	2	0	0	0	0	2	0	0	0	0	0	0	13
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	1	0	0	0	0	1	0	0	0	0	0	0	4
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	1	0	1	0	0	0	0	0	0	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	5	2	0	0	1	0	3	0	0	0	0	0	0	8
<b>Grand Total</b>	1	0	0	0	0	1	0	0	0	3	0	3	2	1	21	73	0	97	63	0	0	1	0	64	1	15	0	0	0	16	181
Approach %	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	100.0	0.0		2.1	1.0	21.6	75.3	0.0		98.4	0.0	0.0	1.6	0.0		6.3	93.8	0.0	0.0	0.0		
Total %	0.6	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	1.7	0.0	1.7	1.1	0.6	11.6	40.3	0.0	53.6	34.8	0.0	0.0	0.6	0.0	35.4	0.6	8.3	0.0	0.0	0.0	8.8	
Exiting Leg Total	1						2						81						74						23	181					

AM Peak Hour Analysis from 06:00 AM to 10:00 AM begins at:

	Driveway						Lot						Shawsheen Street						Shawsheen Street						Patten Road						Total
	from North						from Northeast						from East						from West						from Northwest						
	Hard Right	Right	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	U-Turn	Total	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	Total	
8:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	3	0	3	3	0	0	0	0	3	0	2	0	0	0	2	9
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	3	0	0	0	0	3	0	1	0	0	0	1	6
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	2	0	0	0	0	2	0	0	0	0	0	0	4
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	3	0	0	0	0	3	0	0	0	0	0	0	7
Total Volume	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	10	0	11	11	0	0	0	0	11	0	3	0	0	0	3	26
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	100.0	0.0		0.0	0.0	9.1	90.9	0.0		100.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.250	0.625	0.000	0.688	0.917	0.000	0.000	0.000	0.000	0.917	0.000	0.375	0.000	0.000	0.000	0.375	0.722
Entering Leg	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	10	0	11	11	0	0	0	0	11	0	3	0	0	0	3	26
Exiting Leg	0						0						15						10						1	26					
<b>Total</b>	0						1						26						21						4	52					

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

	Driveway						Lot						Shawsheen Street						Shawsheen Street						Patten Road						Total
	from North						from Northeast						from East						from West						from Northwest						
	Hard Right	Right	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	U-Turn	Total	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	Total	
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	2	0	1	0	0	0	1	4
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	2	0	6	1	0	0	0	0	1	0	0	0	0	0	0	7
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	3	0	0	0	0	3	0	1	0	0	0	1	7
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	0	0	0	0	2	0	0	0	0	0	0	4
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	7	0	12	8	0	0	0	0	8	0	2	0	0	0	2	22
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	41.7	58.3	0.0		100.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.313	0.875	0.000	0.500	0.667	0.000	0.000	0.000	0.000	0.667	0.000	0.500	0.000	0.000	0.000	0.500	0.786
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	7	0	12	8	0	0	0	0	8	0	2	0	0	0	2	22
Exiting Leg	0						0						10						7						5	22					
<b>Total</b>	0						0						22						15						7	44					

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

	Driveway						Lot						Shawsheen Street						Shawsheen Street						Patten Road						Total
	from North						from Northeast						from East						from West						from Northwest						
	Hard Right	Right	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	U-Turn	Total	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	Total	
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	1	0	0	0	1	3
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	3	0	0	0	0	3	0	0	0	0	0	0	5

PDI File #: 239283 A  
 Location: N: Driveway NE: Lot NW: Patten Road  
 Location: E: Shawsheen Street W: Shawsheen Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350  
 Count Date: Thursday, April 13, 2023  
 Start Time: 6:00 AM  
 End Time: 6:00 PM



**Single-Unit Trucks**

	Driveway						Lot						Shawsheen Street						Shawsheen Street						Patten Road						Total
	from North						from Northeast						from East						from West						from Northwest						
	Hard Right	Right	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	U-Turn	Total	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2	0	2	2	0	0	0	0	2	0	0	0	0	0	0	5
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
Total Volume	0	0	0	0	0	0	0	0	0	1	0	1	0	0	2	6	0	8	7	0	0	0	0	7	0	1	0	0	0	1	17
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	25.0	75.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.850	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.500	0.500	0.000	0.500	0.583	0.000	0.000	0.000	0.000	0.583	0.000	0.250	0.000	0.000	0.000	0.250	0.850
Entering Leg	0	0	0	0	0	0	0	0	0	1	0	1	0	0	2	6	0	8	7	0	0	0	0	7	0	1	0	0	0	1	17
Exiting Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0						1						17						13						3	34					

PDI File #: 239283 A  
 Location: N: Driveway NE: Lot NW: Patten Road  
 Location: E: Shawsheen Street W: Shawsheen Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350  
 Count Date: Thursday, April 13, 2023  
 Start Time: 6:00 AM  
 End Time: 6:00 PM  
 Class:



**Articulated Trucks**

	Driveway						Lot						Shawsheen Street						Shawsheen Street						Patten Road						Total
	from North						from Northeast						from East						from West						from Northwest						
	Hard Right	Right	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	U-Turn	Total	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	Total	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	2	0	0	0	0	0	0	3	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	4	0	0	0	0	4	0	0	0	0	0	0	7	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	2	0	0	0	0	0	0	3	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	5	8	0	0	0	0	8	0	0	0	0	0	0	13	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	1	0	0	0	0	1	0	0	0	0	0	0	3	
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	2	
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	4	0	0	0	0	0	0	0	1	0	0	0	1	5	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	4	0	0	0	0	0	0	0	1	0	0	0	1	5	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	1	0	0	0	1	4	
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	2	0	0	0	0	0	0	2	
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	1	0	0	5	0	1	0	0	0	1	6	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

PDI File #: 239283 A  
 Location: N: Driveway NE: Lot NW: Patten Road  
 Location: E: Shawsheen Street W: Shawsheen Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350  
 Count Date: Thursday, April 13, 2023  
 Start Time: 6:00 AM  
 End Time: 6:00 PM  
 Class:



**Articulated Trucks**

	Driveway						Lot						Shawsheen Street						Shawsheen Street						Patten Road						Total
	from North						from Northeast						from East						from West						from Northwest						
	Hard Right	Right	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	U-Turn	Total	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	Total	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	1	0	0	0	0	1	0	0	0	0	0	0	3
<b>Grand Total</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	10	0	14	19	0	1	0	0	20	0	2	0	0	0	2	36
Approach %	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	28.6	71.4	0.0	95.0	0.0	5.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0			
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.1	27.8	0.0	38.9	52.8	0.0	2.8	0.0	0.0	55.6	0.0	5.6	0.0	0.0	0.0	5.6	
Exiting Leg Total	1						0						21						10						4	36					

AM Peak Hour Analysis from 06:00 AM to 10:00 AM begins at:

	Driveway						Lot						Shawsheen Street						Shawsheen Street						Patten Road						Total
	from North						from Northeast						from East						from West						from Northwest						
	Hard Right	Right	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	U-Turn	Total	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	2	0	0	0	0	0	0	3
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	4	0	0	0	0	4	0	0	0	0	0	0	7
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	2	0	0	0	0	0	0	3
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	5	8	0	0	0	0	8	0	0	0	0	0	0	13
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	20.0	80.0	0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0			
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.500	0.000	0.417	0.500	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.464
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	5	8	0	0	0	0	8	0	0	0	0	0	0	13
Exiting Leg	0						0						8						4						1	13					
<b>Total</b>	0						0						13						12						1	26					

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

	Driveway						Lot						Shawsheen Street						Shawsheen Street						Patten Road						Total
	from North						from Northeast						from East						from West						from Northwest						
	Hard Right	Right	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	U-Turn	Total	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	Total	
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	2
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0			
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	2
Exiting Leg	0						0						2						0						0	2					
<b>Total</b>	0						0						2						2						0	4					

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

	Driveway						Lot						Shawsheen Street						Shawsheen Street						Patten Road						Total
	from North						from Northeast						from East						from West						from Northwest						
	Hard Right	Right	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	U-Turn	Total	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	Total	
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	4	0	0	0	0	0	0	0	1	0	0	0	1	5
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PDI File #: 239283 A  
 Location: N: Driveway NE: Lot NW: Patten Road  
 Location: E: Shawsheen Street W: Shawsheen Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350  
 Count Date: Thursday, April 13, 2023  
 Start Time: 6:00 AM  
 End Time: 6:00 PM



**Articulated Trucks**

	Driveway						Lot						Shawsheen Street						Shawsheen Street						Patten Road						Total
	from North						from Northeast						from East						from West						from Northwest						
	Hard Right	Right	Left	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	Total	Hard Right	Right	Bear Right	Thru	U-Turn	Total	Thru	Bear Left	Left	Hard Left	U-Turn	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	Total	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	1	0	0	0	1	4
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	2	0	0	0	0	0	0	2
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	4	4	0	1	0	0	5	0	2	0	0	0	2	11
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	75.0	0.0	80.0	0.0	20.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.250	0.333	0.000	0.250	0.000	0.000	0.417	0.000	0.500	0.000	0.000	0.000	0.500	0.550
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	4	4	0	1	0	0	5	0	2	0	0	0	2	11
Exiting Leg						1						0						6						3						1	11
Total						1						0						10						8						3	22



PDI File #: 239283 A  
 Location: N: Driveway NE: Lot NW: Patten Road  
 Location: E: Shawsheen Street W: Shawsheen Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350  
 Count Date: Thursday, April 13, 2023  
 Start Time: 6:00 AM  
 End Time: 6:00 PM  
 Class:



**Bicycles (on Roadway and Crosswalks)**

	Driveway								Lot								Shawsheen Street								Shawsheen Street								Patten Road								Total								
	from North								from Northeast								from East								from West								from Northwest																
	Hard Right	Right	Left	Hard Left	U-Turn	CW-EB	CW-WB	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	CW-SEB	CW-NWB	Total	Hard Right	Right	Bear Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Bear Left	Left	Hard Left	U-Turn	CW-NB	CW-SB	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	CW-NB	CW-SWB	Total									
4:15 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
4:30 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	0	0	0	0	0	2	2	4	0	0	0	0	0	2	3	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
<b>Grand Total</b>	0	1	0	0	0	2	2	5	0	1	0	0	0	2	3	6	0	0	0	1	0	2	0	3	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	16
Approach %	0.0	20.0	0.0	0.0	0.0	40.0	40.0	0.0	16.7	0.0	0.0	0.0	33.3	50.0	0.0	0.0	0.0	33.3	0.0	66.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0													
Total %	0.0	6.3	0.0	0.0	0.0	12.5	12.5	31.3	0.0	6.3	0.0	0.0	0.0	12.5	18.8	37.5	0.0	0.0	0.0	6.3	0.0	12.5	0.0	18.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.3	0.0	6.3	0.0	0.0	0.0	0.0	12.5									
Exiting Leg Total	4								6								2								3								1		16														

AM Peak Hour Analysis from 06:00 AM to 10:00 AM begins at:

	Driveway								Lot								Shawsheen Street								Shawsheen Street								Patten Road								Total								
	from North								from Northeast								from East								from West								from Northwest																
	Hard Right	Right	Left	Hard Left	U-Turn	CW-EB	CW-WB	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	CW-SEB	CW-NWB	Total	Hard Right	Right	Bear Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Bear Left	Left	Hard Left	U-Turn	CW-NB	CW-SB	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	CW-NB	CW-SWB	Total									
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250										
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exiting Leg	0								0								0								1								0		1														
<b>Total</b>	0								0								1								1								0		2														

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

	Driveway								Lot								Shawsheen Street								Shawsheen Street								Patten Road								Total								
	from North								from Northeast								from East								from West								from Northwest																
	Hard Right	Right	Left	Hard Left	U-Turn	CW-EB	CW-WB	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	CW-SEB	CW-NWB	Total	Hard Right	Right	Bear Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Bear Left	Left	Hard Left	U-Turn	CW-NB	CW-SB	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	CW-NB	CW-SWB	Total									
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	3	
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0						
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.375										
Entering Leg	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	3	
Exiting Leg	0								1								1								0								1		3														
<b>Total</b>	0								2								2								0								2		6														

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

	Driveway								Lot								Shawsheen Street								Shawsheen Street								Patten Road								Total
	from North								from Northeast								from East								from West								from Northwest								
	Hard Right	Right	Left	Hard Left	U-Turn	CW-EB	CW-WB	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	CW-SEB	CW-NWB	Total	Hard Right	Right	Bear Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Bear Left	Left	Hard Left	U-Turn	CW-NB	CW-SB	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	CW-NB	CW-SWB	Total	
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				





PDI File #: 239283 A  
 Location: N: Driveway NE: Lot NW: Patten Road  
 Location: E: Shawsheen Street W: Shawsheen Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350  
 Count Date: Thursday, April 13, 2023  
 Start Time: 6:00 AM  
 End Time: 6:00 PM  
 Class:



**Pedestrians**

	Driveway								Lot								Shawsheen Street								Shawsheen Street								Patten Road								Total	
	from North				from Northeast				from East				from West				from Northwest																									
	Hard Right	Right	Left	Hard Left	U-Turn	CW-EB	CW-WB	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	CW-SEB	CW-NWB	Total	Hard Right	Right	Bear Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Bear Left	Left	Hard Left	U-Turn	CW-NB	CW-SB	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	CW-NB	CW-SWB	Total		
4:15 PM	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
4:45 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
<b>Total</b>	0	0	0	0	0	1	2	3	0	0	0	0	0	2	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	
5:00 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
5:45 PM	0	0	0	0	0	2	1	3	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5		
<b>Total</b>	0	0	0	0	0	2	2	4	0	0	0	0	2	1	3	0	0	0	0	0	2	3	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12		
<b>Grand Total</b>	0	0	0	0	0	8	11	19	0	0	0	0	0	12	10	22	0	0	0	0	0	5	6	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52	
<b>Approach %</b>	0	0	0	0	0	42.1	57.9		0	0	0	0	0	54.5	45.5		0	0	0	0	0	45.5	54.5		0	0	0	0	0	0	0	0	0	0	0	0						
<b>Total %</b>	0	0	0	0	0	15.4	21.2	36.5	0	0	0	0	0	23.1	19.2	42.3	0	0	0	0	0	9.6	11.5	21.2	0	0	0	0	0	0	0	0	0	0	0	0						
<b>Exiting Leg Total</b>	19								22								11								0								52									

AM Peak Hour Analysis from 06:00 AM to 10:00 AM begins at:

	Driveway								Lot								Shawsheen Street								Shawsheen Street								Patten Road								Total
	from North				from Northeast				from East				from West				from Northwest																								
	Hard Right	Right	Left	Hard Left	U-Turn	CW-EB	CW-WB	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	CW-SEB	CW-NWB	Total	Hard Right	Right	Bear Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Bear Left	Left	Hard Left	U-Turn	CW-NB	CW-SB	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	CW-NB	CW-SWB	Total	
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
<b>Total Volume</b>	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	2	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
<b>% Approach Total</b>	0.0	0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
<b>PHF</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.500	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				
<b>Entering Leg</b>	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	2	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
<b>Exiting Leg</b>	1								2								2								0								5								
<b>Total</b>	2								4								4								0								10								

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

	Driveway								Lot								Shawsheen Street								Shawsheen Street								Patten Road								Total
	from North				from Northeast				from East				from West				from Northwest																								
	Hard Right	Right	Left	Hard Left	U-Turn	CW-EB	CW-WB	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	CW-SEB	CW-NWB	Total	Hard Right	Right	Bear Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Bear Left	Left	Hard Left	U-Turn	CW-NB	CW-SB	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	CW-NB	CW-SWB	Total	
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
12:45 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
1:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
<b>Total Volume</b>	0	0	0	0	0	2	1	3	0	0	0	0	0	5	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
<b>% Approach Total</b>	0.0	0.0	0.0	0.0	0.0	66.7	33.3		0.0	0.0	0.0	0.0	0.0	83.3	16.7		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
<b>PHF</b>	0.000	0.000	0.000	0.000	0.000	0.500	0.250	0.750	0.000	0.000	0.000	0.000	0.000	0.625	0.250	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750				
<b>Entering Leg</b>	0	0	0	0	0	2	1	3	0	0	0	0	0	5	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
<b>Exiting Leg</b>	3								6								0								0								9								
<b>Total</b>	6								12								0								0								18								

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

	Driveway								Lot								Shawsheen Street								Shawsheen Street								Patten Road								Total
	from North				from Northeast				from East				from West				from Northwest																								
	Hard Right	Right	Left	Hard Left	U-Turn	CW-EB	CW-WB	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	CW-SEB	CW-NWB	Total	Hard Right	Right	Bear Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Bear Left	Left	Hard Left	U-Turn	CW-NB	CW-SB	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	CW-NB	CW-SWB	Total	
5:00 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2

PDI File #: 239283 A  
 Location: N: Driveway NE: Lot NW: Patten Road  
 Location: E: Shawsheen Street W: Shawsheen Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350  
 Count Date: Thursday, April 13, 2023  
 Start Time: 6:00 AM  
 End Time: 6:00 PM  
 Class:



**Pedestrians**

	Driveway								Lot								Shawsheen Street								Shawsheen Street								Patten Road								Total								
	from North								from Northeast								from East								from West								from Northwest																
	Hard Right	Right	Left	Hard Left	U-Turn	CW-EB	CW-WB	Total	Hard Right	Right	Bear Right	Hard Left	U-Turn	CW-SEB	CW-NWB	Total	Hard Right	Right	Bear Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Bear Left	Left	Hard Left	U-Turn	CW-NB	CW-SB	Total	Hard Right	Bear Left	Left	Hard Left	U-Turn	CW-NEB	CW-SWB	Total									
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	2	1	3	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Total Volume	0	0	0	0	0	2	2	4	0	0	0	0	0	2	1	3	0	0	0	0	0	2	3	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
% Approach Total	0.0	0.0	0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	0.0	0.0	66.7	33.3		0.0	0.0	0.0	0.0	0.0	40.0	60.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0									0.600
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.500	0.333	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.375	0.000	0.000	0.000	0.000	0.000	0.250	0.375	0.625	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000									0.600
Entering Leg	0	0	0	0	0	2	2	4	0	0	0	0	0	2	1	3	0	0	0	0	0	2	3	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
Exiting Leg								4								3								5																	0								12
Total								8								6								10																	0								24

PDI File #: **239283 B**  
 Location: **N: Foster Road S: Beech Street**  
 Location: **E: Shawsheen Street W: Shawsheen Street**  
 City, State: **Tewksbury, MA**  
 Client: **TEC/ S. Gregorio**  
 Site Code: **T1350**  
 Count Date: **Thursday, April 13, 2023**  
 Start Time: **6:00 AM**  
 End Time: **6:00 PM**  
 Class:



**Cars and Heavy Vehicles (Combined)**

	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
6:00 AM	2	5	4	0	11	6	29	0	0	35	3	0	1	0	4	0	36	1	0	37	87
6:15 AM	5	4	16	0	25	2	50	1	0	53	3	1	3	0	7	0	50	1	0	51	136
6:30 AM	11	4	14	0	29	6	48	2	0	56	8	1	2	0	11	1	54	3	0	58	154
6:45 AM	11	9	8	0	28	6	79	3	0	88	3	2	2	0	7	2	69	10	0	81	204
<b>Total</b>	<b>29</b>	<b>22</b>	<b>42</b>	<b>0</b>	<b>93</b>	<b>20</b>	<b>206</b>	<b>6</b>	<b>0</b>	<b>232</b>	<b>17</b>	<b>4</b>	<b>8</b>	<b>0</b>	<b>29</b>	<b>3</b>	<b>209</b>	<b>15</b>	<b>0</b>	<b>227</b>	<b>581</b>
7:00 AM	22	14	15	0	51	9	77	5	0	91	6	8	4	0	18	0	50	6	0	56	216
7:15 AM	11	11	14	0	36	6	74	2	0	82	6	8	0	0	14	1	67	5	0	73	205
7:30 AM	10	15	17	0	42	8	95	2	0	105	7	6	3	0	16	0	77	11	0	88	251
7:45 AM	12	5	15	0	32	9	88	5	0	102	5	6	2	0	13	0	56	11	0	67	214
<b>Total</b>	<b>55</b>	<b>45</b>	<b>61</b>	<b>0</b>	<b>161</b>	<b>32</b>	<b>334</b>	<b>14</b>	<b>0</b>	<b>380</b>	<b>24</b>	<b>28</b>	<b>9</b>	<b>0</b>	<b>61</b>	<b>1</b>	<b>250</b>	<b>33</b>	<b>0</b>	<b>284</b>	<b>886</b>
8:00 AM	10	8	12	0	30	12	88	6	0	106	5	5	1	0	11	1	55	10	0	66	213
8:15 AM	10	1	23	0	34	11	82	5	0	98	10	1	3	0	14	1	51	10	0	62	208
8:30 AM	16	0	15	0	31	28	92	5	0	125	9	6	0	0	15	0	62	1	0	63	234
8:45 AM	17	1	10	0	28	8	65	4	1	78	3	5	3	0	11	0	50	11	0	61	178
<b>Total</b>	<b>53</b>	<b>10</b>	<b>60</b>	<b>0</b>	<b>123</b>	<b>59</b>	<b>327</b>	<b>20</b>	<b>1</b>	<b>407</b>	<b>27</b>	<b>17</b>	<b>7</b>	<b>0</b>	<b>51</b>	<b>2</b>	<b>218</b>	<b>32</b>	<b>0</b>	<b>252</b>	<b>833</b>
9:00 AM	10	6	10	0	26	9	63	3	0	75	4	6	1	0	11	0	52	7	0	59	171
9:15 AM	9	7	12	0	28	9	52	3	0	64	2	4	2	0	8	1	60	3	0	64	164
9:30 AM	9	1	14	0	24	6	53	5	0	64	4	4	0	0	8	0	53	4	0	57	153
9:45 AM	9	6	7	0	22	7	50	6	0	63	9	1	2	0	12	0	50	6	0	56	153
<b>Total</b>	<b>37</b>	<b>20</b>	<b>43</b>	<b>0</b>	<b>100</b>	<b>31</b>	<b>218</b>	<b>17</b>	<b>0</b>	<b>266</b>	<b>19</b>	<b>15</b>	<b>5</b>	<b>0</b>	<b>39</b>	<b>1</b>	<b>215</b>	<b>20</b>	<b>0</b>	<b>236</b>	<b>641</b>
10:00 AM	12	1	4	0	17	7	57	6	0	70	7	4	0	0	11	1	44	9	0	54	152
10:15 AM	13	6	10	0	29	10	41	4	0	55	3	2	2	0	7	1	40	7	0	48	139
10:30 AM	5	3	7	0	15	8	57	3	0	68	1	5	0	0	6	0	38	7	0	45	134
10:45 AM	6	2	12	0	20	7	51	8	0	66	5	5	2	0	12	0	49	6	0	55	153
<b>Total</b>	<b>36</b>	<b>12</b>	<b>33</b>	<b>0</b>	<b>81</b>	<b>32</b>	<b>206</b>	<b>21</b>	<b>0</b>	<b>259</b>	<b>16</b>	<b>16</b>	<b>4</b>	<b>0</b>	<b>36</b>	<b>2</b>	<b>171</b>	<b>29</b>	<b>0</b>	<b>202</b>	<b>578</b>
11:00 AM	5	2	8	0	15	6	48	4	0	58	3	2	1	0	6	1	41	10	0	52	131
11:15 AM	8	8	3	0	19	2	49	4	0	55	8	2	0	0	10	0	55	9	0	64	148
11:30 AM	5	1	4	0	10	9	58	2	0	69	5	2	0	0	7	0	41	11	0	52	138
11:45 AM	2	3	7	0	12	14	42	3	0	59	2	2	2	0	6	0	42	8	0	50	127
<b>Total</b>	<b>20</b>	<b>14</b>	<b>22</b>	<b>0</b>	<b>56</b>	<b>31</b>	<b>197</b>	<b>13</b>	<b>0</b>	<b>241</b>	<b>18</b>	<b>8</b>	<b>3</b>	<b>0</b>	<b>29</b>	<b>1</b>	<b>179</b>	<b>38</b>	<b>0</b>	<b>218</b>	<b>544</b>
12:00 PM	9	6	8	0	23	19	49	7	0	75	6	4	0	0	10	2	59	12	0	73	181
12:15 PM	7	2	8	0	17	8	55	6	0	69	10	1	1	0	12	1	56	6	0	63	161
12:30 PM	11	7	12	0	30	8	58	6	0	72	5	3	0	0	8	0	48	9	0	57	167
12:45 PM	6	6	11	0	23	12	55	6	0	73	3	1	1	0	5	0	47	10	0	57	158
<b>Total</b>	<b>33</b>	<b>21</b>	<b>39</b>	<b>0</b>	<b>93</b>	<b>47</b>	<b>217</b>	<b>25</b>	<b>0</b>	<b>289</b>	<b>24</b>	<b>9</b>	<b>2</b>	<b>0</b>	<b>35</b>	<b>3</b>	<b>210</b>	<b>37</b>	<b>0</b>	<b>250</b>	<b>667</b>
1:00 PM	2	3	8	0	13	15	50	5	0	70	6	2	4	0	12	1	43	8	0	52	147
1:15 PM	8	5	21	0	34	14	47	6	0	67	1	4	1	0	6	3	57	13	0	73	180
1:30 PM	4	2	6	0	12	12	74	4	0	90	3	4	1	0	8	2	50	5	0	57	167
1:45 PM	9	8	13	0	30	11	51	4	0	66	5	4	0	0	9	2	68	6	0	76	181
<b>Total</b>	<b>23</b>	<b>18</b>	<b>48</b>	<b>0</b>	<b>89</b>	<b>52</b>	<b>222</b>	<b>19</b>	<b>0</b>	<b>293</b>	<b>15</b>	<b>14</b>	<b>6</b>	<b>0</b>	<b>35</b>	<b>8</b>	<b>218</b>	<b>32</b>	<b>0</b>	<b>258</b>	<b>675</b>
2:00 PM	8	7	12	0	27	8	63	5	0	76	9	1	6	0	16	1	59	16	0	76	195
2:15 PM	6	5	6	0	17	25	84	8	0	117	11	11	2	0	24	2	68	12	0	82	240
2:30 PM	9	5	12	0	26	14	66	5	0	85	9	6	1	0	16	2	68	8	0	78	205
2:45 PM	11	8	13	0	32	18	76	9	0	103	6	8	1	0	15	2	69	16	0	87	237
<b>Total</b>	<b>34</b>	<b>25</b>	<b>43</b>	<b>0</b>	<b>102</b>	<b>65</b>	<b>289</b>	<b>27</b>	<b>0</b>	<b>381</b>	<b>35</b>	<b>26</b>	<b>10</b>	<b>0</b>	<b>71</b>	<b>7</b>	<b>264</b>	<b>52</b>	<b>0</b>	<b>323</b>	<b>877</b>
3:00 PM	12	10	12	0	34	35	82	4	0	121	9	4	1	0	14	0	81	13	0	94	263
3:15 PM	13	8	18	0	39	17	79	4	0	100	5	11	2	0	18	3	85	12	0	100	257
3:30 PM	9	6	9	0	24	21	72	8	0	101	7	5	3	0	15	1	100	11	0	112	252
3:45 PM	10	9	16	0	35	18	101	7	0	126	11	7	2	0	20	3	84	18	0	105	286
<b>Total</b>	<b>44</b>	<b>33</b>	<b>55</b>	<b>0</b>	<b>132</b>	<b>91</b>	<b>334</b>	<b>23</b>	<b>0</b>	<b>448</b>	<b>32</b>	<b>27</b>	<b>8</b>	<b>0</b>	<b>67</b>	<b>7</b>	<b>350</b>	<b>54</b>	<b>0</b>	<b>411</b>	<b>1058</b>
4:00 PM	16	8	13	0	37	18	119	6	0	143	6	9	1	0	16	1	103	15	0	119	315
4:15 PM	13	9	7	0	29	16	141	7	0	164	9	4	2	0	15	3	105	16	0	124	332
4:30 PM	15	8	10	0	33	23	123	4	0	150	10	3	1	0	14	1	111	15	0	127	324
4:45 PM	8	9	16	0	33	35	124	6	0	165	8	9	0	0	17	0	113	23	0	136	351
<b>Total</b>	<b>52</b>	<b>34</b>	<b>46</b>	<b>0</b>	<b>132</b>	<b>92</b>	<b>507</b>	<b>23</b>	<b>0</b>	<b>622</b>	<b>33</b>	<b>25</b>	<b>4</b>	<b>0</b>	<b>62</b>	<b>5</b>	<b>432</b>	<b>69</b>	<b>0</b>	<b>506</b>	<b>1322</b>
5:00 PM	10	9	17	0	36	16	110	3	0	129	8	5	4	0	17	3	93	13	0	109	291
5:15 PM	11	6	15	0	32	17	120	5	0	142	10	10	2	0	22	2	124	21	0	147	343
5:30 PM	9	6	9	0	24	21	90	6	0	117	8	11	1	0	20	2	110	13	0	125	286
5:45 PM	11	4	15	0	30	15	92	1	0	108	9	3	1	0	13	0	121	19	0	140	291
<b>Total</b>	<b>41</b>	<b>25</b>	<b>56</b>	<b>0</b>	<b>122</b>	<b>69</b>	<b>412</b>	<b>15</b>	<b>0</b>	<b>496</b>	<b>35</b>	<b>29</b>	<b>8</b>	<b>0</b>	<b>72</b>	<b>7</b>	<b>448</b>	<b>66</b>	<b>0</b>	<b>521</b>	<b>1211</b>
<b>Grand Total</b>	<b>457</b>	<b>279</b>	<b>548</b>	<b>0</b>	<b>1284</b>	<b>621</b>	<b>3469</b>	<b>223</b>	<b>1</b>	<b>4314</b>	<b>295</b>	<b>218</b>	<b>74</b>	<b>0</b>	<b>587</b>	<b>47</b>	<b>3164</b>	<b>477</b>	<b>0</b>	<b>3688</b>	<b>9873</b>
<b>Approach %</b>	<b>35.6</b>	<b>21.7</b>	<b>42.7</b>	<b>0.0</b>		<b>14.4</b>	<b>80.4</b>	<b>5.2</b>	<b>0.0</b>		<b>50.3</b>	<b>37.1</b>	<b>12.6</b>	<b>0.0</b>		<b>1.3</b>	<b>85.8</b>	<b>12.9</b>	<b>0.0</b>		
<b>Total %</b>	<b>4.6</b>	<b>2.8</b>	<b>5.6</b>	<b>0.0</b>	<b>13.0</b>	<b>6.3</b>	<b>35.1</b>	<b>2.3</b>	<b>0.0</b>	<b>43.7</b>	<b>3.0</b>	<b>2.2</b>	<b>0.7</b>	<b>0.0</b>	<b>5.9</b>	<b>0.5</b>	<b>32.0</b>	<b>4.8</b>	<b>0.0</b>	<b>37.4</b>	
<b>Exiting Leg Total</b>					<b>1316</b>					<b>4008</b>					<b>549</b>					<b>4000</b>	<b>9873</b>
<b>Cars</b>	<b>446&lt;/</b>																				

PDI File #: **239283 B**  
 Location: **N: Foster Road S: Beech Street**  
 Location: **E: Shawsheen Street W: Shawsheen Street**  
 City, State: **Tewksbury, MA**  
 Client: **TEC/ S. Gregorio**  
 Site Code: **T1350**  
 Count Date: **Thursday, April 13, 2023**  
 Start Time: **6:00 AM**  
 End Time: **6:00 PM**  
 Class:



**Cars and Heavy Vehicles (Combined)**

	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
Heavy Vehicles	11	6	19	0	36	25	107	6	0	138	7	3	6	0	16	5	101	14	0	120	310
% Heavy Vehicles	2.4	2.2	3.5	0.0	2.8	4.0	3.1	2.7	0.0	3.2	2.4	1.4	8.1	0.0	2.7	10.6	3.2	2.9	0.0	3.3	3.1
Exiting Leg Total	42					127					17					124					310

AM Peak Hour Analysis from 06:00 AM to 10:00 AM begins at:

	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	22	14	15	0	51	9	77	5	0	91	6	8	4	0	18	0	50	6	0	56	216
7:15 AM	11	11	14	0	36	6	74	2	0	82	6	8	0	0	14	1	67	5	0	73	205
7:30 AM	10	15	17	0	42	8	95	2	0	105	7	6	3	0	16	0	77	11	0	88	251
7:45 AM	12	5	15	0	32	9	88	5	0	102	5	6	2	0	13	0	56	11	0	67	214
Total Volume	55	45	61	0	161	32	334	14	0	380	24	28	9	0	61	1	250	33	0	284	886
% Approach Total	34.2	28.0	37.9	0.0		8.4	87.9	3.7	0.0		39.3	45.9	14.8	0.0		0.4	88.0	11.6	0.0		
PHF	0.625	0.750	0.897	0.000	0.789	0.889	0.879	0.700	0.000	0.905	0.857	0.875	0.563	0.000	0.847	0.250	0.812	0.750	0.000	0.807	0.882
Cars	55	44	60	0	159	30	326	14	0	370	24	28	8	0	60	1	238	28	0	267	856
Cars %	100.0	97.8	98.4	0.0	98.8	93.8	97.6	100.0	0.0	97.4	100.0	100.0	88.9	0.0	98.4	100.0	95.2	84.8	0.0	94.0	96.6
Heavy Vehicles	0	1	1	0	2	2	8	0	0	10	0	0	1	0	1	0	12	5	0	17	30
Heavy Vehicles %	0.0	2.2	1.6	0.0	1.2	6.3	2.4	0.0	0.0	2.6	0.0	0.0	11.1	0.0	1.6	0.0	4.8	15.2	0.0	6.0	3.4
Cars Enter Leg	55	44	60	0	159	30	326	14	0	370	24	28	8	0	60	1	238	28	0	267	856
Heavy Enter Leg	0	1	1	0	2	2	8	0	0	10	0	0	1	0	1	0	12	5	0	17	30
Total Entering Leg	55	45	61	0	161	32	334	14	0	380	24	28	9	0	61	1	250	33	0	284	886
Cars Exiting Leg	86					322					59					389					856
Heavy Exiting Leg	7					13					1					9					30
Total Exiting Leg	93					335					60					398					886

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
1:45 PM	9	8	13	0	30	11	51	4	0	66	5	4	0	0	9	2	68	6	0	76	181
2:00 PM	8	7	12	0	27	8	63	5	0	76	9	1	6	0	16	1	59	16	0	76	195
2:15 PM	6	5	6	0	17	25	84	8	0	117	11	11	2	0	24	2	68	12	0	82	240
2:30 PM	9	5	12	0	26	14	66	5	0	85	9	6	1	0	16	2	68	8	0	78	205
Total Volume	32	25	43	0	100	58	264	22	0	344	34	22	9	0	65	7	263	42	0	312	821
% Approach Total	32.0	25.0	43.0	0.0		16.9	76.7	6.4	0.0		52.3	33.8	13.8	0.0		2.2	84.3	13.5	0.0		
PHF	0.889	0.781	0.827	0.000	0.833	0.580	0.786	0.688	0.000	0.735	0.773	0.500	0.375	0.000	0.677	0.875	0.967	0.656	0.000	0.951	0.855
Cars	32	25	42	0	99	57	255	21	0	333	34	21	8	0	63	7	254	41	0	302	797
Cars %	100.0	100.0	97.7	0.0	99.0	98.3	96.6	95.5	0.0	96.8	100.0	95.5	88.9	0.0	96.9	100.0	96.6	97.6	0.0	96.8	97.1
Heavy Vehicles	0	0	1	0	1	1	9	1	0	11	0	1	1	0	2	0	9	1	0	10	24
Heavy Vehicles %	0.0	0.0	2.3	0.0	1.0	1.7	3.4	4.5	0.0	3.2	0.0	4.5	11.1	0.0	3.1	0.0	3.4	2.4	0.0	3.2	2.9
Cars Enter Leg	32	25	42	0	99	57	255	21	0	333	34	21	8	0	63	7	254	41	0	302	797
Heavy Enter Leg	0	0	1	0	1	1	9	1	0	11	0	1	1	0	2	0	9	1	0	10	24
Total Entering Leg	32	25	43	0	100	58	264	22	0	344	34	22	9	0	65	7	263	42	0	312	821
Cars Exiting Leg	119					330					53					295					797
Heavy Exiting Leg	3					10					1					10					24
Total Exiting Leg	122					340					54					305					821

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	16	8	13	0	37	18	119	6	0	143	6	9	1	0	16	1	103	15	0	119	315
4:15 PM	13	9	7	0	29	16	141	7	0	164	9	4	2	0	15	3	105	16	0	124	332
4:30 PM	15	8	10	0	33	23	123	4	0	150	10	3	1	0	14	1	111	15	0	127	324
4:45 PM	8	9	16	0	33	35	124	6	0	165	8	9	0	0	17	0	113	23	0	136	351
Total Volume	52	34	46	0	132	92	507	23	0	622	33	25	4	0	62	5	432	69	0	506	1322
% Approach Total	39.4	25.8	34.8	0.0		14.8	81.5	3.7	0.0		53.2	40.3	6.5	0.0		1.0	85.4	13.6	0.0		
PHF	0.813	0.944	0.719	0.000	0.892	0.657	0.899	0.821	0.000	0.942	0.825	0.694	0.500	0.000	0.912	0.417	0.956	0.750	0.000	0.930	0.942
Cars	51	34	46	0	131	90	493	23	0	606	33	25	4	0	62	5	432	69	0	506	1305
Cars %	98.1	100.0	100.0	0.0	99.2	97.8	97.2	100.0	0.0	97.4	100.0	100.0	100.0	0.0	100.0	100.0	100.0	100.0	0.0	100.0	98.7
Heavy Vehicles	1	0	0	0	1	2	14	0	0	16	0	0	0	0	0	0	0	0	0	0	17
Heavy Vehicles %	1.9	0.0	0.0	0.0	0.8	2.2	2.8	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3
Cars Enter Leg	51	34	46	0	131	90	493	23	0	606	33	25	4	0	62	5	432	69	0	506	1305
Heavy Enter Leg	1	0	0	0	1	2	14	0	0	16	0	0	0	0	0	0	0	0	0	0	17
Total Entering Leg	52	34	46	0	132	92	507	23	0	622	33	25	4	0	62	5	432	69	0	506	1322
Cars Exiting Leg	184					511					62					548					1305
Heavy Exiting Leg	2					0					0					15					17
Total Exiting Leg	186					511					62					563					1322

PDI File #: 239283 B  
 Location: N: Foster Road S: Beech Street  
 Location: E: Shawsheen Street W: Shawsheen Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350  
 Count Date: Thursday, April 13, 2023  
 Start Time: 6:00 AM  
 End Time: 6:00 PM  
 Class:



**Cars**

	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
6:00 AM	2	5	4	0	11	6	28	0	0	34	3	0	1	0	4	0	35	1	0	36	85
6:15 AM	5	4	16	0	25	2	49	1	0	52	3	1	3	0	7	0	49	1	0	50	134
6:30 AM	11	4	13	0	28	6	47	2	0	55	8	1	2	0	11	1	53	3	0	57	151
6:45 AM	11	8	7	0	26	5	75	2	0	82	3	2	1	0	6	1	64	10	0	75	189
<b>Total</b>	<b>29</b>	<b>21</b>	<b>40</b>	<b>0</b>	<b>90</b>	<b>19</b>	<b>199</b>	<b>5</b>	<b>0</b>	<b>223</b>	<b>17</b>	<b>4</b>	<b>7</b>	<b>0</b>	<b>28</b>	<b>2</b>	<b>201</b>	<b>15</b>	<b>0</b>	<b>218</b>	<b>559</b>
7:00 AM	22	14	15	0	51	7	76	5	0	88	6	8	3	0	17	0	49	4	0	53	209
7:15 AM	11	11	14	0	36	6	71	2	0	79	6	8	0	0	14	1	63	5	0	69	198
7:30 AM	10	14	16	0	40	8	94	2	0	104	7	6	3	0	16	0	73	8	0	81	241
7:45 AM	12	5	15	0	32	9	85	5	0	99	5	6	2	0	13	0	53	11	0	64	208
<b>Total</b>	<b>55</b>	<b>44</b>	<b>60</b>	<b>0</b>	<b>159</b>	<b>30</b>	<b>326</b>	<b>14</b>	<b>0</b>	<b>370</b>	<b>24</b>	<b>28</b>	<b>8</b>	<b>0</b>	<b>60</b>	<b>1</b>	<b>238</b>	<b>28</b>	<b>0</b>	<b>267</b>	<b>856</b>
8:00 AM	9	8	12	0	29	12	87	6	0	105	5	5	0	0	10	0	52	10	0	62	206
8:15 AM	10	1	22	0	33	10	80	5	0	95	9	1	3	0	13	1	49	10	0	60	201
8:30 AM	16	0	15	0	31	19	88	5	0	112	8	6	0	0	14	0	59	1	0	60	217
8:45 AM	17	0	9	0	26	8	63	4	1	76	3	4	3	0	10	0	46	11	0	57	169
<b>Total</b>	<b>52</b>	<b>9</b>	<b>58</b>	<b>0</b>	<b>119</b>	<b>49</b>	<b>318</b>	<b>20</b>	<b>1</b>	<b>388</b>	<b>25</b>	<b>16</b>	<b>6</b>	<b>0</b>	<b>47</b>	<b>1</b>	<b>206</b>	<b>32</b>	<b>0</b>	<b>239</b>	<b>793</b>
9:00 AM	8	6	9	0	23	9	63	3	0	75	4	6	1	0	11	0	51	6	0	57	166
9:15 AM	7	6	12	0	25	9	51	3	0	63	2	4	2	0	8	1	57	3	0	61	157
9:30 AM	9	1	14	0	24	6	51	5	0	62	3	4	0	0	7	0	53	4	0	57	150
9:45 AM	9	6	6	0	21	7	49	5	0	61	9	1	2	0	12	0	50	5	0	55	149
<b>Total</b>	<b>33</b>	<b>19</b>	<b>41</b>	<b>0</b>	<b>93</b>	<b>31</b>	<b>214</b>	<b>16</b>	<b>0</b>	<b>261</b>	<b>18</b>	<b>15</b>	<b>5</b>	<b>0</b>	<b>38</b>	<b>1</b>	<b>211</b>	<b>18</b>	<b>0</b>	<b>230</b>	<b>622</b>
10:00 AM	12	1	4	0	17	6	54	6	0	66	7	4	0	0	11	1	42	8	0	51	145
10:15 AM	13	6	10	0	29	9	39	4	0	52	3	2	2	0	7	1	37	7	0	45	133
10:30 AM	4	3	6	0	13	8	51	2	0	61	1	5	0	0	6	0	36	7	0	43	123
10:45 AM	6	2	12	0	20	7	50	8	0	65	5	5	2	0	12	0	47	6	0	53	150
<b>Total</b>	<b>35</b>	<b>12</b>	<b>32</b>	<b>0</b>	<b>79</b>	<b>30</b>	<b>194</b>	<b>20</b>	<b>0</b>	<b>244</b>	<b>16</b>	<b>16</b>	<b>4</b>	<b>0</b>	<b>36</b>	<b>2</b>	<b>162</b>	<b>28</b>	<b>0</b>	<b>192</b>	<b>551</b>
11:00 AM	5	2	8	0	15	6	46	4	0	56	3	2	1	0	6	1	39	9	0	49	126
11:15 AM	8	8	3	0	19	2	46	4	0	52	8	2	0	0	10	0	52	8	0	60	141
11:30 AM	5	1	4	0	10	9	57	2	0	68	5	2	0	0	7	0	40	11	0	51	136
11:45 AM	2	3	7	0	12	14	41	3	0	58	2	2	2	0	6	0	38	7	0	45	121
<b>Total</b>	<b>20</b>	<b>14</b>	<b>22</b>	<b>0</b>	<b>56</b>	<b>31</b>	<b>190</b>	<b>13</b>	<b>0</b>	<b>234</b>	<b>18</b>	<b>8</b>	<b>3</b>	<b>0</b>	<b>29</b>	<b>1</b>	<b>169</b>	<b>35</b>	<b>0</b>	<b>205</b>	<b>524</b>
12:00 PM	9	6	8	0	23	19	43	7	0	69	6	4	0	0	10	2	58	12	0	72	174
12:15 PM	7	2	8	0	17	8	51	6	0	65	10	1	1	0	12	1	51	6	0	58	152
12:30 PM	11	7	12	0	30	8	57	6	0	71	5	3	0	0	8	0	47	8	0	55	164
12:45 PM	6	5	10	0	21	12	55	6	0	73	3	1	1	0	5	0	44	10	0	54	153
<b>Total</b>	<b>33</b>	<b>20</b>	<b>38</b>	<b>0</b>	<b>91</b>	<b>47</b>	<b>206</b>	<b>25</b>	<b>0</b>	<b>278</b>	<b>24</b>	<b>9</b>	<b>2</b>	<b>0</b>	<b>35</b>	<b>3</b>	<b>200</b>	<b>36</b>	<b>0</b>	<b>239</b>	<b>643</b>
1:00 PM	2	3	7	0	12	14	49	5	0	68	6	1	4	0	11	1	43	8	0	52	143
1:15 PM	8	5	20	0	33	13	44	6	0	63	1	4	1	0	6	2	55	13	0	70	172
1:30 PM	4	2	6	0	12	12	71	4	0	87	3	4	1	0	8	1	49	5	0	55	162
1:45 PM	9	8	13	0	30	11	49	4	0	64	5	4	0	0	9	2	67	6	0	75	178
<b>Total</b>	<b>23</b>	<b>18</b>	<b>46</b>	<b>0</b>	<b>87</b>	<b>50</b>	<b>213</b>	<b>19</b>	<b>0</b>	<b>282</b>	<b>15</b>	<b>13</b>	<b>6</b>	<b>0</b>	<b>34</b>	<b>6</b>	<b>214</b>	<b>32</b>	<b>0</b>	<b>252</b>	<b>655</b>
2:00 PM	8	7	12	0	27	8	59	5	0	72	9	1	6	0	16	1	56	15	0	72	187
2:15 PM	6	5	6	0	17	24	83	7	0	114	11	10	1	0	22	2	65	12	0	79	232
2:30 PM	9	5	11	0	25	14	64	5	0	83	9	6	1	0	16	2	66	8	0	76	200
2:45 PM	8	7	11	0	26	17	73	8	0	98	6	8	1	0	15	2	66	15	0	83	222
<b>Total</b>	<b>31</b>	<b>24</b>	<b>40</b>	<b>0</b>	<b>95</b>	<b>63</b>	<b>279</b>	<b>25</b>	<b>0</b>	<b>367</b>	<b>35</b>	<b>25</b>	<b>9</b>	<b>0</b>	<b>69</b>	<b>7</b>	<b>253</b>	<b>50</b>	<b>0</b>	<b>310</b>	<b>841</b>
3:00 PM	12	10	12	0	34	32	77	4	0	113	7	4	1	0	12	0	74	13	0	87	246
3:15 PM	12	8	13	0	33	16	76	3	0	95	4	11	2	0	17	3	82	12	0	97	242
3:30 PM	9	6	9	0	24	21	71	8	0	100	7	5	3	0	15	1	96	11	0	108	247
3:45 PM	10	9	16	0	35	18	98	7	0	123	11	7	2	0	20	3	79	18	0	100	278
<b>Total</b>	<b>43</b>	<b>33</b>	<b>50</b>	<b>0</b>	<b>126</b>	<b>87</b>	<b>322</b>	<b>22</b>	<b>0</b>	<b>431</b>	<b>29</b>	<b>27</b>	<b>8</b>	<b>0</b>	<b>64</b>	<b>7</b>	<b>331</b>	<b>54</b>	<b>0</b>	<b>392</b>	<b>1013</b>
4:00 PM	16	8	13	0	37	18	115	6	0	139	6	9	1	0	16	1	103	15	0	119	311
4:15 PM	13	9	7	0	29	15	136	7	0	158	9	4	2	0	15	3	105	16	0	124	326
4:30 PM	15	8	10	0	33	22	119	4	0	145	10	3	1	0	14	1	111	15	0	127	319
4:45 PM	7	9	16	0	32	35	123	6	0	164	8	9	0	0	17	0	113	23	0	136	349
<b>Total</b>	<b>51</b>	<b>34</b>	<b>46</b>	<b>0</b>	<b>131</b>	<b>90</b>	<b>493</b>	<b>23</b>	<b>0</b>	<b>606</b>	<b>33</b>	<b>25</b>	<b>4</b>	<b>0</b>	<b>62</b>	<b>5</b>	<b>432</b>	<b>69</b>	<b>0</b>	<b>506</b>	<b>1305</b>
5:00 PM	10	9	17	0	36	16	108	3	0	127	8	5	3	0	16	2	93	13	0	108	287
5:15 PM	11	6	15	0	32	17	120	5	0	142	10	10	1	0	21	2	122	21	0	145	340
5:30 PM	9	6	9	0	24	21	88	6	0	115	7	11	1	0	19	2	110	13	0	125	283
5:45 PM	11	4	15	0	30	15	92	1	0	108	9	3	1	0	13	0	121	19	0	140	291
<b>Total</b>	<b>41</b>	<b>25</b>	<b>56</b>	<b>0</b>	<b>122</b>	<b>69</b>	<b>408</b>	<b>15</b>	<b>0</b>	<b>492</b>	<b>34</b>	<b>29</b>	<b>6</b>	<b>0</b>	<b>69</b>	<b>6</b>	<b>446</b>	<b>66</b>	<b>0</b>	<b>518</b>	<b>1201</b>
<b>Grand Total</b>	<b>446</b>	<b>273</b>	<b>529</b>	<b>0</b>	<b>1248</b>	<b>596</b>	<b>3362</b>	<b>217</b>	<b>1</b>	<b>4176</b>	<b>288</b>	<b>215</b>	<b>68</b>	<b>0</b>	<b>571</b>	<b>42</b>	<b>3063</b>	<b>463</b>	<b>0</b>	<b>3568</b>	<b>9563</b>
Approach %	35.7	21.9	42.4	0.0		14.3	80.5	5.2	0.0		50.4	37.7	11.9	0.0		1.2	85.8	13.0	0.0		
Total %	4.7	2.9	5.5	0.0	13.1	6.2	35.2	2.3	0.0	43.7	3.0	2.2	0.7	0.0	6.0	0.4	32.0	4.8	0.0	37.3	
Exiting Leg Total	1274					3881					532					3876					9563

AM Peak Hour Analysis from 06:00 AM to 10:00 AM begins at:

PDI File #: **239283 B**  
 Location: **N: Foster Road S: Beech Street**  
 Location: **E: Shawsheen Street W: Shawsheen Street**  
 City, State: **Tewksbury, MA**  
 Client: **TEC/ S. Gregorio**  
 Site Code: **T1350**  
 Count Date: **Thursday, April 13, 2023**  
 Start Time: **6:00 AM**  
 End Time: **6:00 PM**  
 Class:



**Cars**

	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street					
	from North					from East					from South					from West					
7:00 AM	22	14	15	0	51	7	76	5	0	88	6	8	3	0	17	0	49	4	0	53	209
7:15 AM	11	11	14	0	36	6	71	2	0	79	6	8	0	0	14	1	63	5	0	69	198
7:30 AM	10	14	16	0	40	8	94	2	0	104	7	6	3	0	16	0	73	8	0	81	241
7:45 AM	12	5	15	0	32	9	85	5	0	99	5	6	2	0	13	0	53	11	0	64	208
Total Volume	55	44	60	0	159	30	326	14	0	370	24	28	8	0	60	1	238	28	0	267	856
% Approach Total	34.6	27.7	37.7	0.0		8.1	88.1	3.8	0.0		40.0	46.7	13.3	0.0		0.4	89.1	10.5	0.0		
PHF	0.625	0.786	0.938	0.000	0.779	0.833	0.867	0.700	0.000	0.889	0.857	0.875	0.667	0.000	0.882	0.250	0.815	0.636	0.000	0.824	0.888
Entering Leg	55	44	60	0	159	30	326	14	0	370	24	28	8	0	60	1	238	28	0	267	856
Exiting Leg					86					322					59					389	856
Total					245					692					119					656	1712

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
1:45 PM	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street					
1:45 PM	9	8	13	0	30	11	49	4	0	64	5	4	0	0	9	2	67	6	0	75	178
2:00 PM	8	7	12	0	27	8	59	5	0	72	9	1	6	0	16	1	56	15	0	72	187
2:15 PM	6	5	6	0	17	24	83	7	0	114	11	10	1	0	22	2	65	12	0	79	232
2:30 PM	9	5	11	0	25	14	64	5	0	83	9	6	1	0	16	2	66	8	0	76	200
Total Volume	32	25	42	0	99	57	255	21	0	333	34	21	8	0	63	7	254	41	0	302	797
% Approach Total	32.3	25.3	42.4	0.0		17.1	76.6	6.3	0.0		54.0	33.3	12.7	0.0		2.3	84.1	13.6	0.0		
PHF	0.889	0.781	0.808	0.000	0.825	0.594	0.768	0.750	0.000	0.730	0.773	0.525	0.333	0.000	0.716	0.875	0.948	0.683	0.000	0.956	0.859
Entering Leg	32	25	42	0	99	57	255	21	0	333	34	21	8	0	63	7	254	41	0	302	797
Exiting Leg					119					330					53					295	797
Total					218					663					116					597	1594

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street					
4:00 PM	16	8	13	0	37	18	115	6	0	139	6	9	1	0	16	1	103	15	0	119	311
4:15 PM	13	9	7	0	29	15	136	7	0	158	9	4	2	0	15	3	105	16	0	124	326
4:30 PM	15	8	10	0	33	22	119	4	0	145	10	3	1	0	14	1	111	15	0	127	319
4:45 PM	7	9	16	0	32	35	123	6	0	164	8	9	0	0	17	0	113	23	0	136	349
Total Volume	51	34	46	0	131	90	493	23	0	606	33	25	4	0	62	5	432	69	0	506	1305
% Approach Total	38.9	26.0	35.1	0.0		14.9	81.4	3.8	0.0		53.2	40.3	6.5	0.0		1.0	85.4	13.6	0.0		
PHF	0.797	0.944	0.719	0.000	0.885	0.643	0.906	0.821	0.000	0.924	0.825	0.694	0.500	0.000	0.912	0.417	0.956	0.750	0.000	0.930	0.935
Entering Leg	51	34	46	0	131	90	493	23	0	606	33	25	4	0	62	5	432	69	0	506	1305
Exiting Leg					184					511					62					548	1305
Total					315					1117					124					1054	2610

PDI File #: 239283 B  
 Location: N: Foster Road S: Beech Street  
 Location: E: Shawsheen Street W: Shawsheen Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350  
 Count Date: Thursday, April 13, 2023  
 Start Time: 6:00 AM  
 End Time: 6:00 PM  
 Class: Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)



	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
6:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
6:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
6:30 AM	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	3
6:45 AM	0	1	1	0	2	1	4	1	0	6	0	0	1	0	1	1	5	0	0	6	15
Total	0	1	2	0	3	1	7	1	0	9	0	0	1	0	1	1	8	0	0	9	22
7:00 AM	0	0	0	0	0	2	1	0	0	3	0	0	1	0	1	0	1	2	0	3	7
7:15 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	4	0	0	4	7
7:30 AM	0	1	1	0	2	0	1	0	0	1	0	0	0	0	0	0	3	3	0	7	10
7:45 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	6
Total	0	1	1	0	2	2	8	0	0	10	0	0	1	0	1	0	12	5	0	17	30
8:00 AM	1	0	0	0	1	0	1	0	0	1	0	0	1	0	1	1	3	0	0	4	7
8:15 AM	0	0	1	0	1	1	2	0	0	3	1	0	0	0	1	0	2	0	0	2	7
8:30 AM	0	0	0	0	0	9	4	0	0	13	1	0	0	0	1	0	3	0	0	3	17
8:45 AM	0	1	1	0	2	0	2	0	0	2	0	1	0	0	1	0	4	0	0	4	9
Total	1	1	2	0	4	10	9	0	0	19	2	1	1	0	4	1	12	0	0	13	40
9:00 AM	2	0	1	0	3	0	0	0	0	0	0	0	0	0	0	1	1	1	0	2	5
9:15 AM	2	1	0	0	3	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	7
9:30 AM	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	0	0	0	0	0	3
9:45 AM	0	0	1	0	1	0	1	1	0	2	0	0	0	0	0	0	0	1	0	1	4
Total	4	1	2	0	7	0	4	1	0	5	1	0	0	0	1	0	4	2	0	6	19
10:00 AM	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	0	2	1	0	3	7
10:15 AM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	3	0	0	3	6
10:30 AM	1	0	1	0	2	0	6	1	0	7	0	0	0	0	0	0	2	0	0	2	11
10:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
Total	1	0	1	0	2	2	12	1	0	15	0	0	0	0	0	0	9	1	0	10	27
11:00 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	1	0	3	5
11:15 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3	1	0	4	7
11:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
11:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	1	0	5	6
Total	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	10	3	0	13	20
12:00 PM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	1	0	0	1	7
12:15 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	5	0	0	5	9
12:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	3
12:45 PM	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	5
Total	0	1	1	0	2	0	11	0	0	11	0	0	0	0	0	0	10	1	0	11	24
1:00 PM	0	0	1	0	1	1	1	0	0	2	0	1	0	0	1	0	0	0	0	0	4
1:15 PM	0	0	1	0	1	1	3	0	0	4	0	0	0	0	0	1	2	0	0	3	8
1:30 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	1	1	0	0	2	5
1:45 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
Total	0	0	2	0	2	2	9	0	0	11	0	1	0	0	1	2	4	0	0	6	20
2:00 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	3	1	0	4	8
2:15 PM	0	0	0	0	0	1	1	1	0	3	0	1	1	0	2	0	3	0	0	3	8
2:30 PM	0	0	1	0	1	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	5
2:45 PM	3	1	2	0	6	1	3	1	0	5	0	0	0	0	0	0	3	1	0	4	15
Total	3	1	3	0	7	2	10	2	0	14	0	1	1	0	2	0	11	2	0	13	36
3:00 PM	0	0	0	0	0	3	5	0	0	8	2	0	0	0	2	0	7	0	0	7	17
3:15 PM	1	0	5	0	6	1	3	1	0	5	1	0	0	0	1	0	3	0	0	3	15
3:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	5
3:45 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	5	0	0	5	8
Total	1	0	5	0	6	4	12	1	0	17	3	0	0	0	3	0	19	0	0	19	45
4:00 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	4
4:15 PM	0	0	0	0	0	1	5	0	0	6	0	0	0	0	0	0	0	0	0	0	6
4:30 PM	0	0	0	0	0	1	4	0	0	5	0	0	0	0	0	0	0	0	0	0	5
4:45 PM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
Total	1	0	0	0	1	2	14	0	0	16	0	0	0	0	0	0	0	0	0	0	17
5:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	1	0	0	0	1	4
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	0	2	3
5:30 PM	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	0	0	0	0	0	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	4	0	0	4	1	0	2	0	3	1	2	0	0	3	10
Grand Total	11	6	19	0	36	25	107	6	0	138	7	3	6	0	16	5	101	14	0	120	310
Approach %	30.6	16.7	52.8	0.0		18.1	77.5	4.3	0.0		43.8	18.8	37.5	0.0		4.2	84.2	11.7	0.0		
Total %	3.5	1.9	6.1	0.0	11.6	8.1	34.5	1.9	0.0	44.5	2.3	1.0	1.9	0.0	5.2	1.6	32.6	4.5	0.0	38.7	
Exiting Leg Total					42					127					17					124	310
Buses	1	3	11	0	15	15	16	2	0	33	4	1	3	0	8	1	13	4	0	18	74
% Buses	9.1	50.0	57.9	0.0	41.7	60.0	15.0	33.3	0.0	23.9	57.1	33.3	50.0	0.0	50.0	20.0	12.9	28.6	0.0	15.0	23.9
Exiting Leg Total					20					28					6					20	74

PDI File #: **239283 B**  
 Location: **N: Foster Road S: Beech Street**  
 Location: **E: Shawsheen Street W: Shawsheen Street**  
 City, State: **Tewksbury, MA**  
 Client: **TEC/ S. Gregorio**  
 Site Code: **T1350**  
 Count Date: **Thursday, April 13, 2023**  
 Start Time: **6:00 AM**  
 End Time: **6:00 PM**  
 Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**



	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
Single-Unit Trucks	6	3	8	0	17	8	76	3	0	87	3	2	3	0	8	4	74	7	0	85	197
% Single-Unit	54.5	50.0	42.1	0.0	47.2	32.0	71.0	50.0	0.0	63.0	42.9	66.7	50.0	0.0	50.0	80.0	73.3	50.0	0.0	70.8	63.5
Exiting Leg Total	17					85					10					85					197
Articulated Trucks	4	0	0	0	4	2	15	1	0	18	0	0	0	0	0	0	14	3	0	17	39
% Articulated	36.4	0.0	0.0	0.0	11.1	8.0	14.0	16.7	0.0	13.0	0.0	0.0	0.0	0.0	0.0	0.0	13.9	21.4	0.0	14.2	12.6
Exiting Leg Total	5					14					1					19					39

AM Peak Hour Analysis from 06:00 AM to 10:00 AM begins at:

	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
8:00 AM	1	0	0	0	1	0	1	0	0	1	0	0	1	0	1	1	3	0	0	4	7
8:15 AM	0	0	1	0	1	1	2	0	0	3	1	0	0	0	1	0	2	0	0	2	7
8:30 AM	0	0	0	0	0	9	4	0	0	13	1	0	0	0	1	0	3	0	0	3	17
8:45 AM	0	1	1	0	2	0	2	0	0	2	0	1	0	0	1	0	4	0	0	4	9
Total Volume	1	1	2	0	4	10	9	0	0	19	2	1	1	0	4	1	12	0	0	13	40
% Approach Total	25.0	25.0	50.0	0.0		52.6	47.4	0.0	0.0		50.0	25.0	25.0	0.0		7.7	92.3	0.0	0.0		
PHF	0.250	0.250	0.500	0.000	0.500	0.278	0.563	0.000	0.000	0.365	0.500	0.250	0.250	0.000	1.000	0.250	0.750	0.000	0.000	0.813	0.588
Buses	1	0	2	0	3	9	0	0	0	9	2	0	0	0	2	0	2	0	0	2	16
Buses %	100.0	0.0	100.0	0.0	75.0	90.0	0.0	0.0	0.0	47.4	100.0	0.0	0.0	0.0	50.0	0.0	16.7	0.0	0.0	15.4	40.0
Single-Unit Trucks	0	1	0	0	1	0	7	0	0	7	0	1	1	0	2	1	10	0	0	11	21
Single-Unit %	0.0	100.0	0.0	0.0	25.0	0.0	77.8	0.0	0.0	36.8	0.0	100.0	100.0	0.0	50.0	100.0	83.3	0.0	0.0	84.6	52.5
Articulated Trucks	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	3
Articulated %	0.0	0.0	0.0	0.0	0.0	10.0	22.2	0.0	0.0	15.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.5
Buses	1	0	2	0	3	9	0	0	0	9	2	0	0	0	2	0	2	0	0	2	16
Single-Unit Trucks	0	1	0	0	1	0	7	0	0	7	0	1	1	0	2	1	10	0	0	11	21
Articulated Trucks	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	3
Total Entering Leg	1	1	2	0	4	10	9	0	0	19	2	1	1	0	4	1	12	0	0	13	40
Buses	9					6					2					1					16
Single-Unit Trucks	1					10					0					8					21
Articulated Trucks	1					0					0					2					3
Total Exiting Leg	11					16					2					11					40

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
10:00 AM	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	0	2	1	0	3	7
10:15 AM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	3	0	0	3	6
10:30 AM	1	0	1	0	2	0	6	1	0	7	0	0	0	0	0	0	2	0	0	2	11
10:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
Total Volume	1	0	1	0	2	2	12	1	0	15	0	0	0	0	0	0	9	1	0	10	27
% Approach Total	50.0	0.0	50.0	0.0		13.3	80.0	6.7	0.0		0.0	0.0	0.0	0.0		0.0	90.0	10.0	0.0		
PHF	0.250	0.000	0.250	0.000	0.250	0.500	0.500	0.250	0.000	0.536	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.250	0.000	0.833	0.614
Buses	0	0	1	0	1	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	3
Buses %	0.0	0.0	100.0	0.0	50.0	0.0	16.7	0.0	0.0	13.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.1
Single-Unit Trucks	1	0	0	0	1	2	9	1	0	12	0	0	0	0	0	0	9	1	0	10	23
Single-Unit %	100.0	0.0	0.0	0.0	50.0	100.0	75.0	100.0	0.0	80.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	85.2
Articulated Trucks	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	8.3	0.0	0.0	6.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7
Buses	0	0	1	0	1	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	3
Single-Unit Trucks	1	0	0	0	1	2	9	1	0	12	0	0	0	0	0	0	9	1	0	10	23
Articulated Trucks	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Entering Leg	1	0	1	0	2	2	12	1	0	15	0	0	0	0	0	0	9	1	0	10	27
Buses	0					1					0					2					3
Single-Unit Trucks	3					9					0					10					23
Articulated Trucks	0					0					0					1					1
Total Exiting Leg	3					10					1					13					27

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
2:30 PM	0	0	1	0	1	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	5
2:45 PM	3	1	2	0	6	1	3	1	0	5	0	0	0	0	0	0	3	1	0	4	15
3:00 PM	0	0	0	0	0	3	5	0	0	8	2	0	0	0	2	0	7	0	0	7	17
3:15 PM	1	0	5	0	6	1	3	1	0	5	1	0	0	0	1	0	3	0	0	3	15
Total Volume	4	1	8	0	13	5	13	2	0	20	3	0	0	0	3	0	15	1	0	16	52
% Approach Total	30.8	7.7	61.5	0.0		25.0	65.0	10.0	0.0		100.0	0.0	0.0	0.0		0.0	93.8	6.3	0.0		
PHF	0.333	0.250	0.400	0.000	0.542	0.417	0.650	0.500	0.000	0.625	0.375	0.000	0.000	0.000	0.375	0.000	0.536	0.250	0.000	0.571	0.765

PDI File #: **239283 B**  
 Location: **N: Foster Road S: Beech Street**  
 Location: **E: Shawsheen Street W: Shawsheen Street**  
 City, State: **Tewksbury, MA**  
 Client: **TEC/ S. Gregorio**  
 Site Code: **T1350**  
 Count Date: **Thursday, April 13, 2023**  
 Start Time: **6:00 AM**  
 End Time: **6:00 PM**



Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
Buses	0	1	7	0	8	3	5	1	0	9	1	0	0	0	1	0	3	1	0	4	22
Buses %	0.0	100.0	87.5	0.0	61.5	60.0	38.5	50.0	0.0	45.0	33.3	0.0	0.0	0.0	33.3	0.0	20.0	100.0	0.0	25.0	42.3
Single-Unit Trucks	0	0	1	0	1	1	3	1	0	5	2	0	0	0	2	0	7	0	0	7	15
Single-Unit %	0.0	0.0	12.5	0.0	7.7	20.0	23.1	50.0	0.0	25.0	66.7	0.0	0.0	0.0	66.7	0.0	46.7	0.0	0.0	43.8	28.8
Articulated Trucks	4	0	0	0	4	1	5	0	0	6	0	0	0	0	0	0	5	0	0	5	15
Articulated %	100.0	0.0	0.0	0.0	30.8	20.0	38.5	0.0	0.0	30.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	0.0	31.3	28.8
Buses	0	1	7	0	8	3	5	1	0	9	1	0	0	0	1	0	3	1	0	4	22
Single-Unit Trucks	0	0	1	0	1	1	3	1	0	5	2	0	0	0	2	0	7	0	0	7	15
Articulated Trucks	4	0	0	0	4	1	5	0	0	6	0	0	0	0	0	0	5	0	0	5	15
Total Entering Leg	4	1	8	0	13	5	13	2	0	20	3	0	0	0	3	0	15	1	0	16	52
Buses					4					11					2					5	22
Single-Unit Trucks					1					10					1					3	15
Articulated Trucks					1					5					0					9	15
Total Exiting Leg					6					26					3					17	52

PDI File #: **239283 B**  
 Location: **N: Foster Road S: Beech Street**  
 Location: **E: Shawsheen Street W: Shawsheen Street**  
 City, State: **Tewksbury, MA**  
 Client: **TEC/ S. Gregorio**  
 Site Code: **T1350**  
 Count Date: **Thursday, April 13, 2023**  
 Start Time: **6:00 AM**  
 End Time: **6:00 PM**  
 Class:



	Buses																					
	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street						
	from North					from East					from South					from West						
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	1	0	0	1	0	1	1	0	2	0	0	1	0	1	1	4	0	0	0	5	9
Total	0	1	0	0	1	0	1	1	0	2	0	0	1	0	1	1	5	0	0	0	6	10
7:00 AM	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1	0	0	2	0	0	2	4
7:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	3
7:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	1	0	2	1	2	0	0	3	0	0	1	0	1	0	0	3	0	0	3	9
8:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
8:15 AM	0	0	1	0	1	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	1	3
8:30 AM	0	0	0	0	0	9	0	0	0	9	1	0	0	0	1	0	0	0	0	0	0	10
8:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	1	0	2	0	3	9	0	0	0	9	2	0	0	0	2	0	2	0	0	0	2	16
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	0	2
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	0	2
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	1	0	1	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	0	1	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	1
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
2:15 PM	0	0	0	0	0	1	0	0	0	1	0	1	1	0	2	0	2	0	0	0	2	5
2:30 PM	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
2:45 PM	0	1	1	0	2	0	1	0	0	1	0	0	0	0	0	0	1	1	0	0	2	5
Total	0	1	2	0	3	1	2	0	0	3	0	1	1	0	2	0	4	1	0	0	5	13
3:00 PM	0	0	0	0	0	2	2	0	0	4	1	0	0	0	1	0	1	0	0	0	1	6
3:15 PM	0	0	5	0	5	1	1	1	0	3	0	0	0	0	0	0	1	0	0	0	1	9
3:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
3:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	5	0	5	3	5	1	0	9	1	0	0	0	1	0	2	0	0	0	2	17
4:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
4:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	1	3	11	0	15	15	16	2	0	33	4	1	3	0	8	1	13	4	0	18	74	
Approach %	6.7	20.0	73.3	0.0		45.5	48.5	6.1	0.0		50.0	12.5	37.5	0.0		5.6	72.2	22.2	0.0			
Total %	1.4	4.1	14.9	0.0	20.3	20.3	21.6	2.7	0.0	44.6	5.4	1.4	4.1	0.0	10.8	1.4	17.6	5.4	0.0	24.3		
Exiting Leg Total					20					28					6						20	74

AM Peak Hour Analysis from 06:00 AM to 10:00 AM begins at:

PDI File #: 239283 B  
 Location: N: Foster Road S: Beech Street  
 Location: E: Shawsheen Street W: Shawsheen Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350  
 Count Date: Thursday, April 13, 2023  
 Start Time: 6:00 AM  
 End Time: 6:00 PM  
 Class:



**Buses**

	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
6:45 AM	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street					
6:45 AM	0	1	0	0	1	0	1	1	0	2	0	0	1	0	1	1	4	0	0	5	9
7:00 AM	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1	0	0	2	0	2	4
7:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3
Total Volume	0	2	1	0	3	1	2	1	0	4	0	0	2	0	2	1	4	3	0	8	17
% Approach Total	0.0	66.7	33.3	0.0		25.0	50.0	25.0	0.0		0.0	0.0	100.0	0.0		12.5	50.0	37.5	0.0		0.472
PHF	0.000	0.500	0.250	0.000	0.375	0.250	0.500	0.250	0.000	0.500	0.000	0.000	0.500	0.000	0.500	0.250	0.250	0.375	0.000	0.400	0.472
Entering Leg	0	2	1	0	3	1	2	1	0	4	0	0	2	0	2	1	4	3	0	8	17
Exiting Leg					4					5					4					4	17
Total					7					9					6					12	34

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
2:15 PM	0	0	0	0	0	1	0	0	0	1	0	1	1	0	2	0	2	0	0	2	5
2:30 PM	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	0	1	0	1	1	1	0	0	2	0	1	1	0	2	0	3	0	0	3	8
% Approach Total	0.0	0.0	100.0	0.0		50.0	50.0	0.0	0.0		0.0	50.0	50.0	0.0		0.0	100.0	0.0	0.0		0.400
PHF	0.000	0.000	0.250	0.000	0.250	0.250	0.250	0.000	0.000	0.500	0.000	0.250	0.250	0.000	0.250	0.000	0.375	0.000	0.000	0.375	0.400
Entering Leg	0	0	1	0	1	1	1	0	0	2	0	1	1	0	2	0	3	0	0	3	8
Exiting Leg					2					4					0					2	8
Total					3					6					2					5	16

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
2:30 PM	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
2:45 PM	0	1	1	0	2	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	5
3:00 PM	0	0	0	0	0	2	2	0	0	4	1	0	0	0	1	0	1	0	0	1	6
3:15 PM	0	0	5	0	5	1	1	1	0	3	0	0	0	0	0	0	1	0	0	1	9
Total Volume	0	1	7	0	8	3	5	1	0	9	1	0	0	0	1	0	3	1	0	4	22
% Approach Total	0.0	12.5	87.5	0.0		33.3	55.6	11.1	0.0		100.0	0.0	0.0	0.0		0.0	75.0	25.0	0.0		0.611
PHF	0.000	0.250	0.350	0.000	0.400	0.375	0.625	0.250	0.000	0.563	0.250	0.000	0.000	0.000	0.250	0.000	0.750	0.250	0.000	0.500	0.611
Entering Leg	0	1	7	0	8	3	5	1	0	9	1	0	0	0	1	0	3	1	0	4	22
Exiting Leg					4					11					2					5	22
Total					12					20					3					9	44

PDI File #: 239283 B  
 Location: N: Foster Road S: Beech Street  
 Location: E: Shawsheen Street W: Shawsheen Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350  
 Count Date: Thursday, April 13, 2023  
 Start Time: 6:00 AM  
 End Time: 6:00 PM  
 Class:



Single-Unit Trucks

	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street					Total	
	from North					from East					from South					from West						
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total		
6:00 AM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	1	3
6:45 AM	0	0	1	0	1	1	3	0	0	4	0	0	0	0	0	0	1	0	0	0	1	6
Total	0	0	2	0	2	1	5	0	0	6	0	0	0	0	0	0	3	0	0	3	11	
7:00 AM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	3	
7:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3	
7:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3	
7:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	0	0	2	3		
Total	0	0	0	0	0	1	4	0	0	5	0	0	0	0	0	7	0	0	7	12		
8:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	1	2	0	0	3	5	
8:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2	
8:30 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	6	
8:45 AM	0	1	0	0	1	0	2	0	0	2	0	1	0	0	1	0	4	0	0	4	8	
Total	0	1	0	0	1	0	7	0	0	7	0	1	1	0	2	1	10	0	0	11	21	
9:00 AM	2	0	1	0	3	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	5	
9:15 AM	2	1	0	0	3	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	7	
9:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
9:45 AM	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	3	
Total	4	1	2	0	7	0	3	0	0	3	0	0	0	0	0	0	4	2	0	6	16	
10:00 AM	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	0	2	1	0	3	7	
10:15 AM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	3	0	0	3	6	
10:30 AM	1	0	0	0	1	0	4	1	0	5	0	0	0	0	0	0	2	0	0	2	8	
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2	
Total	1	0	0	0	1	2	9	1	0	12	0	0	0	0	0	0	9	1	0	10	23	
11:00 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	1	0	3	5	
11:15 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	6	
11:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2	
11:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3	1	0	4	5	
Total	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	9	2	0	11	18	
12:00 PM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	1	0	0	1	7	
12:15 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	4	0	0	4	8	
12:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	3	
12:45 PM	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	5	
Total	0	1	1	0	2	0	11	0	0	11	0	0	0	0	0	0	9	1	0	10	23	
1:00 PM	0	0	1	0	1	1	1	0	0	2	0	1	0	0	1	0	0	0	0	0	4	
1:15 PM	0	0	1	0	1	0	2	0	0	2	0	0	0	0	0	1	2	0	0	3	6	
1:30 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	1	1	0	0	2	5	
1:45 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3	
Total	0	0	2	0	2	1	8	0	0	9	0	1	0	0	1	2	4	0	0	6	18	
2:00 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	2	1	0	3	7	
2:15 PM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	1	0	0	1	3	
2:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3	
2:45 PM	0	0	1	0	1	1	0	1	0	2	0	0	0	0	0	0	1	0	0	1	4	
Total	0	0	1	0	1	1	6	2	0	9	0	0	0	0	0	0	6	1	0	7	17	
3:00 PM	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	3	0	0	3	5	
3:15 PM	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	1	0	0	1	3	
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	4	
3:45 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	6	
Total	0	0	0	0	0	0	4	0	0	4	2	0	0	0	2	0	12	0	0	12	18	
4:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2	
4:15 PM	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	0	0	0	0	0	4	
4:30 PM	0	0	0	0	0	1	4	0	0	5	0	0	0	0	0	0	0	0	0	0	5	
4:45 PM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2	
Total	1	0	0	0	1	2	10	0	0	12	0	0	0	0	0	0	0	0	0	0	13	
5:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	1	0	0	0	1	3	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	2	
5:30 PM	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	2	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	2	0	0	2	1	0	2	0	3	1	1	0	0	2	7	
Grand Total	6	3	8	0	17	8	76	3	0	87	3	2	3	0	8	4	74	7	0	85	197	
Approach %	35.3	17.6	47.1	0.0		9.2	87.4	3.4	0.0		37.5	25.0	37.5	0.0		4.7	87.1	8.2	0.0			
Total %	3.0	1.5	4.1	0.0	8.6	4.1	38.6	1.5	0.0	44.2	1.5	1.0	1.5	0.0	4.1	2.0	37.6	3.6	0.0	43.1		
Exiting Leg Total					17					85					10						85	197

AM Peak Hour Analysis from 06:00 AM to 10:00 AM begins at:

PDI File #: 239283 B  
 Location: N: Foster Road S: Beech Street  
 Location: E: Shawsheen Street W: Shawsheen Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350  
 Count Date: Thursday, April 13, 2023  
 Start Time: 6:00 AM  
 End Time: 6:00 PM  
 Class:



**Single-Unit Trucks**

	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
8:30 AM	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street					
8:30 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	6
8:45 AM	0	1	0	0	1	0	2	0	0	2	0	1	0	0	1	0	4	0	0	4	8
9:00 AM	2	0	1	0	3	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	5
9:15 AM	2	1	0	0	3	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	7
Total Volume	4	2	1	0	7	0	6	0	0	6	0	1	0	0	1	0	11	1	0	12	26
% Approach Total	57.1	28.6	14.3	0.0		0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	91.7	8.3	0.0		
PHF	0.500	0.500	0.250	0.000	0.583	0.000	0.500	0.000	0.000	0.500	0.000	0.250	0.000	0.000	0.250	0.000	0.688	0.250	0.000	0.750	0.813
Entering Leg	4	2	1	0	7	0	6	0	0	6	0	1	0	0	1	0	11	1	0	12	26
Exiting Leg					2					12					2					10	26
Total					9					18					3					22	52

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
10:00 AM	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street					
10:00 AM	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	0	2	1	0	3	7
10:15 AM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	3	0	0	3	6
10:30 AM	1	0	0	0	1	0	4	1	0	5	0	0	0	0	0	0	2	0	0	2	8
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
Total Volume	1	0	0	0	1	2	9	1	0	12	0	0	0	0	0	0	9	1	0	10	23
% Approach Total	100.0	0.0	0.0	0.0		16.7	75.0	8.3	0.0		0.0	0.0	0.0	0.0		0.0	90.0	10.0	0.0		
PHF	0.250	0.000	0.000	0.000	0.250	0.500	0.563	0.250	0.000	0.600	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.250	0.000	0.833	0.719
Entering Leg	1	0	0	0	1	2	9	1	0	12	0	0	0	0	0	0	9	1	0	10	23
Exiting Leg					3					9					1					10	23
Total					4					21					1					20	46

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:00 PM	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street					
3:00 PM	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	3	0	0	3	5
3:15 PM	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	1	0	0	1	3
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	4
3:45 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	6
Total Volume	0	0	0	0	0	0	4	0	0	4	2	0	0	0	2	0	12	0	0	12	18
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.500	0.000	0.000	0.000	0.500	0.000	0.750	0.000	0.000	0.750	0.750
Entering Leg	0	0	0	0	0	0	4	0	0	4	2	0	0	0	2	0	12	0	0	12	18
Exiting Leg					0					14					0					4	18
Total					0					18					2					16	36

PDI File #: 239283 B  
 Location: N: Foster Road S: Beech Street  
 Location: E: Shawsheen Street W: Shawsheen Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350  
 Count Date: Thursday, April 13, 2023  
 Start Time: 6:00 AM  
 End Time: 6:00 PM  
 Class:



**Articulated Trucks**

	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	4	4
7:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	5	2	0	7	9
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	3
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1
11:30 AM	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	1	0	0	1	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	2	2
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	3	0	0	0	3	0	2	0	0	2	0	0	0	0	0	1	0	0	1	6	6
Total	3	0	0	0	3	0	2	0	0	2	0	0	0	0	0	1	0	0	1	6	6
3:00 PM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	3	0	0	3	6	6
3:15 PM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	1	0	0	1	3	3
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1
Total	1	0	0	0	1	1	3	0	0	4	0	0	0	0	0	5	0	0	5	10	10
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1
5:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	1	0	0	1	3	3
Grand Total	4	0	0	0	4	2	15	1	0	18	0	0	0	0	0	0	14	3	0	17	39
Approach %	100.0	0.0	0.0	0.0		11.1	83.3	5.6	0.0		0.0	0.0	0.0	0.0		0.0	82.4	17.6	0.0		
Total %	10.3	0.0	0.0	0.0	10.3	5.1	38.5	2.6	0.0	46.2	0.0	0.0	0.0	0.0	0.0	0.0	35.9	7.7	0.0	43.6	
Exiting Leg Total					5					14					1					19	39

AM Peak Hour Analysis from 06:00 AM to 10:00 AM begins at:

PDI File #: 239283 B  
 Location: N: Foster Road S: Beech Street  
 Location: E: Shawsheen Street W: Shawsheen Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350  
 Count Date: Thursday, April 13, 2023  
 Start Time: 6:00 AM  
 End Time: 6:00 PM  
 Class:



**Articulated Trucks**

	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street					Total	
	from North					from East					from South					from West						
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total		
7:00 AM	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street						
	from North					from East					from South					from West						
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	2	3
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	4	4	4
7:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	1	2
Total Volume	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	5	2	0	7	7	9
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	71.4	28.6	0.0	0.0	0.0	0.563
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.250	0.000	0.438	0.563	
Entering Leg	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	5	2	0	7	7	9
Exiting Leg					2					5					0					0	2	9
Total					2					7					0					0	9	18

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street					Total	
	from North					from East					from South					from West						
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total		
10:30 AM	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street						
	from North					from East					from South					from West						
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total	
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1
Total Volume	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	1	2
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.500
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.500	
Entering Leg	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	1	2
Exiting Leg					1					0					0					0	1	2
Total					1					1					0					0	2	4

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street					Total	
	from North					from East					from South					from West						
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total		
2:30 PM	Foster Road					Shawsheen Street					Beech Street					Shawsheen Street						
	from North					from East					from South					from West						
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total	
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	3	0	0	0	3	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	1	6
3:00 PM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	3	0	0	3	3	6
3:15 PM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	1	3
Total Volume	4	0	0	0	4	1	5	0	0	6	0	0	0	0	0	0	5	0	0	5	5	15
% Approach Total	100.0	0.0	0.0	0.0	0.0	16.7	83.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.625
PHF	0.333	0.000	0.000	0.000	0.333	0.250	0.625	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.417	0.000	0.000	0.417	0.625	
Entering Leg	4	0	0	0	4	1	5	0	0	6	0	0	0	0	0	0	5	0	0	5	5	15
Exiting Leg					1					5					0					0	1	15
Total					5					11					0					0	6	30



PDI File #: 239283 B  
 Location: N: Foster Road S: Beech Street  
 Location: E: Shawsheen Street W: Shawsheen Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350  
 Count Date: Thursday, April 13, 2023  
 Start Time: 6:00 AM  
 End Time: 6:00 PM  
 Class:



**Bicycles (on Roadway and Crosswalks)**

	Foster Road								Shawsheen Street								Beech Street								Shawsheen Street								Total					
	from North								from East								from South								from West													
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total		Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total		Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total		Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total							
6:15 AM	Foster Road from North								Shawsheen Street from East								Beech Street from South								Shawsheen Street from West													
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.250			
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250			
Entering Leg	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
Exiting Leg																													0									
Total																													1	2								

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

	Foster Road								Shawsheen Street								Beech Street								Shawsheen Street								Total					
	from North								from East								from South								from West													
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total		Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total		Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total		Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total							
12:45 PM	Foster Road from North								Shawsheen Street from East								Beech Street from South								Shawsheen Street from West													
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
% Approach Total	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.250			
PHF	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250			
Entering Leg	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
Exiting Leg																													0									
Total																													1	2								

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

	Foster Road								Shawsheen Street								Beech Street								Shawsheen Street								Total					
	from North								from East								from South								from West													
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total		Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total		Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total		Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total							
4:45 PM	Foster Road from North								Shawsheen Street from East								Beech Street from South								Shawsheen Street from West													
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	2
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4	4	0	0	0	0	2	2	4	4		
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	50.0	50.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.500			
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.500	0.500	0.000	0.000	0.000	0.000	0.250	0.250	0.500	0.500			
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4	4	0	0	0	0	2	2	4	4		
Exiting Leg																													0									
Total																													0	8								

PDI File #: 239283 B  
 Location: N: Foster Road S: Beech Street  
 Location: E: Shawsheen Street W: Shawsheen Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350  
 Count Date: Thursday, April 13, 2023  
 Start Time: 6:00 AM  
 End Time: 6:00 PM  
 Class:



**Pedestrians**

	Foster Road							Shawsheen Street							Beech Street							Shawsheen Street							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	2
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	3	3
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	2	2
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	5	0	0	0	1	0	1	6
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	2
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	0	0	0	0	1	2	3	6
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	4	0	0	0	0	1	2	3	7
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	2	0	2	6	6
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	2	2
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	5	0	0	0	2	1	3	8	8
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	1	0	1	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	3	0	0	0	0	1	0	1	4
Grand Total	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	11	9	20	0	0	0	0	5	5	10	31
Approach %	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	55	45	0	0	0	0	50	50	0	0	
Total																													

PDI File #: **239283 B**  
 Location: **N: Foster Road S: Beech Street**  
 Location: **E: Shawsheen Street W: Shawsheen Street**  
 City, State: **Tewksbury, MA**  
 Client: **TEC/ S. Gregorio**  
 Site Code: **T1350**  
 Count Date: **Thursday, April 13, 2023**  
 Start Time: **6:00 AM**  
 End Time: **6:00 PM**  
 Class:



**Pedestrians**

	Foster Road							Shawsheen Street							Beech Street							Shawsheen Street							Total	
	from North							from East							from South							from West								
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
9:15 AM	Foster Road from North							Shawsheen Street from East							Beech Street from South							Shawsheen Street from West								
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	1	1	2
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
Total Volume	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	1	1	2	5	
% Approach Total	0.0	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	0.0	50.0	50.0			
PHF	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.500	0.000	0.000	0.000	0.000	0.250	0.250	0.500	0.625	
Entering Leg	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	1	1	2	5	
Exiting Leg							1							0							2							2	5	
Total	2							0							4							10								

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

	Foster Road							Shawsheen Street							Beech Street							Shawsheen Street							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
10:00 AM	Foster Road from North							Shawsheen Street from East							Beech Street from South							Shawsheen Street from West							
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0	1	2
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	2
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	2
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	5	0	0	0	0	1	0	1	6
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	60.0	40.0		0.0	0.0	0.0	0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.250	0.625	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.750
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	5	0	0	0	0	1	0	1	6
Exiting Leg							0							0							5							1	6
Total	0							0							10							12							

PM Peak Hour Analysis from 2:00 PM to 06:00 PM begins at:

	Foster Road							Shawsheen Street							Beech Street							Shawsheen Street							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
2:15 PM	Foster Road from North							Shawsheen Street from East							Beech Street from South							Shawsheen Street from West							
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	0	0	0	0	1	2	3	6
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	2	0	2	6
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	3	8	0	0	0	0	3	2	5	13
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	62.5	37.5		0.0	0.0	0.0	0.0	60.0	40.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.313	0.375	0.500	0.000	0.000	0.000	0.000	0.375	0.250	0.417	0.542
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	3	8	0	0	0	0	3	2	5	13
Exiting Leg							0							0							8							5	13
Total	0							0							16							26							

Shawsheen Street  
 approx 500' west of Patten Road  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350



PRECISION  
 DATA  
 INDUSTRIES, LLC  
 157 Washington Street, Suite 2  
 Hudson, MA 01749  
 Office: 508-875-0100 Fax: 508-875-0118

PDI File #: 239283 ATR-A

Count Date: Wednesday, April 12, 2023  
 Direction: EB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	3	0	0	0	3
12:15 AM	0	0	3	0	0	0	3
12:30 AM	0	0	1	0	0	0	1
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	3	0	0	0	3
1:15 AM	0	0	1	0	0	0	1
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	1	0	0	0	1
2:15 AM	0	0	2	0	0	0	2
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	1	2	0	0	0	3
3:00 AM	0	0	2	0	0	0	2
3:15 AM	0	0	2	0	0	0	2
3:30 AM	0	0	3	0	0	0	3
3:45 AM	0	0	3	0	0	0	3
4:00 AM	0	0	6	0	0	0	6
4:15 AM	0	0	3	0	0	0	3
4:30 AM	0	0	4	0	0	0	4
4:45 AM	0	0	12	0	0	0	12
5:00 AM	0	0	8	0	0	0	8
5:15 AM	0	0	13	0	0	0	13
5:30 AM	0	0	23	0	2	0	25
5:45 AM	0	0	12	0	0	0	12
6:00 AM	0	0	28	0	1	0	29
6:15 AM	0	1	18	1	0	0	20
6:30 AM	0	0	30	0	2	0	32
6:45 AM	0	0	52	0	2	0	54
7:00 AM	0	0	40	1	2	0	43
7:15 AM	0	0	49	0	5	0	54
7:30 AM	0	0	63	0	2	0	65
7:45 AM	0	0	35	0	1	0	36
8:00 AM	0	0	51	1	1	1	54
8:15 AM	0	0	49	0	2	0	51
8:30 AM	0	0	47	0	2	0	49
8:45 AM	0	1	53	0	1	0	55
9:00 AM	0	0	57	0	1	0	58
9:15 AM	0	0	52	0	3	0	55
9:30 AM	0	0	44	0	1	0	45
9:45 AM	0	0	42	0	1	0	43
10:00 AM	0	0	33	0	3	0	36
10:15 AM	0	0	44	0	2	0	46
10:30 AM	0	0	46	0	1	0	47
10:45 AM	0	0	33	0	2	0	35
11:00 AM	0	0	34	0	2	1	37
11:15 AM	0	0	50	0	2	0	52
11:30 AM	0	0	43	0	1	0	44
11:45 AM	0	0	46	0	2	1	49

<b>AM Total</b>	<b>0</b>	<b>3</b>	<b>1146</b>	<b>3</b>	<b>44</b>	<b>3</b>	<b>1199</b>
<b>Percentage</b>	<b>0.00%</b>	<b>0.25%</b>	<b>95.58%</b>	<b>0.25%</b>	<b>3.67%</b>	<b>0.25%</b>	
<b>AM Peak</b>	<b>12:00 AM</b>	<b>2:00 AM</b>	<b>8:30 AM</b>	<b>6:15 AM</b>	<b>6:30 AM</b>	<b>11:00 AM</b>	<b>8:30 AM</b>
<b>Volume</b>	<b>0</b>	<b>1</b>	<b>209</b>	<b>2</b>	<b>11</b>	<b>2</b>	<b>217</b>

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	44	0	2	0	46
12:15 PM	0	1	33	0	6	0	40
12:30 PM	0	0	45	0	2	0	47
12:45 PM	0	0	43	0	5	0	48
1:00 PM	0	0	39	0	2	0	41
1:15 PM	0	0	45	1	2	1	49
1:30 PM	0	0	52	0	3	0	55
1:45 PM	0	1	53	0	4	0	58
2:00 PM	0	0	51	1	2	0	54
2:15 PM	0	1	67	1	1	0	70
2:30 PM	0	0	60	0	2	0	62
2:45 PM	0	0	74	0	0	0	74
3:00 PM	0	0	69	0	3	0	72
3:15 PM	0	1	73	2	3	0	79
3:30 PM	0	0	96	0	1	0	97
3:45 PM	0	0	84	0	4	2	90
4:00 PM	0	0	88	0	3	0	91
4:15 PM	0	0	121	0	1	0	122
4:30 PM	0	0	109	0	0	0	109
4:45 PM	0	1	85	0	0	0	86
5:00 PM	0	1	115	0	0	0	116
5:15 PM	0	0	113	0	0	0	113
5:30 PM	0	2	96	0	3	0	101
5:45 PM	0	2	80	0	2	0	84
6:00 PM	0	2	57	0	0	0	59
6:15 PM	0	1	71	0	0	0	72
6:30 PM	0	0	54	0	0	0	54
6:45 PM	0	0	36	0	0	0	36
7:00 PM	0	0	48	0	1	0	49
7:15 PM	0	1	41	0	0	0	42
7:30 PM	0	1	35	0	0	0	36
7:45 PM	0	0	28	0	0	0	28
8:00 PM	0	2	20	0	0	0	22
8:15 PM	0	0	25	0	0	0	25
8:30 PM	0	0	26	0	0	0	26
8:45 PM	0	0	25	0	1	0	26
9:00 PM	0	0	16	0	0	0	16
9:15 PM	0	0	21	0	1	0	22
9:30 PM	0	0	13	0	0	0	13
9:45 PM	0	0	15	0	0	0	15
10:00 PM	0	0	15	0	0	0	15
10:15 PM	0	0	4	0	0	0	4
10:30 PM	0	0	4	0	0	0	4
10:45 PM	0	0	9	0	0	0	9
11:00 PM	0	0	5	0	0	0	5
11:15 PM	0	1	3	0	0	0	4
11:30 PM	0	0	4	0	0	0	4
11:45 PM	0	0	3	0	0	0	3

<b>PM Total</b>	<b>0</b>	<b>18</b>	<b>2313</b>	<b>5</b>	<b>54</b>	<b>3</b>	<b>2393</b>
<b>Percentage</b>	<b>0.00%</b>	<b>0.75%</b>	<b>96.66%</b>	<b>0.21%</b>	<b>2.26%</b>	<b>0.13%</b>	
<b>PM Peak</b>	<b>12:00 PM</b>	<b>5:30 PM</b>	<b>4:15 PM</b>	<b>1:15 PM</b>	<b>12:00 PM</b>	<b>3:00 PM</b>	<b>4:15 PM</b>
<b>Volume</b>	<b>0</b>	<b>7</b>	<b>430</b>	<b>2</b>	<b>15</b>	<b>2</b>	<b>433</b>
<b>Day Total</b>	<b>0</b>	<b>21</b>	<b>3459</b>	<b>8</b>	<b>98</b>	<b>6</b>	<b>3592</b>
<b>Percentage</b>	<b>0.00%</b>	<b>0.58%</b>	<b>96.30%</b>	<b>0.22%</b>	<b>2.73%</b>	<b>0.17%</b>	

Shawsheen Street  
 approx 500' west of Patten Road  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350



PDI File #: 239283 ATR-A

Count Date: Thursday, April 13, 2023  
 Direction: EB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	3	0	0	0	3
12:15 AM	0	0	3	0	0	0	3
12:30 AM	0	0	1	0	0	0	1
12:45 AM	0	0	2	0	0	0	2
1:00 AM	0	0	2	0	0	0	2
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	1	0	0	0	1
1:45 AM	0	0	2	0	0	0	2
2:00 AM	0	0	1	0	0	0	1
2:15 AM	0	0	2	0	1	0	3
2:30 AM	0	1	1	0	0	0	2
2:45 AM	0	0	3	0	0	0	3
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	5	0	0	0	5
3:30 AM	0	0	1	0	0	0	1
3:45 AM	0	0	2	0	0	0	2
4:00 AM	0	0	5	0	0	0	5
4:15 AM	0	0	3	0	1	0	4
4:30 AM	0	0	5	0	1	0	6
4:45 AM	0	0	11	0	0	0	11
5:00 AM	0	0	11	0	0	0	11
5:15 AM	0	0	12	0	2	0	14
5:30 AM	0	0	19	0	0	0	19
5:45 AM	0	0	19	0	0	0	19
6:00 AM	0	0	20	0	1	0	21
6:15 AM	0	1	27	1	0	0	29
6:30 AM	0	0	40	0	1	1	42
6:45 AM	0	0	47	0	1	0	48
7:00 AM	0	0	39	1	1	0	41
7:15 AM	0	0	55	0	1	1	57
7:30 AM	0	0	64	0	6	0	70
7:45 AM	0	0	42	0	3	0	45
8:00 AM	0	0	49	1	2	0	52
8:15 AM	0	0	56	0	0	1	57
8:30 AM	0	3	49	0	2	0	54
8:45 AM	0	0	44	0	3	0	47
9:00 AM	0	0	43	0	2	0	45
9:15 AM	0	0	47	0	3	0	50
9:30 AM	0	0	44	0	1	0	45
9:45 AM	0	0	40	0	1	0	41
10:00 AM	0	0	52	0	1	0	53
10:15 AM	0	0	36	1	1	0	38
10:30 AM	0	1	38	0	1	1	41
10:45 AM	0	1	37	0	1	0	39
11:00 AM	0	0	37	0	2	0	39
11:15 AM	0	0	45	0	3	0	48
11:30 AM	0	0	45	1	1	0	47
11:45 AM	0	0	33	0	3	1	37

<b>AM Total</b>	<b>0</b>	<b>7</b>	<b>1143</b>	<b>5</b>	<b>46</b>	<b>5</b>	<b>1206</b>
<b>Percentage</b>	<b>0.00%</b>	<b>0.58%</b>	<b>94.78%</b>	<b>0.41%</b>	<b>3.81%</b>	<b>0.41%</b>	
<b>AM Peak</b>	<b>12:00 AM</b>	<b>7:45 AM</b>	<b>7:30 AM</b>	<b>6:15 AM</b>	<b>7:15 AM</b>	<b>6:30 AM</b>	<b>7:15 AM</b>
<b>Volume</b>	<b>0</b>	<b>3</b>	<b>211</b>	<b>2</b>	<b>12</b>	<b>2</b>	<b>224</b>

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	57	0	1	0	58
12:15 PM	0	0	48	0	4	0	52
12:30 PM	0	1	42	0	2	0	45
12:45 PM	0	0	44	0	3	0	47
1:00 PM	0	2	40	0	0	0	42
1:15 PM	0	0	53	0	1	0	54
1:30 PM	0	0	51	1	0	0	52
1:45 PM	0	1	54	0	2	0	57
2:00 PM	0	2	51	0	3	0	56
2:15 PM	0	1	60	2	1	0	64
2:30 PM	0	1	67	0	1	0	69
2:45 PM	0	2	63	1	1	0	67
3:00 PM	0	2	79	0	3	0	84
3:15 PM	0	0	83	0	2	0	85
3:30 PM	0	1	74	0	3	0	78
3:45 PM	0	0	80	0	3	0	83
4:00 PM	0	0	96	0	1	0	97
4:15 PM	0	0	91	0	1	0	92
4:30 PM	0	2	99	0	0	0	101
4:45 PM	0	0	105	0	0	0	105
5:00 PM	0	1	90	0	1	0	92
5:15 PM	0	1	113	1	2	0	117
5:30 PM	0	0	101	0	1	0	102
5:45 PM	0	2	110	0	0	0	112
6:00 PM	0	0	79	0	0	0	79
6:15 PM	0	4	71	0	0	0	75
6:30 PM	0	1	48	0	1	0	50
6:45 PM	0	2	48	0	0	0	50
7:00 PM	0	0	38	0	0	0	38
7:15 PM	0	0	43	0	0	0	43
7:30 PM	0	1	58	0	1	0	60
7:45 PM	0	0	35	0	0	0	35
8:00 PM	0	1	32	0	0	0	33
8:15 PM	0	2	24	0	0	0	26
8:30 PM	0	0	31	0	0	0	31
8:45 PM	0	1	27	0	1	0	29
9:00 PM	0	0	21	0	0	0	21
9:15 PM	0	0	18	0	0	0	18
9:30 PM	0	0	15	0	0	0	15
9:45 PM	0	0	9	0	0	0	9
10:00 PM	0	1	13	0	0	0	14
10:15 PM	0	1	8	0	0	0	9
10:30 PM	0	0	9	0	0	0	9
10:45 PM	0	0	6	0	0	0	6
11:00 PM	0	0	3	0	0	0	3
11:15 PM	0	0	6	0	0	0	6
11:30 PM	0	0	2	0	0	0	2
11:45 PM	0	0	3	0	0	0	3

<b>PM Total</b>	<b>0</b>	<b>33</b>	<b>2398</b>	<b>5</b>	<b>39</b>	<b>0</b>	<b>2475</b>
<b>Percentage</b>	<b>0.00%</b>	<b>1.33%</b>	<b>96.89%</b>	<b>0.20%</b>	<b>1.58%</b>	<b>0.00%</b>	
<b>PM Peak</b>	<b>12:00 PM</b>	<b>5:45 PM</b>	<b>5:00 PM</b>	<b>1:30 PM</b>	<b>3:00 PM</b>	<b>12:00 PM</b>	<b>5:00 PM</b>
<b>Volume</b>	<b>0</b>	<b>7</b>	<b>414</b>	<b>3</b>	<b>11</b>	<b>0</b>	<b>423</b>
<b>Day Total</b>	<b>0</b>	<b>40</b>	<b>3541</b>	<b>10</b>	<b>85</b>	<b>5</b>	<b>3681</b>
<b>Percentage</b>	<b>0.00%</b>	<b>1.09%</b>	<b>96.20%</b>	<b>0.27%</b>	<b>2.31%</b>	<b>0.14%</b>	

Shawsheen Street  
 approx 500' west of Patten Road  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350



PDI File #: 239283 ATR-A

Count Date: **Wednesday, April 12, 2023**  
 Direction: **WB**

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0	0	0	0
12:15 AM	0	0	4	0	0	0	4
12:30 AM	0	0	4	0	0	0	4
12:45 AM	0	0	1	0	0	0	1
1:00 AM	0	0	3	0	0	0	3
1:15 AM	0	0	0	0	1	0	1
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	2	0	0	0	2
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	1	1
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	1	0	0	0	1
3:45 AM	0	0	2	0	0	0	2
4:00 AM	0	0	2	0	0	0	2
4:15 AM	0	0	2	0	0	0	2
4:30 AM	0	0	8	0	0	0	8
4:45 AM	0	0	3	0	0	0	3
5:00 AM	0	0	9	0	1	1	11
5:15 AM	0	0	4	0	0	1	5
5:30 AM	0	0	21	0	0	0	21
5:45 AM	0	1	17	1	2	0	21
6:00 AM	0	0	30	0	1	0	31
6:15 AM	0	0	38	0	1	0	39
6:30 AM	0	0	43	0	0	1	44
6:45 AM	0	0	67	2	0	0	69
7:00 AM	0	0	55	1	2	0	58
7:15 AM	0	0	63	1	3	0	67
7:30 AM	0	1	92	2	2	0	97
7:45 AM	0	0	74	0	1	0	75
8:00 AM	0	0	91	0	3	0	94
8:15 AM	0	0	73	0	1	1	75
8:30 AM	0	1	63	1	2	0	67
8:45 AM	0	0	67	0	2	0	69
9:00 AM	0	0	44	0	0	0	44
9:15 AM	0	1	43	1	2	1	48
9:30 AM	0	0	37	0	1	0	38
9:45 AM	0	0	44	0	0	1	45
10:00 AM	0	0	42	0	4	0	46
10:15 AM	0	0	29	0	0	1	30
10:30 AM	0	1	35	0	2	0	38
10:45 AM	0	0	26	0	0	0	26
11:00 AM	0	0	43	0	0	0	43
11:15 AM	0	0	33	0	2	0	35
11:30 AM	0	0	37	0	0	0	37
11:45 AM	0	0	35	0	2	0	37

<b>AM Total</b>	<b>0</b>	<b>5</b>	<b>1287</b>	<b>9</b>	<b>35</b>	<b>8</b>	<b>1344</b>
<b>Percentage</b>	<b>0.00%</b>	<b>0.37%</b>	<b>95.76%</b>	<b>0.67%</b>	<b>2.60%</b>	<b>0.60%</b>	
<b>AM Peak</b>	<b>12:00 AM</b>	<b>8:30 AM</b>	<b>7:30 AM</b>	<b>6:45 AM</b>	<b>7:15 AM</b>	<b>4:30 AM</b>	<b>7:30 AM</b>
<b>Volume</b>	<b>0</b>	<b>2</b>	<b>330</b>	<b>6</b>	<b>9</b>	<b>2</b>	<b>341</b>

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	32	0	1	0	33
12:15 PM	0	0	40	0	0	1	41
12:30 PM	0	0	45	0	1	0	46
12:45 PM	0	0	39	0	4	0	43
1:00 PM	0	1	38	0	2	0	41
1:15 PM	0	0	51	0	3	1	55
1:30 PM	0	0	43	0	3	0	46
1:45 PM	0	0	39	0	4	0	43
2:00 PM	0	0	53	0	0	0	53
2:15 PM	0	0	51	1	1	0	53
2:30 PM	0	0	43	0	3	0	46
2:45 PM	0	0	51	1	1	2	55
3:00 PM	0	1	58	0	2	0	61
3:15 PM	0	0	46	0	1	3	50
3:30 PM	0	0	56	1	2	1	60
3:45 PM	0	0	57	0	3	0	60
4:00 PM	0	1	59	0	1	0	61
4:15 PM	0	1	69	0	0	0	70
4:30 PM	0	0	72	0	0	1	73
4:45 PM	0	1	78	0	3	1	83
5:00 PM	0	0	65	1	0	1	67
5:15 PM	0	2	71	0	1	0	74
5:30 PM	0	0	65	0	0	0	65
5:45 PM	0	2	54	0	2	1	59
6:00 PM	0	0	72	0	1	0	73
6:15 PM	0	0	70	1	2	0	73
6:30 PM	0	0	57	0	1	0	58
6:45 PM	0	1	38	1	0	0	40
7:00 PM	0	0	39	0	0	0	39
7:15 PM	0	0	27	0	0	0	27
7:30 PM	0	0	27	0	0	0	27
7:45 PM	0	1	40	0	0	0	41
8:00 PM	0	0	36	0	0	0	36
8:15 PM	0	0	24	0	0	0	24
8:30 PM	0	0	32	0	0	0	32
8:45 PM	0	0	28	0	0	0	28
9:00 PM	0	1	17	0	0	0	18
9:15 PM	0	0	14	0	0	0	14
9:30 PM	0	0	26	0	0	0	26
9:45 PM	0	0	10	0	0	0	10
10:00 PM	0	0	10	0	0	0	10
10:15 PM	0	0	7	0	0	0	7
10:30 PM	0	0	9	0	0	0	9
10:45 PM	0	0	4	0	0	0	4
11:00 PM	0	0	7	0	0	1	8
11:15 PM	0	0	3	0	0	0	3
11:30 PM	0	0	2	0	0	0	2
11:45 PM	0	0	4	0	0	0	4

<b>PM Total</b>	<b>0</b>	<b>12</b>	<b>1878</b>	<b>6</b>	<b>42</b>	<b>13</b>	<b>1951</b>
<b>Percentage</b>	<b>0.00%</b>	<b>0.62%</b>	<b>96.26%</b>	<b>0.31%</b>	<b>2.15%</b>	<b>0.67%</b>	
<b>PM Peak</b>	<b>12:00 PM</b>	<b>5:00 PM</b>	<b>4:30 PM</b>	<b>2:00 PM</b>	<b>12:45 PM</b>	<b>2:45 PM</b>	<b>4:30 PM</b>
<b>Volume</b>	<b>0</b>	<b>4</b>	<b>286</b>	<b>2</b>	<b>12</b>	<b>6</b>	<b>297</b>
<b>Day Total</b>	<b>0</b>	<b>17</b>	<b>3165</b>	<b>15</b>	<b>77</b>	<b>21</b>	<b>3295</b>
<b>Percentage</b>	<b>0.00%</b>	<b>0.52%</b>	<b>96.05%</b>	<b>0.46%</b>	<b>2.34%</b>	<b>0.64%</b>	

Shawsheen Street  
 approx 500' west of Patten Road  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350



PDI File #: 239283 ATR-A

Count Date: Thursday, April 13, 2023  
 Direction: WB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	1	0	0	0	1
12:15 AM	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	5	0	0	0	5
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	1	0	0	0	1
2:00 AM	0	0	1	0	0	0	1
2:15 AM	0	0	1	0	0	0	1
2:30 AM	0	0	1	0	0	1	2
2:45 AM	0	0	1	0	0	0	1
3:00 AM	0	0	1	0	0	0	1
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	2	0	0	0	2
4:00 AM	0	0	4	0	0	0	4
4:15 AM	0	0	0	0	0	0	0
4:30 AM	0	0	4	0	1	0	5
4:45 AM	0	0	6	0	0	0	6
5:00 AM	0	0	7	0	1	0	8
5:15 AM	0	1	10	0	0	0	11
5:30 AM	0	0	21	0	0	0	21
5:45 AM	0	1	12	0	0	0	13
6:00 AM	0	0	25	0	1	0	26
6:15 AM	0	0	34	0	0	1	35
6:30 AM	0	0	48	0	1	0	49
6:45 AM	0	1	64	2	2	0	69
7:00 AM	1	0	80	1	0	0	82
7:15 AM	0	0	65	2	3	0	70
7:30 AM	0	0	93	2	0	1	96
7:45 AM	0	0	76	0	2	0	78
8:00 AM	0	0	83	0	0	0	83
8:15 AM	0	0	66	0	2	0	68
8:30 AM	0	2	81	0	2	0	85
8:45 AM	0	0	64	0	1	0	65
9:00 AM	0	0	53	0	1	0	54
9:15 AM	0	0	49	0	1	0	50
9:30 AM	0	0	44	1	0	0	45
9:45 AM	0	0	47	0	1	0	48
10:00 AM	0	0	52	0	2	0	54
10:15 AM	0	0	43	0	0	0	43
10:30 AM	0	0	46	0	5	0	51
10:45 AM	0	1	16	1	0	0	18
11:00 AM	0	0	28	0	1	0	29
11:15 AM	0	1	40	0	2	0	43
11:30 AM	0	0	35	0	1	0	36
11:45 AM	0	0	27	0	1	0	28

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	30	0	2	0	32
12:15 PM	0	0	40	0	3	0	43
12:30 PM	0	0	45	0	2	0	47
12:45 PM	0	0	43	0	0	0	43
1:00 PM	0	0	38	0	0	0	38
1:15 PM	0	2	35	0	2	1	40
1:30 PM	0	0	47	0	2	1	50
1:45 PM	0	0	35	0	2	0	37
2:00 PM	0	0	48	0	2	1	51
2:15 PM	0	0	57	1	0	1	59
2:30 PM	0	2	48	0	1	0	51
2:45 PM	0	1	57	0	3	1	62
3:00 PM	0	0	58	0	2	1	61
3:15 PM	0	2	60	0	4	1	67
3:30 PM	0	1	56	1	0	0	58
3:45 PM	0	2	64	0	2	0	68
4:00 PM	0	2	83	0	1	1	87
4:15 PM	0	1	89	1	0	3	94
4:30 PM	0	0	92	0	0	2	94
4:45 PM	0	0	95	0	0	0	95
5:00 PM	1	0	77	1	3	0	82
5:15 PM	0	3	95	0	0	0	98
5:30 PM	0	2	70	1	1	1	75
5:45 PM	0	3	68	0	0	0	71
6:00 PM	0	0	79	0	2	0	81
6:15 PM	0	0	52	1	0	0	53
6:30 PM	0	1	57	2	0	0	60
6:45 PM	0	1	55	0	0	0	56
7:00 PM	0	0	45	0	0	0	45
7:15 PM	0	1	33	0	0	0	34
7:30 PM	0	1	42	0	0	0	43
7:45 PM	0	2	40	0	0	0	42
8:00 PM	0	0	34	0	0	0	34
8:15 PM	0	1	26	0	0	0	27
8:30 PM	0	0	19	0	0	0	19
8:45 PM	0	1	24	0	0	0	25
9:00 PM	0	0	25	0	0	0	25
9:15 PM	0	0	24	0	0	0	24
9:30 PM	0	1	15	0	0	0	16
9:45 PM	0	0	18	0	0	0	18
10:00 PM	0	1	14	0	0	0	15
10:15 PM	0	0	16	0	0	0	16
10:30 PM	0	0	3	0	0	0	3
10:45 PM	0	0	6	0	0	0	6
11:00 PM	0	1	7	0	0	0	8
11:15 PM	0	0	6	0	0	0	6
11:30 PM	0	0	2	0	0	0	2
11:45 PM	0	0	1	0	0	0	1

<b>AM Total</b>	<b>1</b>	<b>7</b>	<b>1337</b>	<b>9</b>	<b>31</b>	<b>3</b>	<b>1388</b>
<b>Percentage</b>	<b>0.07%</b>	<b>0.50%</b>	<b>96.33%</b>	<b>0.65%</b>	<b>2.23%</b>	<b>0.22%</b>	
<b>AM Peak</b>	<b>6:15 AM</b>	<b>5:00 AM</b>	<b>7:30 AM</b>	<b>6:45 AM</b>	<b>9:45 AM</b>	<b>1:45 AM</b>	<b>7:15 AM</b>
<b>Volume</b>	<b>1</b>	<b>2</b>	<b>318</b>	<b>7</b>	<b>8</b>	<b>1</b>	<b>327</b>

<b>PM Total</b>	<b>1</b>	<b>32</b>	<b>2073</b>	<b>8</b>	<b>34</b>	<b>14</b>	<b>2162</b>
<b>Percentage</b>	<b>0.05%</b>	<b>1.48%</b>	<b>95.88%</b>	<b>0.37%</b>	<b>1.57%</b>	<b>0.65%</b>	
<b>PM Peak</b>	<b>4:15 PM</b>	<b>5:00 PM</b>	<b>4:00 PM</b>	<b>5:45 PM</b>	<b>2:30 PM</b>	<b>3:45 PM</b>	<b>4:00 PM</b>
<b>Volume</b>	<b>1</b>	<b>8</b>	<b>359</b>	<b>3</b>	<b>10</b>	<b>6</b>	<b>370</b>
<b>Day Total</b>	<b>2</b>	<b>39</b>	<b>3410</b>	<b>17</b>	<b>65</b>	<b>17</b>	<b>3550</b>
<b>Percentage</b>	<b>0.06%</b>	<b>1.10%</b>	<b>96.06%</b>	<b>0.48%</b>	<b>1.83%</b>	<b>0.48%</b>	

Shawsheen Street  
 approx 500' west of Patten Road  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350



PDI File # 239283 ATR-A

Direction: EB

Weekly Report

Day Date	Wednesday 04/12/23		Thursday 04/13/23												Week Ave			
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM		
12:00	3	46	3	58	0	0	0	0	0	0	0	0	0	0	3	52		
12:15	3	40	3	52	0	0	0	0	0	0	0	0	0	0	3	46		
12:30	1	47	1	45	0	0	0	0	0	0	0	0	0	0	1	46		
12:45	0	48	2	47	0	0	0	0	0	0	0	0	0	0	1	48		
1:00	3	41	2	42	0	0	0	0	0	0	0	0	0	0	3	42		
1:15	1	49	0	54	0	0	0	0	0	0	0	0	0	0	1	52		
1:30	0	55	1	52	0	0	0	0	0	0	0	0	0	0	1	54		
1:45	0	58	2	57	0	0	0	0	0	0	0	0	0	0	1	58		
2:00	1	54	1	56	0	0	0	0	0	0	0	0	0	0	1	55		
2:15	2	70	3	64	0	0	0	0	0	0	0	0	0	0	3	67		
2:30	0	62	2	69	0	0	0	0	0	0	0	0	0	0	1	66		
2:45	3	74	3	67	0	0	0	0	0	0	0	0	0	0	3	71		
3:00	2	72	0	84	0	0	0	0	0	0	0	0	0	0	1	78		
3:15	2	79	5	85	0	0	0	0	0	0	0	0	0	0	4	82		
3:30	3	97	1	78	0	0	0	0	0	0	0	0	0	0	2	88		
3:45	3	90	2	83	0	0	0	0	0	0	0	0	0	0	3	87		
4:00	6	91	5	97	0	0	0	0	0	0	0	0	0	0	6	94		
4:15	3	122	4	92	0	0	0	0	0	0	0	0	0	0	4	107		
4:30	4	109	6	101	0	0	0	0	0	0	0	0	0	0	5	105		
4:45	12	86	11	105	0	0	0	0	0	0	0	0	0	0	12	96		
5:00	8	116	11	92	0	0	0	0	0	0	0	0	0	0	10	104		
5:15	13	113	14	117	0	0	0	0	0	0	0	0	0	0	14	115		
5:30	25	101	19	102	0	0	0	0	0	0	0	0	0	0	22	102		
5:45	12	84	19	112	0	0	0	0	0	0	0	0	0	0	16	98		
6:00	29	59	21	79	0	0	0	0	0	0	0	0	0	0	25	69		
6:15	20	72	29	75	0	0	0	0	0	0	0	0	0	0	25	74		
6:30	32	54	42	50	0	0	0	0	0	0	0	0	0	0	37	52		
6:45	54	36	48	50	0	0	0	0	0	0	0	0	0	0	51	43		
7:00	43	49	41	38	0	0	0	0	0	0	0	0	0	0	42	44		
7:15	54	42	57	43	0	0	0	0	0	0	0	0	0	0	56	43		
7:30	65	36	70	60	0	0	0	0	0	0	0	0	0	0	68	48		
7:45	36	28	45	35	0	0	0	0	0	0	0	0	0	0	41	32		
8:00	54	22	52	33	0	0	0	0	0	0	0	0	0	0	53	28		
8:15	51	25	57	26	0	0	0	0	0	0	0	0	0	0	54	26		
8:30	49	26	54	31	0	0	0	0	0	0	0	0	0	0	52	29		
8:45	55	26	47	29	0	0	0	0	0	0	0	0	0	0	51	28		
9:00	58	16	45	21	0	0	0	0	0	0	0	0	0	0	52	19		
9:15	55	22	50	18	0	0	0	0	0	0	0	0	0	0	53	20		
9:30	45	13	45	15	0	0	0	0	0	0	0	0	0	0	45	14		
9:45	43	15	41	9	0	0	0	0	0	0	0	0	0	0	42	12		
10:00	36	15	53	14	0	0	0	0	0	0	0	0	0	0	45	15		
10:15	46	4	38	9	0	0	0	0	0	0	0	0	0	0	42	7		
10:30	47	4	41	9	0	0	0	0	0	0	0	0	0	0	44	7		
10:45	35	9	39	6	0	0	0	0	0	0	0	0	0	0	37	8		
11:00	37	5	39	3	0	0	0	0	0	0	0	0	0	0	38	4		
11:15	52	4	48	6	0	0	0	0	0	0	0	0	0	0	50	5		
11:30	44	4	47	2	0	0	0	0	0	0	0	0	0	0	46	3		
11:45	49	3	37	3	0	0	0	0	0	0	0	0	0	0	43	3		
<b>Total</b>	<b>1199</b>	<b>2393</b>	<b>1206</b>	<b>2475</b>	<b>0</b>	<b>1203</b>	<b>2434</b>											
<b>Day Total</b>	<b>3592</b>		<b>3681</b>		<b>0</b>		<b>0</b>		<b>0</b>		<b>0</b>		<b>0</b>		<b>3637</b>			
<b>Peak HR</b>	<b>8:30 AM</b>	<b>4:15 PM</b>	<b>7:15 AM</b>	<b>5:00 PM</b>													<b>7:15 AM</b>	<b>4:30 PM</b>
<b>Volume</b>	<b>217</b>	<b>433</b>	<b>224</b>	<b>423</b>													<b>217</b>	<b>420</b>

Shawsheen Street  
 approx 500' west of Patten Road  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350



PDI File # 239283 ATR-A

Direction: WB

Weekly Report

Day Date	Wednesday 04/12/23		Thursday 04/13/23												Week Ave			
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM		
12:00	0	33	1	32	0	0	0	0	0	0	0	0	0	0	1	33		
12:15	4	41	0	43	0	0	0	0	0	0	0	0	0	0	2	42		
12:30	4	46	0	47	0	0	0	0	0	0	0	0	0	0	2	47		
12:45	1	43	0	43	0	0	0	0	0	0	0	0	0	0	1	43		
1:00	3	41	5	38	0	0	0	0	0	0	0	0	0	0	4	40		
1:15	1	55	0	40	0	0	0	0	0	0	0	0	0	0	1	48		
1:30	0	46	0	50	0	0	0	0	0	0	0	0	0	0	0	48		
1:45	2	43	1	37	0	0	0	0	0	0	0	0	0	0	2	40		
2:00	0	53	1	51	0	0	0	0	0	0	0	0	0	0	1	52		
2:15	0	53	1	59	0	0	0	0	0	0	0	0	0	0	1	56		
2:30	1	46	2	51	0	0	0	0	0	0	0	0	0	0	2	49		
2:45	0	55	1	62	0	0	0	0	0	0	0	0	0	0	1	59		
3:00	0	61	1	61	0	0	0	0	0	0	0	0	0	0	1	61		
3:15	0	50	0	67	0	0	0	0	0	0	0	0	0	0	0	59		
3:30	1	60	0	58	0	0	0	0	0	0	0	0	0	0	1	59		
3:45	2	60	2	68	0	0	0	0	0	0	0	0	0	0	2	64		
4:00	2	61	4	87	0	0	0	0	0	0	0	0	0	0	3	74		
4:15	2	70	0	94	0	0	0	0	0	0	0	0	0	0	1	82		
4:30	8	73	5	94	0	0	0	0	0	0	0	0	0	0	7	84		
4:45	3	83	6	95	0	0	0	0	0	0	0	0	0	0	5	89		
5:00	11	67	8	82	0	0	0	0	0	0	0	0	0	0	10	75		
5:15	5	74	11	98	0	0	0	0	0	0	0	0	0	0	8	86		
5:30	21	65	21	75	0	0	0	0	0	0	0	0	0	0	21	70		
5:45	21	59	13	71	0	0	0	0	0	0	0	0	0	0	17	65		
6:00	31	73	26	81	0	0	0	0	0	0	0	0	0	0	29	77		
6:15	39	73	35	53	0	0	0	0	0	0	0	0	0	0	37	63		
6:30	44	58	49	60	0	0	0	0	0	0	0	0	0	0	47	59		
6:45	69	40	69	56	0	0	0	0	0	0	0	0	0	0	69	48		
7:00	58	39	82	45	0	0	0	0	0	0	0	0	0	0	70	42		
7:15	67	27	70	34	0	0	0	0	0	0	0	0	0	0	69	31		
7:30	97	27	96	43	0	0	0	0	0	0	0	0	0	0	97	35		
7:45	75	41	78	42	0	0	0	0	0	0	0	0	0	0	77	42		
8:00	94	36	83	34	0	0	0	0	0	0	0	0	0	0	89	35		
8:15	75	24	68	27	0	0	0	0	0	0	0	0	0	0	72	26		
8:30	67	32	85	19	0	0	0	0	0	0	0	0	0	0	76	26		
8:45	69	28	65	25	0	0	0	0	0	0	0	0	0	0	67	27		
9:00	44	18	54	25	0	0	0	0	0	0	0	0	0	0	49	22		
9:15	48	14	50	24	0	0	0	0	0	0	0	0	0	0	49	19		
9:30	38	26	45	16	0	0	0	0	0	0	0	0	0	0	42	21		
9:45	45	10	48	18	0	0	0	0	0	0	0	0	0	0	47	14		
10:00	46	10	54	15	0	0	0	0	0	0	0	0	0	0	50	13		
10:15	30	7	43	16	0	0	0	0	0	0	0	0	0	0	37	12		
10:30	38	9	51	3	0	0	0	0	0	0	0	0	0	0	45	6		
10:45	26	4	18	6	0	0	0	0	0	0	0	0	0	0	22	5		
11:00	43	8	29	8	0	0	0	0	0	0	0	0	0	0	36	8		
11:15	35	3	43	6	0	0	0	0	0	0	0	0	0	0	39	5		
11:30	37	2	36	2	0	0	0	0	0	0	0	0	0	0	37	2		
11:45	37	4	28	1	0	0	0	0	0	0	0	0	0	0	33	3		
<b>Total</b>	<b>1344</b>	<b>1951</b>	<b>1388</b>	<b>2162</b>	<b>0</b>	<b>1366</b>	<b>2057</b>											
<b>Day Total</b>	<b>3295</b>		<b>3550</b>		<b>0</b>		<b>0</b>		<b>0</b>		<b>0</b>		<b>0</b>		<b>3423</b>			
<b>Peak HR</b>	<b>7:30 AM</b>	<b>4:30 PM</b>	<b>7:15 AM</b>	<b>4:00 PM</b>													<b>7:30 AM</b>	<b>4:30 PM</b>
<b>Volume</b>	<b>341</b>	<b>297</b>	<b>327</b>	<b>370</b>													<b>333</b>	<b>333</b>

Shawsheen Street  
 approx 500' west of Patten Road  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350



PDI File #: 239283 ATR-A (Speed)

Count Date  
 Wednesday, April 12, 2023

**Speed (60-minute)**

EB																
Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	0	2	3	2	0	0	0	0	0	0	7	43.1	37.9
1:00 AM	0	0	0	1	1	1	2	0	0	0	0	0	0	5	41.2	36.2
2:00 AM	0	0	0	1	2	2	1	1	0	0	0	0	0	7	43.5	36.9
3:00 AM	0	0	0	0	2	5	2	0	0	0	0	0	0	9	39.6	36.9
4:00 AM	0	0	1	1	7	12	7	1	0	0	0	0	0	29	40.0	36.3
5:00 AM	1	0	2	6	24	22	6	1	0	0	0	0	0	62	38.0	34.1
6:00 AM	0	0	1	9	46	63	16	5	0	0	0	0	0	140	39.2	35.6
7:00 AM	0	1	2	9	53	103	24	2	0	1	0	0	0	195	39.0	35.7
8:00 AM	0	5	11	26	74	57	24	3	0	0	0	0	0	200	39.0	33.4
9:00 AM	0	1	3	14	70	95	14	2	0	0	0	0	0	199	38.0	34.6
10:00 AM	0	0	0	5	62	73	19	1	0	0	0	0	0	160	39.0	35.3
11:00 AM	0	0	1	16	64	72	27	0	0	0	0	0	0	180	39.2	35.0
12:00 PM	3	1	5	8	63	81	19	1	0	0	0	0	0	181	39.0	34.4
1:00 PM	1	2	3	15	77	87	19	1	0	0	0	0	0	205	38.4	34.3
2:00 PM	0	0	0	9	103	106	26	5	0	0	0	0	0	249	39.0	35.2
3:00 PM	1	1	3	11	111	158	31	2	1	0	0	0	1	320	39.0	35.3
4:00 PM	4	0	2	11	124	193	41	2	0	0	0	0	0	377	39.0	35.4
5:00 PM	0	1	2	4	142	183	46	2	0	0	0	0	0	380	39.0	35.6
6:00 PM	0	0	0	9	55	113	32	4	0	0	1	0	0	214	40.0	36.3
7:00 PM	0	0	0	3	51	77	22	0	0	0	0	0	0	153	39.0	35.9
8:00 PM	0	0	0	2	33	52	11	0	0	0	0	0	0	98	39.0	35.6
9:00 PM	0	0	0	3	27	26	10	1	0	0	0	0	0	67	40.0	35.5
10:00 PM	0	0	1	1	6	19	6	1	0	0	0	0	0	34	40.1	36.4
11:00 PM	0	0	0	0	4	5	6	1	0	0	0	0	0	16	42.0	37.9
<b>Total</b>	<b>10</b>	<b>12</b>	<b>37</b>	<b>164</b>	<b>1203</b>	<b>1608</b>	<b>413</b>	<b>36</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>3487</b>	<b>39.0</b>	<b>35.2</b>
<b>Percent</b>	<b>0.29%</b>	<b>0.34%</b>	<b>1.06%</b>	<b>4.70%</b>	<b>34.50%</b>	<b>46.11%</b>	<b>11.84%</b>	<b>1.03%</b>	<b>0.03%</b>	<b>0.03%</b>	<b>0.03%</b>	<b>0.00%</b>	<b>0.03%</b>			

AM Peak	5:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	7:00 AM	11:00 AM	6:00 AM		7:00 AM				8:00 AM
Volume	1	5	11	26	74	103	27	5	0	1	0	0	0	200
PM Peak	4:00 PM	1:00 PM	12:00 PM	1:00 PM	5:00 PM	4:00 PM	5:00 PM	2:00 PM	3:00 PM		6:00 PM		3:00 PM	5:00 PM
Volume	4	2	5	15	142	193	46	5	1	0	1	0	1	380

15th Percentile:	32.0 MPH	Average Speed:	35.2 MPH	Posted Speed Limit:	35 MPH
50th Percentile:	35.0 MPH	10 MPH Pace:	31 to 40 MPH	Number of Vehicles > 35 MPH:	1697
85th Percentile:	39.0 MPH	Number in Pace:	2900	Percent of Vehicles > 35 MPH:	48.7%
95th Percentile:	42.0 MPH	Percent in Pace:	83.2%		

Shawsheen Street  
 approx 500' west of Patten Road  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350



PDI File #: 239283 ATR-A (Speed)

Count Date  
 Wednesday, April 12, 2023

Speed (60-minute)

WB																
Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	1	0	4	3	1	0	0	0	0	0	9	42.8	38.1
1:00 AM	0	0	0	0	3	1	2	0	1	0	0	0	0	7	43.0	38.4
2:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	1	33.0	33.0
3:00 AM	0	0	0	0	0	2	1	1	0	0	0	0	0	4	44.3	41.3
4:00 AM	0	0	0	0	2	10	2	0	0	0	0	0	0	14	39.1	36.6
5:00 AM	1	0	3	2	18	23	14	1	0	0	1	0	0	63	41.0	35.6
6:00 AM	0	0	1	4	32	91	42	3	2	0	0	0	0	175	41.0	37.3
7:00 AM	0	0	0	3	56	161	55	13	2	0	0	1	0	291	41.0	37.7
8:00 AM	0	0	4	14	77	164	35	2	0	0	0	0	0	296	39.0	35.7
9:00 AM	0	0	1	1	54	82	24	5	0	1	0	0	0	168	40.0	36.6
10:00 AM	4	0	6	7	36	64	21	5	1	0	0	0	0	144	41.0	34.9
11:00 AM	0	0	0	5	33	74	33	2	0	0	0	0	0	147	41.0	36.8
12:00 PM	1	0	0	4	37	92	27	4	0	0	0	0	0	165	40.0	36.5
1:00 PM	0	0	0	5	47	100	22	6	0	0	0	0	0	180	40.0	36.3
2:00 PM	0	0	1	5	55	94	39	4	0	0	0	0	0	198	40.0	36.4
3:00 PM	5	3	4	13	61	106	37	3	0	0	0	0	0	232	40.0	35.1
4:00 PM	0	0	0	2	55	142	70	5	2	0	0	0	0	276	41.0	37.5
5:00 PM	0	0	0	6	43	139	69	8	1	0	0	0	0	266	42.0	37.7
6:00 PM	0	0	0	1	24	132	71	4	1	0	0	0	0	233	41.0	38.2
7:00 PM	0	0	0	0	27	61	34	7	1	0	0	0	0	130	42.0	37.9
8:00 PM	0	0	0	9	26	52	26	4	0	0	0	0	0	117	41.0	36.7
9:00 PM	0	0	0	3	10	42	13	0	0	0	0	0	0	68	40.0	37.0
10:00 PM	0	0	0	0	5	12	13	0	1	0	0	0	0	31	43.0	38.8
11:00 PM	0	0	0	0	0	7	8	3	0	0	0	0	0	18	44.9	40.7
Total	11	3	20	85	702	1655	661	81	12	1	1	1	0	3233	41.0	36.8
Percent	0.34%	0.09%	0.62%	2.63%	21.71%	51.19%	20.45%	2.51%	0.37%	0.03%	0.03%	0.03%	0.00%			

AM Peak	10:00 AM		10:00 AM	8:00 AM	8:00 AM	8:00 AM	7:00 AM	7:00 AM	6:00 AM	9:00 AM	5:00 AM	7:00 AM		8:00 AM
Volume	4	0	6	14	77	164	55	13	2	1	1	1	0	296
PM Peak	3:00 PM	3:00 PM	3:00 PM	3:00 PM	3:00 PM	4:00 PM	6:00 PM	5:00 PM	4:00 PM					4:00 PM
Volume	5	3	4	13	61	142	71	8	2	0	0	0	0	276

15th Percentile: 33.0 MPH      Average Speed: 36.8 MPH      Posted Speed Limit: 35 MPH  
 50th Percentile: 37.0 MPH      10 MPH Pace: 33 to 42 MPH      Number of Vehicles > 35 MPH: 2107  
 85th Percentile: 41.0 MPH      Number in Pace: 2614      Percent of Vehicles > 35 MPH: 65.2%  
 95th Percentile: 43.0 MPH      Percent in Pace: 80.9%

Shawsheen Street  
 approx 500' west of Patten Road  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350



PDI File #: 239283 ATR-A (Speed)

Count Date  
 Wednesday, April 12, 2023

**Speed (60-minute)**

**Combined EB and WB**

Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	1	2	7	5	1	0	0	0	0	0	16	43.0	38.0
1:00 AM	0	0	0	1	4	2	4	0	1	0	0	0	0	12	42.4	37.5
2:00 AM	0	0	0	1	3	2	1	1	0	0	0	0	0	8	42.7	36.4
3:00 AM	0	0	0	0	2	7	3	1	0	0	0	0	0	13	41.6	38.2
4:00 AM	0	0	1	1	9	22	9	1	0	0	0	0	0	43	40.0	36.4
5:00 AM	2	0	5	8	42	45	20	2	0	0	1	0	0	125	40.0	34.9
6:00 AM	0	0	2	13	78	154	58	8	2	0	0	0	0	315	40.0	36.5
7:00 AM	0	1	2	12	109	264	79	15	2	1	0	1	0	486	40.0	36.9
8:00 AM	0	5	15	40	151	221	59	5	0	0	0	0	0	496	39.0	34.8
9:00 AM	0	1	4	15	124	177	38	7	0	1	0	0	0	367	39.0	35.5
10:00 AM	4	0	6	12	98	137	40	6	1	0	0	0	0	304	40.0	35.1
11:00 AM	0	0	1	21	97	146	60	2	0	0	0	0	0	327	40.0	35.8
12:00 PM	4	1	5	12	100	173	46	5	0	0	0	0	0	346	39.0	35.4
1:00 PM	1	2	3	20	124	187	41	7	0	0	0	0	0	385	39.0	35.2
2:00 PM	0	0	1	14	158	200	65	9	0	0	0	0	0	447	40.0	35.8
3:00 PM	6	4	7	24	172	264	68	5	1	0	0	0	1	552	39.0	35.2
4:00 PM	4	0	2	13	179	335	111	7	2	0	0	0	0	653	40.0	36.3
5:00 PM	0	1	2	10	185	322	115	10	1	0	0	0	0	646	40.0	36.5
6:00 PM	0	0	0	10	79	245	103	8	1	0	1	0	0	447	41.0	37.3
7:00 PM	0	0	0	3	78	138	56	7	1	0	0	0	0	283	40.0	36.8
8:00 PM	0	0	0	11	59	104	37	4	0	0	0	0	0	215	40.0	36.2
9:00 PM	0	0	0	6	37	68	23	1	0	0	0	0	0	135	40.0	36.2
10:00 PM	0	0	1	1	11	31	19	1	1	0	0	0	0	65	42.0	37.5
11:00 PM	0	0	0	0	4	12	14	4	0	0	0	0	0	34	43.1	39.4
<b>Total</b>	<b>21</b>	<b>15</b>	<b>57</b>	<b>249</b>	<b>1905</b>	<b>3263</b>	<b>1074</b>	<b>117</b>	<b>13</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>6720</b>	<b>40.0</b>	<b>36.0</b>
<b>Percent</b>	<b>0.31%</b>	<b>0.22%</b>	<b>0.85%</b>	<b>3.71%</b>	<b>28.35%</b>	<b>48.56%</b>	<b>15.98%</b>	<b>1.74%</b>	<b>0.19%</b>	<b>0.03%</b>	<b>0.03%</b>	<b>0.01%</b>	<b>0.01%</b>			

AM Peak	10:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	7:00 AM	7:00 AM	7:00 AM	6:00 AM	7:00 AM	5:00 AM	7:00 AM		8:00 AM
Volume	4	5	15	40	151	264	79	15	2	1	1	1	0	496
PM Peak	3:00 PM	3:00 PM	3:00 PM	3:00 PM	5:00 PM	4:00 PM	5:00 PM	5:00 PM	4:00 PM		6:00 PM		3:00 PM	4:00 PM
Volume	6	4	7	24	185	335	115	10	2	0	1	0	1	653

15th Percentile:	32.0 MPH	Average Speed:	36.0 MPH	Posted Speed Limit:	35 MPH
50th Percentile:	36.0 MPH	10 MPH Pace:	31 to 40 MPH	Number of Vehicles > 35 MPH:	3804
85th Percentile:	40.0 MPH	Number in Pace:	5432	Percent of Vehicles > 35 MPH:	56.6%
95th Percentile:	43.0 MPH	Percent in Pace:	80.8%		

Shawsheen Street  
 approx 500' west of Patten Road  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350



PDI File #: 239283 ATR-A (Speed)

Count Date  
 Thursday, April 13, 2023

Speed (60-minute)

EB																
Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	0	3	3	3	0	0	0	0	0	0	9	40.8	35.9
1:00 AM	0	0	0	0	4	0	0	1	0	0	0	0	0	5	37.2	34.4
2:00 AM	0	0	0	2	4	2	0	1	0	0	0	0	0	9	37.8	34.4
3:00 AM	0	0	0	0	2	2	3	2	0	0	0	0	0	9	44.6	40.4
4:00 AM	0	1	0	1	6	10	7	1	0	0	0	0	0	26	43.0	36.7
5:00 AM	0	0	0	1	11	38	9	1	0	0	0	0	0	60	40.0	36.9
6:00 AM	0	1	0	1	44	72	16	4	0	0	0	0	0	138	39.0	36.2
7:00 AM	0	0	3	7	67	87	30	5	1	0	0	0	0	200	40.0	36.0
8:00 AM	0	1	3	5	68	99	25	4	0	0	0	0	0	205	39.0	35.5
9:00 AM	0	0	4	11	85	60	16	1	0	0	0	0	0	177	38.0	34.3
10:00 AM	1	0	4	19	70	55	15	1	0	0	0	0	0	165	38.4	34.0
11:00 AM	1	0	0	16	46	79	24	3	0	0	0	0	0	169	40.0	35.5
12:00 PM	1	0	0	11	55	98	30	5	0	0	0	0	0	200	40.0	35.9
1:00 PM	0	0	0	3	51	104	37	8	1	0	0	0	0	204	40.0	37.0
2:00 PM	0	1	1	7	79	111	40	7	1	0	0	0	0	247	41.0	36.1
3:00 PM	0	2	2	8	85	178	36	8	0	0	0	0	0	319	39.0	36.0
4:00 PM	1	0	3	8	99	184	65	5	1	0	0	0	0	366	40.0	36.2
5:00 PM	2	0	3	13	135	179	53	6	1	2	0	0	0	394	40.0	35.7
6:00 PM	0	1	1	3	66	129	40	4	1	0	0	0	0	245	40.0	36.4
7:00 PM	0	0	1	6	61	92	15	2	0	0	0	0	0	177	38.0	35.3
8:00 PM	0	0	0	4	47	51	12	0	0	1	0	0	0	115	39.0	35.1
9:00 PM	0	0	0	0	19	33	11	1	0	0	0	0	0	64	40.0	36.6
10:00 PM	0	0	0	1	11	20	7	0	0	0	0	0	0	39	40.0	36.2
11:00 PM	0	0	0	0	2	6	4	1	0	1	0	0	0	14	43.1	39.6
Total	6	7	25	127	1120	1692	498	71	6	4	0	0	0	3556	40.0	35.8
Percent	0.17%	0.20%	0.70%	3.57%	31.50%	47.58%	14.00%	2.00%	0.17%	0.11%	0.00%	0.00%	0.00%			

AM Peak	10:00 AM	4:00 AM	9:00 AM	10:00 AM	9:00 AM	8:00 AM	7:00 AM	7:00 AM	7:00 AM						8:00 AM
Volume	1	1	4	19	85	99	30	5	1	0	0	0	0	0	205
PM Peak	5:00 PM	3:00 PM	4:00 PM	5:00 PM	5:00 PM	4:00 PM	4:00 PM	1:00 PM	1:00 PM	5:00 PM					5:00 PM
Volume	2	2	3	13	135	184	65	8	1	2	0	0	0	394	

15th Percentile:	32.0 MPH	Average Speed:	35.8 MPH	Posted Speed Limit:	35 MPH
50th Percentile:	36.0 MPH	10 MPH Pace:	31 to 40 MPH	Number of Vehicles > 35 MPH:	1897
85th Percentile:	40.0 MPH	Number in Pace:	2890	Percent of Vehicles > 35 MPH:	53.3%
95th Percentile:	43.0 MPH	Percent in Pace:	81.3%		

Shawsheen Street  
 approx 500' west of Patten Road  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350



PDI File #: 239283 ATR-A (Speed)

Count Date  
 Thursday, April 13, 2023

**Speed (60-minute)**

WB																
Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	1	38.0	38.0
1:00 AM	0	0	0	0	1	2	2	1	0	0	0	0	0	6	43.8	39.7
2:00 AM	0	0	0	0	0	1	3	0	1	0	0	0	0	5	46.4	42.4
3:00 AM	0	0	0	0	0	1	1	2	0	0	0	0	0	4	46.6	42.0
4:00 AM	0	1	0	0	1	10	2	1	0	0	0	0	0	15	40.8	36.3
5:00 AM	0	0	1	0	2	24	21	5	1	0	0	0	1	55	43.0	40.3
6:00 AM	0	1	0	4	36	91	43	5	0	0	0	0	0	180	42.0	37.4
7:00 AM	0	0	0	4	52	152	101	7	0	0	0	0	0	316	41.0	37.9
8:00 AM	0	0	2	9	73	144	57	6	2	0	0	0	0	293	41.0	36.7
9:00 AM	1	1	7	11	56	85	27	2	0	0	0	0	0	190	39.7	35.0
10:00 AM	0	2	13	15	58	74	23	6	0	0	0	0	0	191	39.5	34.4
11:00 AM	2	1	4	7	28	68	32	6	0	0	0	0	0	148	41.0	36.2
12:00 PM	1	0	0	2	21	94	39	5	0	0	0	0	0	162	41.0	37.6
1:00 PM	0	0	0	1	24	92	44	7	0	0	0	0	0	168	42.0	37.9
2:00 PM	0	0	1	8	39	107	50	9	0	0	0	0	1	215	41.0	37.2
3:00 PM	0	0	1	7	57	118	60	7	0	0	0	0	0	250	41.0	37.1
4:00 PM	0	0	0	5	55	201	92	12	1	0	0	0	0	366	41.0	37.8
5:00 PM	0	1	1	3	56	145	90	13	0	0	0	0	0	309	42.0	37.8
6:00 PM	0	0	0	3	46	137	52	10	1	0	0	0	0	249	41.0	37.4
7:00 PM	0	0	0	5	31	84	33	5	1	0	0	0	0	159	41.0	37.2
8:00 PM	1	0	2	3	19	62	19	3	1	0	0	0	0	110	40.0	36.5
9:00 PM	0	0	0	2	19	36	21	4	0	0	0	0	0	82	42.9	37.4
10:00 PM	0	0	0	0	10	16	10	2	0	1	1	0	0	40	41.0	38.6
11:00 PM	0	0	0	0	1	13	2	1	1	0	0	0	0	18	41.5	38.4
<b>Total</b>	<b>5</b>	<b>7</b>	<b>32</b>	<b>89</b>	<b>685</b>	<b>1758</b>	<b>824</b>	<b>119</b>	<b>9</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>3532</b>	<b>41.0</b>	<b>37.2</b>
<b>Percent</b>	<b>0.14%</b>	<b>0.20%</b>	<b>0.91%</b>	<b>2.52%</b>	<b>19.39%</b>	<b>49.77%</b>	<b>23.33%</b>	<b>3.37%</b>	<b>0.25%</b>	<b>0.03%</b>	<b>0.03%</b>	<b>0.00%</b>	<b>0.06%</b>			

AM Peak	11:00 AM	10:00 AM	10:00 AM	10:00 AM	8:00 AM	7:00 AM	7:00 AM	7:00 AM	8:00 AM					5:00 AM	7:00 AM
Volume	2	2	13	15	73	152	101	7	2	0	0	0	0	1	316
PM Peak	12:00 PM	5:00 PM	8:00 PM	2:00 PM	3:00 PM	4:00 PM	4:00 PM	5:00 PM	4:00 PM	10:00 PM	10:00 PM			2:00 PM	4:00 PM
Volume	1	1	2	8	57	201	92	13	1	1	1	0	0	1	366

15th Percentile:	33.0 MPH	Average Speed:	37.2 MPH	Posted Speed Limit:	35 MPH
50th Percentile:	37.0 MPH	10 MPH Pace:	33 to 42 MPH	Number of Vehicles > 35 MPH:	2395
85th Percentile:	41.0 MPH	Number in Pace:	2817	Percent of Vehicles > 35 MPH:	67.8%
95th Percentile:	44.0 MPH	Percent in Pace:	79.8%		

Shawsheen Street  
 approx 500' west of Patten Road  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350



PDI File #: 239283 ATR-A (Speed)

Count Date  
 Thursday, April 13, 2023

**Speed (60-minute)**

**Combined EB and WB**

Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	0	3	4	3	0	0	0	0	0	0	10	40.7	36.1
1:00 AM	0	0	0	0	5	2	2	2	0	0	0	0	0	11	44.0	37.3
2:00 AM	0	0	0	2	4	3	3	1	1	0	0	0	0	14	44.2	37.3
3:00 AM	0	0	0	0	2	3	4	4	0	0	0	0	0	13	46.2	40.9
4:00 AM	0	2	0	1	7	20	9	2	0	0	0	0	0	41	42.0	36.5
5:00 AM	0	0	1	1	13	62	30	6	1	0	0	0	1	115	42.0	38.5
6:00 AM	0	2	0	5	80	163	59	9	0	0	0	0	0	318	41.0	36.9
7:00 AM	0	0	3	11	119	239	131	12	1	0	0	0	0	516	41.0	37.1
8:00 AM	0	1	5	14	141	243	82	10	2	0	0	0	0	498	40.0	36.2
9:00 AM	1	1	11	22	141	145	43	3	0	0	0	0	0	367	39.0	34.7
10:00 AM	1	2	17	34	128	129	38	7	0	0	0	0	0	356	39.0	34.2
11:00 AM	3	1	4	23	74	147	56	9	0	0	0	0	0	317	40.0	35.8
12:00 PM	2	0	0	13	76	192	69	10	0	0	0	0	0	362	40.9	36.7
1:00 PM	0	0	0	4	75	196	81	15	1	0	0	0	0	372	41.0	37.4
2:00 PM	0	1	2	15	118	218	90	16	1	0	0	0	1	462	41.0	36.6
3:00 PM	0	2	3	15	142	296	96	15	0	0	0	0	0	569	40.0	36.5
4:00 PM	1	0	3	13	154	385	157	17	2	0	0	0	0	732	41.0	37.0
5:00 PM	2	1	4	16	191	324	143	19	1	2	0	0	0	703	41.0	36.6
6:00 PM	0	1	1	6	112	266	92	14	2	0	0	0	0	494	41.0	36.9
7:00 PM	0	0	1	11	92	176	48	7	1	0	0	0	0	336	40.0	36.2
8:00 PM	1	0	2	7	66	113	31	3	1	1	0	0	0	225	40.0	35.8
9:00 PM	0	0	0	2	38	69	32	5	0	0	0	0	0	146	41.0	37.0
10:00 PM	0	0	0	1	21	36	17	2	0	1	1	0	0	79	41.0	37.4
11:00 PM	0	0	0	0	3	19	6	2	1	1	0	0	0	32	42.4	39.0
<b>Total</b>	<b>11</b>	<b>14</b>	<b>57</b>	<b>216</b>	<b>1805</b>	<b>3450</b>	<b>1322</b>	<b>190</b>	<b>15</b>	<b>5</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>7088</b>	<b>41.0</b>	<b>36.5</b>
<b>Percent</b>	<b>0.16%</b>	<b>0.20%</b>	<b>0.80%</b>	<b>3.05%</b>	<b>25.47%</b>	<b>48.67%</b>	<b>18.65%</b>	<b>2.68%</b>	<b>0.21%</b>	<b>0.07%</b>	<b>0.01%</b>	<b>0.00%</b>	<b>0.03%</b>			

AM Peak	11:00 AM	4:00 AM	10:00 AM	10:00 AM	8:00 AM	8:00 AM	7:00 AM	7:00 AM	8:00 AM					5:00 AM	7:00 AM
Volume	3	2	17	34	141	243	131	12	2	0	0	0	0	1	516

PM Peak	12:00 PM	3:00 PM	5:00 PM	5:00 PM	5:00 PM	4:00 PM	4:00 PM	5:00 PM	4:00 PM	5:00 PM	10:00 PM			2:00 PM	4:00 PM
Volume	2	2	4	16	191	385	157	19	2	2	1	0	0	1	732

15th Percentile:	33.0 MPH	Average Speed:	36.5 MPH	Posted Speed Limit:	35 MPH
50th Percentile:	37.0 MPH	10 MPH Pace:	32 to 41 MPH	Number of Vehicles > 35 MPH:	4292
85th Percentile:	41.0 MPH	Number in Pace:	5667	Percent of Vehicles > 35 MPH:	60.6%
95th Percentile:	43.0 MPH	Percent in Pace:	80.0%		

Shawsheen Street  
 between Oliver Street and Rhoda Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350



PDI File #: 239283 ATR-B

Count Date: Wednesday, April 12, 2023  
 Direction: EB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	4	0	0	0	4
12:15 AM	0	0	3	0	0	0	3
12:30 AM	0	0	1	0	0	0	1
12:45 AM	0	0	1	0	0	0	1
1:00 AM	0	0	2	0	0	0	2
1:15 AM	0	0	4	0	0	0	4
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	3	0	0	0	3
2:15 AM	0	0	3	0	0	0	3
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	1	2	0	0	0	3
3:00 AM	0	0	3	0	0	0	3
3:15 AM	0	0	3	0	1	0	4
3:30 AM	0	0	7	0	0	0	7
3:45 AM	0	0	3	0	0	0	3
4:00 AM	0	0	8	0	0	0	8
4:15 AM	0	0	7	0	0	0	7
4:30 AM	0	0	9	0	0	0	9
4:45 AM	0	0	24	0	0	0	24
5:00 AM	0	0	41	0	0	0	41
5:15 AM	0	0	37	0	0	0	37
5:30 AM	0	0	44	0	0	0	44
5:45 AM	0	0	39	1	0	0	40
6:00 AM	0	0	59	0	0	1	60
6:15 AM	0	1	51	1	0	0	53
6:30 AM	0	0	69	1	0	0	70
6:45 AM	0	0	78	2	3	1	84
7:00 AM	0	1	71	0	4	1	77
7:15 AM	0	0	74	0	8	0	82
7:30 AM	0	0	96	1	3	0	100
7:45 AM	0	0	56	0	2	1	59
8:00 AM	0	0	98	2	0	2	102
8:15 AM	0	0	71	1	2	1	75
8:30 AM	0	0	111	0	4	0	115
8:45 AM	0	1	79	1	3	0	84
9:00 AM	0	0	74	0	2	0	76
9:15 AM	0	0	66	0	2	2	70
9:30 AM	0	0	66	0	5	0	71
9:45 AM	0	0	70	0	1	0	71
10:00 AM	0	0	52	1	6	0	59
10:15 AM	0	0	62	0	2	3	67
10:30 AM	0	0	54	0	1	1	56
10:45 AM	0	0	46	0	2	0	48
11:00 AM	0	0	51	0	3	1	55
11:15 AM	0	0	63	0	2	2	67
11:30 AM	0	1	55	0	1	1	58
11:45 AM	0	1	66	0	0	2	69

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	61	0	4	2	67
12:15 PM	0	1	39	0	3	2	45
12:30 PM	0	0	60	0	3	0	63
12:45 PM	0	1	60	1	0	1	63
1:00 PM	0	0	55	1	1	0	57
1:15 PM	0	0	65	1	3	1	70
1:30 PM	0	0	64	0	4	1	69
1:45 PM	0	2	66	0	1	0	69
2:00 PM	0	1	78	1	3	0	83
2:15 PM	0	1	97	2	3	0	103
2:30 PM	0	0	80	1	3	1	85
2:45 PM	0	0	86	1	0	0	87
3:00 PM	0	0	111	1	2	0	114
3:15 PM	0	1	84	2	1	1	89
3:30 PM	0	0	126	3	3	0	132
3:45 PM	0	0	121	2	5	1	129
4:00 PM	0	0	115	0	5	0	120
4:15 PM	0	0	117	0	1	0	118
4:30 PM	0	1	123	0	0	0	124
4:45 PM	0	1	134	0	0	0	135
5:00 PM	0	1	128	0	0	0	129
5:15 PM	0	1	145	0	0	0	146
5:30 PM	1	1	125	0	2	0	129
5:45 PM	0	2	117	1	1	1	122
6:00 PM	0	3	99	0	0	0	102
6:15 PM	0	0	92	1	0	0	93
6:30 PM	0	0	69	0	0	0	69
6:45 PM	0	0	56	0	0	0	56
7:00 PM	0	1	67	0	1	0	69
7:15 PM	0	1	59	0	0	0	60
7:30 PM	0	1	62	0	0	0	63
7:45 PM	0	0	36	0	0	0	36
8:00 PM	0	2	34	0	0	0	36
8:15 PM	0	0	41	0	0	0	41
8:30 PM	0	0	36	0	0	0	36
8:45 PM	0	0	33	0	1	0	34
9:00 PM	0	0	21	0	0	0	21
9:15 PM	0	0	21	0	0	0	21
9:30 PM	0	0	21	0	0	0	21
9:45 PM	0	0	19	0	0	0	19
10:00 PM	0	0	19	0	0	0	19
10:15 PM	0	0	3	0	0	0	3
10:30 PM	0	0	7	0	0	0	7
10:45 PM	0	0	10	0	0	0	10
11:00 PM	0	0	4	0	0	0	4
11:15 PM	0	1	7	0	0	0	8
11:30 PM	0	0	5	0	0	0	5
11:45 PM	0	0	4	0	0	0	4

<b>AM Total</b>	<b>0</b>	<b>6</b>	<b>1886</b>	<b>11</b>	<b>57</b>	<b>19</b>	<b>1979</b>
<b>Percentage</b>	<b>0.00%</b>	<b>0.30%</b>	<b>95.30%</b>	<b>0.56%</b>	<b>2.88%</b>	<b>0.96%</b>	
<b>AM Peak</b>	<b>12:00 AM</b>	<b>6:15 AM</b>	<b>8:00 AM</b>	<b>6:00 AM</b>	<b>6:45 AM</b>	<b>11:00 AM</b>	<b>8:00 AM</b>
<b>Volume</b>	<b>0</b>	<b>2</b>	<b>359</b>	<b>4</b>	<b>18</b>	<b>6</b>	<b>376</b>

<b>PM Total</b>	<b>1</b>	<b>23</b>	<b>3082</b>	<b>18</b>	<b>50</b>	<b>11</b>	<b>3185</b>
<b>Percentage</b>	<b>0.03%</b>	<b>0.72%</b>	<b>96.77%</b>	<b>0.57%</b>	<b>1.57%</b>	<b>0.35%</b>	
<b>PM Peak</b>	<b>4:45 PM</b>	<b>5:15 PM</b>	<b>4:45 PM</b>	<b>3:00 PM</b>	<b>3:15 PM</b>	<b>12:00 PM</b>	<b>4:45 PM</b>
<b>Volume</b>	<b>1</b>	<b>7</b>	<b>532</b>	<b>8</b>	<b>14</b>	<b>5</b>	<b>539</b>

<b>Day Total</b>	<b>1</b>	<b>29</b>	<b>4968</b>	<b>29</b>	<b>107</b>	<b>30</b>	<b>5164</b>
<b>Percentage</b>	<b>0.02%</b>	<b>0.56%</b>	<b>96.20%</b>	<b>0.56%</b>	<b>2.07%</b>	<b>0.58%</b>	

Shawsheen Street  
 between Oliver Street and Rhoda Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350



PDI File #: 239283 ATR-B

Count Date: Thursday, April 13, 2023  
 Direction: EB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	4	0	0	0	4
12:15 AM	0	0	3	0	0	0	3
12:30 AM	0	0	1	0	0	0	1
12:45 AM	0	0	1	0	0	0	1
1:00 AM	0	0	2	0	0	0	2
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	3	0	0	0	3
1:45 AM	0	0	3	0	0	0	3
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	3	0	0	0	3
2:30 AM	0	1	1	0	0	0	2
2:45 AM	0	0	2	0	0	0	2
3:00 AM	0	0	3	0	0	0	3
3:15 AM	0	0	5	0	0	0	5
3:30 AM	0	0	4	0	0	0	4
3:45 AM	0	0	4	0	1	0	5
4:00 AM	0	0	7	0	0	0	7
4:15 AM	0	0	8	0	1	0	9
4:30 AM	0	0	12	0	1	0	13
4:45 AM	0	0	17	0	0	0	17
5:00 AM	0	0	38	0	0	0	38
5:15 AM	0	0	34	1	2	0	37
5:30 AM	0	0	45	0	0	0	45
5:45 AM	0	0	40	0	0	0	40
6:00 AM	0	1	44	0	1	0	46
6:15 AM	0	1	66	1	2	0	70
6:30 AM	0	0	80	0	0	1	81
6:45 AM	0	0	70	3	1	1	75
7:00 AM	0	1	71	1	2	0	75
7:15 AM	0	0	87	1	3	1	92
7:30 AM	0	0	87	2	2	1	92
7:45 AM	0	0	68	0	4	0	72
8:00 AM	0	0	90	1	0	0	91
8:15 AM	0	0	70	1	1	1	73
8:30 AM	0	2	104	0	5	0	111
8:45 AM	0	1	64	1	4	0	70
9:00 AM	0	0	65	0	3	0	68
9:15 AM	0	0	69	0	2	0	71
9:30 AM	0	0	70	0	1	0	71
9:45 AM	0	0	59	0	2	0	61
10:00 AM	0	0	51	0	3	0	54
10:15 AM	0	0	48	0	3	1	52
10:30 AM	0	0	54	3	0	0	57
10:45 AM	0	2	55	1	4	1	63
11:00 AM	0	1	57	0	4	1	63
11:15 AM	0	0	63	0	1	1	65
11:30 AM	0	1	51	0	0	1	53
11:45 AM	0	0	56	1	4	0	61

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	1	69	0	2	0	72
12:15 PM	0	0	70	0	4	0	74
12:30 PM	0	0	63	0	2	0	65
12:45 PM	0	1	62	0	3	0	66
1:00 PM	1	1	61	0	0	0	63
1:15 PM	0	0	79	0	2	0	81
1:30 PM	0	0	61	0	1	0	62
1:45 PM	0	0	77	0	0	0	77
2:00 PM	0	1	76	0	2	0	79
2:15 PM	0	1	99	3	0	0	103
2:30 PM	0	0	71	0	2	0	73
2:45 PM	0	1	73	2	5	0	81
3:00 PM	0	1	115	0	4	0	120
3:15 PM	0	0	109	2	3	0	114
3:30 PM	0	1	105	1	3	1	111
3:45 PM	0	0	106	1	3	0	110
4:00 PM	0	0	121	0	1	0	122
4:15 PM	0	0	126	1	0	0	127
4:30 PM	0	1	113	0	1	1	116
4:45 PM	0	0	138	0	0	0	138
5:00 PM	0	1	117	0	1	0	119
5:15 PM	0	0	141	1	1	0	143
5:30 PM	0	2	129	0	1	0	132
5:45 PM	0	2	136	0	0	0	138
6:00 PM	0	0	96	0	0	0	96
6:15 PM	0	4	86	1	0	0	91
6:30 PM	0	1	72	0	1	0	74
6:45 PM	0	2	76	0	0	0	78
7:00 PM	0	0	61	0	0	0	61
7:15 PM	0	0	63	0	0	0	63
7:30 PM	0	1	73	0	1	0	75
7:45 PM	0	0	63	0	0	0	63
8:00 PM	0	1	39	0	0	1	41
8:15 PM	0	2	34	1	0	0	37
8:30 PM	0	0	38	0	0	0	38
8:45 PM	0	0	33	0	1	0	34
9:00 PM	0	0	22	0	0	0	22
9:15 PM	0	0	18	0	0	0	18
9:30 PM	0	0	10	0	0	0	10
9:45 PM	0	0	13	0	0	0	13
10:00 PM	0	2	16	0	0	0	18
10:15 PM	0	1	10	0	0	0	11
10:30 PM	0	0	14	0	0	0	14
10:45 PM	0	0	9	0	0	0	9
11:00 PM	0	0	9	0	0	0	9
11:15 PM	0	0	6	0	0	0	6
11:30 PM	0	0	5	0	0	0	5
11:45 PM	0	0	7	0	0	0	7

<b>AM Total</b>	<b>0</b>	<b>11</b>	<b>1839</b>	<b>17</b>	<b>57</b>	<b>10</b>	<b>1934</b>
<b>Percentage</b>	<b>0.00%</b>	<b>0.57%</b>	<b>95.09%</b>	<b>0.88%</b>	<b>2.95%</b>	<b>0.52%</b>	
<b>AM Peak</b>	<b>12:00 AM</b>	<b>10:45 AM</b>	<b>7:15 AM</b>	<b>6:45 AM</b>	<b>8:30 AM</b>	<b>10:45 AM</b>	<b>7:15 AM</b>
<b>Volume</b>	<b>0</b>	<b>4</b>	<b>332</b>	<b>7</b>	<b>14</b>	<b>4</b>	<b>347</b>

<b>PM Total</b>	<b>1</b>	<b>28</b>	<b>3190</b>	<b>13</b>	<b>44</b>	<b>3</b>	<b>3279</b>
<b>Percentage</b>	<b>0.03%</b>	<b>0.85%</b>	<b>97.29%</b>	<b>0.40%</b>	<b>1.34%</b>	<b>0.09%</b>	
<b>PM Peak</b>	<b>12:15 PM</b>	<b>5:30 PM</b>	<b>4:45 PM</b>	<b>2:00 PM</b>	<b>2:45 PM</b>	<b>2:45 PM</b>	<b>4:45 PM</b>
<b>Volume</b>	<b>1</b>	<b>8</b>	<b>525</b>	<b>5</b>	<b>15</b>	<b>1</b>	<b>532</b>
<b>Day Total</b>	<b>1</b>	<b>39</b>	<b>5029</b>	<b>30</b>	<b>101</b>	<b>13</b>	<b>5213</b>
<b>Percentage</b>	<b>0.02%</b>	<b>0.75%</b>	<b>96.47%</b>	<b>0.58%</b>	<b>1.94%</b>	<b>0.25%</b>	

Shawsheen Street  
 between Oliver Street and Rhoda Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350



PDI File #: 239283 ATR-B

Count Date: Wednesday, April 12, 2023  
 Direction: WB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	2	0	0	0	2
12:15 AM	0	0	4	0	0	0	4
12:30 AM	0	0	5	0	0	0	5
12:45 AM	0	0	3	0	0	0	3
1:00 AM	0	0	5	0	2	0	7
1:15 AM	0	0	4	0	2	0	6
1:30 AM	0	0	1	0	0	0	1
1:45 AM	0	0	3	0	0	0	3
2:00 AM	0	0	1	0	0	0	1
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	1	1
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	1	0	0	0	1
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	1	0	1
3:45 AM	0	0	2	0	0	0	2
4:00 AM	0	0	4	0	0	0	4
4:15 AM	0	0	2	0	0	0	2
4:30 AM	0	0	5	0	0	0	5
4:45 AM	0	0	7	0	0	0	7
5:00 AM	0	0	16	0	0	0	16
5:15 AM	0	0	14	0	0	0	14
5:30 AM	0	0	17	0	0	0	17
5:45 AM	0	1	27	0	2	0	30
6:00 AM	0	0	33	0	1	0	34
6:15 AM	0	0	54	0	0	0	54
6:30 AM	0	0	56	0	1	0	57
6:45 AM	0	0	67	2	0	0	69
7:00 AM	0	0	80	1	2	0	83
7:15 AM	0	0	93	1	4	0	98
7:30 AM	0	1	100	1	4	0	106
7:45 AM	0	0	97	1	2	1	101
8:00 AM	0	0	108	0	4	0	112
8:15 AM	0	0	100	2	4	1	107
8:30 AM	0	1	102	4	3	0	110
8:45 AM	0	0	88	0	4	0	92
9:00 AM	0	0	70	0	0	0	70
9:15 AM	0	1	62	1	3	0	67
9:30 AM	0	0	47	0	1	0	48
9:45 AM	1	1	66	0	1	1	70
10:00 AM	0	0	55	0	5	1	61
10:15 AM	0	1	49	0	0	0	50
10:30 AM	0	1	60	0	2	0	63
10:45 AM	0	0	53	0	3	0	56
11:00 AM	0	0	57	0	2	0	59
11:15 AM	0	0	63	0	5	0	68
11:30 AM	0	0	57	0	5	0	62
11:45 AM	0	0	61	0	0	0	61

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	80	0	4	1	85
12:15 PM	0	0	70	0	1	0	71
12:30 PM	0	2	73	0	3	0	78
12:45 PM	0	0	62	0	7	0	69
1:00 PM	1	1	58	1	2	0	63
1:15 PM	0	0	68	0	4	0	72
1:30 PM	0	0	87	1	1	0	89
1:45 PM	0	0	85	0	3	0	88
2:00 PM	0	0	82	0	2	0	84
2:15 PM	0	0	100	1	4	0	105
2:30 PM	0	3	88	1	7	0	99
2:45 PM	0	0	95	2	2	1	100
3:00 PM	0	1	105	2	1	0	109
3:15 PM	0	0	87	0	0	0	87
3:30 PM	0	0	90	1	2	1	94
3:45 PM	0	0	100	1	4	1	106
4:00 PM	0	1	115	1	1	0	118
4:15 PM	0	1	115	0	1	0	117
4:30 PM	0	1	125	0	1	1	128
4:45 PM	0	0	140	1	2	1	144
5:00 PM	0	0	114	0	0	1	115
5:15 PM	0	2	111	0	1	0	114
5:30 PM	0	0	113	0	0	0	113
5:45 PM	0	6	101	0	1	1	109
6:00 PM	0	1	121	0	1	0	123
6:15 PM	0	0	115	1	2	0	118
6:30 PM	1	2	91	0	1	0	95
6:45 PM	0	1	75	1	0	0	77
7:00 PM	0	0	90	0	0	0	90
7:15 PM	0	0	66	0	0	0	66
7:30 PM	0	0	70	0	1	0	71
7:45 PM	0	0	67	0	0	0	67
8:00 PM	0	0	51	0	0	0	51
8:15 PM	0	0	44	0	0	0	44
8:30 PM	0	0	56	0	1	0	57
8:45 PM	0	0	48	0	0	0	48
9:00 PM	0	1	37	0	0	0	38
9:15 PM	0	0	29	0	0	0	29
9:30 PM	0	0	34	0	0	0	34
9:45 PM	0	0	23	0	0	0	23
10:00 PM	0	0	29	0	0	0	29
10:15 PM	0	0	12	0	0	0	12
10:30 PM	0	0	12	0	0	0	12
10:45 PM	0	0	13	0	0	1	14
11:00 PM	0	0	10	0	0	0	10
11:15 PM	0	0	13	0	0	0	13
11:30 PM	0	0	8	0	0	0	8
11:45 PM	0	0	5	0	0	0	5

<b>AM Total</b>	<b>1</b>	<b>7</b>	<b>1801</b>	<b>13</b>	<b>63</b>	<b>5</b>	<b>1890</b>
<b>Percentage</b>	<b>0.05%</b>	<b>0.37%</b>	<b>95.29%</b>	<b>0.69%</b>	<b>3.33%</b>	<b>0.26%</b>	
<b>AM Peak</b>	<b>9:00 AM</b>	<b>9:45 AM</b>	<b>7:45 AM</b>	<b>7:45 AM</b>	<b>8:00 AM</b>	<b>7:30 AM</b>	<b>7:45 AM</b>
<b>Volume</b>	<b>1</b>	<b>3</b>	<b>407</b>	<b>7</b>	<b>15</b>	<b>2</b>	<b>430</b>

<b>PM Total</b>	<b>2</b>	<b>23</b>	<b>3383</b>	<b>14</b>	<b>60</b>	<b>9</b>	<b>3491</b>
<b>Percentage</b>	<b>0.06%</b>	<b>0.66%</b>	<b>96.91%</b>	<b>0.40%</b>	<b>1.72%</b>	<b>0.26%</b>	
<b>PM Peak</b>	<b>12:15 PM</b>	<b>5:15 PM</b>	<b>4:00 PM</b>	<b>2:15 PM</b>	<b>12:30 PM</b>	<b>4:15 PM</b>	<b>4:00 PM</b>
<b>Volume</b>	<b>1</b>	<b>9</b>	<b>495</b>	<b>6</b>	<b>16</b>	<b>3</b>	<b>507</b>

<b>Day Total</b>	<b>3</b>	<b>30</b>	<b>5184</b>	<b>27</b>	<b>123</b>	<b>14</b>	<b>5381</b>
<b>Percentage</b>	<b>0.06%</b>	<b>0.56%</b>	<b>96.34%</b>	<b>0.50%</b>	<b>2.29%</b>	<b>0.26%</b>	

Shawsheen Street  
 between Oliver Street and Rhoda Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350



PDI File #: 239283 ATR-B

Count Date: Thursday, April 13, 2023  
 Direction: WB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	6	0	0	0	6
12:15 AM	0	0	6	0	0	0	6
12:30 AM	0	0	1	0	0	0	1
12:45 AM	0	0	1	0	0	0	1
1:00 AM	0	0	3	0	0	0	3
1:15 AM	0	0	1	0	0	0	1
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	1	0	0	0	1
2:00 AM	0	0	2	0	0	0	2
2:15 AM	0	0	2	0	0	0	2
2:30 AM	0	0	1	0	0	1	2
2:45 AM	0	0	3	0	0	0	3
3:00 AM	0	0	1	0	0	0	1
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	3	0	0	0	3
4:00 AM	0	0	2	0	0	0	2
4:15 AM	0	0	1	0	0	0	1
4:30 AM	0	0	3	0	0	0	3
4:45 AM	0	0	8	0	0	0	8
5:00 AM	0	0	13	0	0	0	13
5:15 AM	0	0	10	0	0	0	10
5:30 AM	0	0	20	0	0	0	20
5:45 AM	0	1	20	0	0	0	21
6:00 AM	0	0	32	0	1	0	33
6:15 AM	0	0	49	0	2	0	51
6:30 AM	0	0	56	0	3	0	59
6:45 AM	0	1	77	2	3	0	83
7:00 AM	1	0	83	1	2	0	87
7:15 AM	0	0	75	1	1	2	79
7:30 AM	0	0	106	0	1	1	108
7:45 AM	0	0	114	1	2	1	118
8:00 AM	0	0	112	0	1	0	113
8:15 AM	0	0	114	3	3	1	121
8:30 AM	0	2	93	2	1	1	99
8:45 AM	0	0	81	0	2	0	83
9:00 AM	0	0	73	0	0	0	73
9:15 AM	0	0	67	0	0	0	67
9:30 AM	0	0	62	1	0	0	63
9:45 AM	0	0	62	0	3	0	65
10:00 AM	0	0	67	0	5	1	73
10:15 AM	0	0	57	0	3	0	60
10:30 AM	0	0	62	2	4	0	68
10:45 AM	0	1	65	0	2	0	68
11:00 AM	0	0	60	0	3	0	63
11:15 AM	0	1	52	0	2	0	55
11:30 AM	0	1	70	0	1	0	72
11:45 AM	0	0	65	0	1	0	66

<b>AM Total</b>	<b>1</b>	<b>7</b>	<b>1862</b>	<b>13</b>	<b>46</b>	<b>8</b>	<b>1937</b>
<b>Percentage</b>	<b>0.05%</b>	<b>0.36%</b>	<b>96.13%</b>	<b>0.67%</b>	<b>2.37%</b>	<b>0.41%</b>	
<b>AM Peak</b>	<b>6:15 AM</b>	<b>10:45 AM</b>	<b>7:30 AM</b>	<b>7:45 AM</b>	<b>9:45 AM</b>	<b>7:00 AM</b>	<b>7:30 AM</b>
<b>Volume</b>	<b>1</b>	<b>3</b>	<b>446</b>	<b>6</b>	<b>15</b>	<b>4</b>	<b>460</b>

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	72	0	5	1	78
12:15 PM	0	1	68	0	4	0	73
12:30 PM	0	0	72	0	1	0	73
12:45 PM	0	0	74	0	0	0	74
1:00 PM	0	0	67	0	2	0	69
1:15 PM	0	2	64	1	3	1	71
1:30 PM	0	0	89	0	3	0	92
1:45 PM	0	0	79	0	2	0	81
2:00 PM	0	1	80	0	4	0	85
2:15 PM	0	0	110	1	2	0	113
2:30 PM	0	1	87	1	1	0	90
2:45 PM	0	1	99	1	2	1	104
3:00 PM	0	0	97	2	3	0	102
3:15 PM	0	2	90	0	2	1	95
3:30 PM	0	2	104	1	0	0	107
3:45 PM	0	4	114	1	2	0	121
4:00 PM	0	1	140	2	2	0	145
4:15 PM	0	1	158	1	5	0	165
4:30 PM	0	0	153	0	4	1	158
4:45 PM	0	0	158	0	0	1	159
5:00 PM	0	1	128	0	2	0	131
5:15 PM	0	5	131	0	0	0	136
5:30 PM	0	2	114	1	1	1	119
5:45 PM	0	4	103	0	0	0	107
6:00 PM	0	2	130	2	1	0	135
6:15 PM	0	4	89	1	0	0	94
6:30 PM	0	1	85	2	0	0	88
6:45 PM	0	2	103	0	0	0	105
7:00 PM	0	0	88	0	1	0	89
7:15 PM	0	1	61	1	1	0	64
7:30 PM	0	1	70	0	0	0	71
7:45 PM	0	1	81	0	0	0	82
8:00 PM	0	0	67	0	0	1	68
8:15 PM	0	0	59	0	0	0	59
8:30 PM	0	0	44	0	0	0	44
8:45 PM	0	1	44	0	0	0	45
9:00 PM	0	0	35	0	0	0	35
9:15 PM	0	0	31	0	0	0	31
9:30 PM	0	0	33	0	0	0	33
9:45 PM	0	0	22	0	0	0	22
10:00 PM	0	0	28	0	0	0	28
10:15 PM	0	0	20	0	0	0	20
10:30 PM	0	0	19	0	0	0	19
10:45 PM	0	0	14	0	0	0	14
11:00 PM	0	0	13	0	0	0	13
11:15 PM	0	0	13	0	0	0	13
11:30 PM	0	0	4	0	0	0	4
11:45 PM	0	0	9	0	0	0	9

<b>PM Total</b>	<b>0</b>	<b>41</b>	<b>3613</b>	<b>18</b>	<b>53</b>	<b>8</b>	<b>3733</b>
<b>Percentage</b>	<b>0.00%</b>	<b>1.10%</b>	<b>96.79%</b>	<b>0.48%</b>	<b>1.42%</b>	<b>0.21%</b>	
<b>PM Peak</b>	<b>12:00 PM</b>	<b>5:15 PM</b>	<b>4:00 PM</b>	<b>2:15 PM</b>	<b>3:45 PM</b>	<b>2:30 PM</b>	<b>4:00 PM</b>
<b>Volume</b>	<b>0</b>	<b>13</b>	<b>609</b>	<b>5</b>	<b>13</b>	<b>2</b>	<b>627</b>
<b>Day Total</b>	<b>1</b>	<b>48</b>	<b>5475</b>	<b>31</b>	<b>99</b>	<b>16</b>	<b>5670</b>
<b>Percentage</b>	<b>0.02%</b>	<b>0.85%</b>	<b>96.56%</b>	<b>0.55%</b>	<b>1.75%</b>	<b>0.28%</b>	

Shawsheen Street  
 between Oliver Street and Rhoda Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350



PDI File # 239283 ATR-B

Direction: EB

Weekly Report

Day Date	Wednesday 04/12/23		Thursday 04/13/23												Week Ave			
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM		
12:00	4	67	4	72	0	0	0	0	0	0	0	0	0	0	4	70		
12:15	3	45	3	74	0	0	0	0	0	0	0	0	0	0	3	60		
12:30	1	63	1	65	0	0	0	0	0	0	0	0	0	0	1	64		
12:45	1	63	1	66	0	0	0	0	0	0	0	0	0	0	1	65		
1:00	2	57	2	63	0	0	0	0	0	0	0	0	0	0	2	60		
1:15	4	70	0	81	0	0	0	0	0	0	0	0	0	0	2	76		
1:30	0	69	3	62	0	0	0	0	0	0	0	0	0	0	2	66		
1:45	0	69	3	77	0	0	0	0	0	0	0	0	0	0	2	73		
2:00	3	83	0	79	0	0	0	0	0	0	0	0	0	0	2	81		
2:15	3	103	3	103	0	0	0	0	0	0	0	0	0	0	3	103		
2:30	0	85	2	73	0	0	0	0	0	0	0	0	0	0	1	79		
2:45	3	87	2	81	0	0	0	0	0	0	0	0	0	0	3	84		
3:00	3	114	3	120	0	0	0	0	0	0	0	0	0	0	3	117		
3:15	4	89	5	114	0	0	0	0	0	0	0	0	0	0	5	102		
3:30	7	132	4	111	0	0	0	0	0	0	0	0	0	0	6	122		
3:45	3	129	5	110	0	0	0	0	0	0	0	0	0	0	4	120		
4:00	8	120	7	122	0	0	0	0	0	0	0	0	0	0	8	121		
4:15	7	118	9	127	0	0	0	0	0	0	0	0	0	0	8	123		
4:30	9	124	13	116	0	0	0	0	0	0	0	0	0	0	11	120		
4:45	24	135	17	138	0	0	0	0	0	0	0	0	0	0	21	137		
5:00	41	129	38	119	0	0	0	0	0	0	0	0	0	0	40	124		
5:15	37	146	37	143	0	0	0	0	0	0	0	0	0	0	37	145		
5:30	44	129	45	132	0	0	0	0	0	0	0	0	0	0	45	131		
5:45	40	122	40	138	0	0	0	0	0	0	0	0	0	0	40	130		
6:00	60	102	46	96	0	0	0	0	0	0	0	0	0	0	53	99		
6:15	53	93	70	91	0	0	0	0	0	0	0	0	0	0	62	92		
6:30	70	69	81	74	0	0	0	0	0	0	0	0	0	0	76	72		
6:45	84	56	75	78	0	0	0	0	0	0	0	0	0	0	80	67		
7:00	77	69	75	61	0	0	0	0	0	0	0	0	0	0	76	65		
7:15	82	60	92	63	0	0	0	0	0	0	0	0	0	0	87	62		
7:30	100	63	92	75	0	0	0	0	0	0	0	0	0	0	96	69		
7:45	59	36	72	63	0	0	0	0	0	0	0	0	0	0	66	50		
8:00	102	36	91	41	0	0	0	0	0	0	0	0	0	0	97	39		
8:15	75	41	73	37	0	0	0	0	0	0	0	0	0	0	74	39		
8:30	115	36	111	38	0	0	0	0	0	0	0	0	0	0	113	37		
8:45	84	34	70	34	0	0	0	0	0	0	0	0	0	0	77	34		
9:00	76	21	68	22	0	0	0	0	0	0	0	0	0	0	72	22		
9:15	70	21	71	18	0	0	0	0	0	0	0	0	0	0	71	20		
9:30	71	21	71	10	0	0	0	0	0	0	0	0	0	0	71	16		
9:45	71	19	61	13	0	0	0	0	0	0	0	0	0	0	66	16		
10:00	59	19	54	18	0	0	0	0	0	0	0	0	0	0	57	19		
10:15	67	3	52	11	0	0	0	0	0	0	0	0	0	0	60	7		
10:30	56	7	57	14	0	0	0	0	0	0	0	0	0	0	57	11		
10:45	48	10	63	9	0	0	0	0	0	0	0	0	0	0	56	10		
11:00	55	4	63	9	0	0	0	0	0	0	0	0	0	0	59	7		
11:15	67	8	65	6	0	0	0	0	0	0	0	0	0	0	66	7		
11:30	58	5	53	5	0	0	0	0	0	0	0	0	0	0	56	5		
11:45	69	4	61	7	0	0	0	0	0	0	0	0	0	0	65	6		
<b>Total</b>	<b>1979</b>	<b>3185</b>	<b>1934</b>	<b>3279</b>	<b>0</b>	<b>1957</b>	<b>3232</b>											
<b>Day Total</b>	<b>5164</b>		<b>5213</b>		<b>0</b>		<b>0</b>		<b>0</b>		<b>0</b>		<b>0</b>		<b>5189</b>			
<b>Peak HR</b>	<b>8:00 AM</b>	<b>4:45 PM</b>	<b>7:15 AM</b>	<b>4:45 PM</b>													<b>8:00 AM</b>	<b>4:45 PM</b>
<b>Volume</b>	<b>376</b>	<b>539</b>	<b>347</b>	<b>532</b>													<b>361</b>	<b>536</b>

Shawsheen Street  
 between Oliver Street and Rhoda Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350



PDI File # 239283 ATR-B

Direction: WB

Weekly Report

Day Date	Wednesday 04/12/23		Thursday 04/13/23												Week Ave			
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM		
12:00	2	85	6	78	0	0	0	0	0	0	0	0	0	0	4	82		
12:15	4	71	6	73	0	0	0	0	0	0	0	0	0	0	5	72		
12:30	5	78	1	73	0	0	0	0	0	0	0	0	0	0	3	76		
12:45	3	69	1	74	0	0	0	0	0	0	0	0	0	0	2	72		
1:00	7	63	3	69	0	0	0	0	0	0	0	0	0	0	5	66		
1:15	6	72	1	71	0	0	0	0	0	0	0	0	0	0	4	72		
1:30	1	89	0	92	0	0	0	0	0	0	0	0	0	0	1	91		
1:45	3	88	1	81	0	0	0	0	0	0	0	0	0	0	2	85		
2:00	1	84	2	85	0	0	0	0	0	0	0	0	0	0	2	85		
2:15	0	105	2	113	0	0	0	0	0	0	0	0	0	0	1	109		
2:30	1	99	2	90	0	0	0	0	0	0	0	0	0	0	2	95		
2:45	0	100	3	104	0	0	0	0	0	0	0	0	0	0	2	102		
3:00	1	109	1	102	0	0	0	0	0	0	0	0	0	0	1	106		
3:15	0	87	0	95	0	0	0	0	0	0	0	0	0	0	0	91		
3:30	1	94	0	107	0	0	0	0	0	0	0	0	0	0	1	101		
3:45	2	106	3	121	0	0	0	0	0	0	0	0	0	0	3	114		
4:00	4	118	2	145	0	0	0	0	0	0	0	0	0	0	3	132		
4:15	2	117	1	165	0	0	0	0	0	0	0	0	0	0	2	141		
4:30	5	128	3	158	0	0	0	0	0	0	0	0	0	0	4	143		
4:45	7	144	8	159	0	0	0	0	0	0	0	0	0	0	8	152		
5:00	16	115	13	131	0	0	0	0	0	0	0	0	0	0	15	123		
5:15	14	114	10	136	0	0	0	0	0	0	0	0	0	0	12	125		
5:30	17	113	20	119	0	0	0	0	0	0	0	0	0	0	19	116		
5:45	30	109	21	107	0	0	0	0	0	0	0	0	0	0	26	108		
6:00	34	123	33	135	0	0	0	0	0	0	0	0	0	0	34	129		
6:15	54	118	51	94	0	0	0	0	0	0	0	0	0	0	53	106		
6:30	57	95	59	88	0	0	0	0	0	0	0	0	0	0	58	92		
6:45	69	77	83	105	0	0	0	0	0	0	0	0	0	0	76	91		
7:00	83	90	87	89	0	0	0	0	0	0	0	0	0	0	85	90		
7:15	98	66	79	64	0	0	0	0	0	0	0	0	0	0	89	65		
7:30	106	71	108	71	0	0	0	0	0	0	0	0	0	0	107	71		
7:45	101	67	118	82	0	0	0	0	0	0	0	0	0	0	110	75		
8:00	112	51	113	68	0	0	0	0	0	0	0	0	0	0	113	60		
8:15	107	44	121	59	0	0	0	0	0	0	0	0	0	0	114	52		
8:30	110	57	99	44	0	0	0	0	0	0	0	0	0	0	105	51		
8:45	92	48	83	45	0	0	0	0	0	0	0	0	0	0	88	47		
9:00	70	38	73	35	0	0	0	0	0	0	0	0	0	0	72	37		
9:15	67	29	67	31	0	0	0	0	0	0	0	0	0	0	67	30		
9:30	48	34	63	33	0	0	0	0	0	0	0	0	0	0	56	34		
9:45	70	23	65	22	0	0	0	0	0	0	0	0	0	0	68	23		
10:00	61	29	73	28	0	0	0	0	0	0	0	0	0	0	67	29		
10:15	50	12	60	20	0	0	0	0	0	0	0	0	0	0	55	16		
10:30	63	12	68	19	0	0	0	0	0	0	0	0	0	0	66	16		
10:45	56	14	68	14	0	0	0	0	0	0	0	0	0	0	62	14		
11:00	59	10	63	13	0	0	0	0	0	0	0	0	0	0	61	12		
11:15	68	13	55	13	0	0	0	0	0	0	0	0	0	0	62	13		
11:30	62	8	72	4	0	0	0	0	0	0	0	0	0	0	67	6		
11:45	61	5	66	9	0	0	0	0	0	0	0	0	0	0	64	7		
<b>Total</b>	<b>1890</b>	<b>3491</b>	<b>1937</b>	<b>3733</b>	<b>0</b>	<b>1914</b>	<b>3612</b>											
<b>Day Total</b>	<b>5381</b>		<b>5670</b>		<b>0</b>		<b>0</b>		<b>0</b>		<b>0</b>		<b>0</b>		<b>5526</b>			
<b>Peak HR</b>	<b>7:45 AM</b>	<b>4:00 PM</b>	<b>7:30 AM</b>	<b>4:00 PM</b>													<b>7:30 AM</b>	<b>4:00 PM</b>
<b>Volume</b>	<b>430</b>	<b>507</b>	<b>460</b>	<b>627</b>													<b>443</b>	<b>567</b>

Shawsheen Street  
between Oliver Street and Rhoda Street  
City, State: Tewksbury, MA  
Client: TEC/ S. Gregorio  
Site Code: T1350



PDI File #: 239283 ATR-B (Speed)

Count Date  
Wednesday, April 12, 2023

**Speed (60-minute)**

EB																
Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	1	0	6	0	2	0	0	0	0	0	9	44.4	37.9
1:00 AM	0	0	0	0	2	3	1	0	0	0	0	0	0	6	39.3	36.8
2:00 AM	0	0	0	3	2	4	1	0	0	0	0	0	0	10	38.3	33.5
3:00 AM	0	0	1	1	1	5	5	4	0	0	0	0	0	17	45.6	38.8
4:00 AM	0	0	0	1	11	24	9	2	0	1	0	0	0	48	42.0	38.0
5:00 AM	0	0	4	1	41	83	35	2	1	0	0	0	0	167	41.0	36.5
6:00 AM	1	0	4	22	85	120	34	3	1	0	0	0	1	271	39.0	35.2
7:00 AM	0	7	1	13	70	174	55	2	0	0	0	0	0	322	40.0	35.9
8:00 AM	0	0	8	37	173	131	29	1	0	0	0	0	0	379	37.0	33.8
9:00 AM	0	0	2	21	89	139	31	2	0	0	0	0	0	284	39.0	35.3
10:00 AM	0	1	5	5	74	95	44	1	1	0	0	0	0	226	40.0	36.1
11:00 AM	0	3	4	17	95	91	37	2	0	0	0	0	0	249	40.0	34.9
12:00 PM	0	1	4	9	69	128	29	2	0	0	0	0	0	242	39.0	35.5
1:00 PM	0	1	2	15	62	136	42	3	1	0	0	0	0	262	40.0	36.1
2:00 PM	0	7	13	27	125	144	27	2	0	1	0	0	0	346	38.0	34.0
3:00 PM	1	3	9	30	172	171	41	6	2	0	0	0	0	435	39.0	34.6
4:00 PM	0	0	2	17	103	267	85	0	0	0	0	0	0	474	40.0	36.4
5:00 PM	0	1	4	10	100	284	84	11	4	0	0	0	0	498	40.0	36.7
6:00 PM	0	0	4	4	66	164	70	11	0	1	0	0	0	320	41.0	37.1
7:00 PM	0	0	1	7	68	111	26	8	1	0	0	0	0	222	40.0	36.1
8:00 PM	0	0	0	7	41	70	23	2	0	0	0	0	0	143	40.0	36.0
9:00 PM	0	0	0	3	18	45	13	3	0	0	0	0	0	82	40.0	36.5
10:00 PM	0	0	0	4	4	25	6	2	0	0	0	0	0	41	40.0	37.2
11:00 PM	0	0	0	0	5	7	7	1	0	0	0	1	0	21	43.0	39.6
<b>Total</b>	<b>2</b>	<b>24</b>	<b>68</b>	<b>255</b>	<b>1476</b>	<b>2427</b>	<b>734</b>	<b>72</b>	<b>11</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>5074</b>	<b>40.0</b>	<b>35.7</b>
<b>Percent</b>	<b>0.04%</b>	<b>0.47%</b>	<b>1.34%</b>	<b>5.03%</b>	<b>29.09%</b>	<b>47.83%</b>	<b>14.47%</b>	<b>1.42%</b>	<b>0.22%</b>	<b>0.06%</b>	<b>0.00%</b>	<b>0.02%</b>	<b>0.02%</b>			

AM Peak	6:00 AM	7:00 AM	8:00 AM	8:00 AM	8:00 AM	7:00 AM	7:00 AM	3:00 AM	5:00 AM	4:00 AM				6:00 AM	8:00 AM
Volume	1	7	8	37	173	174	55	4	1	1	0	0		1	379
PM Peak	3:00 PM	2:00 PM	2:00 PM	3:00 PM	3:00 PM	5:00 PM	4:00 PM	5:00 PM	5:00 PM	2:00 PM			11:00 PM		5:00 PM
Volume	1	7	13	30	172	284	85	11	4	1	0	1	0		498

15th Percentile:	32.0 MPH	Average Speed:	35.7 MPH	Posted Speed Limit:	35 MPH
50th Percentile:	36.0 MPH	10 MPH Pace:	32 to 41 MPH	Number of Vehicles > 35 MPH:	2756
85th Percentile:	40.0 MPH	Number in Pace:	4082	Percent of Vehicles > 35 MPH:	54.3%
95th Percentile:	42.0 MPH	Percent in Pace:	80.4%		

Shawsheen Street  
 between Oliver Street and Rhoda Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350



PDI File #: 239283 ATR-B (Speed)

Count Date  
 Wednesday, April 12, 2023

Speed (60-minute)

WB																
Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	0	3	7	4	0	0	0	0	0	0	14	42.0	37.6
1:00 AM	0	0	0	3	3	5	5	0	1	0	0	0	0	17	41.6	36.2
2:00 AM	0	0	0	0	0	2	0	0	0	0	0	0	0	2	36.9	36.5
3:00 AM	0	0	0	0	1	1	3	0	0	0	0	0	0	5	42.8	39.6
4:00 AM	0	2	0	1	4	7	3	0	0	0	0	0	0	17	39.6	34.4
5:00 AM	0	0	0	2	16	37	18	3	0	1	0	0	0	77	41.0	37.3
6:00 AM	3	5	5	9	57	103	21	2	0	0	0	0	0	205	39.0	34.4
7:00 AM	2	8	7	30	98	159	45	6	0	0	0	0	0	355	39.0	34.8
8:00 AM	6	6	9	28	140	154	22	1	1	0	0	0	0	367	38.0	33.6
9:00 AM	2	0	3	8	76	137	18	0	0	0	0	0	0	244	39.0	35.1
10:00 AM	5	1	4	14	89	86	20	4	0	0	1	0	0	224	39.0	34.2
11:00 AM	0	5	2	9	63	137	25	1	0	0	0	0	0	242	39.0	35.4
12:00 PM	0	4	5	12	101	141	31	2	1	0	0	0	1	298	39.0	35.2
1:00 PM	3	4	3	9	123	132	28	4	0	0	0	0	0	306	39.0	34.7
2:00 PM	2	8	7	20	136	160	23	0	1	0	0	0	0	357	38.0	34.0
3:00 PM	4	5	5	28	140	146	26	3	1	0	0	0	0	358	38.0	34.1
4:00 PM	2	1	9	19	125	243	42	5	0	1	0	0	0	447	39.0	35.4
5:00 PM	2	0	5	12	121	193	65	5	1	0	0	0	0	404	40.0	35.8
6:00 PM	2	1	1	15	98	198	62	3	0	0	0	0	0	380	40.0	36.1
7:00 PM	1	0	1	15	90	136	28	3	1	1	0	0	0	276	39.0	35.4
8:00 PM	1	0	1	9	84	88	24	0	1	0	0	0	0	208	39.0	35.0
9:00 PM	0	0	0	6	54	54	16	0	0	0	0	0	0	130	38.7	34.9
10:00 PM	0	0	0	1	26	29	11	2	0	0	0	0	0	69	40.0	36.0
11:00 PM	0	0	0	0	8	22	5	3	0	0	0	0	0	38	40.5	37.6
<b>Total</b>	<b>35</b>	<b>50</b>	<b>67</b>	<b>250</b>	<b>1656</b>	<b>2377</b>	<b>545</b>	<b>47</b>	<b>8</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>5040</b>	<b>39.0</b>	<b>35.0</b>
<b>Percent</b>	<b>0.69%</b>	<b>0.99%</b>	<b>1.33%</b>	<b>4.96%</b>	<b>32.86%</b>	<b>47.16%</b>	<b>10.81%</b>	<b>0.93%</b>	<b>0.16%</b>	<b>0.06%</b>	<b>0.02%</b>	<b>0.00%</b>	<b>0.02%</b>			

AM Peak	8:00 AM	7:00 AM	8:00 AM	7:00 AM	8:00 AM	7:00 AM	7:00 AM	7:00 AM	1:00 AM	5:00 AM	10:00 AM				8:00 AM
Volume	6	8	9	30	140	159	45	6	1	1	1	0	0	367	
PM Peak	3:00 PM	2:00 PM	4:00 PM	3:00 PM	3:00 PM	4:00 PM	5:00 PM	4:00 PM	12:00 PM	4:00 PM			12:00 PM	4:00 PM	
Volume	4	8	9	28	140	243	65	5	1	1	0	0	1	447	

15th Percentile:	31.0 MPH	Average Speed:	35.0 MPH	Posted Speed Limit:	35 MPH
50th Percentile:	35.0 MPH	10 MPH Pace:	31 to 40 MPH	Number of Vehicles > 35 MPH:	2428
85th Percentile:	39.0 MPH	Number in Pace:	4122	Percent of Vehicles > 35 MPH:	48.2%
95th Percentile:	41.0 MPH	Percent in Pace:	81.8%		

Shawsheen Street  
 between Oliver Street and Rhoda Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350



PDI File #: 239283 ATR-B (Speed)

Count Date  
 Wednesday, April 12, 2023

**Speed (60-minute)**

**Combined EB and WB**

Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	1	3	13	4	2	0	0	0	0	0	23	42.0	37.7
1:00 AM	0	0	0	3	5	8	6	0	1	0	0	0	0	23	40.7	36.4
2:00 AM	0	0	0	3	2	6	1	0	0	0	0	0	0	12	37.7	34.0
3:00 AM	0	0	1	1	2	6	8	4	0	0	0	0	0	22	44.9	39.0
4:00 AM	0	2	0	2	15	31	12	2	0	1	0	0	0	65	41.4	37.1
5:00 AM	0	0	4	3	57	120	53	5	1	1	0	0	0	244	41.0	36.7
6:00 AM	4	5	9	31	142	223	55	5	1	0	0	0	1	476	39.0	34.9
7:00 AM	2	15	8	43	168	333	100	8	0	0	0	0	0	677	40.0	35.3
8:00 AM	6	6	17	65	313	285	51	2	1	0	0	0	0	746	38.0	33.7
9:00 AM	2	0	5	29	165	276	49	2	0	0	0	0	0	528	39.0	35.2
10:00 AM	5	2	9	19	163	181	64	5	1	0	1	0	0	450	40.0	35.1
11:00 AM	0	8	6	26	158	228	62	3	0	0	0	0	0	491	39.0	35.1
12:00 PM	0	5	9	21	170	269	60	4	1	0	0	0	1	540	39.0	35.3
1:00 PM	3	5	5	24	185	268	70	7	1	0	0	0	0	568	39.0	35.3
2:00 PM	2	15	20	47	261	304	50	2	1	1	0	0	0	703	38.0	34.0
3:00 PM	5	8	14	58	312	317	67	9	3	0	0	0	0	793	39.0	34.4
4:00 PM	2	1	11	36	228	510	127	5	0	1	0	0	0	921	39.0	35.9
5:00 PM	2	1	9	22	221	477	149	16	5	0	0	0	0	902	40.0	36.3
6:00 PM	2	1	5	19	164	362	132	14	0	1	0	0	0	700	40.0	36.5
7:00 PM	1	0	2	22	158	247	54	11	2	1	0	0	0	498	39.0	35.7
8:00 PM	1	0	1	16	125	158	47	2	1	0	0	0	0	351	39.0	35.4
9:00 PM	0	0	0	9	72	99	29	3	0	0	0	0	0	212	39.4	35.5
10:00 PM	0	0	0	5	30	54	17	4	0	0	0	0	0	110	40.0	36.4
11:00 PM	0	0	0	0	13	29	12	4	0	0	0	1	0	59	42.3	38.3
<b>Total</b>	<b>37</b>	<b>74</b>	<b>135</b>	<b>505</b>	<b>3132</b>	<b>4804</b>	<b>1279</b>	<b>119</b>	<b>19</b>	<b>6</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>10114</b>	<b>39.0</b>	<b>35.3</b>
<b>Percent</b>	<b>0.37%</b>	<b>0.73%</b>	<b>1.33%</b>	<b>4.99%</b>	<b>30.97%</b>	<b>47.50%</b>	<b>12.65%</b>	<b>1.18%</b>	<b>0.19%</b>	<b>0.06%</b>	<b>0.01%</b>	<b>0.01%</b>	<b>0.02%</b>			

AM Peak	8:00 AM	7:00 AM	8:00 AM	8:00 AM	8:00 AM	7:00 AM	7:00 AM	7:00 AM	1:00 AM	4:00 AM	10:00 AM		6:00 AM	8:00 AM
Volume	6	15	17	65	313	333	100	8	1	1	1	0	1	746
PM Peak	3:00 PM	2:00 PM	2:00 PM	3:00 PM	3:00 PM	4:00 PM	5:00 PM	5:00 PM	5:00 PM	2:00 PM		11:00 PM	12:00 PM	4:00 PM
Volume	5	15	20	58	312	510	149	16	5	1	0	1	1	921

15th Percentile:	32.0 MPH	Average Speed:	35.3 MPH	Posted Speed Limit:	35 MPH
50th Percentile:	36.0 MPH	10 MPH Pace:	31 to 40 MPH	Number of Vehicles > 35 MPH:	5184
85th Percentile:	39.0 MPH	Number in Pace:	8202	Percent of Vehicles > 35 MPH:	51.3%
95th Percentile:	42.0 MPH	Percent in Pace:	81.1%		

Shawsheen Street  
 between Oliver Street and Rhoda Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350



PDI File #: 239283 ATR-B (Speed)

Count Date  
 Thursday, April 13, 2023

Speed (60-minute)

EB																
Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	0	2	3	4	0	0	0	0	0	0	9	41.8	37.9
1:00 AM	0	0	0	0	4	3	0	1	0	0	0	0	0	8	37.0	35.3
2:00 AM	0	0	0	0	3	4	1	1	0	0	0	0	0	9	40.4	37.1
3:00 AM	0	0	0	1	1	10	4	2	0	0	0	0	0	18	42.4	38.4
4:00 AM	0	0	0	0	14	19	12	4	0	0	0	0	0	49	41.8	37.3
5:00 AM	0	0	0	1	31	87	37	2	0	0	0	0	0	158	40.0	37.2
6:00 AM	0	1	3	16	82	140	29	3	0	0	0	0	0	274	39.0	35.3
7:00 AM	0	4	2	22	92	153	49	3	0	0	0	0	0	325	40.0	35.4
8:00 AM	0	0	6	30	145	134	23	0	0	0	0	0	0	338	38.0	34.2
9:00 AM	0	0	1	12	84	146	22	7	0	0	0	0	0	272	39.0	35.6
10:00 AM	0	0	7	8	83	82	34	9	0	1	0	0	1	225	40.0	35.7
11:00 AM	0	0	4	10	68	114	45	3	1	0	0	0	0	245	40.0	36.1
12:00 PM	0	0	5	5	63	144	53	9	2	0	0	0	0	281	40.0	36.8
1:00 PM	0	0	2	4	65	139	63	7	0	0	0	0	0	280	40.0	36.8
2:00 PM	1	2	11	26	90	143	57	5	0	0	0	0	0	335	40.0	35.1
3:00 PM	4	14	14	28	137	173	50	6	0	0	0	0	1	427	39.0	34.1
4:00 PM	0	0	3	13	95	259	105	4	1	0	0	0	0	480	41.0	36.8
5:00 PM	0	1	9	15	109	277	107	4	0	0	0	0	0	522	40.0	36.3
6:00 PM	0	1	6	20	88	149	58	6	1	1	0	0	0	330	40.0	35.9
7:00 PM	0	0	2	9	84	130	32	8	0	0	0	0	0	265	39.4	35.9
8:00 PM	0	0	2	9	37	66	26	4	2	0	0	0	0	146	40.0	36.2
9:00 PM	0	0	1	2	12	33	11	3	0	0	0	0	0	62	41.0	36.8
10:00 PM	0	1	0	0	15	27	8	2	0	0	0	0	0	53	41.0	36.6
11:00 PM	0	0	0	2	7	9	6	1	0	1	0	0	0	26	40.5	37.3
Total	5	24	78	233	1411	2444	836	94	7	3	0	0	2	5137	40.0	35.8
Percent	0.10%	0.47%	1.52%	4.54%	27.47%	47.58%	16.27%	1.83%	0.14%	0.06%	0.00%	0.00%	0.04%			

AM Peak		7:00 AM	10:00 AM	8:00 AM	8:00 AM	7:00 AM	7:00 AM	10:00 AM	11:00 AM	10:00 AM				10:00 AM	8:00 AM
Volume	0	4	7	30	145	153	49	9	1	1	0	0		1	338
PM Peak	3:00 PM	3:00 PM	3:00 PM	3:00 PM	3:00 PM	5:00 PM	5:00 PM	12:00 PM	12:00 PM	6:00 PM				3:00 PM	5:00 PM
Volume	4	14	14	28	137	277	107	9	2	1	0	0		1	522

15th Percentile: 32.0 MPH      Average Speed: 35.8 MPH      Posted Speed Limit: 35 MPH  
 50th Percentile: 36.0 MPH      10 MPH Pace: 32 to 41 MPH      Number of Vehicles > 35 MPH: 2911  
 85th Percentile: 40.0 MPH      Number in Pace: 4075      Percent of Vehicles > 35 MPH: 56.7%  
 95th Percentile: 42.0 MPH      Percent in Pace: 79.3%

Shawsheen Street  
 between Oliver Street and Rhoda Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350



PDI File #: 239283 ATR-B (Speed)

Count Date  
 Thursday, April 13, 2023

Speed (60-minute)

WB																
Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	0	3	6	3	1	0	1	0	0	0	14	43.1	38.4
1:00 AM	0	0	0	0	3	0	2	0	0	0	0	0	0	5	41.6	36.4
2:00 AM	0	0	0	0	2	5	3	0	0	0	0	0	0	10	42.0	37.2
3:00 AM	0	0	0	0	0	2	1	2	0	0	0	0	0	5	45.8	40.6
4:00 AM	0	1	1	1	2	8	2	0	0	0	0	0	0	15	36.9	33.1
5:00 AM	0	0	0	0	15	24	23	3	0	0	0	0	0	65	42.0	38.1
6:00 AM	2	1	11	20	62	89	22	1	0	0	0	0	0	208	38.0	33.9
7:00 AM	2	9	4	16	97	185	42	1	0	0	0	0	0	356	39.0	35.0
8:00 AM	2	6	4	28	127	181	33	3	0	1	0	0	0	385	39.0	34.6
9:00 AM	1	1	4	8	53	155	34	1	0	0	0	0	0	257	39.0	35.8
10:00 AM	1	1	7	22	85	132	26	2	1	0	0	0	0	277	39.0	34.7
11:00 AM	2	0	1	9	80	134	32	1	0	0	0	0	0	259	39.0	35.4
12:00 PM	2	3	1	11	90	140	38	2	0	0	0	0	0	287	39.0	35.4
1:00 PM	0	5	2	10	83	149	50	0	0	0	0	0	0	299	40.0	35.6
2:00 PM	2	5	11	20	134	156	33	1	0	0	0	0	0	362	39.0	34.2
3:00 PM	2	1	3	14	113	185	62	0	0	0	0	0	1	381	40.0	35.7
4:00 PM	3	1	3	10	165	295	76	3	1	0	0	0	0	557	39.0	35.9
5:00 PM	3	1	2	21	97	231	60	5	1	0	0	0	0	421	40.0	35.9
6:00 PM	3	4	8	11	127	199	41	7	0	0	0	0	0	400	39.0	35.1
7:00 PM	1	0	5	18	109	131	26	2	0	0	0	0	0	292	38.0	34.7
8:00 PM	0	1	0	13	76	106	18	4	1	0	0	0	0	219	38.0	35.2
9:00 PM	0	0	1	4	38	62	18	1	1	0	0	0	0	125	40.0	36.1
10:00 PM	0	1	2	3	32	33	10	0	0	1	0	0	0	82	39.0	35.2
11:00 PM	0	0	0	1	11	22	3	2	0	0	0	0	0	39	39.0	35.9
Total	26	41	70	240	1604	2630	658	42	5	3	0	0	1	5320	39.0	35.3
Percent	0.49%	0.77%	1.32%	4.51%	30.15%	49.44%	12.37%	0.79%	0.09%	0.06%	0.00%	0.00%	0.02%			

AM Peak	6:00 AM	7:00 AM	6:00 AM	8:00 AM	8:00 AM	7:00 AM	7:00 AM	5:00 AM	10:00 AM	12:00 AM					8:00 AM
Volume	2	9	11	28	127	185	42	3	1	1	0	0	0	385	
PM Peak	4:00 PM	1:00 PM	2:00 PM	5:00 PM	4:00 PM	4:00 PM	4:00 PM	6:00 PM	4:00 PM	10:00 PM			3:00 PM	4:00 PM	
Volume	3	5	11	21	165	295	76	7	1	1	0	0	1	557	

15th Percentile:	32.0 MPH	Average Speed:	35.3 MPH	Posted Speed Limit:	35 MPH
50th Percentile:	36.0 MPH	10 MPH Pace:	31 to 40 MPH	Number of Vehicles > 35 MPH:	2705
85th Percentile:	39.0 MPH	Number in Pace:	4379	Percent of Vehicles > 35 MPH:	50.8%
95th Percentile:	42.0 MPH	Percent in Pace:	82.3%		

Shawsheen Street  
 between Oliver Street and Rhoda Street  
 City, State: Tewksbury, MA  
 Client: TEC/ S. Gregorio  
 Site Code: T1350



PDI File #: 239283 ATR-B (Speed)

Count Date  
 Thursday, April 13, 2023

**Speed (60-minute)**  
**Combined EB and WB**

Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	0	5	9	7	1	0	1	0	0	0	23	42.0	38.2
1:00 AM	0	0	0	0	7	3	2	1	0	0	0	0	0	13	40.8	35.7
2:00 AM	0	0	0	0	5	9	4	1	0	0	0	0	0	19	41.6	37.2
3:00 AM	0	0	0	1	1	12	5	4	0	0	0	0	0	23	44.7	38.9
4:00 AM	0	1	1	1	16	27	14	4	0	0	0	0	0	64	41.0	36.4
5:00 AM	0	0	0	1	46	111	60	5	0	0	0	0	0	223	41.0	37.5
6:00 AM	2	2	14	36	144	229	51	4	0	0	0	0	0	482	39.0	34.7
7:00 AM	2	13	6	38	189	338	91	4	0	0	0	0	0	681	39.0	35.2
8:00 AM	2	6	10	58	272	315	56	3	0	1	0	0	0	723	38.0	34.4
9:00 AM	1	1	5	20	137	301	56	8	0	0	0	0	0	529	39.0	35.7
10:00 AM	1	1	14	30	168	214	60	11	1	1	0	0	1	502	39.0	35.2
11:00 AM	2	0	5	19	148	248	77	4	1	0	0	0	0	504	40.0	35.8
12:00 PM	2	3	6	16	153	284	91	11	2	0	0	0	0	568	40.0	36.1
1:00 PM	0	5	4	14	148	288	113	7	0	0	0	0	0	579	40.0	36.2
2:00 PM	3	7	22	46	224	299	90	6	0	0	0	0	0	697	39.0	34.7
3:00 PM	6	15	17	42	250	358	112	6	0	0	0	0	2	808	39.0	34.9
4:00 PM	3	1	6	23	260	554	181	7	2	0	0	0	0	1037	40.0	36.3
5:00 PM	3	2	11	36	206	508	167	9	1	0	0	0	0	943	40.0	36.1
6:00 PM	3	5	14	31	215	348	99	13	1	1	0	0	0	730	40.0	35.5
7:00 PM	1	0	7	27	193	261	58	10	0	0	0	0	0	557	39.0	35.3
8:00 PM	0	1	2	22	113	172	44	8	3	0	0	0	0	365	39.4	35.6
9:00 PM	0	0	2	6	50	95	29	4	1	0	0	0	0	187	40.0	36.3
10:00 PM	0	2	2	3	47	60	18	2	0	1	0	0	0	135	39.9	35.7
11:00 PM	0	0	0	3	18	31	9	3	0	1	0	0	0	65	40.0	36.5
<b>Total</b>	<b>31</b>	<b>65</b>	<b>148</b>	<b>473</b>	<b>3015</b>	<b>5074</b>	<b>1494</b>	<b>136</b>	<b>12</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>10457</b>	<b>40.0</b>	<b>35.5</b>
<b>Percent</b>	<b>0.30%</b>	<b>0.62%</b>	<b>1.42%</b>	<b>4.52%</b>	<b>28.83%</b>	<b>48.52%</b>	<b>14.29%</b>	<b>1.30%</b>	<b>0.11%</b>	<b>0.06%</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.03%</b>			

AM Peak	6:00 AM	7:00 AM	6:00 AM	8:00 AM	8:00 AM	7:00 AM	7:00 AM	10:00 AM	10:00 AM	12:00 AM				10:00 AM	8:00 AM
Volume	2	13	14	58	272	338	91	11	1	1	0	0		1	723
PM Peak	3:00 PM	3:00 PM	2:00 PM	2:00 PM	4:00 PM	4:00 PM	4:00 PM	6:00 PM	8:00 PM	6:00 PM				3:00 PM	4:00 PM
Volume	6	15	22	46	260	554	181	13	3	1	0	0		2	1037

15th Percentile:	32.0 MPH	Average Speed:	35.5 MPH	Posted Speed Limit:	35 MPH
50th Percentile:	36.0 MPH	10 MPH Pace:	31 to 40 MPH	Number of Vehicles > 35 MPH:	5616
85th Percentile:	40.0 MPH	Number in Pace:	8413	Percent of Vehicles > 35 MPH:	53.7%
95th Percentile:	42.0 MPH	Percent in Pace:	80.5%		

## Appendix E. Road Safety Audit References

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## Road Safety Audit References

*FHWA Office of Safety - Proven Safety Countermeasures*, U.S. Department of Transportation, Federal Highway Administration <https://safety.fhwa.dot.gov/provencountermeasures/>.

*Road Safety Audits, A Synthesis of Highway Practice*. NCHRP Synthesis 336. Transportation Research Board, National Cooperative Highway Research Program, 2004.

*Road Safety Audits*. U.S. Department of Transportation, Federal Highway Administration, <https://safety.fhwa.dot.gov/rsa/>

*FHWA Road Safety Audit Guidelines*. U.S. Department of Transportation, Federal Highway Administration, 2006.

*Road Safety Audit*, 2<sup>nd</sup> edition. Austroads, 2000.

*Road Safety Audits*. ITE Technical Council Committee 4S-7. Institute of Transportation Engineers, February 1995.