

Transportation Safety Study

at the Intersection of

St James Avenue
Worthington Street
Dartmouth Street
Dartmouth Terrace



Prepared by:



Pioneer Valley
Planning
Commission

in cooperation with the City of Springfield

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CONTENTS

- Study Area..... 1
- Existing Conditions..... 4
 - Transportation Infrastructure 4
 - Pavement..... 4
 - Curbing, Sidewalks, and Streetlights 5
- Average Daily Traffic 6
- Peak Hour Volume and Turning Movement Counts 7
- Level of Service..... 10
- Crash Data Analysis 11
 - Crash Rate..... 11
 - Collision Diagram 12
 - Impact Safety Analysis Tools 15
- Recommendations to Improve Transportation Conditions..... 17
 - Short Term..... 17
 - Long Term..... 22
 - Upgrading Signal Equipment and Installing Additional Signal Heads 22
 - Geometric Changes 23
 - Bicycle and Pedestrian Accommodations 24
 - Roundabout 24

- Table 1: Average Daily Traffic 7
- Table 2: Level of Service Designations for Signalized Intersections 10
- Table 3: Level of Service at the Intersection..... 11
- Table 4: Massachusetts Average Crash Rates per MassDOT District 12
- Table 5: Crash Data Classification 13
- Table 6: First Harmful Event Summary 15
- Table 7: Percentage of Total Crashes by Type by Region (Test of Proportions) 16

Figure 1: Historic District Sign Along Worthington Street	1
Figure 2: Aerial View of the Intersection from Google Maps.....	2
Figure 3: Signal Pole in the middle of the Intersection at Worthington Street Approach	3
Figure 4: Dartmouth Terrace Lane and Vegetated Median.....	3
Figure 5: Vehicle waiting at Dartmouth Street Approach with Room for Right Turns.....	4
Figure 6: Pavement Cracks and Potholes along Worthington Street	5
Figure 7: Lane Designation Markings along the Southbound Approach of St. James Avenue.....	5
Figure 8: Shallow Curbing along Dartmouth Street.....	6
Figure 9: Peak Hour Turning Movement Counts	8
Figure 10: Collision Diagram	14
Figure 11: Manner of Collision and Pavement Condition.....	15
Figure 12: Worthington Street Cracks and Potholes	17
Figure 13: St. James Avenue Faded Pavement Markings and Pavement Rutting	18
Figure 14: Stop Line and Sidewalk Ramps at St. James Avenue Southbound Approach	18
Figure 15: Curbing Along Dartmouth Street in the Northeast Corner of the Intersection	19
Figure 16: Dartmouth Terrace Exit and Median	19
Figure 17: Dartmouth Terrace Approach at Worthington Street without Stop Line	20
Figure 18: Worthington Street Approach without Centerline Markings to demarcate the lanes	20
Figure 19: Stop Line and Signal Head at St. James Avenue Southbound Approach.....	22
Figure 20: Potential Geometric Improvements	23
Figure 21: Roundabout Concept Provided by the City of Springfield.....	24

Appendix 1: Traffic Volumes

Appendix 2: Traffic Speeds

Appendix 3: Turning Movement Counts

Appendix 4: Crash Rate Working Sheet

Appendix 5: Local Crash Data (Supplement to Collision Diagram)

Appendix 6: Risk Based Network Screening Analyses Results

Study Area

The intersection of St. James Avenue, Worthington Street, Dartmouth Street, and Dartmouth Terrace is a five-legged signalized intersection located in a densely populated section of the City of Springfield. The area in the vicinity of this intersection is registered as historic neighborhood under the charter of McKnight National Historic District. This intersection has four approaches and five exits. St. James Avenue and Worthington Street are classified as urban minor arterials; Dartmouth Street and Dartmouth Terrace are local roads. Several historic houses are located in the vicinity of this intersection along Worthington Street, Dartmouth Street and Dartmouth Terrace.

Figure 1: Historic District Sign Along Worthington Street



A community park is located in the southwest corner of the intersection between Worthington Street and St. James Avenue. Standard double line crosswalk markings are provided along all the approaches except the St. James Avenue southbound approach. Pavement edge lines are not marked along any of the approaches in the vicinity of the intersection. The intersection is lighted by overhanging streetlights at three corners. A signal pole with 4 signal heads for all

four approaches is located at the intersection on a small platform. This signal is not surrounded by a median or curbing and obstructs traffic in the middle of the Worthington Street and Dartmouth Terrace approaches. An additional signal pole is located on the northeast corner of the intersection which supports supplemental signal heads for both approaches of St. James Avenue. Granite curbing is provided in most areas in the vicinity of the intersection. Concrete sidewalks are provided for all approaches in the vicinity of the intersection and are separated from travel lanes by a raised vegetation buffer.

Figure 2: Aerial View of the Intersection from Google Maps



St. James Avenue connects State Street in the south to Broadway Street in the north and is accessible through Exit 4 along Interstate 291. Both the northbound and southbound approaches of St. James Avenue have 2 lanes, a shared left/through lane and an exclusive right turn lane. Right turns on red are prohibited from the southbound approach. A 30-mph speed limit sign is posted along the southwest corner between Worthington Street and St. James Avenue for southbound traffic.

Worthington Street connects East Columbus Avenue in the west to St. James Avenue in the east. It has a single lane for the eastbound approach to the intersection. The posted speed limit along Worthington Street is 30 mph in the vicinity of the intersection.

Figure 3: Signal Pole in the middle of the Intersection at Worthington Street Approach



Dartmouth Street is a local residential street with a posted speed limit of 25 mph. While only marked as a single travel lane, it was observed to operate as a shared left turn/ through traffic lane and an exclusive right turn lane during peak hours of traffic. Dartmouth Terrace is a historic residential boulevard which is divided by a vegetated median with densely planted trees. The two lanes of Dartmouth Terrace operate as One Way lanes; however, no pavement markings or signs are provided along Dartmouth Terrace to restrict the flow of traffic. Traffic from Dartmouth Terrace merges into Worthington Street in the vicinity of the intersection.

Figure 4: Dartmouth Terrace Lane and Vegetated Median



Figure 5: Vehicle waiting at Dartmouth Street Approach with Room for Right Turns



Existing Conditions

This section provides a technical evaluation of the existing transportation conditions at the intersection. It includes a presentation of the data collected, analysis of traffic operations, and a series of observations and conclusions derived from the analysis.

Transportation Infrastructure

Pavement

Overall, the pavement at the intersection is in fair to poor condition with scattered cracks, potholes, and minor rutting. The pavement along Worthington Street has deteriorated the most with larger sections of cracks and potholes. Rutting is observed primarily along the southbound approach of St. James Avenue. The pavement markings along St. James Avenue have faded at several locations. The lane designation markings are in poor condition along both approaches of St. James Avenue.

Figure 6: Pavement Cracks and Potholes along Worthington Street



Figure 7: Lane Designation Markings along the Southbound Approach of St. James Avenue



Curbing, Sidewalks, and Streetlights

The granite curbing in the vicinity of the intersection is mostly intact along St. James Avenue, Worthington Street, and Dartmouth Terrace. There was a noticeable reduction in the depth of curb revealed along Dartmouth Street, possibly past repaving projects.

Figure 8: Shallow Curbing along Dartmouth Street



Concrete sidewalks in the vicinity of the intersection are raised and separated from the pavement by grass strips with scattered trees planted along all of the streets. The sidewalks are in good condition and appeared to be well maintained. Streetlights are provided at the northwest, northeast, and southwest corners of the intersection.

Average Daily Traffic

The Pioneer Valley Planning Commission (PVPC) collected daily traffic counts and speed data along all five streets at the intersection midweek in October 2021. The volumes obtained from the counts have not been adjusted with seasonal adjustment factors for the purpose of analyses in this report. [Appendix 1](#) presents the traffic counts along each approach separated by direction of travel. [Appendix 2](#) presents travel speeds along the roadways in the vicinity of the intersection. The Average Daily Traffic (ADT) data is summarized in Table 1. It is noteworthy that in the vicinity of the study area, Dartmouth Street, a local road serves a higher volume of traffic compared to Worthington Street which has a higher functional classification (minor arterial).

Table 1: Average Daily Traffic

No.	Approach	Direction	Number of Vehicles	Total Both Directions
1	St. James Avenue Southbound	Southbound	5,514	11,885
		Northbound	6,371	
2	St. James Avenue Northbound	Northbound	5,046	9,136
		Southbound	4,090	
3	Worthington Street Northeast Bound	Northeast Bound	2,664	4,941
		Southwest Bound	2,277	
4	Dartmouth Street Westbound	Westbound	2,771	5,740
		Eastbound	2,969	
5	Dartmouth Terrace (Merges with Worthington Street)	Eastbound	84	148
		Westbound	64	

Peak Hour Volume and Turning Movement Counts

Turning Movement Counts (TMCs) were conducted for the intersection during the peak commuter periods. The weekday peak commuter period occurs during the morning hours of 7:00 AM to 9:00 AM and the afternoon hours of 2:00 PM to 6:00 PM. The TMC's were conducted to identify the peak four consecutive 15-minute periods of traffic through the intersection. These consecutive peaks 15-minute periods constitute a location's Peak Hour Volume. The peak hour of traffic volume represents the most critical period for operations and will be the focus for some of the analyses conducted in this study.

The TMC data also identifies the number of heavy vehicles on the roadway. Heavy vehicles include trucks, recreational vehicles, and buses. [Appendix 3](#) presents the data and volume by movement along each approach broken by into 15-minute intervals. Figure 9 depicts the peak hour volumes at the intersection. The percentage of heavy vehicles in the traffic flow is an important component in calculating the serviceability of a corridor or intersection. Trucks impact traffic flow because they occupy more roadway space than passenger cars and have poorer operating capabilities with respect to acceleration, deceleration, and maneuverability. Bicycle and pedestrian activity was also counted as part of the turning movement counts.

Figure 9: Peak Hour Turning Movement Counts





Level of Service

The intersection was examined with regards to capacity and delay characteristics to determine the existing Level of Service (LOS). Field measured signal timings were utilized to calculate the delay at the intersection using the Highway Capacity Software (HCS) 2022. LOS is an indicator of the operating conditions which occur on a roadway under different volumes of traffic and is defined in the 2010 Highway Capacity Manual by six levels, 'A' through 'F'. A number of operational factors can influence the LOS including geometry, travel speeds, delay, and the number of pedestrians. Table 2 presents the LOS designations for a signalized intersection.

Table 2: Level of Service Designations for Signalized Intersections

Category	Description	Delay in seconds
LOS A	Describes a condition of free flow, with low volumes and relatively high speeds. There is little or no reduction in maneuverability due to the presence of other vehicles and drivers can maintain their desired speeds. Little or no delays result for side street motorists.	< 10.0
LOS B	Describes a condition of stable flow, with desired operating speeds relatively unaffected, but with a slight deterioration of maneuverability within the traffic stream. Side street motorists experience short delays.	>10.0 to 20.0
LOS C	Describes a condition still representing stable flow, but speeds and maneuverability begin to be restricted. Motorists entering from side streets experience average delays.	>20.0 to 35.0
LOS D	Describes a high-density traffic condition approaching unstable flow. Speeds and maneuverability become more restricted. Side street motorists may experience longer delays.	>35.0 to 55.0
LOS E	Represents conditions at or near the capacity of the facility. Flow is usually unstable, and freedom to maneuver within the traffic stream becomes extremely difficult. Very long delays may result for side street motorists.	>55.0 to 80.0
LOS F	Describes forced flow or breakdown conditions with significant queuing along critical approaches. Operating conditions are highly unstable as characterized by erratic vehicle movements along each approach.	> 80.0

Depending on the time of day and year, a roadway may operate at varying levels. Level of Service 'A' represents the best operating conditions and is an indicator of ideal travel conditions with vehicles operating at or above posted speed limits with little or no delays. Conversely, LOS 'F', or failure, generally indicates forced flow conditions illustrated by long delays and vehicle queues. Level of Service 'C' indicates a condition of stable flow and is generally considered satisfactory in rural areas. Under LOS 'D' conditions, delays are considerably longer than under LOS 'C' but are considered acceptable in urban areas. At LOS 'E' the roadway begins to operate at unstable flow conditions as the facility is operating at or near its capacity. The results of the analyses are depicted in *Table 3*.

Table 3: Level of Service at the Intersection

			Morning Peak Hour		Afternoon Peak Hour	
			Delay*	LOS^	Delay*	LOS^
Intersection Level of Service			15.5	B	16.1	B
Approach	Direction	Movement				
Worthington Street	Northeast Bound	Left/Through/Right	18.6	B	23.0	C
St. James Avenue	Southbound	Left/Through	15.4	B	15.8	B
		Right	10.5	B	10.2	B
Dartmouth Street	Westbound	Left/Through/Right	17.5	B	16.5	B
St. James Avenue	Northbound	Left/Through	10.0	A	16.0	B
		Right	10.0	A	10.1	B
*Delay in Seconds						
^LOS - Level of Service						

The traffic at this intersection operates with minimal delay at a Level of service ‘B’ during both the morning and afternoon peak hours. The longest delays occur along the northeast bound approach of Worthington Street during the afternoon peak hour.

Crash Data Analysis

Crash data was obtained locally from the Springfield Police Department and from MassDOT’s IMPACT crash portal utilizing the spatial query for the period between 2018 to April 2022. A total of 21 crashes were reported at the intersection within this time. Table 5 presents the classification of these crashes and the circumstances and conditions under which these crashes were reported to have occurred. It should be noted that MassDOT crash data from 2020-2022 is not considered final and is subject to change.

Crash Rate

The crash rate is a statistic derived to quantify the number of crashes at a particular location as a function of vehicle exposure or in other words probability of crashes or conflicts based on the current volume of traffic. MassDOT express intersection crash rates as crashes per Million Entering Vehicles. The intersection average crash rates are based upon a database of intersection crash rates compiled by MassDOT and they provide a statistical constant to compare the results obtained for the study area. Table 4 summarizes the average crash rates for all MassDOT Districts throughout Massachusetts.

Table 4: Massachusetts Average Crash Rates per MassDOT District

Average Crash Rates, per Million Entering Vehicles, by Intersection Type
(Based upon crash information queried on June 26, 2018)

Location	Signalized Intersections	Unsignalized Intersections
Statewide	0.78	0.57
District 1*	0.80*	0.44*
District 2	0.89	0.62
District 3	0.89	0.61
District 4	0.73	0.57
District 5	0.75	0.57
District 6	0.71	0.52

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

PVPC calculated a crash rate of **0.87** at the intersection utilizing MassDOT methodology ([Appendix 4](#)). The crash rate at this intersection is slightly lower than the average crash rate at other signalized intersections in District 2. This indicates the study area intersection experiences a little lower than average number of crashes when compared to other intersections in our region with similar operating conditions.

Collision Diagram

Local Crash Data obtained from the Springfield Police Department was utilized to create a collision diagram for the study area intersection. A collision diagram is a graphical representation of the severity, type, and manner of collision of crashes that occur at a location. [Appendix 5](#) provides the detailed information about each crash depicted in the collision diagram included in Figure 10. Half of the crashes (10) at this intersection occurred during hours of darkness and a majority of crashes were angle type collisions. Almost 40% of the crashes occurred on wet/snowy pavement which is higher than the average for the region. Two crashes occurred when vehicles collided with the signal pole in the middle of the intersection. A total of two crashes occurred when one of the two vehicles involved in the crash failed to stop at the red light.

Table 5: Crash Data Classification

Year	Total	Manner of Collision		Severity		Weather Condition		Road Condition		Light Condition	
2018	3	Angle	1	No injury	2	Clear	2	Dry	1	Dark - lighted roadway	2
		Rear-end	2	Non-fatal injury - Possible	1	Rain	1	Wet	2	Daylight	1
2019	5	Angle	2	No injury	2	Clear	2	Dry	4	Dark - lighted roadway	2
		Rear-end	1	Non-fatal injury - Non-incapacitating	2	Cloudy	2	Wet	1	Daylight	3
		Sideswipe, same direction	1	Non-fatal injury - Possible	1	Rain	1				
		Single vehicle crash	1								
2020	3	Angle	2	No injury	1	Clear	1	Dry	1	Dark - lighted roadway	2
		Rear-end	1	Non-fatal injury - Non-incapacitating	1	Cloudy	2	Wet	2	Daylight	1
				Non-fatal injury - Possible	1						
2021	8	Angle	5	No injury	3	Clear	4	Dry	6	Dark - lighted roadway	3
				Non-fatal injury - Possible	1	Cloudy	4	Wet	1	Daylight	5
		Rear-end	2	Possible Injury	2			Snow	1		
		Sideswipe, same direction	1	Suspected Minor Injury	2		1				
2022 (Through April)	2	Rear-end	1	No injury	2	Clear	1	Dry	1	Dark - lighted roadway	2
		Single vehicle crash	1			Cloudy	1	Wet	1		

Figure 10: Collision Diagram

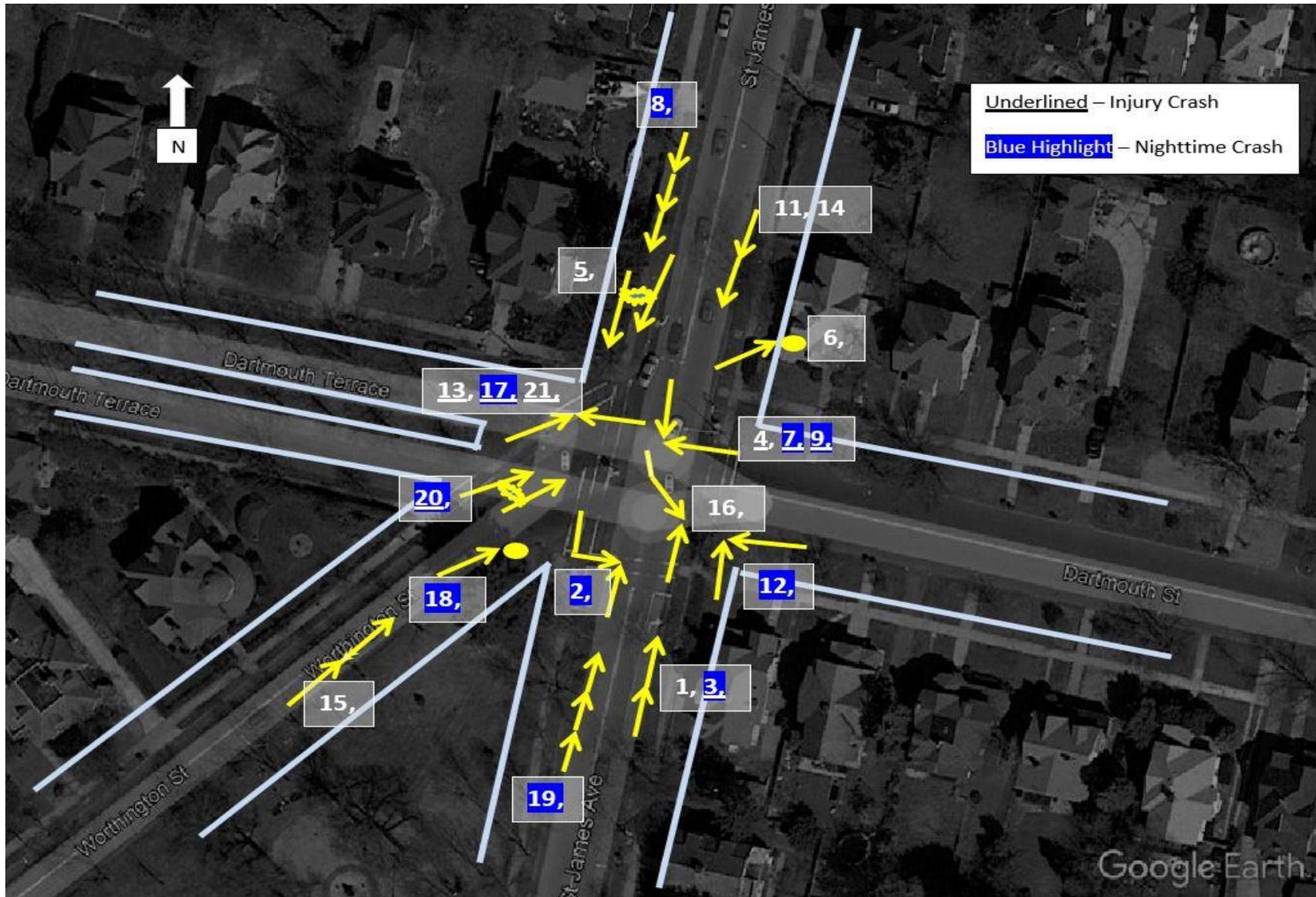


Figure 11: Manner of Collision and Pavement Condition

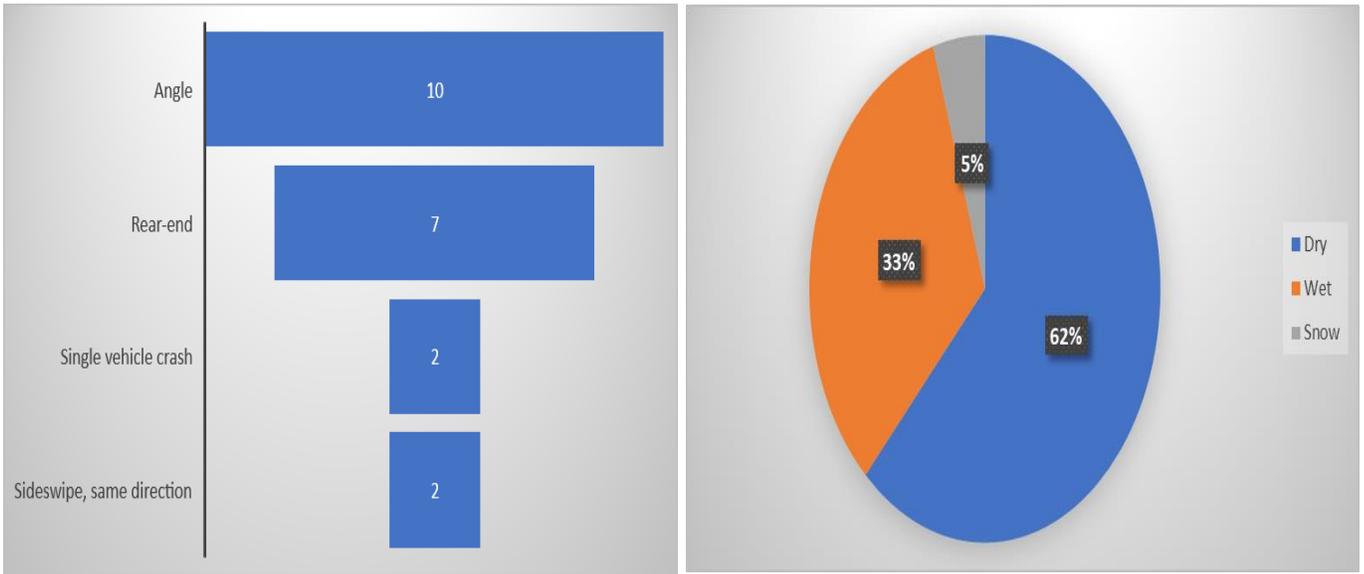


Table 6: First Harmful Event Summary

Collision with motor vehicle in traffic	19
Collision with utility / signal pole	2

Impact Safety Analysis Tools

MassDOT has introduced new Safety Analysis Tools as a part of the IMPACT portal to assist in traffic safety assessment based on crash history, calculated probability or risk factors, and proportional statistics comparisons. The results of these analyses were utilized in drafting recommendations to improve transportation safety at this location.

Crash Based Network Screening provides a ranking of the top high crash segments in the region based on excess average crash frequency along different roadway classes for all crashes, for just injury crashes and for fatal crashes. The roadway segments along the study area intersection are not included in the top 15% of high crash segments in the region.

Risk Based Network Screening tool helps in identifying primary and secondary high risk transportation segments/sites based on risk factors identified for many of the emphasis areas of the Massachusetts Strategic Highway Safety Plan. Sites with the greatest risk are ranked based on risk scores which are generated from the number and types of various crash probability factors present along the corridor.

The roadway segments along St. James Avenue and Worthington Street in the vicinity of the intersection belong to the primary risk sites in the region for (i) Younger Drivers and (ii) Older Drivers. These roadways also belong to a secondary risk sites in the region for (iii) Motorcycles. The Dartmouth Terrace eastbound approach to Worthington Street appears as a primary risk site for motorcycle crashes. These results are depicted in [Appendix 6](#).

Test of Proportions helps in comparing the crash features and factors in the study area to those experienced in the Community, Region and State to identify statistical anomalies and outliers. This comparison also helps to identify overrepresented crash types at the intersection. The proportion of crashes with utility poles is higher at this location than in comparison groups. As mentioned in the discussion of the collision diagram, half of the total reported crashes at this intersection occurred during the hours of darkness compared to less than a quarter for comparison groups. Also, nearly 40% of crashes at this intersection occurred on wet or snowy pavement. This percentage is higher than the average for all other groups. Table 7 represents the results of the Test of Proportions Analyses.

Table 7: Percentage of Total Crashes by Type by Region (Test of Proportions)

Category / Attribute	Percentage of Total Crashes			
	Intersection	State	PVPC	Springfield
Fatal injury	0%	0.26%	0.30%	0.28%
Non-fatal injury	41.67%	24.26%	27.73%	37.12%
Property damage only (none injured)	58.33%	68.90%	66.13%	57.18%
Collision with motor vehicle in traffic	91.67%	64.66%	64.52%	69.66%
Collision with utility pole	8.33%	3.34%	2.85%	1.62%
Dark - lighted roadway	50.00%	20.46%	22.19%	27.89%
Daylight	50.00%	67.96%	68.37%	66.55%
Angle	49.98%	26.98%	28.07%	35.94%
Rear-end	33.33%	29.08%	28.46%	27.61%
Sideswipe	16.66%	14.12%	13.50%	13.49%
Single vehicle crash	8.33%	22.64%	23.49%	18.20%
Dry	66.67%	74.05%	73.35%	73.35%
Wet/Snow	38.33%	16.15%	16.90%	19.05%
Clear	58.33%	61.87%	59.10%	59.06%
Cloudy	16.67%	16.51%	18.40%	19.98%
Rain	25.00%	10.08%	10.06%	11.17%

Recommendations to Improve Transportation Conditions

Based on the results of the assessment completed by the PVPC, the roadway segments in the vicinity of this intersection present higher than average risks for younger drivers, older drivers, and motorcycle users. Moreover, the Test of Proportions and Crash Data Analyses identified a few additional safety concerns in the vicinity of the intersection. The following short and long term recommendations are presented for consideration by the City of Springfield to improve traffic safety and travel conditions in the vicinity of the intersection.

Short Term

1. It is recommended that the City consider improving the pavement condition in the vicinity of the intersection; (i) along Worthington Street which has multiple cracks and potholes, and (ii) along the St. James Avenue southbound approach because of rutting. The City should also consider repainting pavement markings along St. James Avenue. New pavement edge lines for all approaches to the intersection would also improve visibility and potentially reduce nighttime crashes.

Figure 12: Worthington Street Cracks and Potholes



Figure 13: St. James Avenue Faded Pavement Markings and Pavement Rutting



2. The St. James Avenue southbound approach does not have crosswalk markings connecting the sidewalks on both sides of the street. The current Stop line at this approach is located behind the ADA ramps for sidewalks to the north of the intersection. It is possible that there was a crosswalk painted at this location in the past which was not repainted. It is recommended that the City install a crosswalk at this location to provide connectivity for the sidewalks along both sides of the pavement.

Figure 14: Stop Line and Sidewalk Ramps at St. James Avenue Southbound Approach



3. A single vehicle crash was reported when a motor vehicle crashed into the utility / signal pole on the northeast corner of the intersection between the Dartmouth Street and St. James Avenue. The granite curbing along this corner of the intersection was noted to have very little reveal. New curbing in this area would preserve the edge of pavement and better define the intersection.

Figure 15: Curbing Along Dartmouth Street in the Northeast Corner of the Intersection



4. Dartmouth Terrace does not have any one way designation signs, do not enter signs, or pavement markings to indicate the preferred direction of travel. It is recommended that the City of Springfield consider installing 'Do Not Enter' signs along with a 'One Way' signs for Dartmouth Terrace. It was also noted that Dartmouth Terrace does not have a 'Stop Line' prior to the marked crosswalk. It is recommended that the City consider painting a 'Stop Line' before the crosswalk markings on this approach.

Figure 16: Dartmouth Terrace Exit and Median



Figure 17: Dartmouth Terrace Approach at Worthington Street without Stop Line



5. The Double yellow centerline along Worthington Street does not extend beyond the intersection with Dartmouth Terrace. One of the reported sideswipe crashes occurred at this location when two motor vehicles did not have defined paths while travelling from Worthington Street to Dartmouth Terrace and from Worthington Street to St. James Avenue northbound. The lack of a well-defined travel path contributes to the likelihood of crashes in this location. In the short term, it is recommended that the City consider extending the center line pavement markings along Worthington Street to the existing 'Stop Line'.

Figure 18: Worthington Street Approach without Centerline Markings to demarcate the lanes



6. Left turning vehicles along the southbound approach of St. James Avenue share the lane with through traffic and do not have a dedicated protected phase; therefore, currently they experience longer wait times with fewer gaps during peak hours. In past this has

resulted in some angle type collisions when the drivers have attempted to make this movement in haste.

PVPC conducted a Level of Service Analysis at this approach with a shared through/right lane and a dedicated left turn lane to examine the impact of adding a 10 second leading protected left turn phase for the southbound approach. This change increases the overall delay at the intersection during the afternoon peak hour by 8 seconds and the LOS drops to 'C'. The afternoon peak hour delay is marginally reduced along St. James Avenue southbound approach; however, the delay along the northbound approach gets doubled to more than 34 seconds with a drop in LOS to 'C'. Similarly, there is an increase of 8 seconds in the delay along Dartmouth Street and around 4 seconds increase in the delay along Worthington Street.

Even though the LOS drops along the intersection, this amount of increase in delay is acceptable along urban areas during peak hours. The City of Springfield should consider a detailed analysis to examine the short-term and long-term benefits vs impacts of changing the signal phasing along this intersection.

7. There is a high volume of right turning traffic from Dartmouth Street at this intersection. It was observed that many vehicles drive this approach as two travel lanes and use the right side of the pavement similar to an exclusive right turn lane. The existing pavement width of Dartmouth Terrace in the vicinity of the intersection was measured to be 40 feet. It may be possible to mark two travel lanes at a width of 11 feet and one 18 foot exiting lane on this approach. This would provide a designated through/left lane and an exclusive right turn lane for this approach.
8. More than half of the total crashes at this intersection occurred during the hours of darkness. This intersection currently has 3 overhead streetlights. The City of Springfield should examine the placement, height, and adequacy of illumination provided by these lights to determine if additional lighting is required. The City should also consider repainting the existing pavement markings with retroreflective paint for greater visibility. Similarly, new paint on base of the existing Signal Pole in the middle of the intersection could enhance its visibility at night.
9. Almost 40% of the reported crashes at this intersection occurred on wet pavement. A majority of these crashes also occurred because of a motor vehicle's failure to stop due to slippery road conditions. Two potential remedies for reducing these crashes are to increase compliance with posted speed limits and to examine pavement friction in the

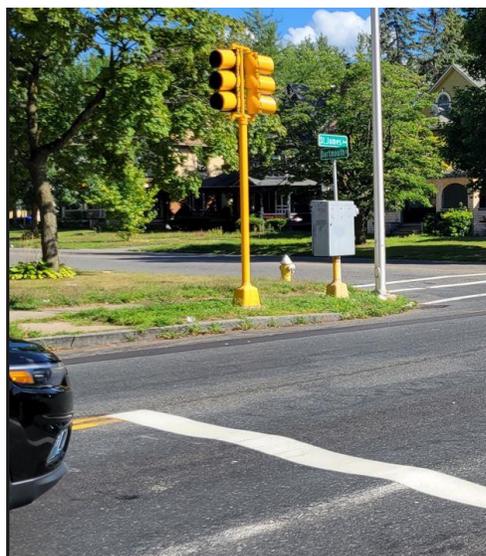
vicinity of the intersection. The City of Springfield could consider installing Speed Limit Feedback signs along St. James Avenue to alert drivers of the current speed limit. Additionally, a pavement friction test would identify if the intersection would benefit from repaving or the use of special surface treatments to increase friction. This information is summarized by the Federal Highway Administration at: https://safety.fhwa.dot.gov/speedmgt/ref_mats/fhwasa1121/sec2.cfm

Long Term

Upgrading Signal Equipment and Installing Additional Signal Heads

Based on the field study it appears that the current signal timings at this location are not traffic actuated. Further, the signal equipment does not conform to the Manual on Uniform Traffic Control Devices (MUTCD). According to MUTCD guidelines, each travel lane should be served by two signal heads within a 20° cone of vision of the motorist at the Stop Line. The pole mounted signal heads cannot be viewed by vehicle that are queued behind larger vehicles such as trucks and buses. There are many locations at this intersection where vehicles cannot adequately view the traffic signals. Additionally, the location of the signal pole in the middle of Worthington Street and Dartmouth Terrace obstructs the movement of traffic through the intersection. In the long term, the City of Springfield should consider upgrading the signal equipment at this location and consider installing mast arms with overhead signals to improve the signal visibility and provide MUTCD compliance. Removal of the signal pole in the middle of the intersection will reduce conflict with motor vehicles and help to better define the travel lanes through the intersection.

Figure 19: Stop Line and Signal Head at St. James Avenue Southbound Approach

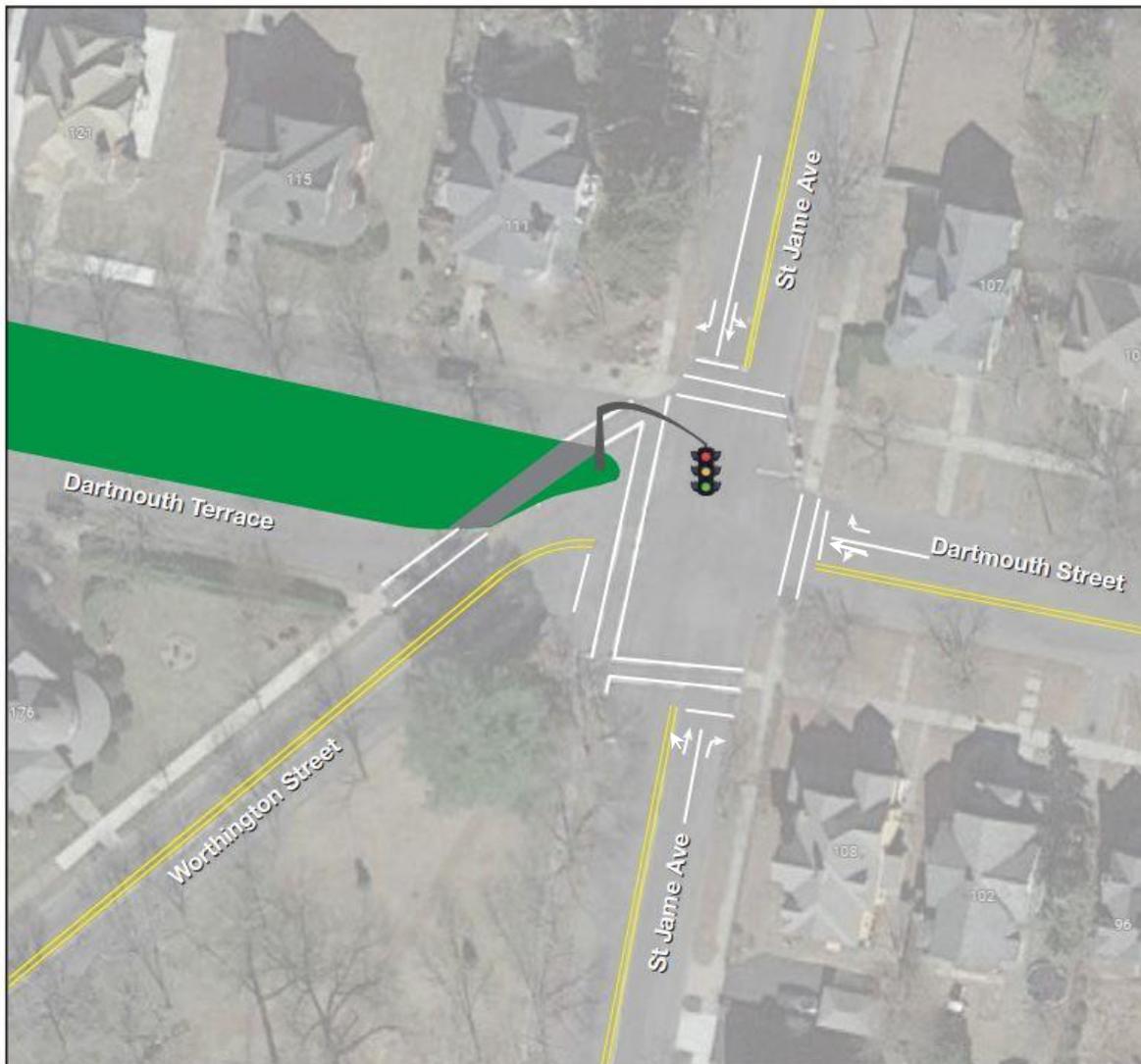


Geometric Changes

It is recommended that the City of Springfield consider undertaking a long-term engineering study to determine appropriate geometric improvements for the intersection. Any such new measures will have to comply with the limitations and guidelines provided for the location under the McKnight National Historic District Register. Some of the changes that could potentially improve the flow of traffic through this intersection are highlighted in Figure 20.

As shown in the Figure, the green median along Dartmouth Terrace could be extended further into the intersection. This would provide an appropriate location for installing a mast arm for traffic signal heads. An additional right turn lane for Dartmouth Street would improve traffic flow and the alignment of through traffic traveling to Worthington Street. These changes could potentially help in eliminating the current conflicts at the intersection.

Figure 20: Potential Geometric Improvements



Bicycle and Pedestrian Accommodations

This intersection does not have any pedestrian signal heads. It is recommended that any new improvements at this location be accompanied by appropriate pedestrian amenities. New push button activated pedestrian signals would improve non-motorist safety at the intersection.

The City of Springfield finalized its new Master Plan which includes plans for new proposed bicycle lanes throughout the City. It is recommended that the City provide new Bicycle Lane signs and/or pavement markings along roadways at this intersection in compliance with the recommendations of their Master Plan.

Roundabout

During the preliminary discussion with the City Department of Public Works (DPW) regarding this project, there was interest in exploring the possibility of constructing a roundabout at this intersection. A draft concept for a roundabout was provided by the City and is shown in Figure 21. This location appears to have enough room for a single lane roundabout. PVPC examined the Level of Service along a single lane four approach roundabout utilizing afternoon peak hour traffic experienced at this intersection. The result of the analysis indicates that all the approaches would have less than 7 seconds of delay and optimal level of service if the intersection is converted to a roundabout. It is recommended the City of Springfield consider the installation of a roundabout as a future improvement option for this intersection. It will be important to have discussion on the potential impacts of a new roundabout with local residents and emergency responders. It will also be important to consider the potential impacts of a roundabout on existing trees, greenspace and historic buildings in the vicinity of the intersection.

Figure 21: Roundabout Concept Provided by the City of Springfield



APPENDIX 1

TRAFFIC VOLUMES

Pioneer Valley Planning Commission

60 Congress Street
Springfield, MA 01104
(413) 781-6045 www.pvpc.org

Site Code: 10033
Station ID:
Location 1: Dartmouth Terr.
Location 2: W/O Worthington St.

Location : Springfield
Operator : AK/JM
Counter # : 2072
Road Class : U Local

Time	9/27/21 EB	9/28/21 EB	9/29/21 EB	Average EB
12:00 AM	*	2	2	2
1:00	*	0	0	0
2:00	*	0	0	0
3:00	*	3	0	1
4:00	*	0	0	0
5:00	*	1	1	1
6:00	*	6	3	4
7:00	*	6	8	7
8:00	*	6	7	6
9:00	*	2	2	2
10:00	1	2	8	4
11:00	1	4	3	3
12:00 PM	4	7	*	6
1:00	6	3	*	4
2:00	8	9	*	8
3:00	8	5	*	6
4:00	7	5	*	6
5:00	7	5	*	6
6:00	5	5	*	5
7:00	2	5	*	4
8:00	1	3	*	2
9:00	1	1	*	1
10:00	4	2	*	3
11:00	2	1	*	2
Total	57	83	35	84
AM Peak	10:00	6:00	7:00	7:00
Volume	1	6	8	7
PM Peak	2:00	2:00		2:00
Volume	8	9		8
Grand Total	57	83	35	84
ADT		ADT: 58		ADT: 58

Pioneer Valley Planning Commission

60 Congress Street
Springfield, MA 01104

(413) 781-6045 www.pvpc.org

Location : Springfield
Operator : AK/JM
Counter # : 2073
Road Class : U Local

Site Code:10032
Station ID:
Location 1: Dartmouth Terr.
Location 2: W/O Worthington St.

Time	9/27/2021	9/27/21	9/28/21	9/29/21	9/30/21	Average
	WB	WB	WB	WB	WB	WB
12:00 AM	*					0
1:00	*					1
2:00	*					0
3:00	*					0
4:00	*					1
5:00	*					0
6:00	*					0
7:00	*					3
8:00	*					4
9:00	*					2
10:00	3					4
11:00	1					2
12:00 PM	3					4
1:00	4					2
2:00	2					2
3:00	7					4
4:00	9					4
5:00	3					3
6:00	5					5
7:00	4					4
8:00	2					2
9:00	3					2
10:00	1					2
11:00	2					1
Total	49					64
AM Peak	10:00					7:00
Volume	3					4
PM Peak	4:00					4:00
Volume	9					8
Grand Total	49					64
ADT						ADT: 43

APPENDIX 2

TRAFFIC SPEEDS

Pioneer Valley Planning Commission

60 Congress Street
 Springfield, MA 01104
 (413) 781-6045 www.pvpc.org

Location : Springfield
 Operator : A JM
 Counter : 2068
 Road Class : 5
 Direction: SB

Site Code: 1002
 Station ID:
 St. James Avenue
 O Dartmouth St.

27 2021	0 - 15	15 -	20 -	25 -	30 -	35 -	40 -	45 -	50 -	55 -	60 -	65 -	70	Total
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	
12:00 AM														0
1:00														0
2:00														0
3:00														0
4:00														0
5:00														0
6:00														0
7:00														0
8:00														0
:00	16	12	37	110	70	11	0	0	0	0	0	0	0	256
10:00	2	13	51	131	65	11	3	0	0	0	0	0	1	277
11:00	11	1	60	0	65	16	6	0	0	0	0	0	0	267
12:00 PM	14	11	7	123	63	13	1	0	0	0	0	0	0	304
1:00	1	24	81	141	80	16	3	0	0	0	0	0	0	364
2:00	23	31	80	125	100	18	1	0	0	0	0	0	0	378
3:00	2	50	3	180	3		4	1	0	0	0	0	0	45
4:00	51	60	122	143	61		1	1	0	0	1	0	0	44
5:00	47	33	84	156	77	14	1	0	0	0	0	0	0	412
6:00	20	25	82	121	58	12	3	0	0	0	0	0	0	321
7:00	1	18	83	112	45	11	2	0	0	0	0	0	1	2 1
8:00	7	10	53	75	4		2	0	0	0	0	0	0	205
:00	2	4	41	73	38	3	1	1	0	0	0	0	0	163
10:00	4	3	21	54	30	8	3	2	0	0	0	0	0	125
11:00	0	1	15	42	37	13	3	0	1	0	0	0	0	112
Total	264	314	82	1676	31	173	34	5	1	0	1	0	2	4383

Pioneer Valley Planning Commission

60 Congress Street
 Springfield, MA 01104
 (413) 781-6045 www.pvpc.org

Location : Springfield
 Operator : A JM
 Counter : 2068
 Road Class : 5
 Direction: SB

Site Code: 1002
 Station ID:
 St. James Avenue
 O Dartmouth St.

28 2021	0 - 15	15 -	20 -	25 -	30 -	35 -	40 -	45 -	50 -	55 -	60 -	65 -	70	Total
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	
12:00 AM	1	0	1	15	26	7	0	0	0	0	0	0	0	50
1:00	0	1	1	11	11	3	0	0	1	0	0	0	0	28
2:00	0	0	3	10	5	2	2	0	0	0	0	0	0	22
3:00	0	4	2	10	4	5	0	0	0	0	0	0	0	25
4:00	2	1	3		10	1	0	0	0	0	0	0	0	26
5:00	0	1	5	17	16	3	4	0	0	1	0	0	0	47
6:00	2	6	31	57	35	10	3	2	1	0	0	0	0	147
7:00	31	31	72	111	6	1	2	0	0	0	0	0	0	335
8:00	33	50	105	128	65	12	2	1	0	0	0	0	1	37
:00	4	24	1	11	65	16	4	1	0	0	0	0	0	324
10:00	12	25	62	118	65	15	1	0	0	0	0	0	0	28
11:00	5	10	58	142	68	11	1	0	0	0	0	0	0	25
12:00 PM	18	31	7	144	57	16	1	1	0	0	0	0	0	365
1:00	1	20	6	10	66	11	0	0	0	0	0	0	0	321
2:00	67	67	114	108	25	8	0	0	0	0	0	0	0	38
3:00	60	52	8	156	46	13	3	0	0	0	0	0	0	428
4:00	4	75	12	111	26	16	1	1	0	0	0	0	0	453
5:00	34	73	127	121	45	8	1	0	0	0	0	0	0	40
6:00	16	15	55	146	57	14	2	0	0	0	0	0	0	305
7:00	17	18	80	108	53	6	1	0	0	0	0	0	0	283
8:00	4	13	51	70	46	15	3	0	1	1	0	0	0	204
:00	6	4	31	56	37	5	3	0	0	0	0	0	0	142
10:00	3	6	1	55	36	12	5	0	2	0	0	0	0	138
11:00	1	6	18	38	34	14	4	0	0	0	0	0	0	115
Total	42	533	134	16	67	242	43	6	5	2	0	0	1	5546

Pioneer Valley Planning Commission

60 Congress Street
Springfield, MA 01104
(413) 781-6045 www.pvpc.org

Location : Springfield
Operator : A JM
Counter : 2068
Road Class : 5
Direction: SB

Site Code: 1002
Station ID:
St. James Avenue
O Dartmouth St.

2021	0 - 15 MPH	15 - 20 MPH	20 - 25 MPH	25 - 30 MPH	30 - 35 MPH	35 - 40 MPH	40 - 45 MPH	45 - 50 MPH	50 - 55 MPH	55 - 60 MPH	60 - 65 MPH	65 - 70 MPH	70 MPH	Total
12:00 AM	0	1	4	17	18	4	2	0	0	0	0	0	0	46
1:00	0	1	3	8		2	0	0	1	0	0	0	0	24
2:00	0	1	1		5	1	1	1	0	0	0	0	0	1
3:00	0	0	2	3	4	1	1	1	0	0	0	0	0	12
4:00	0	0	4	4	11	4	2	0	0	0	0	0	0	25
5:00	4	3	8	21	16	7	1	0	1	0	0	0	0	61
6:00	3	6	1	53	42	8	1	2	0	0	0	0	0	134
7:00	22	34	64	131	82	13	3	0	0	0	0	0	0	34
8:00	35	44	0	12	65	28	10	3	0	0	0	0	0	404
:00	12	22	63	111	84	36	3	0	0	0	0	0	0	331
10:00	12	20	62	108	66	20	1	1	0	0	0	0	0	20
11:00														0
12:00 PM														0
1:00														0
2:00														0
3:00														0
4:00														0
5:00														0
6:00														0
7:00														0
8:00														0
:00														0
10:00														0
11:00														0
Total	88	132	320	54	402	124	25	8	2	0	0	0	0	165
Grand Total	781	7	2651	423	2300	53	102	1	8	2	1	0	3	11624

Stats	Percentile	15th	50th	85th	5th
Speed		20	27	32	35
Mean Speed (Average)		25.			
10 MPH Pace Speed		21-30			
umber in Pace		6827			
Percent in Pace		58.7			
umber 35 MPH		674			
Percent 35 MPH		5.8			

Pioneer Valley Planning Commission

60 Congress Street
 Springfield, MA 01104
 (413) 781-6045 www.pvpc.org

Location : Springfield
 Operator : A JM
 Counter : 2068
 Road Class : 5
 Direction: B

Site Code: 1002
 Station ID:
 St. James Avenue
 O Dartmouth St.

27 2021 Time	0 - 15 MPH	15 - 20 MPH	20 - 25 MPH	25 - 30 MPH	30 - 35 MPH	35 - 40 MPH	40 - 45 MPH	45 - 50 MPH	50 - 55 MPH	55 - 60 MPH	60 - 65 MPH	65 - 70 MPH	70 MPH	Total
12:00 AM														0
1:00														0
2:00														0
3:00														0
4:00														0
5:00														0
6:00														0
7:00														0
8:00														0
:00	5	2	40	101	83	16	3	0	0	0	0	0	0	250
10:00	8	7	64	126	6	24	1	0	0	0	0	0	1	300
11:00	7	8	55	12	6	15	4	0	0	0	0	0	0	314
12:00 PM	6	7	63	14	100	17	3	0	0	0	0	0	0	30
1:00	5	13	64	172	107	26	6	0	0	0	0	0	0	33
2:00	10	4	74	216	158	26	1	1	0	0	0	0	0	40
3:00	14	13	103	22	150	26	2	0	0	0	0	0	0	600
4:00	24	27	142	211	10	15	0	0	0	1	0	1	0	530
5:00		1	110	14	5	17	3	0	0	0	0	0	0	447
6:00	20		53	181	6	23	3	1	0	0	0	0	0	386
7:00	13	10	2	123	71	12	3	0	1	0	0	0	0	262
8:00	6	4	20	84	83	13	3	0	0	0	0	0	0	213
:00	3	3	21	65	61	20	3	1	0	0	0	0	0	177
10:00	6	2	16	52	53	25	6	0	0	0	0	0	0	160
11:00	3	3	14	41	52	14	4	1	0	0	0	0	0	132
Total	13	131	868	2181	1383	28	45	4	1	1	0	1	1	5044

Pioneer Valley Planning Commission

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Counter : 2068
Road Class : 5
Direction: B

Site Code: 1002
Station ID:
St. James Avenue
O Dartmouth St.

28 2021	0 - 15	15 -	20 -	25 -	30 -	35 -	40 -	45 -	50 -	55 -	60 -	65 -	70	Total
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	
12:00 AM	0	2	1	15	1	14	0	2	0	0	0	0	0	53
1:00	1	0	2	11	18	5	3	1	0	0	0	0	0	41
2:00	0	0	2	4	13	4	2	1	0	0	0	0	0	26
3:00	2	1	3	7	3	0	2	0	0	0	0	0	0	18
4:00	0	1	2	20	12	5	2	1	0	0	0	0	0	43
5:00	2	0	4	40	54	1	6	4	0	0	0	0	0	12
6:00	3	3	20	80	64	15	6	0	0	0	0	0	0	1 1
7:00	8		4	185	83	26	6	0	0	0	0	0	0	366
8:00	10		54	175		28	1	0	0	0	0	0	0	376
:00	5		5	133	83	1	2	0	0	0	0	0	0	310
10:00	11	5	43	146	108	12	2	0	0	0	0	0	0	327
11:00	6	6	51	184	5	13	0	2	0	0	0	0	0	357
12:00 PM	15	7	73	1 4	101	24	2	0	0	0	0	0	0	416
1:00	8	14	68	218	1	11	0	0	0	0	0	0	0	410
2:00	24	3	136	188	84	11	2	0	0	0	0	0	0	484
3:00	27	16	103	261	118	18	1	0	0	0	0	0	0	544
4:00	37	35	131	1 7	86		2	0	0	0	0	0	0	4 7
5:00	23	40	126	1 7	77	8	1	0	0	0	0	0	0	472
6:00	14	12	44	147	1	23	1	0	1	0	0	0	2	335
7:00	8	6	48	121	70	20	1	1	0	0	0	0	0	275
8:00	4	10	25	82	83	18	0	0	1	0	0	0	0	223
:00	6	1	23	75	66	11	4	0	0	0	0	0	0	186
10:00	2	3	16	55	56	14	2	1	0	0	0	0	0	14
11:00	4	1	17	44	43	24	7	0	0	0	0	0	0	140
Total	220	22	1100	277	1617	351	55	13	2	0	0	0	2	6368

Pioneer Valley Planning Commission

60 Congress Street
Springfield, MA 01104
(413) 781-6045 www.pvpc.org

Location : Springfield
Operator : A JM
Counter : 2068
Road Class : 5
Direction: B

Site Code: 1002
Station ID:
St. James Avenue
O Dartmouth St.

2021	0 - 15	15 -	20 -	25 -	30 -	35 -	40 -	45 -	50 -	55 -	60 -	65 -	70	Total
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	
12:00 AM	1	1	5	23	20	11	10	0	0	0	0	0	0	71
1:00	1	0	2	7	7	4	2	1	0	0	0	0	0	26
2:00	0	1	8	13	6	0	2	0	0	0	0	0	0	30
3:00	0	0	3	7	7	4	3	1	0	0	0	0	0	25
4:00	0	0	2	11	12	4	1	0	0	0	0	0	0	3
5:00	1	1	5	44	5	18	2	3	0	0	0	0	0	133
6:00	1	1	13	65	75	32	5	3	2	0	0	0	0	17
7:00	12	14	64	150	2	17	2	2	0	0	0	0	1	354
8:00	13	7	47	111	11	28	4	1	0	0	0	0	0	402
:00		5	44	137	11	27	5	0	0	0	0	0	0	346
10:00	4	3	35	166	0	20	3	0	0	0	0	0	0	321
11:00														0
12:00 PM														0
1:00														0
2:00														0
3:00														0
4:00														0
5:00														0
6:00														0
7:00														0
8:00														0
:00														0
10:00														0
11:00														0
Total	42	33	220	811	605	176	40	14	2	0	0	0	1	144
Grand Total	401	33	2188	5771	3605	816	140	31	5	1	0	1	4	13356
Stats		Percentile	15th	50th	85th	5th								
		Speed	24	28	33	36								
	Mean Speed (Average)		28.1											
	10 MPH Pace Speed		25-34											
	umber in Pace		348											
	Percent in Pace		70.0											
	umber 35 MPH		8											
	Percent 35 MPH		7.5											

Pioneer Valley Planning Commission

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 Springfield, MA 01104
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Location : Springfield
 Operator : A JM
 Counter : 2068
 Road Class : 5
 Direction: Combined

Site Code: 1002
 Station ID:
 St. James Avenue
 O Dartmouth St.

27 2021	0 - 15	15 -	20 -	25 -	30 -	35 -	40 -	45 -	50 -	55 -	60 -	65 -	70	Total
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	
12:00 AM														0
1:00														0
2:00														0
3:00														0
4:00														0
5:00														0
6:00														0
7:00														0
8:00														0
:00	21	14	77	211	153	27	3	0	0	0	0	0	0	506
10:00	10	20	115	257	134	35	4	0	0	0	0	0	2	577
11:00	18	27	115	21	161	31	10	0	0	0	0	0	0	581
12:00 PM	20	18	142	317	163	30	4	0	0	0	0	0	0	6 4
1:00	24	37	145	313	187	42		0	0	0	0	0	0	757
2:00	33	35	154	341	258	44	2	1	0	0	0	0	0	868
3:00	43	63	1 6	472	243	35	6	1	0	0	0	0	0	105
4:00	75	87	264	354	170	24	1	1	0	1	1	1	0	7
5:00	56	52	1 4	350	172	31	4	0	0	0	0	0	0	85
6:00	40	34	135	302	154	35	6	1	0	0	0	0	0	707
7:00	32	28	112	235	116	23	5	0	1	0	0	0	1	553
8:00	13	14	73	15	132	22	5	0	0	0	0	0	0	418
:00	5	7	62	138		23	4	2	0	0	0	0	0	340
10:00	10	5	37	106	83	33		2	0	0	0	0	0	285
11:00	3	4	2	83	8	27	7	1	1	0	0	0	0	244
Total	403	445	1850	3857	2314	462	7		2	1	1	1	3	427

Pioneer Valley Planning Commission

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Operator : A JM
Counter : 2068
Road Class : 5
Direction: Combined

Site Code: 1002
Station ID:
St. James Avenue
O Dartmouth St.

28 2021	0 - 15	15 -	20 -	25 -	30 -	35 -	40 -	45 -	50 -	55 -	60 -	65 -	70	Total
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	
12:00 AM	1	2	2	30	45	21	0	2	0	0	0	0	0	103
1:00	1	1	3	22	2	8	3	1	1	0	0	0	0	6
2:00	0	0	5	14	18	6	4	1	0	0	0	0	0	48
3:00	2	5	5	17	7	5	2	0	0	0	0	0	0	43
4:00	2	2	5	2	22	6	2	1	0	0	0	0	0	6
5:00	2	1		57	70	22	10	4	0	1	0	0	0	176
6:00	5		51	137		25		2	1	0	0	0	0	338
7:00	3	40	121	2 6	152	45	8	0	0	0	0	0	0	701
8:00	43	5	15	303	164	40	3	1	0	0	0	0	1	773
:00		33	150	252	148	35	6	1	0	0	0	0	0	634
10:00	23	30	105	264	173	27	3	0	0	0	0	0	0	625
11:00	11	16	10	326	163	24	1	2	0	0	0	0	0	652
12:00 PM	33	38	170	338	158	40	3	1	0	0	0	0	0	781
1:00	27	34	164	327	157	22	0	0	0	0	0	0	0	731
2:00	1	106	250	2 6	10	1	2	0	0	0	0	0	0	873
3:00	87	68	201	417	164	31	4	0	0	0	0	0	0	72
4:00	131	110	260	308	112	25	3	1	0	0	0	0	0	50
5:00	57	113	253	318	122	16	2	0	0	0	0	0	0	881
6:00	30	27		2 3	148	37	3	0	1	0	0	0	2	640
7:00	25	24	128	22	123	26	2	1	0	0	0	0	0	558
8:00	8	23	76	152	12	33	3	0	2	1	0	0	0	427
:00	12	5	54	131	103	16	7	0	0	0	0	0	0	328
10:00	5		35	110	2	26	7	1	2	0	0	0	0	287
11:00	5	7	35	82	77	38	11	0	0	0	0	0	0	255
Total	64	762	244	4748	2584	5 3	8	1	7	2	0	0	3	11 14

Pioneer Valley Planning Commission

60 Congress Street
Springfield, MA 01104
(413) 781-6045 www.pvpc.org

Location : Springfield
Operator : A JM
Counter : 2068
Road Class : 5
Direction: Combined

Site Code: 1002
Station ID:
St. James Avenue
O Dartmouth St.

2021	0 - 15	15 -	20 -	25 -	30 -	35 -	40 -	45 -	50 -	55 -	60 -	65 -	70	Total
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	
12:00 AM	1	2	40	38	15	12	0	0	0	0	0	0	0	117
1:00	1	1	5	17	16	6	2	1	1	0	0	0	0	50
2:00	0	2	1	17	18	7	1	3	0	0	0	0	0	4
3:00	0	0	5	10	11	5	4	2	0	0	0	0	0	37
4:00	0	0	6	15	23	13	6	1	0	0	0	0	0	64
5:00	5	4	13	65	75	25	3	3	1	0	0	0	0	14
6:00	4	7	32	118	117	40	6	5	2	0	0	0	0	331
7:00	34	48	128	281	174	30	5	2	0	0	0	0	1	703
8:00	48	51	137	320	176	56	14	4	0	0	0	0	0	806
:00	21	27	107	248	203	63	8	0	0	0	0	0	0	677
10:00	16	23	7	274	156	40	4	1	0	0	0	0	0	611
11:00														0
12:00 PM														0
1:00														0
2:00														0
3:00														0
4:00														0
5:00														0
6:00														0
7:00														0
8:00														0
:00														0
10:00														0
11:00														0
Total	130	165	540	1405	1007	300	65	22	4	0	0	0	1	363
Grand Total	1182	1372	483	10010	505	1355	242	50	13	3	1	1	7	2480

Stats	Percentile	15th	50th	85th	5th
Speed		22	28	33	36
Mean Speed (Average)		27.1			
10 MPH Pace Speed		25-34			
umber in Pace		158	4		
Percent in Pace		63.6			
umber 35 MPH		1672			
Percent 35 MPH		6.7			

Pioneer Valley Planning Commission

60 Congress Street
 Springfield, MA 01104
 (413) 781-6045 www.pvpc.org

Location : Springfield
 Operator : A AM
 Counter : 2070
 Road Class : 5
 Direction: B

Site Code: 10030
 Station ID:
 St. James Avenue
 S O Dartmouth St.

2021	0 - 15	15 -	20 -	25 -	30 -	35 -	40 -	45 -	50 -	55 -	60 -	65 -	70	Total
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	
12:00 AM														0
1:00														0
2:00														0
3:00														0
4:00														0
5:00														0
6:00														0
7:00														0
8:00														0
:00														0
10:00	15	13	15	18		3	1	0	0	0	0	0	0	74
11:00	20	31	56	87	50	21	4	2	0	0	0	0	0	271
12:00 PM	23	50	60	68	66	22	6	0	0	0	0	0	0	25
1:00	47	53	80	2	51	21	5	1	0	0	0	0	0	350
2:00	75	84	8	72	5	15	1	0	0	0	0	0	0	404
3:00	5	75	4	72	47	12	5	0	0	0	0	0	0	400
4:00	104	86	122	80	46	14	2	2	0	0	0	0	0	456
5:00	0	87	102	78	43		1	0	0	0	0	0	0	410
6:00	46	4	75	81	30	16	5	0	0	1	0	0	0	303
7:00	28	47	65	68	2	5	3	0	1	0	0	0	0	246
8:00	11	27	61	56	26	12	1	1	0	0	0	0	0	15
:00	11	28	35	41	26		3	0	0	0	0	0	0	153
10:00	3	16	26	40	27	12	5	0	0	0	0	0	0	12
11:00	2	8	13	28	15	11	2	0	0	0	0	0	0	7
Total	570	654	02	881	524	182	44	6	1	1	0	0	0	3765

Pioneer Valley Planning Commission

60 Congress Street
Springfield, MA 01104
(413) 781-6045 www.pvpc.org

Location : Springfield
Operator : A AM
Counter : 2070
Road Class : 5
Direction: B

Site Code: 10030
Station ID:
St. James Avenue
S O Dartmouth St.

30 2021 Time	0 - 15 MPH	15 - 20 MPH	20 - 25 MPH	25 - 30 MPH	30 - 35 MPH	35 - 40 MPH	40 - 45 MPH	45 - 50 MPH	50 - 55 MPH	55 - 60 MPH	60 - 65 MPH	65 - 70 MPH	70 MPH	Total
12:00 AM	0	3	12	11	11	4	0	0	1	0	0	0	0	40
1:00	0	1	7	11	5	5	0	1	0	0	0	0	0	30
2:00	0	2	8	8	4	2	0	1	1	0	0	0	0	26
3:00	0	2	5	5	2	4	1	1	0	0	0	0	0	20
4:00	2	2	11	11	10	5	0	1	0	0	0	0	0	42
5:00	0		2	31	26	12	3	1	1	0	0	0	0	112
6:00	5	17	41	48	27	15	4	0	0	0	0	0	0	157
7:00	2	37	68	5	38	1	3	0	0	0	0	0	0	253
8:00	34	48	66	64	60	14	5	1	0	0	0	0	0	2 2
:00	1	43	70	55	52	14	1	0	0	0	0	0	0	254
10:00	28	4	6	57	47	17	2	2	0	0	0	0	0	271
11:00	33	55	87	65	41	12	4	0	0	0	0	0	0	2 7
12:00 PM	34	47	75	74	45	1	4	0	0	0	0	0	0	2 8
1:00	61	53	76	70	55	14	5	1	0	0	0	0	1	336
2:00	77	82	2	62	20	4	0	0	0	0	0	1	0	338
3:00	0	5		61	45	7	0	0	0	0	0	0	0	3 7
4:00	78	100	6	60	37	15	3	0	0	0	0	0	0	38
5:00	55	75	3	71	64	13	3	0	0	0	1	0	0	375
6:00	50	67	86	76	50	11	3	0	0	0	0	0	0	343
7:00	16	41	55	50	41	8	2	2	0	0	0	0	0	215
8:00	7	22	58	58	40	14	2	0	0	0	0	0	0	201
:00	13	28	3	4	24	11	4	0	0	0	0	0	0	168
10:00	3	8	36	36	38		0	0	0	0	0	0	0	130
11:00	2	6	36	31	18	10	2	1	0	0	0	0	0	106
Total	636	8 2	1314	1121	800	258	51	12	3	0	1	1	1	50 0

Pioneer Valley Planning Commission

60 Congress Street
Springfield, MA 01104
(413) 781-6045 www.pvpc.org

Location : Springfield
Operator : A AM
Counter : 2070
Road Class : 5
Direction: B

Site Code: 10030
Station ID:
St. James Avenue
S O Dartmouth St.

10 1 2021	0 - 15	15 -	20 -	25 -	30 -	35 -	40 -	45 -	50 -	55 -	60 -	65 -	70	Total
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	
12:00 AM	2	4	13	10	14	5	0	0	0	0	0	0	0	48
1:00	1	1	11	7	17	2	0	1	0	0	0	0	0	40
2:00	0	2	6	14	6	3	0	0	1	0	0	0	0	32
3:00	1	4	4	7	4	3	1	0	0	0	0	0	0	24
4:00	2	1	7	8	8	2	1	2	0	0	0	0	0	31
5:00	4	6	27	2	18	16		0	0	0	0	0	0	10
6:00	6	16	36	41	37	20	3	0	0	0	0	0	0	15
7:00	3	50	67	60	50	20	0	0	0	0	0	0	0	286
8:00	33	45	67	63	41	21	2	0	0	0	0	0	0	272
:00	55	54	72	57	51	12	3	3	0	0	0	0	0	307
10:00	42	54	80	7	45	18		0	0	0	0	0	0	327
11:00	0	2	6		12	5	0	0	0	0	0	0	0	34
12:00 PM														0
1:00														0
2:00														0
3:00														0
4:00														0
5:00														0
6:00														0
7:00														0
8:00														0
:00														0
10:00														0
11:00														0
Total	185	23	36	384	303	127	28	6	1	0	0	0	0	166
Grand Total	131	1785	2612	2386	1627	567	123	24	5	1	1	1	1	10524
Stats			Percentile	15th	50th	85th	5th							
			Speed	16	24	32	36							
			Mean Speed (Average)	23.5										
			10 MPH Pace Speed	20-2										
			umber in Pace	486										
			Percent in Pace	47.4										
			umber 35 MPH	723										
			Percent 35 MPH	6.										

Pioneer Valley Planning Commission

60 Congress Street
Springfield, MA 01104
(413) 781-6045 www.pvpc.org

Location : Springfield
Operator : A AM
Counter : 2070
Road Class : 5
Direction: SB

Site Code: 10030
Station ID:
St. James Avenue
S O Dartmouth St.

2021	0 - 15 MPH	15 - 20 MPH	20 - 25 MPH	25 - 30 MPH	30 - 35 MPH	35 - 40 MPH	40 - 45 MPH	45 - 50 MPH	50 - 55 MPH	55 - 60 MPH	60 - 65 MPH	65 - 70 MPH	70 MPH	Total
12:00 AM														0
1:00														0
2:00														0
3:00														0
4:00														0
5:00														0
6:00														0
7:00														0
8:00														0
9:00														0
10:00	3	0	4	24	31		0	1	0	0	0	0	0	72
11:00	0	1	15	44	85	35	11	2	0	0	0	0	0	13
12:00 PM	1	2	10	77	107	42	8	5	1	0	0	0	0	253
1:00	2	3	15	78	114	41	6	2	2	0	0	0	0	263
2:00	6	3	34	111	115	26	5	0	0	0	0	0	0	300
3:00	12	17	36	106	122	37	3	0	1	0	0	0	0	334
4:00	16	8	41	132	114	2	5	2	0	0	0	0	0	347
5:00	20	1	2	5	122	28	2	3	2	0	0	0	0	302
6:00		7	34	84	112	33	3	0	0	0	0	0	0	282
7:00	2	3	22	7	6	31	5	3	0	0	0	0	0	232
8:00	0	0	4	42	56	26	7	0	0	0	0	0	0	135
9:00	2	3	11	30	45	26	4	1	1	0	0	0	0	123
10:00	1	2	6	22	38	1	3	2	0	1	0	0	0	4
11:00	0	1	2	15	34	11	1	2	2	0	0	0	0	68
Total	74	51	263	57	1164	33	63	23	1	0	0	0	0	28

Pioneer Valley Planning Commission

60 Congress Street
Springfield, MA 01104
(413) 781-6045 www.pvpc.org

Location : Springfield
Operator : A AM
Counter : 2070
Road Class : 5
Direction: SB

Site Code: 10030
Station ID:
St. James Avenue
S O Dartmouth St.

30 2021 Time	0 - 15 MPH	15 - 20 MPH	20 - 25 MPH	25 - 30 MPH	30 - 35 MPH	35 - 40 MPH	40 - 45 MPH	45 - 50 MPH	50 - 55 MPH	55 - 60 MPH	60 - 65 MPH	65 - 70 MPH	70 MPH	Total
12:00 AM	0	0	2	3	14	5	2	2	0	0	0	0	1	2
1:00	0	0	0	6	4	4	1	0	0	0	0	0	0	15
2:00	0	0	1	6	10	4	2	0	1	2	0	0	0	26
3:00	0	1	2	3	6	5	1	0	0	0	0	0	0	18
4:00	0	0	0	12	11	5	1	1	0	0	0	0	0	30
5:00	0	0	1	16	14	8	4	0	0	0	0	0	0	43
6:00	0	2	1	33	42	20	4	1	0	0	0	0	0	112
7:00	5	2	22	86	2	53	8	0	0	0	0	0	0	268
8:00	7	2	13	80	116	36	5	0	1	0	0	0	0	260
:00	2	1	17	77	87	36	6	0	0	0	0	0	0	226
10:00	3	3	15	61	82	28	6	2	0	0	0	0	0	200
11:00	3	5	25	65	101	21	14	2	0	0	0	0	0	236
12:00 PM	6	2	18	71	81	36	8	1	0	0	0	0	0	223
1:00	11	2	10	85	105	36	3	0	1	0	0	0	0	253
2:00	8	18	53	107	6	17	2	0	0	0	0	0	0	301
3:00	14	7	51	126	5	21	3	0	0	0	0	0	0	317
4:00	15	1	35	111	128	3	8	0	0	0	0	0	0	337
5:00	5	4	21	7	137	4	11	2	0	1	0	0	0	327
6:00	15	3	30		78	26	6	1	0	0	0	0	0	258
7:00	1	0	27	6	0	37	5	2	0	0	0	0	0	231
8:00	0	1	6	43	70	24	7	1	0	0	0	0	0	152
:00	1	0	1	42	47	23	3	0	1	1	0	0	0	11
10:00	0	0	5	27	3	21	7	3	0	0	0	0	0	102
11:00	0	1	1	11	22	14	5	2	0	1	0	0	0	57
Total	6	55	357	1336	1567	568	127	23	5	5	0	0	1	4140

Pioneer Valley Planning Commission

60 Congress Street
Springfield, MA 01104
(413) 781-6045 www.pvpc.org

Location : Springfield
Operator : A AM
Counter : 2070
Road Class : 5
Direction: SB

Site Code: 10030
Station ID:
St. James Avenue
S O Dartmouth St.

10 1 2021	0 - 15	15 -	20 -	25 -	30 -	35 -	40 -	45 -	50 -	55 -	60 -	65 -	70	Total
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	
12:00 AM	0	0	1	11	20	10	6	2	0	0	0	0	0	50
1:00	0	1	2		6	4	3	0	0	0	0	0	0	25
2:00	0	0	3	5	5	5	2	1	1	0	0	0	0	22
3:00	0	2	0	1		4	1	0	0	0	0	0	0	17
4:00	0	0	0	2	6	4	3	1	2	0	0	0	0	18
5:00	0	1	1	2	1	13	7	0	1	0	0	0	0	44
6:00	0	0	8	22	38	27	4	1	1	1	1	0	0	103
7:00	3	5	25	68	100	42	11	4	1	0	0	0	0	25
8:00	5	1	21	80	106	43		3	0	0	0	0	0	268
:00	6	3	15	68	5	45	13	2	1	0	0	0	0	248
10:00	5	7	22	78	110	43	17	2	0	0	0	0	0	284
11:00	1	1	1	12	18	8	2	0	0	0	0	0	0	43
12:00 PM														0
1:00														0
2:00														0
3:00														0
4:00														0
5:00														0
6:00														0
7:00														0
8:00														0
:00														0
10:00														0
11:00														0
Total	20	21	358	532	248	78	16	7	1	1	0	0	0	1381
Grand Total	1 0	127	71	2651	3263	120	268	62	21	7	1	0	1	851
Stats		Percentile	15th	50th	85th	5th								
		Speed	26	31	36	3								
	Mean Speed (Average)		30.6											
	10 MPH Pace Speed		25-34											
	umber in Pace		5863											
	Percent in Pace		68.8											
	umber 35 MPH		156											
	Percent 35 MPH		18.4											

Pioneer Valley Planning Commission

60 Congress Street
 Springfield, MA 01104
 (413) 781-6045 www.pvpc.org

Location : Springfield
 Operator : A AM
 Counter : 2070
 Road Class : 5
 Direction: Combined

Site Code: 10030
 Station ID:
 St. James Avenue
 S O Dartmouth St.

2021	0 - 15	15 -	20 -	25 -	30 -	35 -	40 -	45 -	50 -	55 -	60 -	65 -	70	Total
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	
12:00 AM														0
1:00														0
2:00														0
3:00														0
4:00														0
5:00														0
6:00														0
7:00														0
8:00														0
:00														0
10:00	18	13	1	42	40	12	1	1	0	0	0	0	0	146
11:00	20	32	71	131	135	56	15	4	0	0	0	0	0	464
12:00 PM	24	52	70	145	173	64	14	5	1	0	0	0	0	548
1:00	4	56	5	170	165	62	11	3	2	0	0	0	0	613
2:00	81	87	132	183	174	41	6	0	0	0	0	0	0	704
3:00	107	2	130	178	16	4	8	0	1	0	0	0	0	734
4:00	120	4	163	212	160	43	7	4	0	0	0	0	0	803
5:00	110	88	131	173	165	37	3	3	2	0	0	0	0	712
6:00	55	56	10	165	142	4	8	0	0	1	0	0	0	585
7:00	30	50	87	165	8	36	8	3	1	0	0	0	0	478
8:00	11	27	65	8	82	38	8	1	0	0	0	0	0	330
:00	13	31	46	71	71	35	7	1	1	0	0	0	0	276
10:00	4	18	32	62	65	31	8	2	0	1	0	0	0	223
11:00	2		15	43	4	22	3	2	2	0	0	0	0	147
Total	644	705	1165	1838	1688	575	107	2	10	2	0	0	0	6763

Pioneer Valley Planning Commission

60 Congress Street
Springfield, MA 01104
(413) 781-6045 www.pvpc.org

Location : Springfield
Operator : A AM
Counter : 2070
Road Class : 5
Direction: Combined

Site Code: 10030
Station ID:
St. James Avenue
S O Dartmouth St.

30 2021	0 - 15	15 -	20 -	25 -	30 -	35 -	40 -	45 -	50 -	55 -	60 -	65 -	70	Total
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	
12:00 AM	0	3	14	12	25		2	2	1	0	0	0	1	6
1:00	0	1	7	17			1	1	0	0	0	0	0	45
2:00	0	2		14	14	6	2	1	2	2	0	0	0	52
3:00	0	3	7	8	8		2	1	0	0	0	0	0	38
4:00	2	2	11	23	21	10	1	2	0	0	0	0	0	72
5:00	0		30	47	40	20	7	1	1	0	0	0	0	155
6:00	5	1	42	81	6	35	13	4	1	0	0	0	0	26
7:00	34	3	0	145	130	72	11	0	0	0	0	0	0	521
8:00	41	50	7	144	176	50	10	1	1	0	0	0	0	552
:00	21	44	87	132	13	50	7	0	0	0	0	0	0	480
10:00	31	52	84	118	12	45	8	4	0	0	0	0	0	471
11:00	36	60	112	130	142	33	18	2	0	0	0	0	0	533
12:00 PM	40	4	3	145	126	55	12	1	0	0	0	0	0	521
1:00	72	55	86	155	160	50	8	1	1	0	0	0	1	58
2:00	85	100	145	16	116	21	2	0	0	0	0	1	0	63
3:00	104	102	150	187	140	28	3	0	0	0	0	0	0	714
4:00	3	101	131	171	165	54	11	0	0	0	0	0	0	726
5:00	60	7	114	168	201	62	14	2	0	1	1	0	0	702
6:00	65	70	116	175	128	37		1	0	0	0	0	0	601
7:00	17	41	82	11	131	45	7	4	0	0	0	0	0	446
8:00	7	23	64	101	110	38		1	0	0	0	0	0	353
:00	14	28	40	1	71	34	7	0	1	1	0	0	0	287
10:00	3	8	41	63	77	30	7	3	0	0	0	0	0	232
11:00	2	7	37	42	40	24	7	3	0	1	0	0	0	163
Total	732	47	1671	2457	2367	826	178	35	8	5	1	1	2	230

Pioneer Valley Planning Commission

60 Congress Street
Springfield, MA 01104
(413) 781-6045 www.pvpc.org

Location : Springfield
Operator : A AM
Counter : 2070
Road Class : 5
Direction: Combined

Site Code: 10030
Station ID:
St. James Avenue
S O Dartmouth St.

10 1 2021	0 - 15	15 -	20 -	25 -	30 -	35 -	40 -	45 -	50 -	55 -	60 -	65 -	70	Total
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	
12:00 AM	2	4	14	21	34	15	6	2	0	0	0	0	0	8
1:00	1	2	13	16	23	6	3	1	0	0	0	0	0	65
2:00	0	2		1	11	8	2	1	2	0	0	0	0	54
3:00	1	6	4	8	13	7	2	0	0	0	0	0	0	41
4:00	2	1	7	10	14	6	4	3	2	0	0	0	0	4
5:00	4	7	28	31	37	2	16	0	1	0	0	0	0	153
6:00	6	16	44	63	75	47	7	1	1	1	1	0	0	262
7:00	42	55	2	128	150	62	11	4	1	0	0	0	0	545
8:00	38	46	88	143	147	64	11	3	0	0	0	0	0	540
:00	61	57	87	125	146	57	16	5	1	0	0	0	0	555
10:00	47	61	102	157	155	61	26	2	0	0	0	0	0	611
11:00	1	3	7	21	30	13	2	0	0	0	0	0	0	77
12:00 PM														0
1:00														0
2:00														0
3:00														0
4:00														0
5:00														0
6:00														0
7:00														0
8:00														0
:00														0
10:00														0
11:00														0
Total	205	260	4 5	742	835	375	106	22	8	1	1	0	0	3050
Grand Total	1581	1 12	3331	5037	48 0	1776	3 1	86	26	8	2	1	2	1 043

Stats	Percentile	15th	50th	85th	5th
Speed		1	28	34	38
Mean Speed (Average)		26.7			
10 MPH Pace Speed		25-34			
umber in Pace		8 6			
Percent in Pace		52.0			
umber 35 MPH		22 2			
Percent 35 MPH		12.0			

Pioneer Valley Planning Commission

60 Congress Street
 Springfield, MA 01104
 (413) 781-6045 www.pvpc.org

Location : Springfield
 Operator : A JM
 Counter : 2075
 Road Class : 5
 Direction: B

Site Code: 10031
 Station ID:
 Dartmouth Street
 E O St. James Street

27 2021	0 - 15	15 -	20 -	25 -	30 -	35 -	40 -	45 -	50 -	55 -	60 -	65 -	70	Total
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	
12:00 AM														0
1:00														0
2:00														0
3:00														0
4:00														0
5:00														0
6:00														0
7:00														0
8:00														0
:00	2	0	6	16	12	5	0	0	0	0	0	0	0	41
10:00	0	0	2	42	5	30	6	0	0	0	0	0	0	13
11:00	1	3	23	64	47	1	3	1	0	0	0	0	0	161
12:00 PM	1	2	11	53	60	21	3	0	0	0	0	0	0	151
1:00	2	1	8	43	76	32	7	1	0	0	0	0	0	170
2:00	3	1	21	76	7	41	6	0	0	0	0	0	0	245
3:00	3	2	22	110	7	45	4	0	0	0	0	0	0	283
4:00	2	6	14	71	100	36	6	0	0	1	0	0	0	236
5:00	1	10	11	47	62	32		0	0	0	0	0	0	172
6:00	2	6	12	62	61	1	4	1	0	0	0	0	0	167
7:00	1	2	18	47	47	11	5	0	0	0	0	0	0	131
8:00	3	1	4	25	32		1	0	0	0	0	0	0	75
:00	1	1	6	12	1	8	1	1	0	0	0	0	0	4
10:00	3	0	2	25	22	10	1	2	0	0	0	0	1	66
11:00	1	0	0	15	15		1	0	0	0	0	0	0	41
Total	26	35	160	708	806	327	57	6	0	1	0	0	1	2127

Pioneer Valley Planning Commission

60 Congress Street
Springfield, MA 01104
(413) 781-6045 www.pvpc.org

Location : Springfield
Operator : A JM
Counter : 2075
Road Class : 5
Direction: B

Site Code: 10031
Station ID:
Dartmouth Street
E O St. James Street

28 2021	0 - 15	15 -	20 -	25 -	30 -	35 -	40 -	45 -	50 -	55 -	60 -	65 -	70	Total
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	
12:00 AM	1	1	1	3	6	5	1	0	2	0	0	0	0	20
1:00	0	0	0	1	4	4	2	0	0	0	1	0	0	12
2:00	0	0	0	2	4	3	0	1	0	0	0	0	0	10
3:00	0	0	1	1	0	2	0	0	0	0	0	0	0	4
4:00	0	0	3	5	4	2	2	0	1	0	0	0	0	17
5:00	0	0	1	10	15	11	2	1	0	0	0	0	0	40
6:00	1	4	6	16	30	16	3	1	0	0	0	0	0	77
7:00	0	1	18	47	1	28	5	0	0	0	0	0	0	1 0
8:00	0	1	20	63	2	32	3	1	0	0	0	0	0	212
:00	1	1		42	55	27	7	1	1	0	0	0	0	144
10:00	1	0		46	47	21	2	0	0	0	0	0	0	126
11:00	0	3	18	44	67	17	4	1	0	0	0	0	0	154
12:00 PM	0	1	12	56	78	21	2	1	0	0	0	0	0	171
1:00	1	1	13	56	68	1	4	0	1	0	0	0	0	163
2:00	8	6	2	78	8	38	3	0	1	0	0	0	0	252
3:00	3	3	26	124	104	1	2	0	0	0	0	0	0	281
4:00	5	0	13	57	6	34	5	1	0	0	0	0	0	184
5:00	0	3	11	41	70	24		0	0	0	0	0	0	158
6:00	2	2	15	40	54	1	3	2	0	0	0	0	0	137
7:00	2	0	15	53	33	16	4	0	0	0	0	0	0	123
8:00	0	2	5	34	28	17	6	0	0	0	0	0	0	2
:00	3	1	6	22	24	15	4	1	0	0	0	0	0	76
10:00	1	2		15	24	4	6	1	1	0	0	0	0	63
11:00	0	0	3	14	12	4	2	0	0	0	0	0	0	35
Total	2	32	243	870	1068	3 8	81	12	7	0	1	0	0	2741

Pioneer Valley Planning Commission

60 Congress Street
Springfield, MA 01104
(413) 781-6045 www.pvpc.org

Location : Springfield
Operator : A JM
Counter : 2075
Road Class : 5
Direction: B

Site Code: 10031
Station ID:
Dartmouth Street
E O St. James Street

2021 Time	0 - 15 MPH	15 - 20 MPH	20 - 25 MPH	25 - 30 MPH	30 - 35 MPH	35 - 40 MPH	40 - 45 MPH	45 - 50 MPH	50 - 55 MPH	55 - 60 MPH	60 - 65 MPH	65 - 70 MPH	70 MPH	Total
12:00 AM	1	2	3	6	11	1	2	2	0	0	0	0	0	28
1:00	0	0	0	8	4	1	0	1	0	0	0	0	0	14
2:00	0	0	0	1	1	3	1	0	0	0	0	0	0	6
3:00	0	1	0	3	0	2	2	0	0	0	0	0	0	8
4:00	0	0	1	6	3	1	2	0	0	0	0	0	0	13
5:00	0	0	3	8	12	8	3	0	0	0	0	0	0	34
6:00	1	2	4	15	33	17	4	0	1	0	0	0	0	77
7:00	1	5	20	75	76	21	3	1	0	0	0	0	0	202
8:00	2	1	10	65	106	26	12	2	0	0	0	0	0	224
:00	1	4	11	41	70	36	5	1	0	0	0	0	0	16
10:00	1	1	10	45	60	31	12	1	0	0	0	0	0	161
11:00														0
12:00 PM														0
1:00														0
2:00														0
3:00														0
4:00														0
5:00														0
6:00														0
7:00														0
8:00														0
:00														0
10:00														0
11:00														0
Total	7	16	62	273	376	147	46	8	1	0	0	0	0	36
Grand Total	62	83	465	1851	2250	872	184	26	8	1	1	0	1	5804
Stats			Percentile	15th	50th	85th	5th							
			Speed	26	31	36	3							
		Mean Speed (Average)		30.										
		10 MPH Pace Speed		25-34										
		umber in Pace		4065										
		Percent in Pace		70.0										
		umber 25 MPH		51 4										
		Percent 25 MPH		8 .5										

Pioneer Valley Planning Commission

60 Congress Street
Springfield, MA 01104
(413) 781-6045 www.pvpc.org

Location : Springfield
Operator : A JM
Counter : 2075
Road Class : 5
Direction: EB

Site Code: 10031
Station ID:
Dartmouth Street
E O St. James Street

27 2021	0 - 15	15 -	20 -	25 -	30 -	35 -	40 -	45 -	50 -	55 -	60 -	65 -	70	Total
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	
12:00 AM														0
1:00														0
2:00														0
3:00														0
4:00														0
5:00														0
6:00														0
7:00														0
8:00														0
:00	3	5	3		11	3	1	0	0	0	0	0	0	35
10:00	0	2	16	3	55	21	3	0	0	0	0	0	0	136
11:00	0	5	13	71	64	10	2	0	0	0	0	0	0	165
12:00 PM	5	6	1	65	63	20	4	1	0	0	0	0	1	184
1:00	0	0	12	72	67	25	5	1	0	0	0	0	0	182
2:00	2	5	14	88	101	36	3	2	0	0	0	0	0	251
3:00	0	3	15	2	107	37	4	0	0	1	0	0	0	25
4:00	5	2	27	103	111	28	5	1	0	0	0	0	0	282
5:00	4	3	12	72	76	27	6	2	0	1	0	0	0	203
6:00	1	5	8	72	71	14	3	0	0	0	0	0	0	174
7:00	0	2	8	66	42	7	3	1	0	0	0	0	0	12
8:00	2	2	3	43	4	8	3	1	0	0	0	0	0	111
:00	1	1	4	24	34	6	6	1	0	0	0	0	0	77
10:00	1	0	5	1	42	14	3	2	1	0	0	0	0	87
11:00	1	0	5	24	21		1	0	0	0	0	0	0	61
Total	25	41	164	85	14	265	52	12	1	2	0	0	1	2336

Pioneer Valley Planning Commission

60 Congress Street
Springfield, MA 01104
(413) 781-6045 www.pvpc.org

Location : Springfield
Operator : A JM
Counter : 2075
Road Class : 5
Direction: EB

Site Code: 10031
Station ID:
Dartmouth Street
E O St. James Street

28 2021	0 - 15	15 -	20 -	25 -	30 -	35 -	40 -	45 -	50 -	55 -	60 -	65 -	70	Total
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	
12:00 AM	0	0	0	5	11	10	3	0	0	0	0	0	0	2
1:00	0	0	0	5	3	3	2	0	0	0	0	0	0	13
2:00	0	1	0	3	3	0	1	0	0	0	0	0	0	8
3:00	0	0	2	5	6	1	0	0	0	0	0	0	0	14
4:00	1	1	1	4	2	3	1	0	0	0	0	0	0	13
5:00	0	0	3	6	12	5	1	1	0	0	0	0	0	28
6:00	0	0	5	22	27	10	3	0	0	0	0	0	0	67
7:00	1	1	11	4	83	1	4	1	1	0	0	0	0	170
8:00	3	3	13	72	117	26	2	1	0	0	0	0	0	237
:00	3	1		44	73	13	1	1	0	0	0	0	0	145
10:00	3	0	15	47	57	12	2	0	0	0	0	0	0	136
11:00	1	3	8	63	73	16	4	2	0	0	0	0	0	170
12:00 PM	3	0	14	66	84	17	3	0	0	0	0	0	0	187
1:00	7	0	5	55	6	21	2	0	0	0	0	0	0	15
2:00	2	3	25	0	100	23	2	1	0	0	0	0	0	246
3:00	2	2	24	87	102	2	0	0	0	0	0	0	0	246
4:00	2	7	17	10	117	23	1	0	0	0	0	0	0	276
5:00	4	1	22	74	87	1	2	1	0	0	0	0	0	210
6:00	1	1	10	56	51	12	0	1	0	0	0	0	0	132
7:00	1	1	15	56	5	11	1	0	0	0	0	0	0	144
8:00	0	3	10	43	38	12	2	0	0	0	0	0	0	108
:00	3	1	4	33	42	10	1	1	0	0	0	0	0	5
10:00	2	1	6	38	20	10	1	0	0	0	0	0	0	78
11:00	0	0	1	13	26	10	0	0	0	0	0	0	0	50
Total	3	30	220	1045	1262	315	3	10	1	0	0	0	0	2 61

Pioneer Valley Planning Commission

60 Congress Street
Springfield, MA 01104
(413) 781-6045 www.pvpc.org

Location : Springfield
Operator : A JM
Counter : 2075
Road Class : 5
Direction: EB

Site Code: 10031
Station ID:
Dartmouth Street
E O St. James Street

2021	0 - 15	15 -	20 -	25 -	30 -	35 -	40 -	45 -	50 -	55 -	60 -	65 -	70	Total
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	
12:00 AM	1	0	0	10	16	2	1	0	0	0	0	0	0	30
1:00	0	1	1	5	5	3	1	0	0	0	0	0	0	16
2:00	0	0	0	1	3	2	1	0	0	0	0	0	0	7
3:00	0	0	2	2	3	1	1	0	0	0	0	0	0	
4:00	1	0	1	7	2	3	0	0	0	0	0	0	0	14
5:00	0	0	0		10	3	0	1	0	0	0	0	0	23
6:00	0	0	4	20	28	10	5	1	0	0	0	0	0	68
7:00	1	0	18	76	60	14	1	1	0	0	0	0	0	171
8:00	2	0	23	5	8	28	3	0	0	0	0	0	0	240
:00	1	2	7	53	71	34	3	0	0	0	0	0	0	171
10:00	0	0	8	55	60	23	2	1	0	0	0	0	0	14
11:00														0
12:00 PM														0
1:00														0
2:00														0
3:00														0
4:00														0
5:00														0
6:00														0
7:00														0
8:00														0
:00														0
10:00														0
11:00														0
Total	6	3	64	333	347	123	18	4	0	0	0	0	0	88
Grand Total	70	74	448	2237	2523	703	10	26	2	2	0	0	1	615

Stats	Percentile	15th	50th	85th	5th
	Speed	26	30	35	38
	Mean Speed (Average)	30.4			
	10 MPH Pace Speed	25-34			
	umber in Pace	471			
	Percent in Pace	76.2			
	umber 25 MPH	5603			
	Percent 25 MPH	0.4			

Pioneer Valley Planning Commission

60 Congress Street
 Springfield, MA 01104
 (413) 781-6045 www.pvpc.org

Location : Springfield
 Operator : A JM
 Counter : 2075
 Road Class : 5
 Direction: Combined

Site Code: 10031
 Station ID:
 Dartmouth Street
 E O St. James Street

27 2021	0 - 15	15 -	20 -	25 -	30 -	35 -	40 -	45 -	50 -	55 -	60 -	65 -	70	Total
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	
12:00 AM														0
1:00														0
2:00														0
3:00														0
4:00														0
5:00														0
6:00														0
7:00														0
8:00														0
:00	5	5		25	23	8	1	0	0	0	0	0	0	76
10:00	0	2	18	81	114	51		0	0	0	0	0	0	275
11:00	1	8	36	135	111	2	5	1	0	0	0	0	0	326
12:00 PM	6	8	30	118	123	41	7	1	0	0	0	0	1	335
1:00	2	1	20	115	143	57	12	2	0	0	0	0	0	352
2:00	5	6	35	164	18	77		2	0	0	0	0	0	46
3:00	3	5	37	202	204	82	8	0	0	1	0	0	0	542
4:00	7	8	41	174	211	64	11	1	0	1	0	0	0	518
5:00	5	13	23	11	138	5	15	2	0	1	0	0	0	375
6:00	3	11	20	134	132	33	7	1	0	0	0	0	0	341
7:00	1	4	26	113	8	18	8	1	0	0	0	0	0	260
8:00	5	3	7	68	81	17	4	1	0	0	0	0	0	186
:00	2	2	10	36	53	14	7	2	0	0	0	0	0	126
10:00	4	0	7	44	64	24	4	4	1	0	0	0	1	153
11:00	2	0	5	3	36	18	2	0	0	0	0	0	0	102
Total	51	76	324	1567	1720	52	10	18	1	3	0	0	2	4463

Pioneer Valley Planning Commission

60 Congress Street
Springfield, MA 01104
(413) 781-6045 www.pvpc.org

Location : Springfield
Operator : A JM
Counter : 2075
Road Class : 5
Direction: Combined

Site Code: 10031
Station ID:
Dartmouth Street
E O St. James Street

28 2021	0 - 15	15 -	20 -	25 -	30 -	35 -	40 -	45 -	50 -	55 -	60 -	65 -	70	Total
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	
12:00 AM	1	1	1	8	17	15	4	0	2	0	0	0	0	4
1:00	0	0	0	6	7	7	4	0	0	0	1	0	0	25
2:00	0	1	0	5	7	3	1	1	0	0	0	0	0	18
3:00	0	0	3	6	6	3	0	0	0	0	0	0	0	18
4:00	1	1	4		6	5	3	0	1	0	0	0	0	30
5:00	0	0	4	16	27	16	3	2	0	0	0	0	0	68
6:00	1	4	11	38	57	26	6	1	0	0	0	0	0	144
7:00	1	2	2	6	174	47		1	1	0	0	0	0	360
8:00	3	4	33	135	20	58	5	2	0	0	0	0	0	44
:00	4	2	18	86	128	40	8	2	1	0	0	0	0	28
10:00	4	0	24	3	104	33	4	0	0	0	0	0	0	262
11:00	1	6	26	107	140	33	8	3	0	0	0	0	0	324
12:00 PM	3	1	26	122	162	38	5	1	0	0	0	0	0	358
1:00	8	1	18	111	137	40	6	0	1	0	0	0	0	322
2:00	10		54	168	18	61	5	1	1	0	0	0	0	4 8
3:00	5	5	50	211	206	48	2	0	0	0	0	0	0	527
4:00	7	7	30	166	186	57	6	1	0	0	0	0	0	460
5:00	4	4	33	115	157	43	11	1	0	0	0	0	0	368
6:00	3	3	25	6	105	31	3	3	0	0	0	0	0	26
7:00	3	1	30	10	2	27	5	0	0	0	0	0	0	267
8:00	0	5	15	77	66	2	8	0	0	0	0	0	0	200
:00	6	2	10	55	66	25	5	2	0	0	0	0	0	171
10:00	3	3	15	53	44	14	7	1	1	0	0	0	0	141
11:00	0	0	4	27	38	14	2	0	0	0	0	0	0	85
Total	68	62	463	1 15	2330	713	120	22	8	0	1	0	0	5702

Pioneer Valley Planning Commission

60 Congress Street
Springfield, MA 01104
(413) 781-6045 www.pvpc.org

Location : Springfield
Operator : A JM
Counter : 2075
Road Class : 5
Direction: Combined

Site Code: 10031
Station ID:
Dartmouth Street
E O St. James Street

2021	0 - 15	15 -	20 -	25 -	30 -	35 -	40 -	45 -	50 -	55 -	60 -	65 -	70	Total
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	
12:00 AM	2	2	3	16	27	3	3	2	0	0	0	0	0	58
1:00	0	1	1	13		4	1	1	0	0	0	0	0	30
2:00	0	0	0	2	4	5	2	0	0	0	0	0	0	13
3:00	0	1	2	5	3	3	3	0	0	0	0	0	0	17
4:00	1	0	2	13	5	4	2	0	0	0	0	0	0	27
5:00	0	0	3	17	22	11	3	1	0	0	0	0	0	57
6:00	1	2	8	35	61	27		1	1	0	0	0	0	145
7:00	2	5	38	151	136	35	4	2	0	0	0	0	0	373
8:00	4	1	33	160	15	54	15	2	0	0	0	0	0	464
:00	2	6	18	4	141	70	8	1	0	0	0	0	0	340
10:00	1	1	18	100	120	54	14	2	0	0	0	0	0	310
11:00														0
12:00 PM														0
1:00														0
2:00														0
3:00														0
4:00														0
5:00														0
6:00														0
7:00														0
8:00														0
:00														0
10:00														0
11:00														0
Total	13	1	126	606	723	270	64	12	1	0	0	0	0	1834
Grand Total	132	157	13	4088	4773	1575	23	52	10	3	1	0	2	11

Stats	Percentile	15th	50th	85th	5th
	Speed	26	31	35	38
	Mean Speed (Average)	30.6			
	10 MPH Pace Speed	25-34			
	umber in Pace	8784			
	Percent in Pace	73.2			
	umber 25 MPH	1077			
	Percent 25 MPH	0.0			

Pioneer Valley Planning Commission

60 Congress Street
 Springfield, MA 01104
 (413) 781-6045 www.pvpc.org

Location : Springfield
 Operator : A JM
 Counter : 2073
 Road Class :
 Direction: B

Site Code: 10032
 Station ID:
 Dartmouth Terr.
 O rthington St.

27 2021	0 - 15	15 -	20 -	25 -	30 -	35 -	40 -	45 -	50 -	55 -	60 -	65 -	70	Total
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	
12:00 AM														0
1:00														0
2:00														0
3:00														0
4:00														0
5:00														0
6:00														0
7:00														0
8:00														0
:00														0
10:00	2	1	0	0	0	0	0	0	0	0	0	0	0	3
11:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
12:00 PM	0	3	0	0	0	0	0	0	0	0	0	0	0	3
1:00	0	0	1	2	1	0	0	0	0	0	0	0	0	4
2:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
3:00	3	2	1	1	0	0	0	0	0	0	0	0	0	7
4:00	1	4	0	3	1	0	0	0	0	0	0	0	0	
5:00	1	0	0	1	1	0	0	0	0	0	0	0	0	3
6:00	1	2	1	1	0	0	0	0	0	0	0	0	0	5
7:00	0	0	1	2	0	1	0	0	0	0	0	0	0	4
8:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
:00	0	1	1	1	0	0	0	0	0	0	0	0	0	3
10:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1
11:00	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Total	8	18	7	12	3	1	0	0	0	0	0	0	0	4

Pioneer Valley Planning Commission

60 Congress Street
 Springfield, MA 01104
 (413) 781-6045 www.pvpc.org

Location : Springfield
 Operator : A JM
 Counter : 2073
 Road Class :
 Direction: B

Site Code: 10032
 Station ID:
 Dartmouth Terr.
 O rthington St.

28 2021	0 - 15	15 -	20 -	25 -	30 -	35 -	40 -	45 -	50 -	55 -	60 -	65 -	70	Total
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	1	1	0	0	0	0	0	0	0	0	0	0	0	2
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	2	0	1	0	0	0	0	0	0	0	0	0	0	3
7:00	3	0	0	1	0	0	0	0	0	0	0	0	0	4
8:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1
:00	1	2	1	1	0	0	0	0	0	0	0	0	0	5
10:00	0	0	1	0	1	0	0	0	0	0	0	0	0	2
11:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1
12:00 PM	0	4	2	0	0	0	0	0	0	0	0	0	0	6
1:00	0	1	0	2	1	0	0	0	0	0	0	0	0	4
2:00	0	0	3	1	0	0	0	0	0	0	0	0	0	4
3:00	3	2	1	1	0	0	0	0	0	0	0	0	0	7
4:00	1	3	1	0	1	0	0	0	0	0	0	0	0	6
5:00	0	1	2	0	0	0	0	0	0	0	0	0	0	3
6:00	1	0	0	3	1	0	0	0	0	0	0	0	0	5
7:00	0	1	1	2	0	0	0	0	0	0	0	0	0	4
8:00	0	0	1	1	1	0	0	0	0	0	0	0	0	3
:00	1	0	0	0	0	0	0	0	0	0	0	0	0	1
10:00	0	0	1	1	0	0	0	0	0	0	0	0	0	2
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	13	15	15	16	5	0	0	0	0	0	0	0	0	64

Pioneer Valley Planning Commission

60 Congress Street
Springfield, MA 01104
(413) 781-6045 www.pvpc.org

Location : Springfield
Operator : A JM
Counter : 2073
Road Class :
Direction: B

Site Code: 10032
Station ID:
Dartmouth Terr.
Orthington St.

2021 Time	0 - 15 MPH	15 - 20 MPH	20 - 25 MPH	25 - 30 MPH	30 - 35 MPH	35 - 40 MPH	40 - 45 MPH	45 - 50 MPH	50 - 55 MPH	55 - 60 MPH	60 - 65 MPH	65 - 70 MPH	70 MPH	Total
12:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	1
1:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	1	0	1	1	0	0	0	0	0	0	0	0	0	3
7:00	2	0	0	1	0	0	0	0	0	0	0	0	0	3
8:00	1	1	0	0	0	0	0	0	0	0	0	0	0	2
:00	1	1	0	0	0	0	0	0	0	0	0	0	0	2
10:00	0	0	2	0	0	0	0	0	0	0	0	0	0	2
11:00	1	1	0	0	1	0	0	0	0	0	0	0	0	3
12:00 PM														0
1:00														0
2:00														0
3:00														0
4:00														0
5:00														0
6:00														0
7:00														0
8:00														0
:00														0
10:00														0
11:00														0
Total	6	3	3	3	2	0	0	0	0	0	0	0	0	17
Grand Total	27	36	25	31	10	1	0	0	0	0	0	0	0	130

Stats	Percentile	15th	50th	85th	5th
	Speed	14	21	27	30
	Mean Speed (Average)	20.1			
	10 MPH Pace Speed	15-24			
	umber in Pace	61			
	Percent in Pace	46.			
	umber 25 MPH	42			
	Percent 25 MPH	32.3			

Pioneer Valley Planning Commission

60 Congress Street
 Springfield, MA 01104
 (413) 781-6045 www.pvpc.org

Location : Springfield
 Operator : A JM
 Counter : 2072
 Road Class :
 Direction: EB

Site Code: 10033
 Station ID:
 Dartmouth Terr.
 O rthington St.

27 2021	0 - 15	15 -	20 -	25 -	30 -	35 -	40 -	45 -	50 -	55 -	60 -	65 -	70	Total
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	
12:00 AM														0
1:00														0
2:00														0
3:00														0
4:00														0
5:00														0
6:00														0
7:00														0
8:00														0
:00														0
10:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
11:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
12:00 PM	1	1	2	0	0	0	0	0	0	0	0	0	0	4
1:00	1	3	1	1	0	0	0	0	0	0	0	0	0	6
2:00	1	1	2	3	1	0	0	0	0	0	0	0	0	8
3:00	1	1	3	3	0	0	0	0	0	0	0	0	0	8
4:00	2	2	1	1	1	0	0	0	0	0	0	0	0	7
5:00	2	0	4	1	0	0	0	0	0	0	0	0	0	7
6:00	2	1	1	1	0	0	0	0	0	0	0	0	0	5
7:00	0	0	1	1	0	0	0	0	0	0	0	0	0	2
8:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1
:00	1	0	0	0	0	0	0	0	0	0	0	0	0	1
10:00	0	2	2	0	0	0	0	0	0	0	0	0	0	4
11:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
Total	11	14	18	12	2	0	0	0	0	0	0	0	0	57

Pioneer Valley Planning Commission

60 Congress Street
 Springfield, MA 01104
 (413) 781-6045 www.pvpc.org

Location : Springfield
 Operator : A JM
 Counter : 2072
 Road Class :
 Direction: EB

Site Code: 10033
 Station ID:
 Dartmouth Terr.
 O rthington St.

28 2021	0 - 15	15 -	20 -	25 -	30 -	35 -	40 -	45 -	50 -	55 -	60 -	65 -	70	Total
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	
12:00 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	2
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	2	1	0	0	0	0	0	0	0	0	0	0	0	3
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
6:00	2	1	2	1	0	0	0	0	0	0	0	0	0	6
7:00	0	1	3	2	0	0	0	0	0	0	0	0	0	6
8:00	3	0	1	1	1	0	0	0	0	0	0	0	0	6
:00	1	0	1	0	0	0	0	0	0	0	0	0	0	2
10:00	1	0	0	0	0	1	0	0	0	0	0	0	0	2
11:00	0	1	2	1	0	0	0	0	0	0	0	0	0	4
12:00 PM	2	3	2	0	0	0	0	0	0	0	0	0	0	7
1:00	1	0	2	0	0	0	0	0	0	0	0	0	0	3
2:00	1	1	5	2	0	0	0	0	0	0	0	0	0	0
3:00	0	2	2	1	0	0	0	0	0	0	0	0	0	5
4:00	1	1	0	3	0	0	0	0	0	0	0	0	0	5
5:00	1	3	0	1	0	0	0	0	0	0	0	0	0	5
6:00	0	2	1	2	0	0	0	0	0	0	0	0	0	5
7:00	1	0	1	3	0	0	0	0	0	0	0	0	0	5
8:00	0	0	2	1	0	0	0	0	0	0	0	0	0	3
:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1
10:00	0	0	1	0	1	0	0	0	0	0	0	0	0	2
11:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	16	16	27	1	3	1	1	0	0	0	0	0	0	83

Pioneer Valley Planning Commission

60 Congress Street
Springfield, MA 01104
(413) 781-6045 www.pvpc.org

Location : Springfield
Operator : A JM
Counter : 2072
Road Class :
Direction: EB

Site Code: 10033
Station ID:
Dartmouth Terr.
Orthington St.

2021	0 - 15 MPH	15 - 20 MPH	20 - 25 MPH	25 - 30 MPH	30 - 35 MPH	35 - 40 MPH	40 - 45 MPH	45 - 50 MPH	50 - 55 MPH	55 - 60 MPH	60 - 65 MPH	65 - 70 MPH	70 MPH	Total
12:00 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	2
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
6:00	1	0	2	0	0	0	0	0	0	0	0	0	0	3
7:00	3	1	3	1	0	0	0	0	0	0	0	0	0	8
8:00	1	2	3	1	0	0	0	0	0	0	0	0	0	7
:00	0	0	1	1	0	0	0	0	0	0	0	0	0	2
10:00	3	4	0	1	0	0	0	0	0	0	0	0	0	8
11:00	0	1	0	1	1	0	0	0	0	0	0	0	0	3
12:00 PM														0
1:00														0
2:00														0
3:00														0
4:00														0
5:00														0
6:00														0
7:00														0
8:00														0
:00														0
10:00														0
11:00														0
Total	8	8	10	7	2	0	0	0	0	0	0	0	0	35
Grand Total	35	38	55	38	7	1	1	0	0	0	0	0	0	175

Stats	Percentile	15th	50th	85th	5th
	Speed	14	21	27	30
	Mean Speed (Average)	20.1			
	10 MPH Pace Speed	16-25			
	umber in Pace	3			
	Percent in Pace	53.1			
	umber 25 MPH	47			
	Percent 25 MPH	26.			

Pioneer Valley Planning Commission

60 Congress Street
 Springfield, MA 01104
 (413) 781-6045 www.pvpc.org

Location : Springfield
 Operator : A JM
 Counter : 2074
 Road Class : 5
 Direction: SB

Site Code: 10034
 Station ID:
 orthington St.
 S O Dartmouth Terr.

27 2021	0 - 15	15 -	20 -	25 -	30 -	35 -	40 -	45 -	50 -	55 -	60 -	65 -	70	Total
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	
12:00 AM														0
1:00														0
2:00														0
3:00														0
4:00														0
5:00														0
6:00														0
7:00														0
8:00														0
:00														0
10:00														0
11:00	0	4		37	28	17	2	0	0	0	0	0	0	7
12:00 PM	2	2		4	60	20	4	1	0	0	0	0	0	147
1:00	0	2	10	38	62	24	7	0	0	0	0	0	0	143
2:00	0	4	11	55	72	32	7	1	0	0	0	0	0	182
3:00	3	7	14	57	66	26	3	0	0	0	0	0	0	176
4:00	1	0	22	46	7	15	10	0	0	0	0	0	0	173
5:00	3	2	10	43	67	20	1	0	1	0	0	0	0	147
6:00	0	3	10	32	51	23	1	1	0	0	0	0	0	121
7:00	1	2	12	3	25	12	3	0	0	0	0	0	0	4
8:00	0	1	4	23	2	3	0	0	0	0	0	0	0	60
:00	0	0	2	18	1	8	2	0	0	0	0	0	0	4
10:00	0	0	4	12	16	10	1	0	1	0	0	0	0	44
11:00	0	0	2	16	21		2	0	0	0	0	0	0	50
Total	10	27	11	465	55	21	43	3	2	0	0	0	0	1483

Pioneer Valley Planning Commission

60 Congress Street
Springfield, MA 01104
(413) 781-6045 www.pvpc.org

Location : Springfield
Operator : A JM
Counter : 2074
Road Class : 5
Direction: SB

Site Code: 10034
Station ID:
orthington St.
S O Dartmouth Terr.

28 2021	0 - 15	15 -	20 -	25 -	30 -	35 -	40 -	45 -	50 -	55 -	60 -	65 -	70	Total
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	
12:00 AM	0	0	2	3	5	3	2	1	0	0	0	0	0	16
1:00	0	0	0	4	4	2	0	1	0	0	0	0	0	11
2:00	0	0	1	6	2	0	0	0	0	0	0	0	0	
3:00	1	1	1	1	0	0	0	0	1	0	0	0	0	5
4:00	1	0	2	4	2	1	1	0	0	0	0	0	0	11
5:00	0	1	3	5	12	6	1	1	0	0	0	0	0	2
6:00	1	1	10	18	20	10	1	1	0	0	0	0	0	62
7:00	0	0	6	54	76	16	3	0	0	0	0	0	0	155
8:00	2	2	10	77	87	18	4	2	0	0	0	0	0	202
:00	0	0	7	52	4	20	4	2	0	0	0	0	0	134
10:00	0	1	4	45	40	24	1	1	0	0	0	0	0	116
11:00	0	1	5	62	53	10	0	0	0	0	0	0	0	131
12:00 PM	3	1		56	51	22	3	0	0	0	0	0	0	145
1:00	0	2	13	4	64	20	1	1	0	0	0	0	0	150
2:00	2	2	10	60	7	17	3	1	0	0	0	0	0	1 2
3:00	1	2	15	77	7	22	2	0	0	0	0	0	0	1 8
4:00	0	6	10	57	63	1	1	1	0	0	0	0	0	157
5:00	2	1	7	48	64	18	3	0	0	0	0	0	0	143
6:00	1	0	12	36	3	15	1	0	0	0	0	1	0	105
7:00	2	0	7	4	36	10	3	1	0	0	0	0	0	108
8:00	0	2	7	32	30	13	1	1	1	0	0	0	0	87
:00	1	1	5	20	24	7	1	0	0	0	0	0	0	5
10:00	0	1	4	20	20	8	2	0	0	0	0	0	0	55
11:00	0	1	2	16	16	4	0	0	0	0	0	0	0	3
Total	17	26	152	851	33	285	38	14	2	0	0	1	0	231

Pioneer Valley Planning Commission

60 Congress Street
Springfield, MA 01104
(413) 781-6045 www.pvpc.org

Location : Springfield
Operator : A JM
Counter : 2074
Road Class : 5
Direction: SB

Site Code: 10034
Station ID:
Northampton St.
S O Dartmouth Terr.

2021	0 - 15	15 -	20 -	25 -	30 -	35 -	40 -	45 -	50 -	55 -	60 -	65 -	70	Total
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	
12:00 AM	0	1	3	6	8	2	1	1	0	0	0	0	0	22
1:00	0	0	2	4	4	4	1	0	0	0	0	0	0	15
2:00	0	0	1	0	0	1	0	0	0	0	0	0	0	2
3:00	0	0	0	2	1	2	0	1	0	0	0	0	0	6
4:00	0	0	1	3	2	1	0	0	1	0	0	0	0	8
5:00	1	0	2	6	11	4	1	1	0	0	0	0	0	26
6:00	0	0	7	23	34	8	0	0	0	0	0	0	0	72
7:00	0	4	7	58	81	21	3	1	0	0	0	0	0	175
8:00	0	1	10	70	73	28	4	0	0	0	0	0	0	186
:00	2	1	7	40	71	25	5	3	0	0	0	0	0	154
10:00	4	2	5	45	53	17	1	1	0	0	0	0	0	128
11:00	1	2	0	17	18	4	0	2	0	0	0	0	0	44
12:00 PM														0
1:00														0
2:00														0
3:00														0
4:00														0
5:00														0
6:00														0
7:00														0
8:00														0
:00														0
10:00														0
11:00														0
Total	8	11	45	274	356	117	16	10	1	0	0	0	0	838
Grand Total	35	64	316	150	1884	621	7	27	5	0	0	1	0	4640

Stats	Percentile	15th	50th	85th	5th
	Speed	26	31	35	38
	Mean Speed (Average)	30.8			
	10 MPH Pace Speed	25-34			
	Number in Pace	3443			
	Percent in Pace	74.2			
	Number 30 MPH	2635			
	Percent 30 MPH	56.8			

Pioneer Valley Planning Commission

60 Congress Street
 Springfield, MA 01104
 (413) 781-6045 www.pvpc.org

Location : Springfield
 Operator : A JM
 Counter : 2074
 Road Class : 5
 Direction: B

Site Code: 10034
 Station ID:
 orthington St.
 S O Dartmouth Terr.

27 2021	0 - 15	15 -	20 -	25 -	30 -	35 -	40 -	45 -	50 -	55 -	60 -	65 -	70	Total
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	
12:00 AM														0
1:00														0
2:00														0
3:00														0
4:00														0
5:00														0
6:00														0
7:00														0
8:00														0
:00														0
10:00														0
11:00	1	5	35	42	17	2	1	1	0	0	0	0	0	104
12:00 PM	1	7	43	77	25	6	1	0	0	0	0	0	1	161
1:00	4	3	4	0	32	4	0	0	0	0	0	0	0	182
2:00	0	4	58	116	42	5	0	0	0	0	0	0	0	225
3:00	1	13	71	108	33	12	0	1	1	0	0	0	0	240
4:00	4	2	64	108	32	5	1	0	0	0	0	0	0	243
5:00	0	4	61	8	25	8	2	0	0	0	0	0	0	1 8
6:00	0	4	45	6	28	7	2	0	0	0	0	0	0	155
7:00	0	12	24	42	13	1	0	2	0	0	0	0	0	4
8:00	0	4	26	53	15	0	0	0	0	0	0	0	0	8
:00	0	0	17	23	16	4	1	1	0	0	0	0	0	62
10:00	1	2	12	33	22	6	1	0	0	0	0	0	0	77
11:00	0	0	10	27	15	4	0	0	0	0	0	0	0	56
Total	12	87	515	886	315	64	5	1	0	0	0	0	1	18 5

Pioneer Valley Planning Commission

60 Congress Street
Springfield, MA 01104
(413) 781-6045 www.pvpc.org

Location : Springfield
Operator : A JM
Counter : 2074
Road Class : 5
Direction: B

Site Code: 10034
Station ID:
Northington St.
S O Dartmouth Terr.

28 2021	0 - 15	15 -	20 -	25 -	30 -	35 -	40 -	45 -	50 -	55 -	60 -	65 -	70	Total
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	
12:00 AM	0	0	3		13	0	1	1	0	0	0	0	0	27
1:00	0	0	4	6	3	1	0	0	0	0	0	0	0	14
2:00	0	0	2	4	1	0	0	0	0	0	0	0	0	7
3:00	0	2	6	3	2	2	0	0	0	0	0	0	0	15
4:00	2	3	0	4	3	1	0	0	0	0	0	0	0	13
5:00	0	0	4	10		2	1	0	0	0	0	0	0	26
6:00	0	5	13	22	11	7	0	0	0	0	0	0	0	58
7:00	0	3	34	66	40	4	1	0	0	1	0	0	0	14
8:00	0	7	60	7	32	5	0	0	0	0	0	0	0	183
:00	0	6	27	5	27	5	0	0	0	0	0	0	0	124
10:00	1	7	42	6	23	5	0	0	0	0	0	0	0	147
11:00	1	7	3	67	24	3	1	0	0	0	0	0	0	142
12:00 PM	3	6	60	72	30	6	0	0	0	0	0	0	0	177
1:00	0	8	34	81	34	3	1	0	0	0	0	0	0	161
2:00	4	15	66	110	38	2	1	0	0	0	0	0	0	236
3:00	0	5	57	104	31	10	0	0	0	0	0	0	0	207
4:00	0	1	112	111	21	6	0	0	0	0	0	0	0	26
5:00	0	5	63	3	46	4	0	0	0	0	0	0	0	211
6:00	0	4	26	63	25	3	2	0	0	0	0	0	0	123
7:00	0	3	38	62	15	0	0	0	0	0	0	0	0	118
8:00	0	3	33	35	16	1	0	0	0	0	0	0	0	88
:00	0	0	20	4	7	1	1	0	0	0	0	0	0	78
10:00	0	1	11	35	11	3	0	0	0	0	0	0	0	61
11:00	0	0	7	14	22	2	0	0	0	0	0	0	0	45
Total	11	10	761	1227	484	76		1	0	1	0	0	0	267

Pioneer Valley Planning Commission

60 Congress Street
Springfield, MA 01104
(413) 781-6045 www.pvpc.org

Location : Springfield
Operator : A JM
Counter : 2074
Road Class : 5
Direction: B

Site Code: 10034
Station ID:
Northampton St.
S O Dartmouth Terr.

2021 Time	0 - 15 MPH	15 - 20 MPH	20 - 25 MPH	25 - 30 MPH	30 - 35 MPH	35 - 40 MPH	40 - 45 MPH	45 - 50 MPH	50 - 55 MPH	55 - 60 MPH	60 - 65 MPH	65 - 70 MPH	70 MPH	Total
12:00 AM	0	0	10	6	0	0	0	0	0	0	0	0	0	34
1:00	0	1	2	6	5	1	0	0	0	0	0	0	0	15
2:00	1	1	1	1	5	1	1	0	0	0	0	0	0	11
3:00	0	0	2	1	0	2	0	0	0	0	0	0	0	5
4:00	0	1	4	3	2	1	0	0	0	0	0	0	0	11
5:00	2	0	5	8	5	6	0	0	0	0	0	0	0	26
6:00	0	3	10	1	18	8	1	0	0	0	0	0	0	5
7:00	3	28	76	35	8	0	1	0	0	0	0	0	0	160
8:00	1	5	47	101	38	6	1	0	0	0	0	0	0	1
:00	0	4	27	62	3	4	0	1	0	0	0	0	0	137
10:00	4	12	5	55	16	3	0	0	0	0	0	0	0	14
11:00	0	2	17	20	13	1	0	0	0	0	0	0	0	53
12:00 PM														0
1:00														0
2:00														0
3:00														0
4:00														0
5:00														0
6:00														0
7:00														0
8:00														0
:00														0
10:00														0
11:00														0
Total	11	38	211	362	185	47	3	2	0	0	0	0	0	85
Grand Total	34	234	1487	2475	84	187	21	8	1	1	0	0	1	5433

Stats	Percentile	15th	50th	85th	5th
	Speed	23	27	31	34
	Mean Speed (Average)	27.0			
	10 MPH Pace Speed	20-2			
	umber in Pace	3	17		
	Percent in Pace	72.1			
	umber 30 MPH	1203			
	Percent 30 MPH	22.1			

Pioneer Valley Planning Commission

60 Congress Street
 Springfield, MA 01104
 (413) 781-6045 www.pvpc.org

Location : Springfield
 Operator : A JM
 Counter : 2074
 Road Class : 5
 Direction: Combined

Site Code: 10034
 Station ID:
 orthington St.
 S O Dartmouth Terr.

27 2021	0 - 15	15 -	20 -	25 -	30 -	35 -	40 -	45 -	50 -	55 -	60 -	65 -	70	Total
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	
12:00 AM														0
1:00														0
2:00														0
3:00														0
4:00														0
5:00														0
6:00														0
7:00														0
8:00														0
:00														0
10:00														0
11:00	1		44	7	45	1	3	1	0	0	0	0	0	201
12:00 PM	3		52	126	85	26	5	1	0	0	0	0	1	308
1:00	4	5	5	128	4	28	7	0	0	0	0	0	0	325
2:00	0	8	6	171	114	37	7	1	0	0	0	0	0	407
3:00	4	20	85	165		38	3	1	1	0	0	0	0	416
4:00	5	2	86	154	111	20	11	0	0	0	0	0	0	416
5:00	3	6	71	141	2	28	3	0	1	0	0	0	0	345
6:00	0	7	55	101	7	30	3	1	0	0	0	0	0	276
7:00	1	14	36	81	38	13	3	2	0	0	0	0	0	188
8:00	0	5	30	76	44	3	0	0	0	0	0	0	0	158
:00	0	0	1	41	35	12	3	1	0	0	0	0	0	111
10:00	1	2	16	45	38	16	2	0	1	0	0	0	0	121
11:00	0	0	12	43	36	13	2	0	0	0	0	0	0	106
Total	22	114	634	1351	10	283	52	8	3	0	0	0	1	3378

Pioneer Valley Planning Commission

60 Congress Street
Springfield, MA 01104
(413) 781-6045 www.pvpc.org

Location : Springfield
Operator : A JM
Counter : 2074
Road Class : 5
Direction: Combined

Site Code: 10034
Station ID:
Orthington St.
S O Dartmouth Terr.

28 2021	0 - 15	15 -	20 -	25 -	30 -	35 -	40 -	45 -	50 -	55 -	60 -	65 -	70	Total
Time	MPH	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50 MPH	55 MPH	60 MPH	65 MPH	70 MPH	MPH	
12:00 AM	0	0	5	12	18	3	3	2	0	0	0	0	0	43
1:00	0	0	4	10	7	3	0	1	0	0	0	0	0	25
2:00	0	0	3	10	3	0	0	0	0	0	0	0	0	16
3:00	1	3	7	4	2	2	0	0	1	0	0	0	0	20
4:00	3	3	2	8	5	2	1	0	0	0	0	0	0	24
5:00	0	1	7	15	21	8	2	1	0	0	0	0	0	55
6:00	1	6	23	40	31	17	1	1	0	0	0	0	0	120
7:00	0	3	40	120	116	20	4	0	0	1	0	0	0	304
8:00	2		70	156	11	23	4	2	0	0	0	0	0	385
:00	0	6	34	111	76	25	4	2	0	0	0	0	0	258
10:00	1	8	46	114	63	2	1	1	0	0	0	0	0	263
11:00	1	8	44	12	77	13	1	0	0	0	0	0	0	273
12:00 PM	6	7	6	128	81	28	3	0	0	0	0	0	0	322
1:00	0	10	47	130	8	23	2	1	0	0	0	0	0	311
2:00	6	17	76	170	135	1	4	1	0	0	0	0	0	428
3:00	1	7	72	181	110	32	2	0	0	0	0	0	0	405
4:00	0	25	122	168	84	25	1	1	0	0	0	0	0	426
5:00	2	6	70	141	110	22	3	0	0	0	0	0	0	354
6:00	1	4	38		64	18	3	0	0	0	0	1	0	228
7:00	2	3	45	111	51	10	3	1	0	0	0	0	0	226
8:00	0	5	40	67	46	14	1	1	1	0	0	0	0	175
:00	1	1	25	6	31	8	2	0	0	0	0	0	0	137
10:00	0	2	15	55	31	11	2	0	0	0	0	0	0	116
11:00	0	1		30	38	6	0	0	0	0	0	0	0	84
Total	28	135	13	2078	1417	361	47	15	2	1	0	1	0	4 8

Pioneer Valley Planning Commission

60 Congress Street
Springfield, MA 01104
(413) 781-6045 www.pvpc.org

Location : Springfield
Operator : A JM
Counter : 2074
Road Class : 5
Direction: Combined

Site Code: 10034
Station ID:
Northampton St.
S O Dartmouth Terr.

Time	0 - 15 MPH	15 - 20 MPH	20 - 25 MPH	25 - 30 MPH	30 - 35 MPH	35 - 40 MPH	40 - 45 MPH	45 - 50 MPH	50 - 55 MPH	55 - 60 MPH	60 - 65 MPH	65 - 70 MPH	70 MPH	Total
12:00 AM	0	1	12	16	17	8	1	1	0	0	0	0	0	56
1:00	0	1	4	10		5	1	0	0	0	0	0	0	30
2:00	1	1	2	1	5	2	1	0	0	0	0	0	0	13
3:00	0	0	2	3	1	4	0	1	0	0	0	0	0	11
4:00	0	1	5	6	4	2	0	0	1	0	0	0	0	1
5:00	3	0	7	14	16	10	1	1	0	0	0	0	0	52
6:00	0	3	17	42	52	16	1	0	0	0	0	0	0	131
7:00	3	13	35	134	116	2	3	2	0	0	0	0	0	335
8:00	1	6	57	171	111	34	5	0	0	0	0	0	0	385
:00	2	5	34	102	110	2	5	4	0	0	0	0	0	21
10:00	8	14	64	100	6	20	1	1	0	0	0	0	0	277
11:00	1	4	17	37	31	5	0	2	0	0	0	0	0	7
12:00 PM														0
1:00														0
2:00														0
3:00														0
4:00														0
5:00														0
6:00														0
7:00														0
8:00														0
:00														0
10:00														0
11:00														0
Total	1	4	256	636	541	164	1	12	1	0	0	0	0	167
Grand Total	6	28	1803	4065	2868	808	118	35	6	1	0	1	1	10073

Stats	Percentile	15th	50th	85th	5th
Speed		24	2	34	37
Mean Speed (Average)		28.7			
10 MPH Pace Speed		25-34			
Number in Pace		612			
Percent in Pace		68.6			
Number 30 MPH		3838			
Percent 30 MPH		38.1			

APPENDIX 3

TURNING MOVEMENT COUNTS

Your Company Name Here

This is your address
Your City, State, Zip Code
Your Tagline Here

Location :Springfield
Counter: TU- 0452
Operator :KP
Fun. Class: Urban Minor Arterial

File Name : 5686 PM
Site Code : 00005686
Start Date : 1/31/2022
Page No : 1

Groups Printed- Unshifted

Start Time	St. James Avenue					Dartmouth Street					St. James Avenue					Worthington Street					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Heavy Vehicles	App. Total	Left	Thru	Right	Heavy Vehicles	App. Total	Left	Thru	Right	Heavy Vehicles	App. Total	Left	Thru	Right	Heavy Vehicles	App. Total			
04:00 PM	19	82	10	0	111	5	29	25	0	59	0	108	9	1	117	27	43	0	3	70	4	357	361
04:15 PM	16	73	13	2	102	2	27	23	0	52	0	93	9	1	102	21	43	2	1	66	4	322	326
04:30 PM	27	102	6	1	135	2	22	20	0	44	1	112	10	2	123	19	42	1	3	62	6	364	370
04:45 PM	20	67	15	1	102	0	23	14	1	37	0	87	9	2	96	12	32	1	1	45	5	280	285
Total	82	324	44	4	450	9	101	82	1	192	1	400	37	6	438	79	160	4	8	243	19	1323	1342
05:00 PM	9	81	11	1	101	1	24	19	0	44	0	94	10	1	104	25	40	2	1	67	3	316	319
05:15 PM	21	79	14	2	114	2	21	22	0	45	0	89	11	1	100	9	36	0	1	45	4	304	308
05:30 PM	9	68	13	0	90	1	16	22	2	39	0	79	7	1	86	14	24	1	0	39	3	254	257
05:45 PM	13	56	6	0	75	0	16	16	0	32	0	72	4	1	76	15	26	1	0	42	1	225	226
Total	52	284	44	3	380	4	77	79	2	160	0	334	32	4	366	63	126	4	2	193	11	1099	1110
Grand Total	134	608	88	7	830	13	178	161	3	352	1	734	69	10	804	142	286	8	10	436	30	2422	2452
Apprch %	16.1	73.3	10.6			3.7	50.6	45.7			0.1	91.3	8.6			32.6	65.6	1.8					
Total %	5.5	25.1	3.6		34.3	0.5	7.3	6.6		14.5	0	30.3	2.8		33.2	5.9	11.8	0.3		18	1.2	98.8	

Start Time	St. James Avenue				Dartmouth Street				St. James Avenue				Worthington Street				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	19	82	10	111	5	29	25	59	0	108	9	117	27	43	0	70	357
04:15 PM	16	73	13	102	2	27	23	52	0	93	9	102	21	43	2	66	322
04:30 PM	27	102	6	135	2	22	20	44	1	112	10	123	19	42	1	62	364
04:45 PM	20	67	15	102	0	23	14	37	0	87	9	96	12	32	1	45	280
Total Volume	82	324	44	450	9	101	82	192	1	400	37	438	79	160	4	243	1323
% App. Total	18.2	72	9.8		4.7	52.6	42.7		0.2	91.3	8.4		32.5	65.8	1.6		
PHF	.759	.794	.733	.833	.450	.871	.820	.814	.250	.893	.925	.890	.731	.930	.500	.868	.909

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:00 PM

Your Company Name Here

This is your address
Your City, State, Zip Code
Your Tagline Here

Location :Springfield
Counter # :TU 0452
Operator :KP
Fun. Class: Urban Minor Arterial

File Name : 5686 AM
Site Code : 00005686
Start Date : 2/1/2022
Page No : 1

Groups Printed- Unshifted

Start Time	St. James Avenue					Dartmouth Street					St. James Avenue					Worthington Street					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Heavy Vehicles	App. Total	Left	Thru	Right	Heavy Vehicles	App. Total	Left	Thru	Right	Heavy Vehicles	App. Total	Left	Thru	Right	Heavy Vehicles	App. Total			
07:00 AM	6	33	3	1	42	1	16	17	6	34	0	51	3	0	54	9	22	0	2	31	9	161	170
07:15 AM	9	75	8	6	92	2	27	20	1	49	0	74	2	0	76	11	46	0	1	57	8	274	282
07:30 AM	15	59	12	3	86	1	39	15	0	55	0	67	6	1	73	13	26	1	1	40	5	254	259
07:45 AM	21	66	20	0	107	3	32	15	2	50	0	70	2	1	72	12	20	0	2	32	5	261	266
Total	51	233	43	10	327	7	114	67	9	188	0	262	13	2	275	45	114	1	6	160	27	950	977
08:00 AM	22	75	14	2	111	3	31	23	2	57	0	72	8	1	80	17	34	0	2	51	7	299	306
08:15 AM	32	79	21	4	132	4	22	18	1	44	0	63	6	6	69	11	42	2	1	55	12	300	312
08:30 AM	13	72	12	2	97	1	40	33	1	74	0	61	9	2	70	16	29	0	2	45	7	286	293
08:45 AM	15	71	17	2	103	1	33	26	2	60	0	85	7	1	92	11	27	2	0	40	5	295	300
Total	82	297	64	10	443	9	126	100	6	235	0	281	30	10	311	55	132	4	5	191	31	1180	1211
Grand Total	133	530	107	20	770	16	240	167	15	423	0	543	43	12	586	100	246	5	11	351	58	2130	2188
Apprch %	17.3	68.8	13.9			3.8	56.7	39.5			0	92.7	7.3			28.5	70.1	1.4					
Total %	6.2	24.9	5		36.2	0.8	11.3	7.8		19.9	0	25.5	2		27.5	4.7	11.5	0.2		16.5	2.7	97.3	

Start Time	St. James Avenue				Dartmouth Street				St. James Avenue				Worthington Street				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	22	75	14	111	3	31	23	57	0	72	8	80	17	34	0	51	299
08:15 AM	32	79	21	132	4	22	18	44	0	63	6	69	11	42	2	55	300
08:30 AM	13	72	12	97	1	40	33	74	0	61	9	70	16	29	0	45	286
08:45 AM	15	71	17	103	1	33	26	60	0	85	7	92	11	27	2	40	295
Total Volume	82	297	64	443	9	126	100	235	0	281	30	311	55	132	4	191	1180
% App. Total	18.5	67	14.4		3.8	53.6	42.6		0	90.4	9.6		28.8	69.1	2.1		
PHF	.641	.940	.762	.839	.563	.788	.758	.794	.000	.826	.833	.845	.809	.786	.500	.868	.983

APPENDIX 4

CRASH RATE WORKING SHEET

APPENDIX 5

LOCAL CRASH DATA

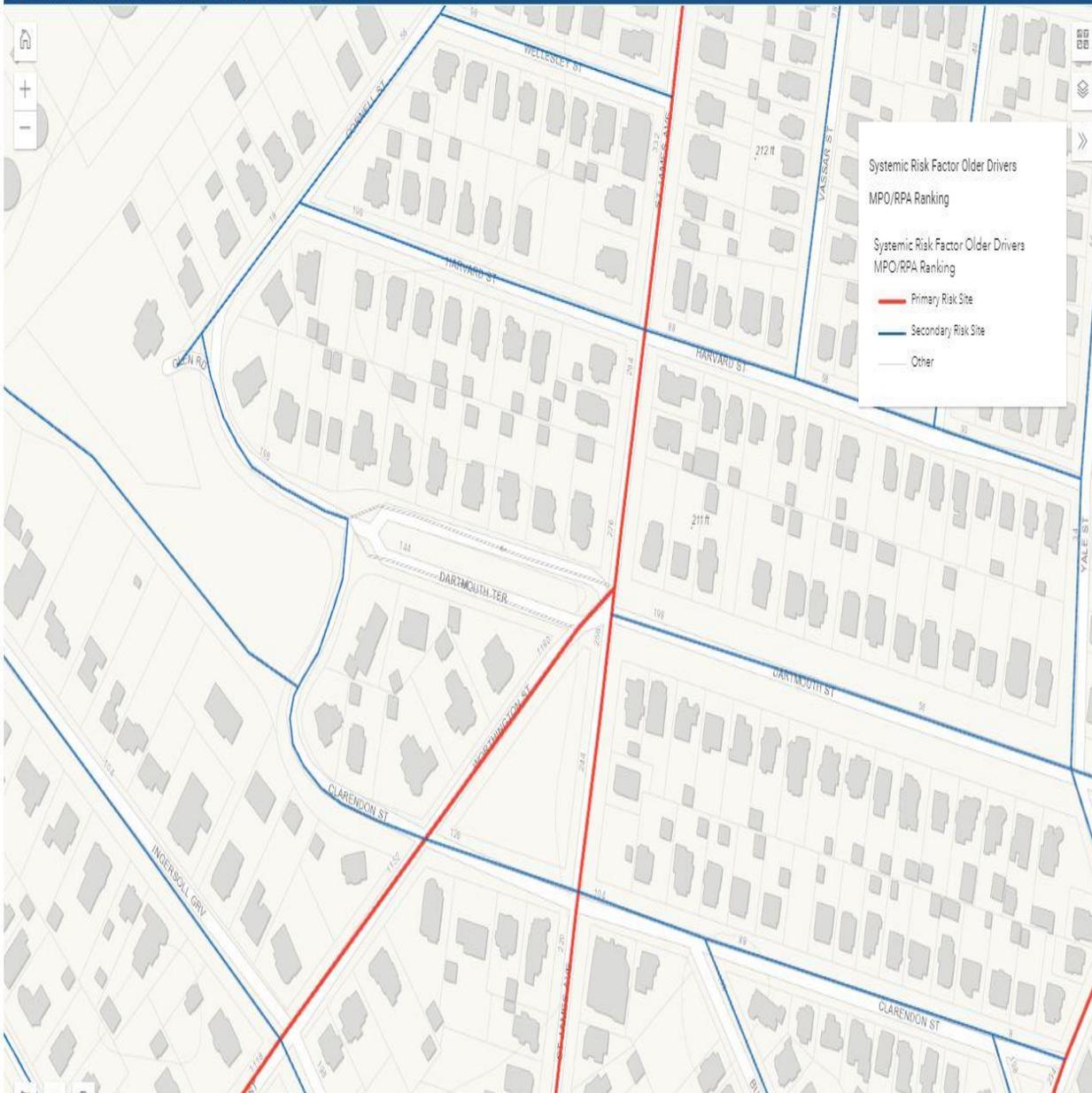
Sr. No.	Date	Month	Year	Time	Location	Severity	Manner of Collision	Light	Weather	Road	Description
1	2/24/2018	2	2018	1:07	St. James Avenue	Injury	Rear-end	Dark - Lighted	Clear	Wet	Motor Vehicle 1, a tractor trailer Truck was travelling northbound on St. James Avenue when it was struck from behind in the rear by Motor Vehicle 2 whose operator was transported to Hospital.
2	5/10/2018	5	2018	10:53	St. James Avenue	Property Damage	Rear-end	Daylight	Clear	Dry	Motor Vehicles 1 and 2 were going northbound on St. James Avenue. Both Vehicles slowed down to stop at the signal. The operator of MV2 stated that she got distracted and rear ended MV1 before making a complete stop.
3	12/2/2018	12	2018	20:44	St. James Avenue	Property Damage	Angle	Dark - Lighted	Rain	Wet	Motor Vehicle 1 was going northbound on St. James Avenue. Motor Vehicle 2 was going southbound on St. James Avenue and turned to make a left turn into Dartmouth Street but failed to yield the right of way to MV1. MV2 collided with MV1 but did not stop and drove away from the scene.
4	8/20/2019	8	2019	10:02	St. James Avenue	Injury	Angle	Daylight	Clear	Dry	Motor Vehicle 1 was travelling westbound along Dartmouth Street and Motor Vehicle 2 was travelling southbound along St. James Avenue. Both collided with each other at the intersection at an angle. Both operators said they had green signal.
5	10/8/2019	10	2019	16:32	St. James Avenue	Injury	Side Swipe - Same Direction	Daylight	Cloudy	Dry	Motor Vehicle 1 was travelling southbound along St. James Avenue in the right lane when it was struck by Motor Vehicle 2 which was also travelling southbound along St. James Ave. Operator of MV2 stated that she wanted to go straight and wanted to change lanes because of another vehicle in front which was waiting to make a left into Dartmouth Street.
6	10/17/2019	10	2019	8:31	St. James Avenue	Property Damage	Single Vehicle Collision	Daylight	Cloudy	Dry	Motor Vehicle 1 was travelling northeast bound along Worthington Street. The operator of MV1 lost control of his power steering and collided with the Signal Pole at the northeast corner of the intersection of St. James Ave. and Dartmouth Street
7	10/18/2019	10	2019	22:28	St. James Avenue	Injury	Angle	Dark - Lighted	Clear	Dry	Motor Vehicle 1 was travelling southbound along St. James Avenue when Motor Vehicle 2 approached very fast running
8	11/27/2019	11	2019	17:54	St. James Avenue	Injury	Rear-end	Dark - Lighted	Rain	Wet	Motor Vehicles 1 and 2 were stopped at Red Light along southbound approach of St. James Avenue when Motor Vehicle 2 collided with MV2 which collided with MV1. MV3 could not stop in time because of wet road conditions.
9	2/25/2020	2	2020	19:49	St. James Avenue	Injury	Angle	Dark - Lighted	Cloudy	Wet	Motor Vehicle 1 was travelling eastbound along Dartmouth Terrace when it was hit by Vehicle 2 which was travelling southbound along St. James Avenue. Vehicle 2 could not stop in time and ran red light because of wet road conditions
10	8/8/2020	8	2020	21:42	St. James Avenue	Injury	Angle	Dark - Lighted	Clear	Dry	Both Motor Vehicles travelling along St. James Avenue southbound and Dartmouth Street westbound said they had right of way
11	12/14/2020	12	2020	13:45	St. James Avenue	Property Damage	Rear-end	Daylight	Cloudy	Wet	Motor Vehicle 2 collided with Motor Vehicle 1 in the rear at the signal because it could not stop in time due to wet road conditions
12	2/1/2021	2	2021	5:56	St. James Avenue	Injury	Angle	Dark - Lighted	Cloudy	Snow	Motor Vehicle 1 was travelling westbound along Dartmouth Street and when motor vehicle 2 collided with it. MV2 could not stop in time because of snowy road conditions
13	4/8/2021	4	2021	14:18	Worthington Street	Injury	Angle	Daylight	Clear	Dry	Motor Vehicle 1 was travelling along Worthington Street and turned left into St. James Avenue when it was hit by Motor Vehicle 2 which was travelling westbound along Dartmouth Street
14	5/10/2021	5	2021	15:15	St. James Avenue	Property Damage	Rear-end	Daylight	Cloudy	Dry	Motor Vehicle 1 was struck in the rear by Motor Vehicle 2 when it stopped at the intersection to a Police Vehicle with flashing emergency lights along Worthington Street pass
15	5/22/2021	5	2021	16:09	Worthington Street	Property Damage	Rear to Front (Opposite Direction)	Daylight	Clear	Dry	Motor Vehicles 1 and Motor Vehicle 2 were both stopped at Worthington Street. Operator of MV1 tried to back up and realign the vehicle to be able to navigate right turn when it collided with MV2 in the rear of it
16	6/14/2021	6	2021	15:02	St. James Avenue	Property Damage	Angle	Daylight	Cloudy	Dry	Motor Vehicle 1 was travelling north on St. James Avenue Motor Vehicle 2 was waiting to make a left turn from St. James southbound into Dartmouth Street. MV2 collided with MV1 when it failed to yield the Right of Way and made a turn
17	7/9/2021	7	2021	22:36	Worthington Street	Injury	Angle	Dark - Lighted	Cloudy	Wet	MV1 was travelling westbound taking a left from Dartmouth St. onto St. James Ave when it made contact with MV2 who was travelling eastbound on Worthington Street across to Dartmouth St. . MV1 had a right of way and green light
18	9/11/2021	9	2021	23:53	Worthington Street	Injury	Side Swipe - Same Direction	Dark - Lighted	Clear	Dry	MV1 and MV2 were both travelling northeast bound along Worthington Street and both made a left turn onto St. James Ave northbound. MV made a turn without going around the island with the signal pole and collided with MV 1 which made a proper wider left Turn
19	10/13/2021	10	2021	17:02	Worthington Street	Injury	Angle	Daylight	Clear	Dry	MV1 was travelling westbound along Dartmouth Street and was about to make a left turn onto St. James Ave southbound when it was struck by MV2 travelling northeastbound along Worthington Street which was speeding according to a witness
20	1/2/2022	1	2022	3:02	Worthington Street	Property Damage	Single Vehicle Collision	Dark - Lighted	Cloudy	Wet	MV1 could not stop at red light at Worthington Street and collided with Signal Pole due to wet road conditions
21	1/16/2022	1	2022	21:27	St. James Avenue	Property Damage	Rear-end	Dark - Lighted	Clear	Dry	MV 3 collided with MV2 which collided with MV1 which was stopped at red light. Operator of MV3 said he tried to change lanes but could not make the change in time.

APPENDIX 6

RISK BASED NETWORK

SCREENING TEST RESULTS

Map Theme: MPO/RPA Ranking - Older Driver (2013 - 2017)



Home Filter/Find Statistics Export

The Network Screening – Systemic/Risk Based tool can be used to access and visualize the top risk sites for each of the Strategic Highway Safety Plan emphasis areas based on specific risk factors developed for each emphasis area. The top risk sites are available statewide as well as top risks within each MPO/RPA. Each emphasis area is focused on certain road types so not all roadway segments are included.

Details on the specific risk factors and how they were developed for each emphasis area can be found in the [MassDOT Network Screening Risk Based Methodology Reports](#). Details on the queries used to identify crashes for each emphasis area can be found on the [IMPACT Emphasis Area Definitions webpage](#).

To start, select the top crash location based on:

1. Emphasis Area
2. Ranking Type (Statewide vs. MPO/RPA)

Emphasis Area
 Older Driver

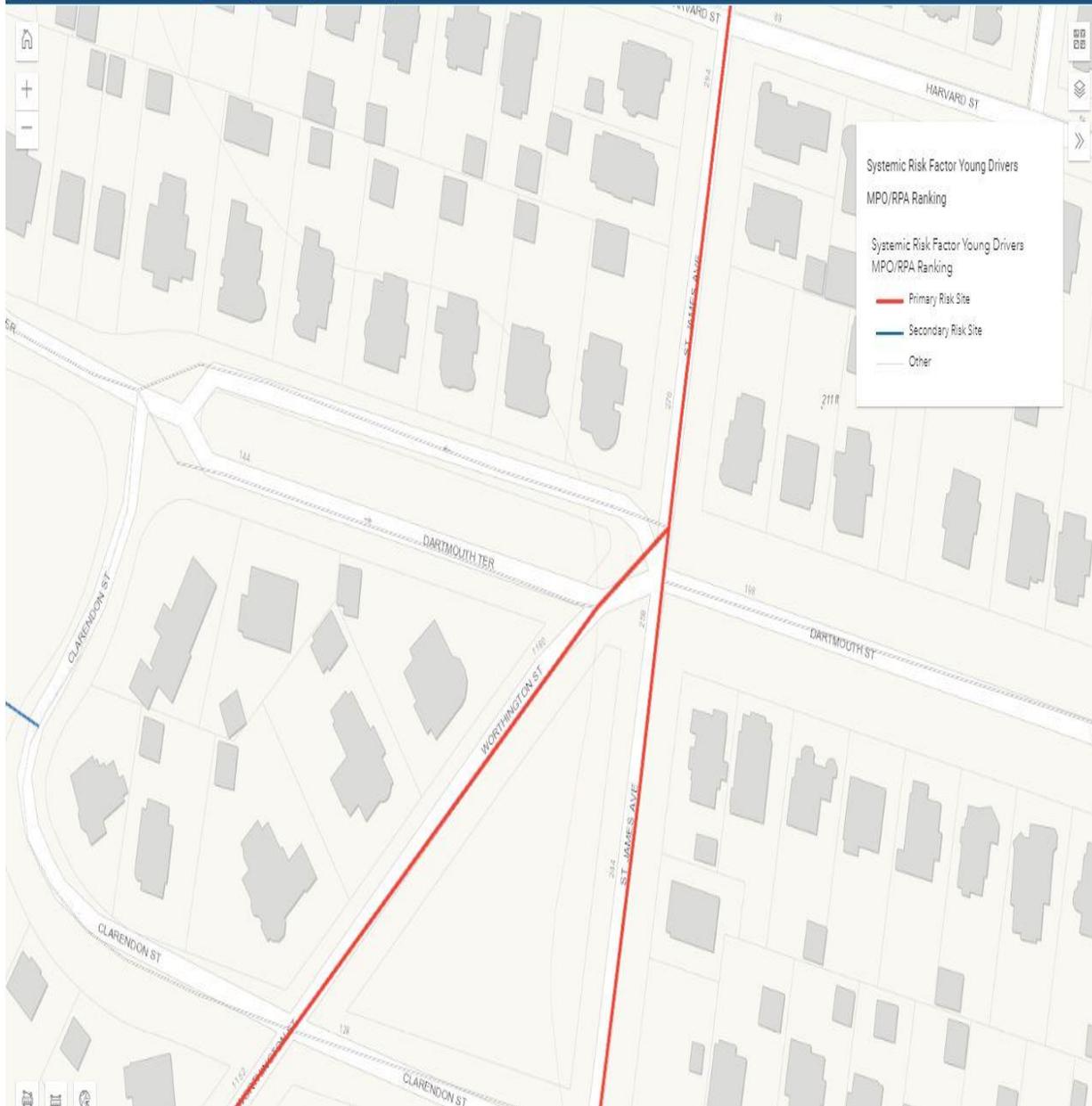
Ranking Type
 MPO/RPA Ranking

To further explore the data you can navigate the tool using the tabs to:

1. Filter/Find specific areas of interest
2. View Statistics on those locations
3. Export/Print the information



Map Theme: MPO/RPA Ranking - Younger Driver (2013 - 2017)



- Home
- Filter/Find
- Statistics
- Export

The Network Screening – Systemic/Risk Based tool can be used to access and visualize the top risk sites for each of the Strategic Highway Safety Plan emphasis areas based on specific risk factors developed for each emphasis area. The top risk sites are available statewide as well as top risks within each MPO/RPA. Each emphasis area is focused on certain road types so not all roadway segments are included.

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To start, select the top crash location based on:

1. Emphasis Area
2. Ranking Type (Statewide vs. MPO/RPA)

Emphasis Area

Younger Driver

Ranking Type

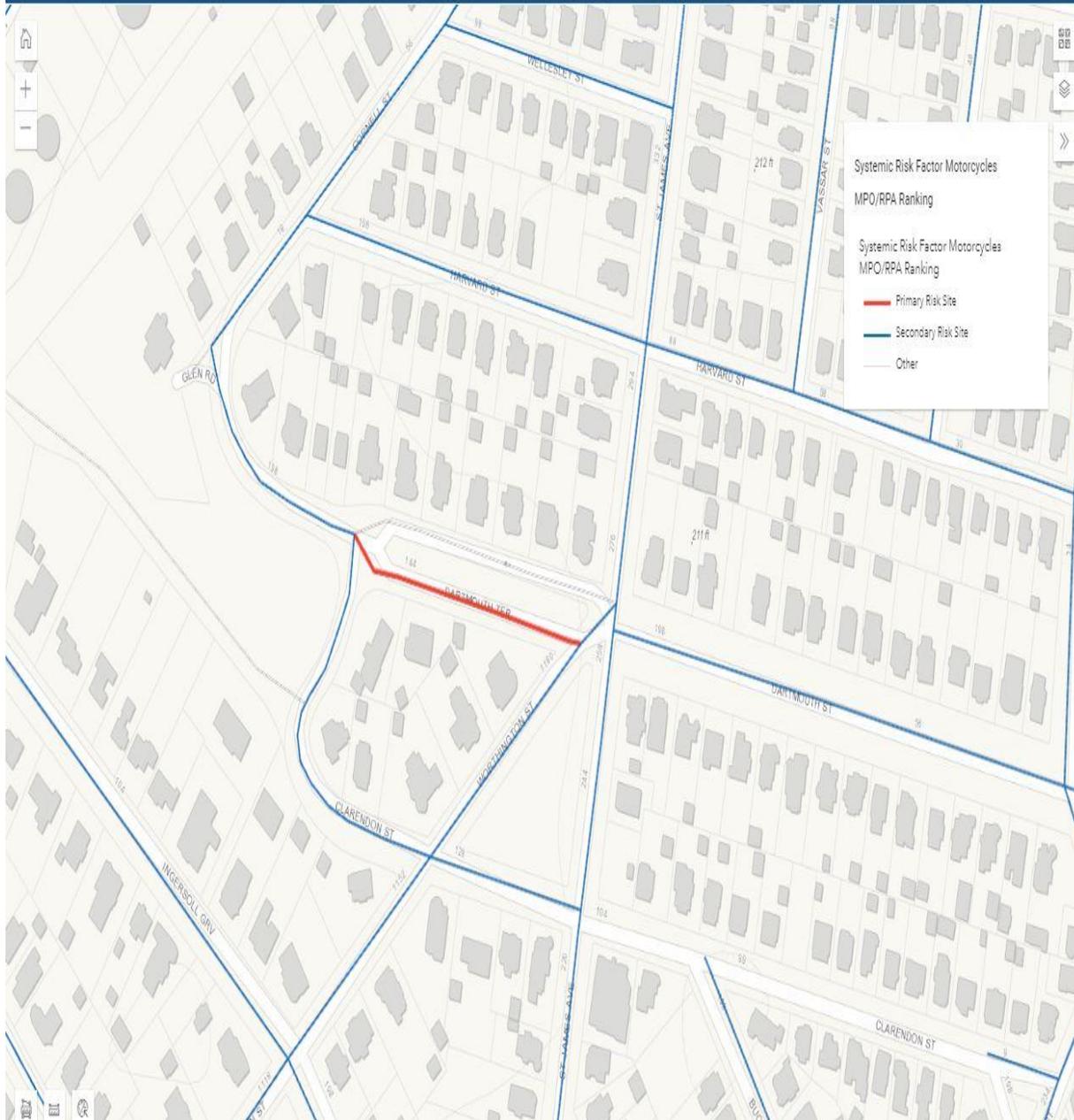
MPO/RPA Ranking

To further explore the data you can navigate the tool using the tabs to:

1. Filter/Find specific areas of interest
2. View Statistics on those locations
3. Export/Print the information

Map Theme: MPO/RPA Ranking - Motorcycle (2013 - 2017)

Home Filter/Find Statistics Export



The Network Screening - Systemic/Risk Based tool can be used to access and visualize the top risk sites for each of the Strategic Highway Safety Plan emphasis areas based on specific risk factors developed for each emphasis area. The top risk sites are available statewide as well as top risks within each MPO/RPA. Each emphasis area is focused on certain road types so not all roadway segments are included.

Details on the specific risk factors and how they were developed for each emphasis area can be found in the [MassDOT Network Screening Risk Based Methodology Reports](#). Details on the queries used to identify crashes for each emphasis area can be found on the [IMPACT Emphasis Area Definitions webpage](#).

To start, select the top crash location based on:

1. Emphasis Area
2. Ranking Type (Statewide vs. MPO/RPA)

Emphasis Area

Motorcycle

Ranking Type

MPO/RPA Ranking

To further explore the data you can navigate the tool using the tabs to:

1. Filter/Find specific areas of interest
2. View Statistics on those locations
3. Export/Print the information