Appendix A: Descriptive Crash Analysis

Pioneer Valley
SAFE STREETS

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Background

The Pioneer Valley Planning Commission (PVPC), acting as the Metropolitan Planning Organization (MPO) for the Pioneer Valley region of western Massachusetts, has prepared this Regional Safety Action Plan to satisfy federal Safe Streets and Roads for All (SS4A) program requirements and to guide data-driven safety investments. A core element of the plan is a clear picture of existing conditions and recent safety outcomes, offering a regional snapshot of crashes, and the key risk factors that influence them. The PVPC area includes 43 municipalities that span a wide range of community types, from dense downtowns in older industrial cities to small rural hill towns and highly productive agricultural landscapes in the Connecticut River Valley. This diversity creates a complex mix of roadway settings and travel needs, and it presents distinct safety challenges across the region.

This appendix provides an overview of historic crash trends and identifies high-crash clusters throughout the PVPC region. The analysis offers a data-driven basis for determining which safety policies and countermeasures are most suitable and for determining the intersections and roadway segments with the greatest need for safety improvements.

General Trends

Between 2014 and 2025, Massachusetts fatal crash rates have increased by 9%. The 5-year average fatal crash rate in 2018 was 0.58 fatal crashes per 100 million vehicle miles traveled (VMT). The rate decreased slightly till 2020 and then consistently increased between 2020 and 2025. In 2025, the fatal crash rate was 0.63 per 100 million VMT. The statewide serious injury crash rates showed a similar pattern. It decreased between 2014 and 2021 before showing a rising pattern till 2025. Overall, the serious injury 5-year crash average decreased from 4.8 crashes per million VMT in 2018 to 4.62 crashes per million VMT in 2025, a 4% decrease.

Compared to the state, PVPC region has experienced a higher spike in fatality rate in recent years. The 5-year average fatal crash rate increased consistently from 0.78 fatal crashes per 100 million VMT in 2018 to 1.08 per 100 million VMT in 2024, before decreasing slightly to 1.01 per million VMT in 2025. Due to higher rates of speeding caused by decreased vehicle miles traveled (VMT) amid pandemic shutdowns in 2020 and the lingering impacts in 2021 and 2022, roadway fatalities were increasing relative to previous years. Serious injury crashes in the region have dropped dramatically from a 5-year average of 5.9 serious injury crashes per 100 million VMT in 2018 to 5.08 crashes per 100 million VMT in 2021. But it increased rapidly after 2021, due to pandemic related travel restrictions and reached 5.42 crashes per 100 million VMT in 2024 before decreasing slightly in 2025. In comparison to the statewide average, both fatal and serious injuries crashes in the PVPC region are rising significantly.

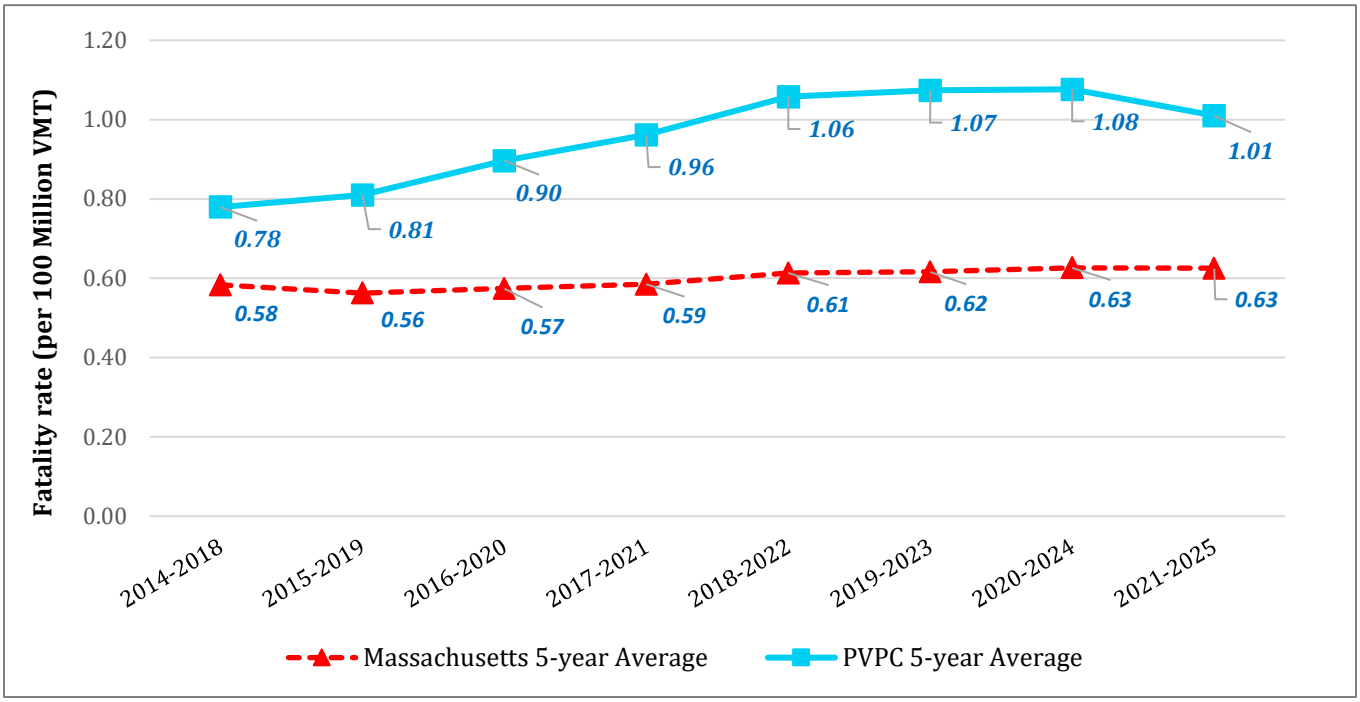


Figure 1: Long-Term Fatality Trend

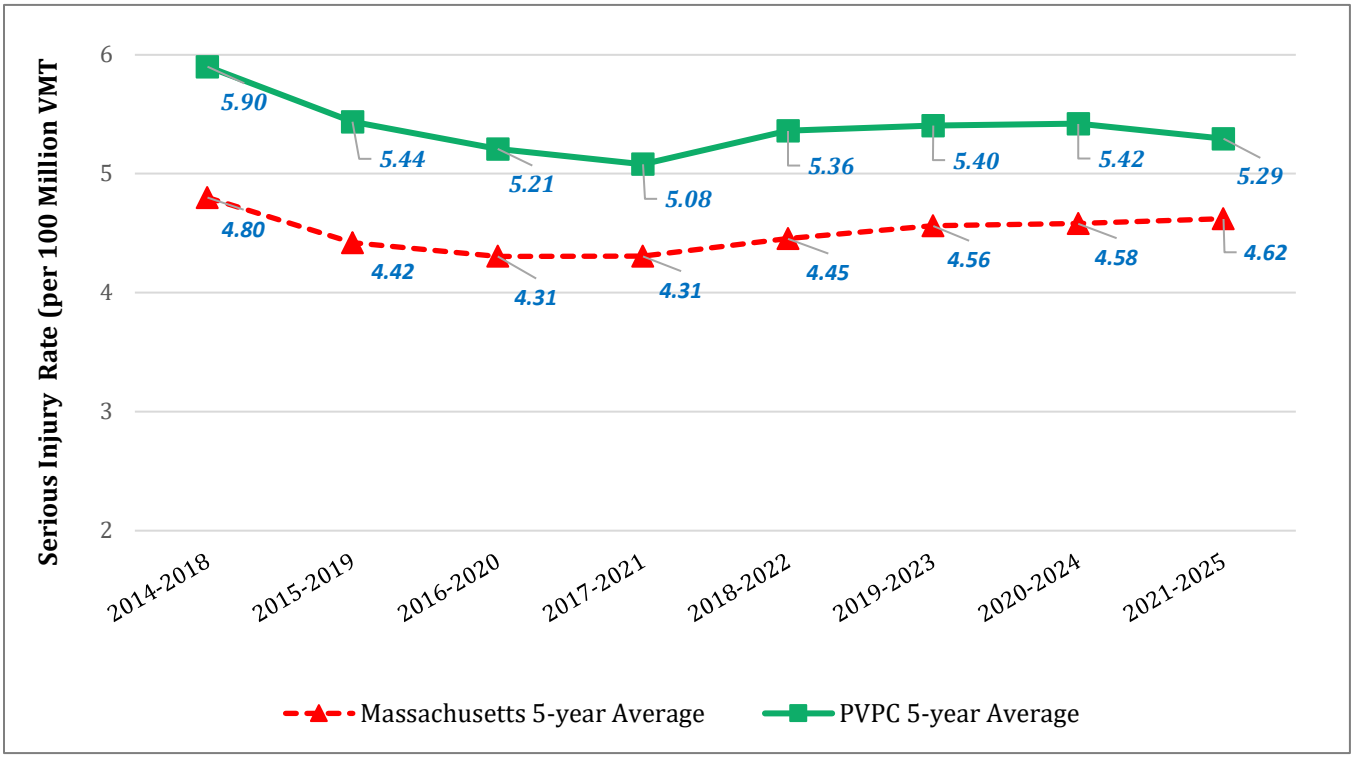


Figure 2: Long-Term Serious Injury Trend

Figure 1 and Figure 2 includes all 43 PVPC communities and all roadways including Interstates/Freeways/Limited-Access Highways.

Data Sources and Processing

This appendix draws primarily on crash data from the MassDOT IMPACT tool[1], an online platform used to research, query, and download crash-related information for the Commonwealth of Massachusetts. All crashes occurring between 2019 and 2024 that list "PVPC" as the regional planning agency were extracted and used in this analysis. The crash data for the calendar year of 2021 or later are not yet finalized and can vary or change.

Because crash data attributes and categories changed over the study period, several assumptions were necessary to align the different injury classification systems represented in the Maximum Injury Severity Reported field. For reporting, crashes are organized using the KABCO scale, a standard framework for classifying injury severity. **Error! Reference source not found.** defines each KABCO category and details how values from the Maximum Injury Severity Reported field were mapped to these levels.

Unless otherwise mentioned, this appendix excludes

- ***Fully Access-Controlled Facilities***
- ***Crashes within Chicopee, Holyoke, Springfield, Ware and Westfield***

This study focuses on crashes that result in fatalities or injuries. Emphasizing higher-severity crashes aligns the analysis with the Safe System Approach, a framework designed to eliminate traffic deaths and serious injuries through data-driven, systemic safety strategies. After standardizing the injury severity data, all crashes that occurred on Interstates, expressways, and other fully access-controlled facilities were excluded from the dataset. Additionally, there are five (5) municipalities within PVPC region that are either already developed or in the process of developing their own Safety Action Plan. These municipalities were excluded from the analysis for this report.

Table 1: Crash Severity Classification Scale[2]

KABCO Category	Definition	Corresponding Values in MassDOT Crash Data
Fatal Injury (K)	Any injury that results in death due to the crash.	• Fatal Injury (K)
Suspected Serious Injury (A)	Any injury that prevents the injured person from normally continuing activities that person was capable of before the injury occurred, such as a severe laceration or a broken limb.	• Suspected Serious Injury (A) • Non-fatal Injury-Incapacitating
Suspected Minor Injury (B)	Any visible injury that is not a suspected serious injury, such as a lump on the head or minor lacerations.	• Suspected Minor Injury (B) • Non-fatal Injury—Non-incapacitating
Possible Injury (C)	Any injury reported by an individual involved in the crash that is not visible to the reporting officer, such as dizziness or a complaint of pain.	• Possible Injury (C) • Non-fatal Injury—Possible
No Apparent Injury (O)	There is no evidence of physical injury and the individuals involved in the crash do not complain of any injury.	• No Apparent Injury (O) • No Injury
Not Reported or Unknown	Used when the injury severity is unknown.	• Not Reported/Not Applicable • Unknown/Blank

[1] MassDOT IMPACT

[2] KABCO Injury Classification

Regional Crash Summary

Crashes by Severity

From 2020 to 2024, a total of 25,107 roadway crashes occurred within the study area road network. Around 2 percent resulted in fatalities or serious injuries. Crashes that resulted in no apparent injury accounted for 75 percent of total crashes.

Table 2 summarizes the total number of crashes by severity level, along with the crash unit cost and corresponding cumulative crash costs for the region within the study period. To quantify the economic impact of crashes, cumulative crash costs were calculated for each severity level using the 2024 recommended comprehensive crash unit costs developed by MassDOT for highway safety analysis. These cumulative costs include both direct economic costs (e.g., medical expenses, emergency services, and congestion costs) and quality-adjusted life-year values, which estimate the societal and individual impacts of reduced health and lifespan due to crashes.

During this period, crashes incurred an estimated total cost of $4.3 billion, averaging approximately $0.85 billion per year. Fatal and serious crashes make up for about 46 percent of these crash costs alone.

Table 2: Crashes by Injury Severity Level

Maximum Injury Severity Level	Number of Crashes	Percent of Total Crashes	Comprehensive Crash Unit Cost[3]	Cumulative Crash Cost (millions)	Percent of Cumulative Crash Cost
Fatal injury (K)	101	0.4%	$19,435,000	$1,963	46%
Suspected Serious Injury (A)	420	1.7%	$1,112,900	$467	11%
Suspected Minor Injury (B)	3,127	12.5%	$354,100	$1,107	26%
Possible Injury (C)	1,607	6.4%	$208,000	$334	8%
No Apparent Injury (O)	18,823	75.0%	$20,900	$393	9%
Unknown	1,029	4.1%	-	-	-
Total	**25,107**	**100%**	**-**	**$4,265.28**	**100%**

Crashes by Time

Travel behaviors and crash frequency are correlated with time of day and day of the week. The total number of vehicle-miles traveled (VMT) and, therefore, the opportunity for crashes is generally greater on weekdays when people are driving to and from jobs compared to the weekend. To better understand the temporal crash patterns, crash data were evaluated according to the day of week and sorted into six four-hour periods. Figure 3 shows the distribution of total crashes as well as fatal and serious injury crashes across these time periods by day of week.

Weekday mid-day and afternoon periods (10:00 AM to 6:00 PM) experienced high volume of total crashes, with the afternoon period showing highest concentration of crashes. For fatal and serious injury, this pattern shifts a little and the afternoon period shows the highest percentages, closely

[3] Crash Costs for Highway Safety Analysis, MassDOT

followed by evening periods (6:00 PM to 10:00 PM). Since the pandemic, work travel patterns and commuting hours have changed but generally, afternoons and evenings are prone to higher traffic volumes. For weekends, midday to evening period (10:00 AM to 10:00 PM) experiences high percentages of crashes. Late night and overnight period during weekend show high percentages of fatal and serious injury crashes compared to weekdays since it is more common to stay out till late hours during the weekend. Even though this data does not explicitly mention it, driving under influence usually plays a role in the high number of injury crashes during late hours on the weekend.

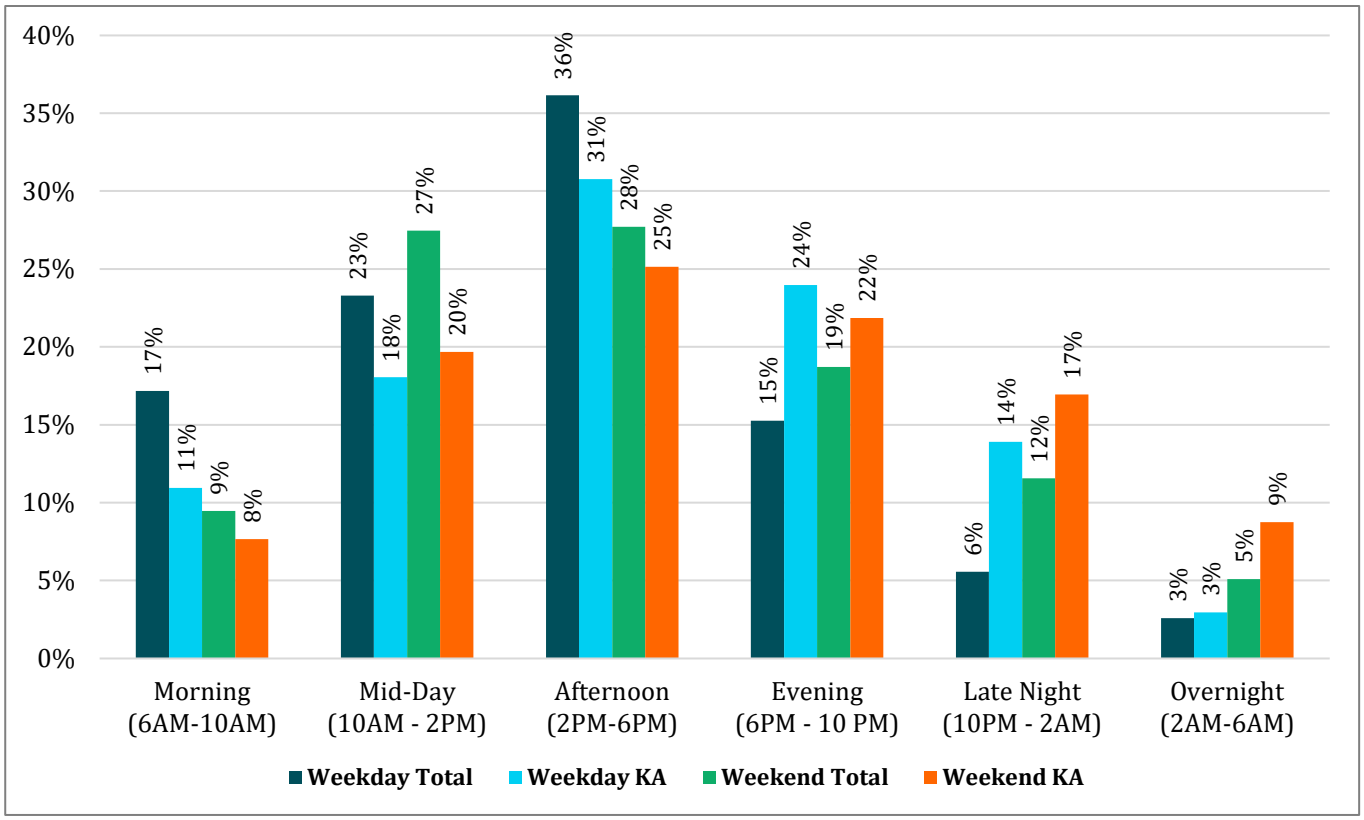


Figure 3: Crashes by Time of Day and Day of Week

Crashes by Functional Classification

Functional classification is a hierarchy of road types that serve different needs. Arterials are generally main thoroughfares that limit cross-traffic and are often controlled by traffic signals, while collectors generally funnel traffic from local roads on to the arterials. Local roads serve individual houses and neighborhoods and make up the largest percentage of roadways by mileage, but they often have the lowest traffic volumes and lowest average speeds. Within the PVPC region, the pattern of crashes differs noticeably between urban and rural areas. In urban communities, crashes of all severities are heavily concentrated on higher-order roadways: principal arterials and minor arterials together account for about three-quarters of all reported crashes and a similar share of KA crashes. In rural parts of PVPC, however, the most serious safety challenges are found on the collector and local road network. Major collectors alone represent over one-third of all rural crashes and nearly 40 percent of rural KA crashes, while minor collectors and local roads together account for another large share of both total and severe crashes. This contrast suggests that, within PVPC, urban safety strategies should prioritize busy arterial corridors, whereas rural safety efforts need to focus more on improving conditions along collectors and local roads that connect smaller towns and rural destinations.

Table *3* presents a detailed breakdown of total crashes and fatal and serious injury crashes by functional classification for both urban and rural areas within PVPC. Overall, in urban areas, 2% of all crashes resulted in fatality or serious injury. But in rural areas, 4% of all crashes resulted in either fatality or serious injury. Considering the vast rural nature of PVPC with a concentrated urban core around I-95, it is important to distinguish the types of roads that are at higher risk based on land use.

Within the PVPC region, the pattern of crashes differs noticeably between urban and rural areas. In urban communities, crashes of all severities are heavily concentrated on higher-order roadways: principal arterials and minor arterials together account for about three-quarters of all reported crashes and a similar share of KA crashes. In rural parts of PVPC, however, the most serious safety challenges are found on the collector and local road network. Major collectors alone represent over one-third of all rural crashes and nearly 40 percent of rural KA crashes, while minor collectors and local roads together account for another large share of both total and severe crashes. This contrast suggests that, within PVPC, urban safety strategies should prioritize busy arterial corridors, whereas rural safety efforts need to focus more on improving conditions along collectors and local roads that connect smaller towns and rural destinations.

Table 3: Crashes by Functional Classification

Functional Classification	Urban				Rural			
	All Severity	Percent of Total	Fatal and Serious Injury (KA)	Percent of Total	All Severity	Percent of Total	Fatal and Serious Injury (KA)	Percent of Total
Principal Arterial - Other	9,398	42%	167	39%	166	7%	7	8%
Minor Arterial	7,783	34%	165	38%	395	18%	11	12%
Major Collector	2,208	10%	49	11%	799	36%	35	39%
Minor Collector	0	0%	0	0%	302	14%	18	20%
Local	3,218	14%	48	11%	573	26%	19	21%
Total	**22,607**	**100%**	**429**	**100%**	**2,235**	**100%**	**90**	**100%**

Crashes by Location

Within the PVPC region, crash patterns by location type indicate that most crashes and a majority of the most severe outcomes occur along roadway segments rather than at intersections. Approximately two-thirds of all crashes and well over half of fatal and serious-injury (KA) crashes are segment-related, while intersections account for a little over one-third of all crashes and roughly one-third of KA crashes. These findings suggest that, in addition to traditional intersection safety treatments, PVPC's safety strategy should place strong emphasis on corridor-level improvements along key road segments to meaningfully reduce severe crash risk.

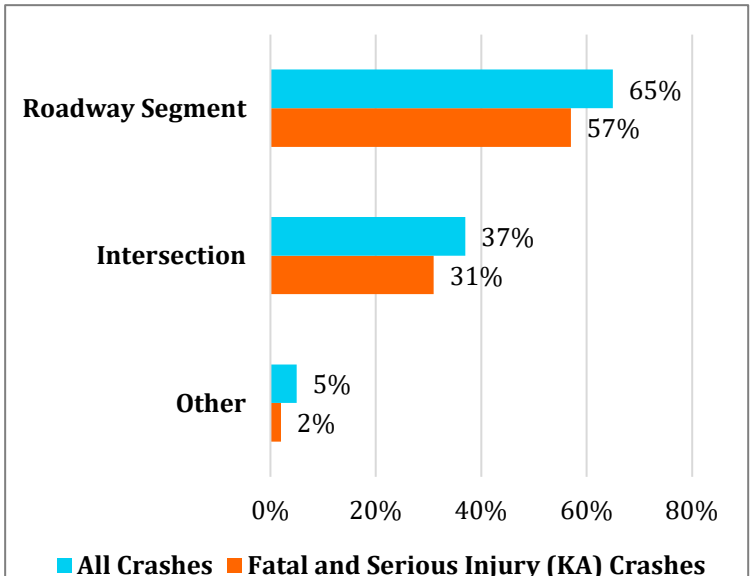


Figure 4: Crashes by Location

Crashes by Collision Type

Since different crash types are often associated with certain roadway conditions and driver behaviors, an analysis of collision types can help provide insights into the underlying contributing factors and the according safety countermeasures.

While the most common crash types were rear-end crashes (28 percent), single-vehicle crashes (24 percent), and angle crashes (20 percent); single-vehicle crashes had the highest share of fatal and serious injury crashes (39 percent). Vulnerable road user 9VRU) crashes comprise only 2% of total crashes but 17% of KA crashes are related to VRU. This statistic further reinforces the fact that pedestrians, bicyclists and other micromobility users are disproportionately prone to higher levels of injury. As shown in Table 4, proportion of KA crashes for each crash type reveals that the VRU crashes posed the greatest risk for severe outcomes. Head-on crashes were less frequent, but they had the second highest risk for severe outcomes followed by single-vehicle crashes.

Table 4: Crashes by Collision Type

Collision Type	Number of Total Crashes	Percent of Total Crashes	Number of KA Crashes	Percent of KA Crashes	Proportion of KA Crashes
Single Vehicle Crash	6121	24%	201	39%	3%
Rear-end	6920	28%	39	7%	1%
Angle	4991	20%	88	17%	2%
Sideswipe, Opposite Direction	840	3%	12	2%	1%
Sideswipe, Same Direction	2434	10%	16	3%	1%
Head-On	925	4%	68	13%	7%
VRU Crash	547	2%	86	17%	16%
Animal Related	1315	5%	6	1%	0%
Other	1014	4%	5	1%	0%
Total	**25107**	**100%**	**521**	**100%**	**2%**

Crashes by Surface Conditions

About 78% of total crashes and 83% of fatal and serious injury (KA) crashes happened in dry surface conditions. Wet conditions account for a smaller but still notable portion of crashes (about 15% of all crashes and 13% of KA crashes), while snow and ice make up only a small fraction of the total and severe crash burden. These patterns suggest that most serious crashes in PVPC are driven by factors other than s surface condition alone.

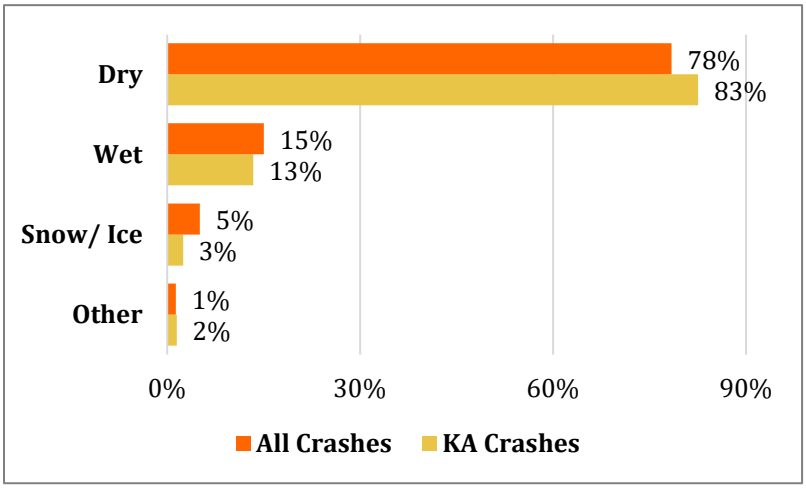


Figure 5: Crashes by Surface Conditions

Crashes by Lighting Conditions

Table 5 summarizes how lighting conditions relate to crash occurrence and severity. Daylight conditions were present for 70% of all crashes, 58% of all fatal and serious injury crashes and 49% of VRU related fatal and serious injury crashes. However, dark conditions, even when roadways are lit still represent a substantial share of incidents. Only 24% of all crashes happened in dark conditions (combining lighted, not lighted and unknown lighting) but it accounted for 37% of fatal and serious injury crashes. For VRU crashes, 48% of fatal and serious injury crashes happened in dark conditions.

VRU injury crashes are disproportionately high in dark conditions because of reduced visibility, uneven or inadequate roadway lighting, and headlight glare make it harder for drivers to detect people walking or biking in time to react, especially at higher nighttime speeds and where drivers do not expect VRUs.

Table 5: Crashes by Lighting Conditions

Lighting Condition	All Crashes				VRU Crashes			
	All Severity	Percent of Total	KA Crashes	Percent of Total	All Severity	Percent of Total	KA Crashes	Percent of Total
Dark - Lighted	4,372	17%	124	24%	84	15%	25	29%
Dark - Not Lighted	1,618	6%	62	12%	37	7%	15	17%
Dark - Unknown Lighting	139	1%	3	1%	6	1%	2	2%
Dawn	355	1%	5	1%	5	1%	0	0%
Daylight	17,644	70%	303	58%	396	72%	42	49%
Dusk	835	3%	21	4%	19	3%	2	2%
Other	144	1%	3	1%	0	0%	0	0%
Total	**25,107**	**100%**	**521**	**100%**	**547**	**100%**	**86**	**100%**

Crashes by Vehicle Type

As expected, Passenger cars were the most frequently involved vehicle type and were involved in 58 percent of fatal and serious injury crashes. Motorcycles accounted for only 11% of total crashes but 19% of fatal and serious injury crashes. Lack of external protection and inherent vehicle instability make motorcycles more vulnerable to injury if involved in crashes.

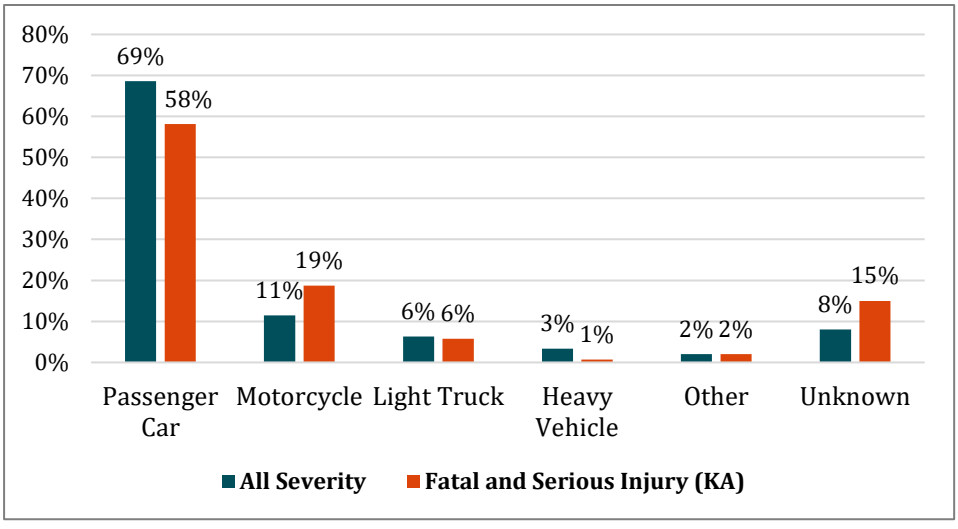


Figure 6: Crashes by Vehicle Type

Emphasis Areas

To link PVPC's regional safety analysis to the statewide safety framework, crashes were summarized by emphasis areas. Summarizing crashes by MassDOT HSIP emphasis areas[4] is important for PVPC because it directly links regional safety analysis to how safety policy, priorities, and funding are set at the state and federal levels. It helps identify which types of crashes and road users are most at risk in the region, supports data-driven, systemic safety planning rather than isolated spot fixes, and clearly documents the need for safety investments that align with SHSP priorities and Highway Safety Improvement Program (HSIP) eligibility.

Emphasis areas studied in this plan include the following. More specific information, including the exact queries used to filter these emphasis areas, is available on MassDOT's website[5].

Intersections: Crashes that occur within intersections or are related to the operation of intersection approaches.

Lane Departure: Crashes that occur when a vehicle intentionally or unintentionally crosses an edge or centerline or otherwise leaves the traveled way.

Older Drivers: Crashes that involve at least one driver who is 65 years of age or older.

Pedestrians: Crashes that involve a pedestrian on foot or using a mobility device such as a wheelchair.

Younger Drivers: Crashes that involve at least one driver who is between 15 and 20 years old.

Motorcyclists: Crashes that involve a motorcyclist.

Distracted Driving: Crashes occurring when the driver is distracted by an electronic device, a passenger, or a distraction outside the vehicle.

Bicyclists: Crashes that involve a bicyclist.

Impaired Driving: Crashes involving a driver suspected of being under the influence of alcohol.

Large Vehicles: Crashes that involve large trucks, tractor trailers, buses, or other large vehicles.

Speeding: Crashes occurring when the driver exceeded the authorized speed limit.

Occupant Protection: Crashes involving a driver or passenger who is not wearing a seat belt.

[4] MassDOT Highway Safety Improvement Program

[5] IMPACT Emphasis Area Definitions

Table 6 lists the fatal and serious injury crashes for each emphasis area for both the PVPC region and the Commonwealth of Massachusetts. Emphasis areas that are notably more prevalent in the region compared to the Commonwealth are highlighted in red.

Table 6: Emphasis Area Summary

Emphasis Area	PVPC Region		Massachusetts	
	Number of Fatal and Serious Injury Crashes	Percent of Total Fatal and Serious Injury Crashes	Number of Fatal and Serious Injury Crashes	Percent of Total Fatal and Serious Injury Crashes
Lane Departure	194	**32%**	2855	28%
Impaired Driving	41	7%	675	7%
Occupant Protection	161	**27%**	2129	21%
Speeding	90	**15%**	1097	11%
Intersections	182	**30%**	3043	29%
Pedestrians	62	10%	1644	16%
Older Drivers	75	12%	1370	13%
Motorcycle	113	**19%**	1650	16%
Younger Drivers	63	10%	1009	10%
Large Vehicles	4	1%	150	1%
Distracted Driving	33	5%	590	6%
Bicyclists	22	4%	601	6%

To narrow the focus of this analysis, the following six emphasis areas emerged as key emphasis areas to address in the PVPC Regional Safety Action Plan.

- Lane Departure
- Intersections
- Occupant Protection
- Motorcycles
- Speeding
- Pedestrians
- Bicyclists

The Lane Departure, Speeding, Intersections, Occupant Protection and Motorcycle emphasis areas were overrepresented when compared to the rest of the Commonwealth. These areas are also consistently highlighted by regional stakeholders as key areas of concern. Even though the pedestrian and bicyclist emphasis areas did not show higher percentage of fatal and serious injury crashes compared to the state, VRU safety is a major focus area for PVPC. Given their importance, pedestrian and bicyclist emphasis areas were also considered as key areas for further analysis.

Even though other emphasis areas were not selected as part of the key emphasis area list, they are still important for the region and individual municipalities to focus on when thinking about how to improve roadway safety. Strategies and actions in the plan will still relate to and address these emphasis areas, as several are interconnected.

Lane Departure

Among all the identified emphasis areas, lane departure-related crashes were the most common type from 2020 to 2024, contributing to 32 percent of the region's total. As shown in Figure 7, fatalities and serious injuries in the region resulting from lane departures gradually increased from 25 in 2020 to 61 in 2022, and then gradually decreased in 2023 and 2024. Overall, there was a 32 percent rise over five years, indicating a persistent challenge in preventing vehicles from leaving their intended travel lanes.

Additionally, dangerous driver behaviors were found to greatly increase the risk of lane departure crashes. About 31 percent of these crashes were speeding related for 28% of these crashes, driver was under influence of alcohol or drugs. This indicates that impaired driving or speeding significantly increases the chance of having a fatal or serious injury lane departure crash, emphasizing the importance of context-sensitive roadway design and awareness efforts targeting these high-risk behaviors.

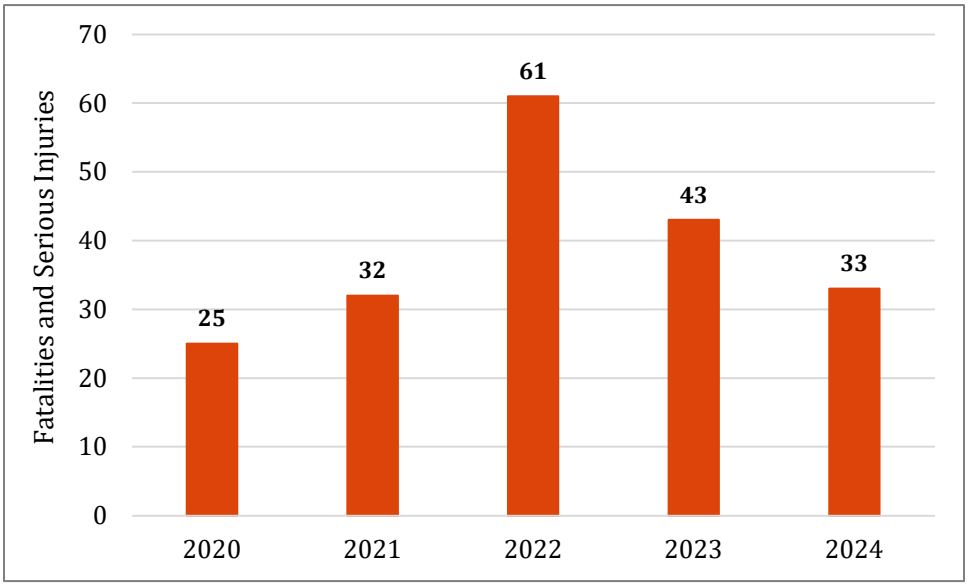


Figure 7: Lane Departure Fatalities and Serious Injuries

Intersections

Between 2020 and 2024, intersections related crashes accounted for 30 percent of fatalities and serious injuries in the PVPC region. As shown in Figure 8, after a spike in 2022, these crashes remained relatively stable. Fatalities and serious injuries due to intersection related crashes had increased by 20 percent in 2024 compared to 2020.

Given the distinct safety challenges posed by each intersection's unique combination of geometry, configuration, and traffic control, intersection-related crashes were further analyzed by intersection

type and traffic control type. T-intersections accounted for the majority (56 percent) of fatal and serious injury crashes followed by four-way intersections (33 percent). Among fatal and serious injury crashes at T-intersections and four-way intersections, 23 percent occurred at signalized intersections, 25 percent occurred at stop sign or yield controlled intersections and 39 percent at uncontrolled intersections.

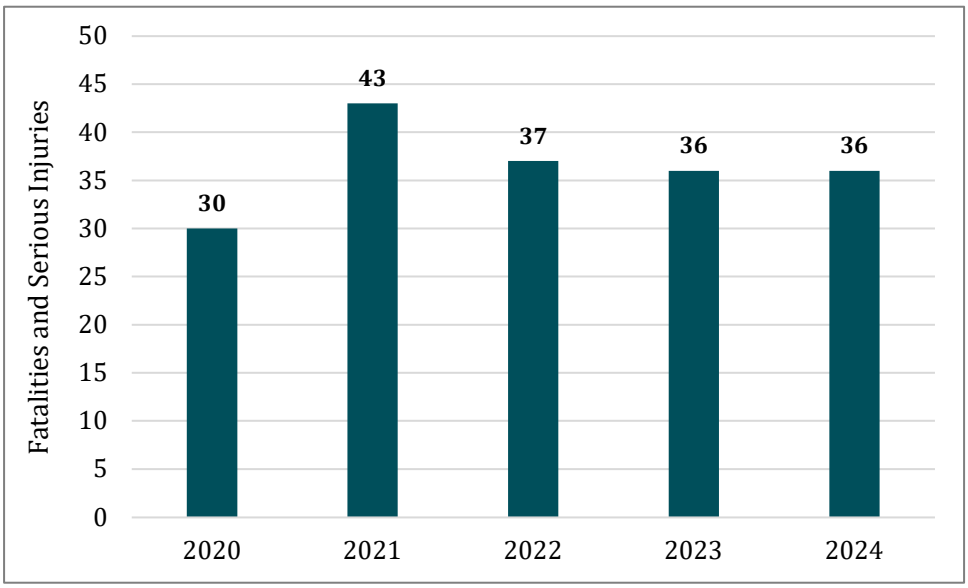


Figure 8: Intersection Related Fatalities and Serious Injuries

Occupant Protection

Unprotected occupants accounted for 27% of fatalities and serious injuries in the PVPC region between 2020 and 2024. Figure 9 shows a sharp increase between 2020 and 2022 and then a slight decline in following years. Overall, there was a 37 percent rise over five years, indicating a continuing challenge in risky road user behavior. Speeding and driving under influence also played a role in these types of crashes. About 35 percent of fatalities and serious injuries involving unprotected occupants

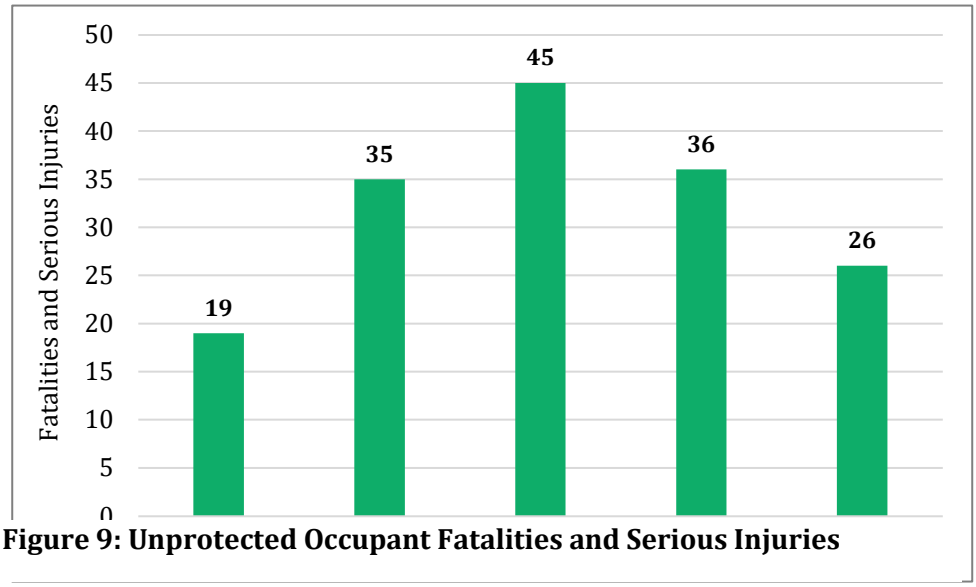


Figure 9: Unprotected Occupant Fatalities and Serious Injuries

happened when drivers were speeding. In about 28 percent of these crashes, involved occupants were under influence of alcohol or drugs. This indicates that this is a behavioral issue that is influenced by environment and policy.

Motorcycle

Between 2020 and 2024, Motorcycle-involved FSI crashes in the PVPC region decreased by 26%. However, these crashes are still overrepresented compared to the statewide statistics. Motorcycles often travel at relatively high speeds and accelerate quickly, which can lead to misjudged gaps and reduced time to react. Unlike car occupants, riders have no protective vehicle shell, so in a crash their bodies directly absorb the impact with other vehicles, the road, or roadside objects, and even with helmets and protective gear, injury severity is typically much higher than for protected occupants.

In PVPC region, motorcycle fatalities and serious injuries were seen most frequently on principal arterials (32 percent) or minor arterials (27 percent). Most common crash types were identified as single-vehicle crashes (36 percent) closely followed by angle crashes (34 percent). This pattern points to two key safety problems: drivers not detecting or correctly judging motorcycles at intersections, and riders losing control on higher-risk road sections such as bends, often linked to speed, road design, surface conditions, or rider skill.

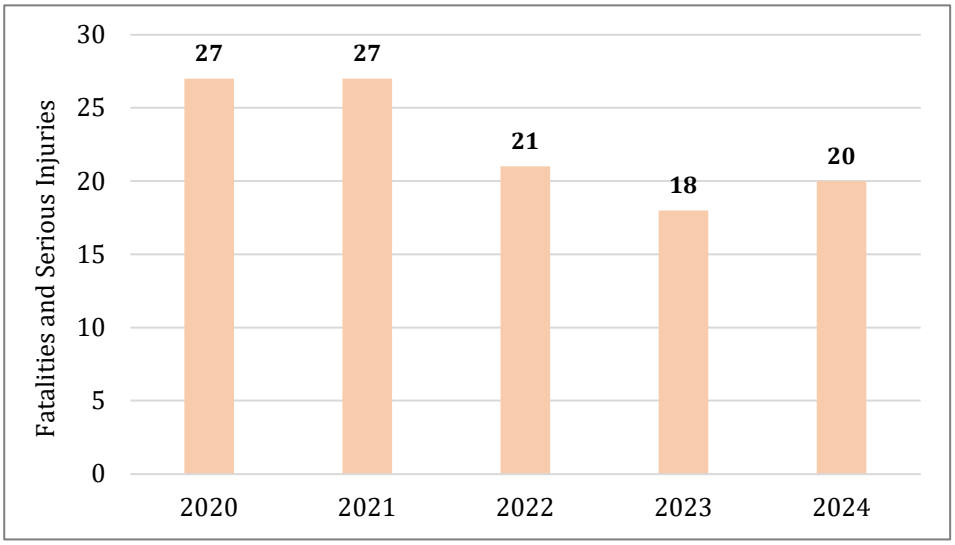


Figure 10: Motorcycle related fatalities and Serious Injuries

Speeding

The yearly variation in speeding-related fatal and serious injury crashes is shown in Figure 11. Overall, the PVPC region experienced a 27 percent decrease in speeding related fatalities and serious injuries from 2020 to 2024. But it is still higher than the statewide percentage and a major concern identified by stakeholders in the region.

As previously discussed, speeding behavior can be a significant contributing factor to lane departures, given that 64 percent of speeding-related fatal and serious injury crashes were lane departure crashes. Additionally, impaired driving is another prevalent factor in speeding crashes. About 30% of fatalities and serious injuries related to speeding also involved drivers under influence. Further

analysis of potential risk factors associated with speeding-related fatal and serious injury crashes suggests that younger drivers between the age of 16 and 25 had a higher chance (33 percent) of getting involved in speeding-related injuries.

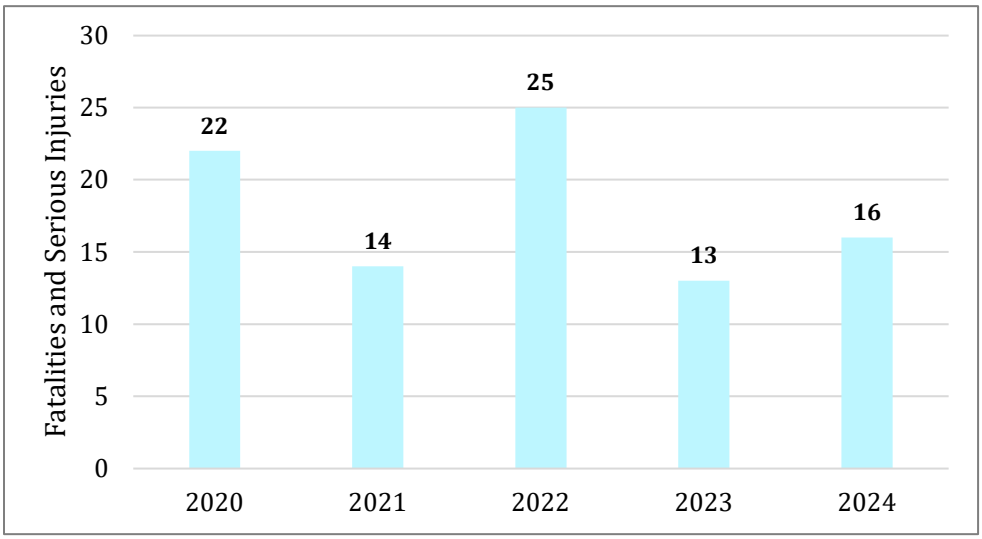


Figure 11: Speeding related Fatalities and Serious Injuries

Pedestrians and Bicyclists

Vulnerable road users (VRU) such as pedestrians and bicyclists face unique challenges and a higher risk of injury compared to other road users. While walking and biking can offer significant health and environmental benefits, VRUs are more susceptible to serious injuries and fatalities when involved in collisions with motor vehicles. Figure 12 illustrates the annual number of fatal and serious injury crashes involving pedestrians and bicyclists over a five-year period. 26 % of these crashes involved bicyclists and the rest 74% involved pedestrians. Overall, the PVPC region experienced a 89 percent increase in VRU related fatalities and serious injuries from 2020 to 2024. A deeper analysis of these crashes reveals that majority (62 percent) of VRU crashes occurred outside of intersections (i.e., mainline) locations. Among those crashes at mainline locations, 38 percent of severe crashes involving VRUs were on minor arterials.

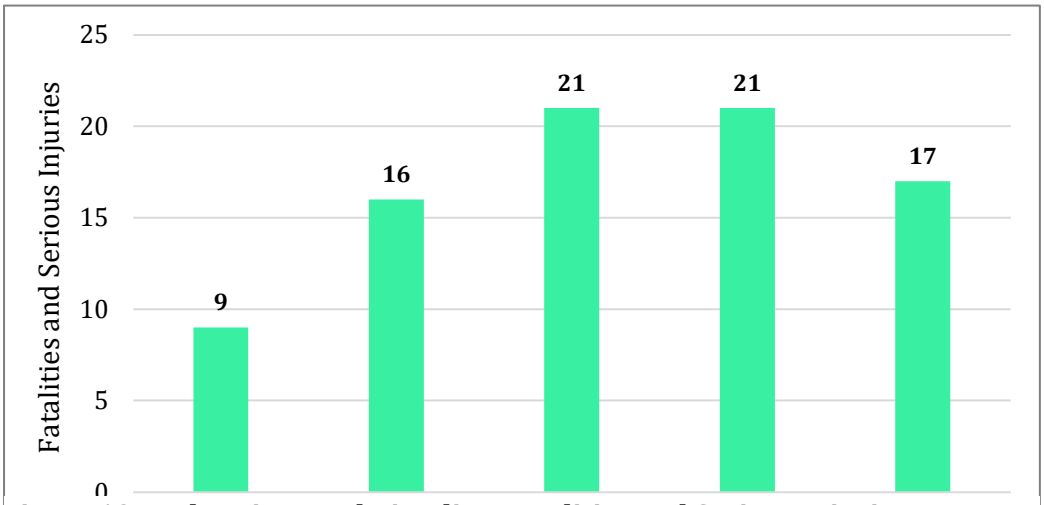


Figure 12: Pedestrians and Bicyclists Fatalities and Serious Injuries

Appendix B: High Injury and High-Risk Networks

Pioneer Valley
SAFE STREETS

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Background

The Pioneer Valley Planning Commission (PVPC) serves as the Metropolitan Planning Organization (MPO) for the Pioneer Valley region of western Massachusetts, encompassing 43 diverse communities. PVPC is in the process of developing a Regional Safety Action Plan in compliance with the Safe Streets and Roads for All (SS4A) program.

This appendix documents the analytical framework used to identify priority locations for safety improvements in support of the Regional Safety Action Plan. The analysis combines a reactive, data-driven assessment of historical crash outcomes with a proactive evaluation of network risk conditions, resulting in two complementary screening products: a High Injury Network (HIN) and a High-Risk Network (HRN). Together, these tools provide a comprehensive view of where the crash hotspots are under existing conditions and where serious crashes are likely to occur in the future without intervention.

There are 5 municipalities within PVPC region that are either already developed or in the process of developing their own Safety Action Plan. These municipalities were excluded from the analysis for this appendix.

Data Sources

Both the HIN and HRN rely on two primary datasets: roadway network data and crash data. Crash data was obtained from the MassDOT IMPACT Crash Data Portal[1], representing the years from 2020 to 2024. The roadway network base was derived from MassDOT Road Inventory. Consistent with project direction, all fully access-controlled roadways were excluded from the analysis. This chapter uses fatal and injury crashes as the basis of analysis. **Error! Reference source not found.** defines each level of injury according to the KABCO scale.

Unless otherwise mentioned, this appendix excludes

- ***Fully Access-Controlled Facilities***
- ***Property Damage Only Crashes***
- ***Crashes within Chicopee, Holyoke, Springfield, Ware and Westfield***

Table 1: Crash Severity Classification Scale

KABCO Category	Definition
Fatal Injury (K)	Any injury that results in death due to the crash.
Suspected Serious Injury (A)	Any injury that prevents the injured person from normally continuing activities that person was capable of before the injury occurred, such as a severe laceration or a broken limb.
Suspected Minor Injury (B)	Any visible injury that is not a suspected serious injury, such as a lump on the head or minor lacerations.
Possible Injury (C)	Any injury reported by an individual involved in the crash that is not visible to the reporting officer, such as dizziness or a complaint of pain.
No Apparent Injury (O)	There is no evidence of physical injury and the individuals involved in the crash do not complain of any injury.

Source: FHWA KABCO Injury Classification Scale and Definitions

[1] IMPACT Data Portal - MassDOT

High Injury Network (HIN)

A central component of a safety action plan is the development of a High-Injury Network (HIN), a relatively small share of roadways and intersections in the region where a disproportionately high number of fatal and injury crashes occur. PVPC developed HIN for both roadway segments and intersections. This chapter summarizes the methodology used to develop the HIN, the data sources used in the analysis, and the key findings from the resulting network.

An HIN is a primary tool of a reactive safety approach, because it is built from locations where serious and fatal crashes have already occurred and uses that trend to drive action. Agencies can use HIN to respond directly to documented problems, prioritizing countermeasures—such as speed reduction, crossing improvements, and intersection redesign on specific corridors. However, because it depends on past crash data, a HIN-based reactive approach may miss emerging risk locations that have not yet generated a severe crash record, which is why it is most effective when paired with complementary, proactive risk analysis.

Methodology

The purpose of the HIN is to identify roadway corridors and intersections with the highest safety risk based on both crash frequency and crash severity. The HIN for segments and intersections was developed using the following six-step, systematic, and replicable process shown in **Figure 1**. This approach provides a consistent framework that is data-driven, transparent, and straightforward to reproduce.

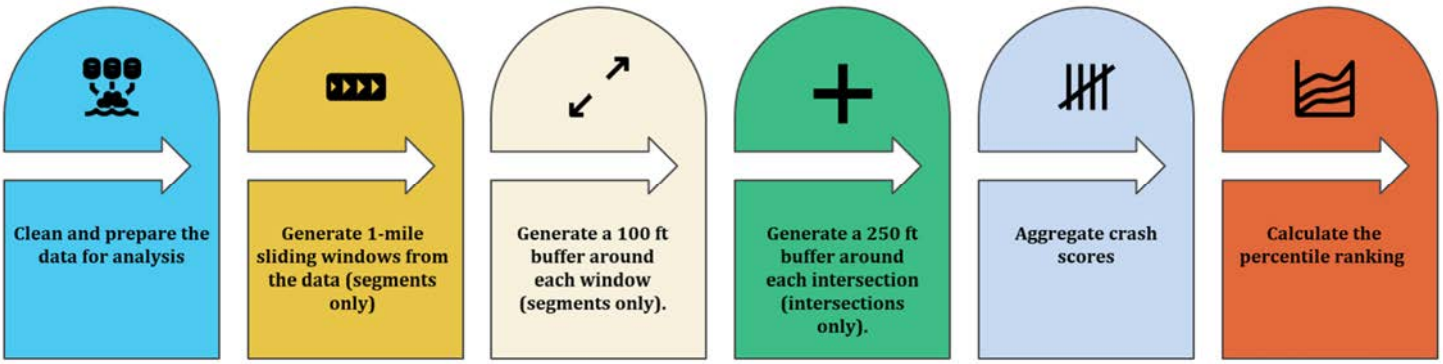


Figure 1: HIN Development Process

Step 1: Preprocess the Data

The first stage of the HIN analysis involves preparing the roadway network layer, intersection layer, and crash dataset.

Road and Intersection Layer Preprocessing

The roadway and intersection layers were reviewed to identify and address connectivity issues and other inconsistencies. The following facility types were excluded from the analysis layers:

- Interstates
- Ramps

- Pedestrian facilities
- Bicycle facilities
- Tunnels
- Access-controlled roadway segments

The resulting network is intended to represent local and regional surface streets with partial or no access control.

Crash Layer Preprocessing

Crash data from the MassDOT IMPACT Crash Data Portal from 2020 to 2024 served as the primary source for the analysis. Crashes identified as occurring on interstates and ramps were removed so they would not be incorrectly associated with adjacent surface streets. The crash dataset retained all relevant attributes, including crash severity. The five PVPC towns not included in the safety action plan were also excluded.

Step 2: Create a 1-mile Sliding Window (Segments Only)

In the second step, a 1-mile sliding window is applied to each roadway and advanced in 0.1-mile increments. This method supports a localized review of crash patterns and allows for detailed evaluation of conditions along the roadway network. Advancing the window in regular increments ensures that the full roadway network is assessed. For roadways shorter than one mile, the full roadway segment is evaluated as a single unit. Roadway segments of less than 400 feet were excluded from the analysis as they were considered too short to account for in this methodology.

Step 3: Create a 100-foot Buffer (Segments Only)

The third step is to generate a 100-foot buffer around each 1-mile analysis window. This buffer is used to capture crashes that can reasonably be associated with the corresponding roadway segment. Multiple buffer distances were tested during method development, and a 100-foot buffer was determined to best capture crashes attributable to the roadway segment while minimizing overlap with adjacent facilities.

Step 4: Create a 250-foot Buffer (Intersections Only)

The fourth step is to generate a 250-foot buffer around each intersection. This buffer is used to capture crashes that can reasonably be associated with the corresponding intersection.

Step 5: Aggregate Crash Scores

The fifth step involves summarizing crash scores within each buffered window for segments and intersections. This process compiles all crashes falling within the buffer and converts them into an Equivalent Property Damage Only (EPDO) score. If a crash is at an intersection and intersects multiple roadway buffers, it is counted in all the buffers it intersects with.

Using EPDO crash score allows the analysis to reflect both the number of crashes and their severity within a single metric. This provides a more complete measure of corridor safety performance than crash frequency alone. The crash scoring framework used for the HIN is shown in **Table 2** .

Table 2: EPDO Crash Score Calculation Weight

KABCO Severity Category	Crash Score
KAB (Fatal or Suspected Serious Injury or Suspected Minor Injury)	32
C (Possible Injury)	10
O (No Apparent Injury)	1

Step 6: Calculate Percentile Rankings

The final step is to calculate a percentile ranking for each sliding-window segment and intersection based on its aggregated buffer score. These rankings identify which roadway segments and intersections have the greatest relative safety risk based on historic crash experience.

Analysis Findings

Segments

For this analysis, the top 5% HIN segments constitute the top 5.5% of the length of the roadways in PVPC and cover 46.3 % of all KAB Crashes. Additional high crash segments are provided in the top 10% HIN which constitute the top 10.7% of the length of the roadways in PVPC and covering a total of 64.3% of the KAB Crashes.

Table 3: HIN Coverage - Segments

HIN Coverage Percentage	Total Length (Miles)	Percentage by Length	Percentage Coverage of KAB Crashes
5%	218	5.5%	46.3%
10%	424	10.7%	64.3%
Total Length of Roadways Analyzed	3965	100%	100%

Intersections

For this analysis, the top 5% of intersections include 110 sites throughout the PVPC which account for 33.7 % of all KAB Crashes in the region. The top 10% of intersections include 249 sites throughout the PVPC which account for 53.7 % of all KAB Crashes in the region.

Table 4: HIN Coverage-Intersections

HIN Coverage Percentage	Total Number	Percentage Coverage of KAB Crashes
5%	110	33.7%
10%	249	53.7%
Total Number of Intersections Analyzed	2440	100%

HIN within equity area

Equity is essential to understanding traffic safety in PVPC region. Safe, reliable, and affordable transportation underpins economic opportunity, social resilience, and quality of life. For this action plan, two datasets were evaluated to determine the underserved/disadvantaged areas within PVPC. Traditionally, these areas are disproportionately impacted by lack of transportation access, high number of crashes and inadequate transit or infrastructures for pedestrians and cyclists. One of the data sources used to determine the underserved areas is the USDOT Underserved Communities Tool[2] that identifies the census tracts in the study area that meet the federal definition of an Underserved Community, primarily in areas with long-standing economic disadvantages. The tool defines an Underserved Community consistent with the definition of an Area of Persistent Poverty, where 20% of a county, census tract, or territory has continually lived in poverty.

The other data source is MassDOT's REJ+ (Relative Environmental Justice +) that identifies disadvantaged census block groups by identifying areas with high concentrations of residents heavily impacted by transportation network change. It uses 23 variables across six dimensions, Environmental, Economy, Social, Health, Resilience, and Transportation, to identify these communities, mapping them at the block group level.

Table 5 shows the percentages of HIN segments and intersections that fall within either USDOT underserved communities or MassDOT's REJ+[3] census blocks. More than 50% of the segments and more than 60% of the intersections within the HIN fall within these areas.

Table 5: HIN within Underserved Communities

HIN Coverage Percentage	Total Length/ Number	Total Length/Number within Equity Area	Percentage Coverage
Segments			
5%	218 miles	130 miles	59.6%
10%	424 miles	226 miles	53.3%
Intersections			
5%	110	75	68.2%
10%	249	171	68.7%

Regional HIN

The high injury networks provide a powerful visual tool for highlighting segments and intersections which can be considered crash hotspots. This can help guide and prioritize safety investments from a crash history perspective. **Figure 2** shows the HIN within PVPC region. For this action plan, PVPC decided to set the threshold at the top ten percent of the roads to constitute the HIN. From the map, it is evident that the HIN is more concentrated, near urban areas and major traffic generators and more dispersed in suburban/rural land use types.

[2] SS4A Underserved Communities Tool
[3] MassDOT REJ+

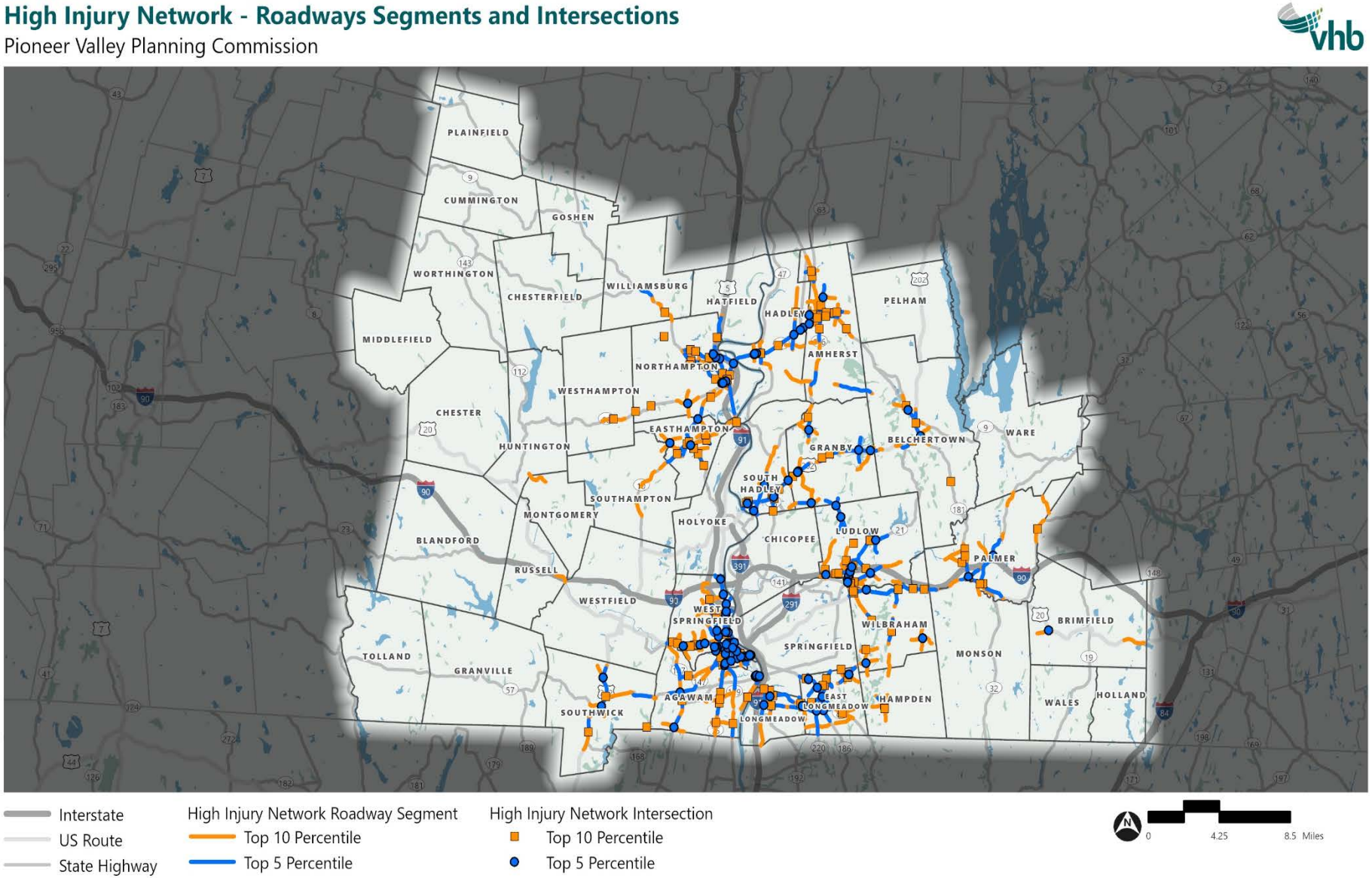


Figure 2: PVPC High Injury Network (HIN)

High Risk Network (HRN)

As a complement to the crash-based (reactive) network screening used to develop the High-Injury Network (HIN), this systemic analysis applies a proactive method to identify roadway risk factors linked to fatal and serious injury crashes and to assess the network based on site-specific risk levels. The systemic approach to safety is the process by which agencies identify, prioritize, and treat sites with potential for safety improvement based on the likelihood of a fatal or severe crash occurring, as opposed to the "site-specific" approach, which is based on crash history.

Methodology

The systemic approach begins with identifying focus crash types – those crash types which account for the most fatalities and serious injuries, those which account for an outsized proportion of fatalities and serious injuries when compared to all crashes, or crashes which have otherwise been deemed a focus of the agency. The next step is identifying focus facility type. These are the facilities (e.g., minor collectors, signalized intersections) on which a high proportion, or outsized proportion, of focus crash types have occurred. The third step is identifying the characteristics (e.g., traffic volumes, lane width, traffic control, etc.) associated with an increased likelihood of focus crashes on those focus facilities. Using these methods, an agency can identify the sites on their network with the highest risk of a severe crash. Figure 3 shows this methodology, which is consistent with the systemic analysis process, as described in the Federal Highway Administration's (FHWA) Systemic Safety User Guide[4].

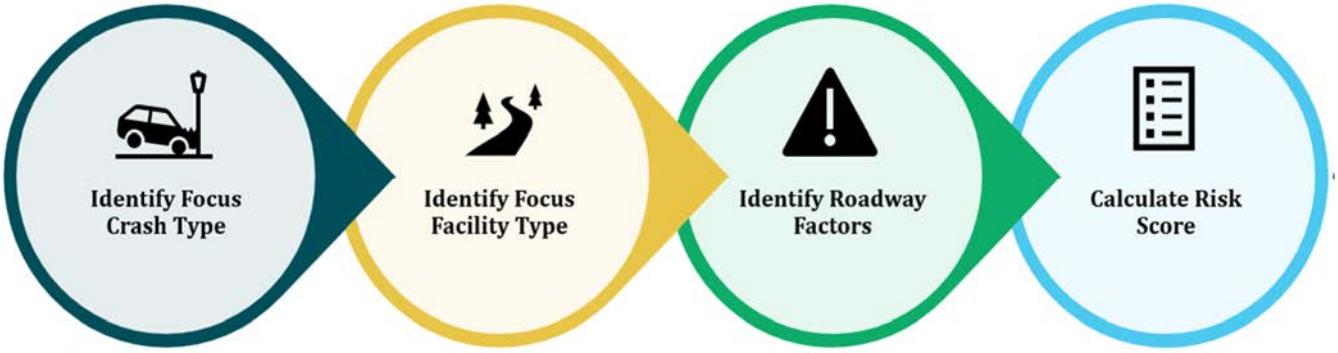


Figure 3: HRN Development Process

PVPC analyzed crash statistics for several crash types using IMPACT dashboard[5]. Based on that, following crash types were selected to identify their HRNs:

- Lane departure crashes.
- Intersection crashes.
- Motorcycle crashes.
- Speeding and aggressive driving crashes.
- Pedestrian crashes.
- Bicycle crashes.

[4] FHWA Systemic Safety Analysis Quick Start Guide

[5] IMPACT Operations Dashboard-SHSP Emphasis Areas

Lane Departure HRN

Between 2019 and 2023, lane departure crashes accounted for an average of 54 percent of annual traffic fatalities in the region. Further, between 2020 and 2024[5] these crashes accounted for 30 percent of the region's serious injuries. To determine focus facility type, a crash tree was used with lane departure KAB crashes, which found that Principal-Other and Minor Arterial roadways with no access control should be the focus facility type. Figure 4 shows the crash tree for lane departure crashes. After selecting the focus facility type, risk factors associated with severe lane departure crashes on those segments were identified. To do so, PVPC used the "Overrepresentation" approach, comparing the proportion of target crashes with a select feature to the proportion of focus facility mileage with that feature. Where the proportion of crashes was notably higher, that feature was selected as a risk factor.

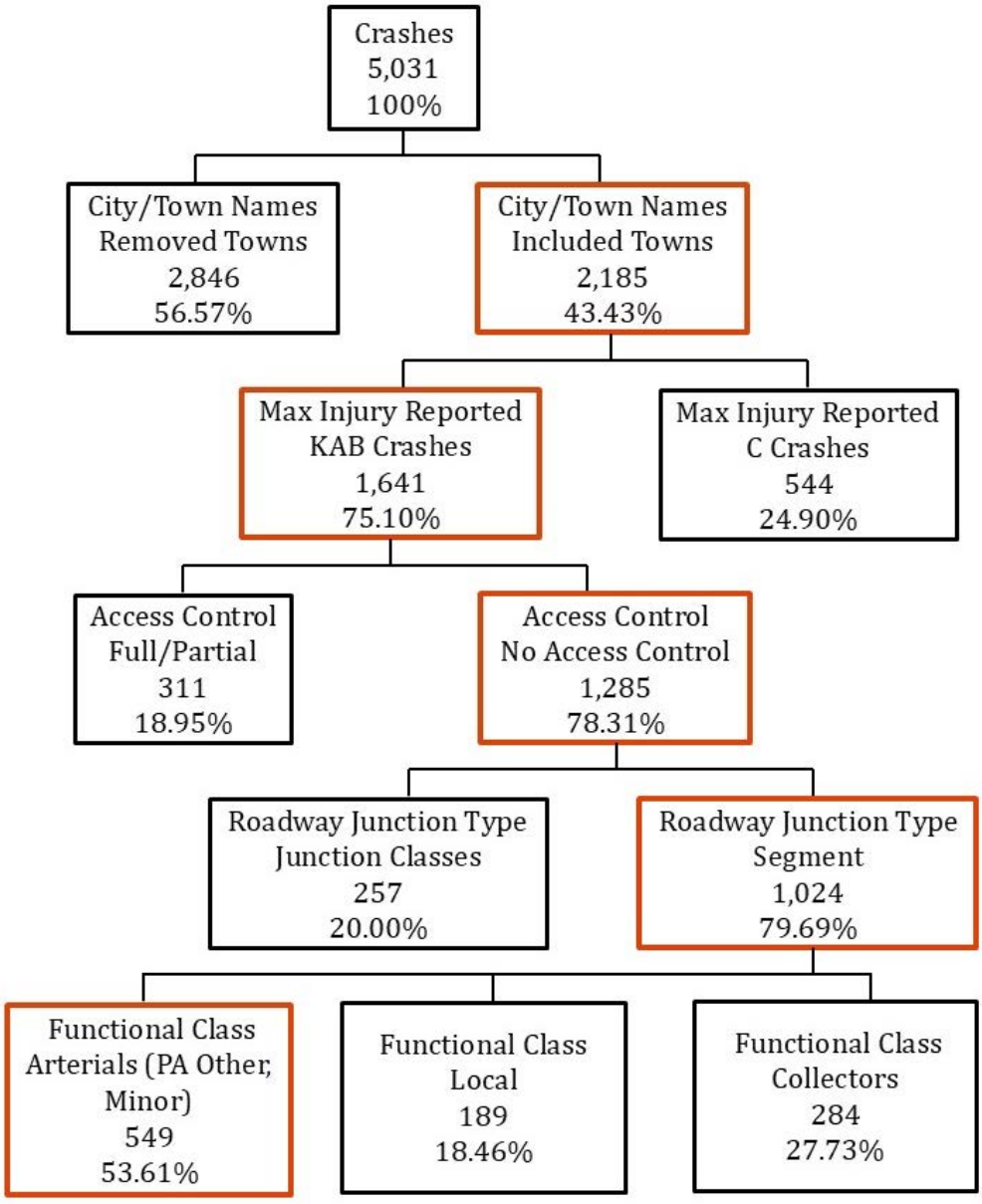


Figure 4. Crash tree for Lane Departure Crashes

Table 6 provides an excerpt of this approach, showing the overrepresentation for posted speed limit. Here, roads with a posted speed limit of 35 MPH or 40 MPH accounted for 56 percent of KAB lane departure crashes, as opposed to just 51 percent of focus facility type roadway mileage. As such, 35 or 40 MPH speed limit was selected as a risk factor.

Table ***7*** summarizes all risk factors selected for the lane departure HRN.

Table 6. Average Outside Shoulder Width Risk Factor Analysis for Lane Departure

Posted Speed Limit	KAB Crashes	Mileage	% of KAB Crashes	% of Mileage
Not Reported	14	8.5	2.8%	1.6%
15-30 MPH	128	138.3	25.5%	26.6%
35-40 MPH	279	264.2	55.7%	50.9%
45-55 MPH	80	108.2	16.0%	20.8%

Table 7. Summary of Lane Departure Risk Factors

Data Element	Risk Factor	KAB Crashes	Mileage	% of KAB Crashes	% of Mileage
Functional Class	**Principal Arterial – Other**	199	158.5	39.7%	30.5%
Jurisdiction	**MassDOT**	173	159.1	34.5%	30.6%
Total Lanes	**4**	20	12.0	4.0%	2.3%
Average Lane Width	**12' and Wider**	368	347.9	73.5%	67.0%
Curb Type	**Present on Both Sides**	136	116.7	27.1%	22.4%
Posted Speed Limit	**35 MPH-40 MPH**	279	264.2	55.7%	50.9%

These risk factors were then used to create the HRN. One point was assigned for each risk factor present on a focus facility segment, for a maximum total risk score of 7. Table 8 summarizes the distribution of KAB crashes and focus facility mileage by risk score. The highest scoring segments (those with a risk score of 5 or higher) capture 12 percent of KAB lane departure crashes on just 9 percent of mileage.

Table 8. Summary of Lane Departure Risk Scoring

Risk Score	KAB Crashes	Mileage	% of KAB Crashes	% of Mileage
4, 5, 6	112	971.4	22.4%	16.2%
3	164	1871.5	32.7%	31.1%
2	156	2015.9	31.1%	33.5%
1	65	1056.1	13.0%	17.6%
0	4	95.7	0.8%	1.6%

Figure 5 shows the coverage of the lane departure crash HRN throughout the region.

Lane Departure High Risk Network (HRN)

Pioneer Valley Planning Commission

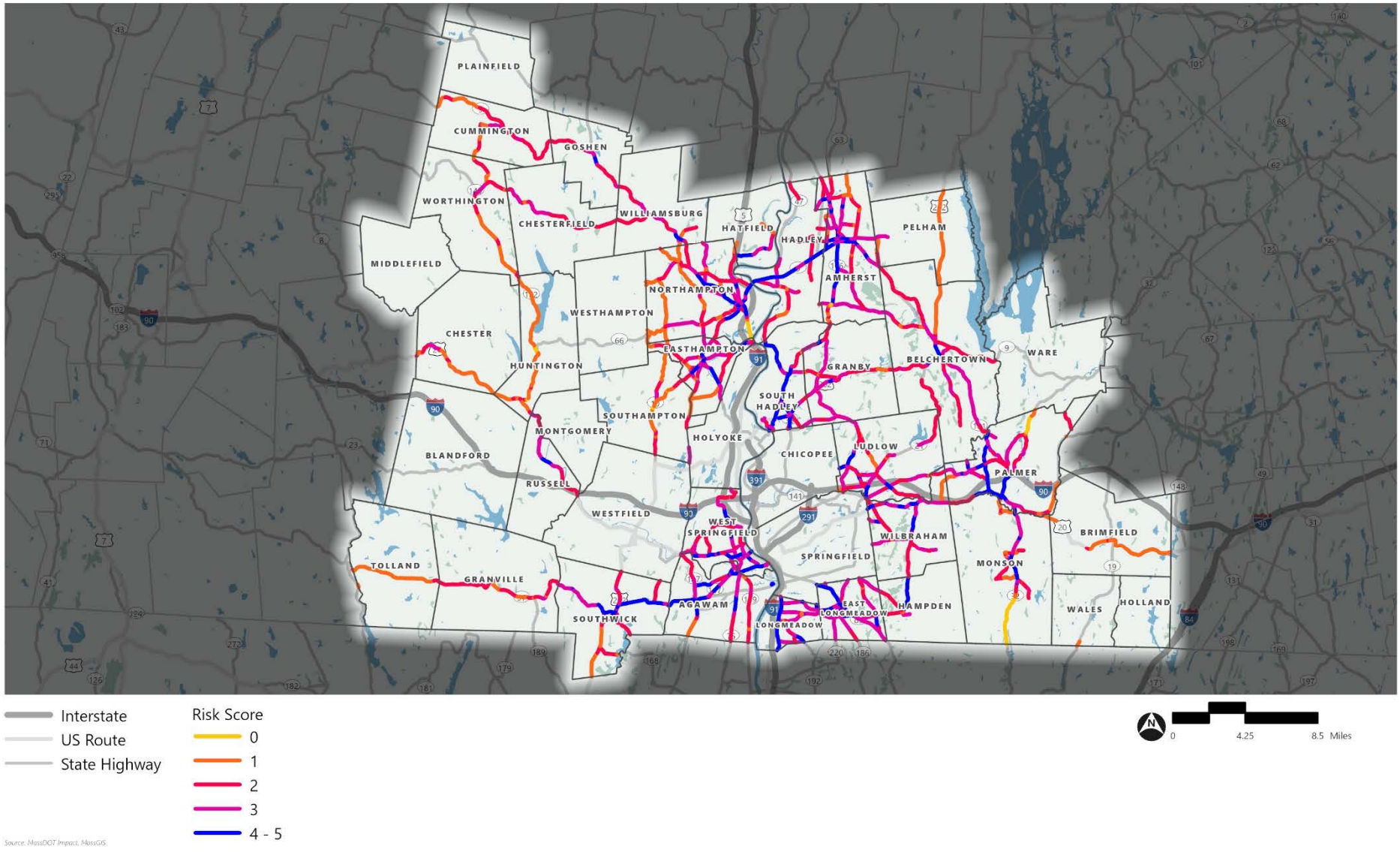


Figure 5: HRN for Lane Departure Crashes

Pedestrian HRN

Between 2019 and 2023, pedestrian crashes accounted for 20 percent of the region's fatalities, while accounting for 10 percent of the region's serious injuries between 2020 and 2024[5]. All pedestrian crashes were considered for analysis instead of focusing only on KAB crashes. This was done to ensure enough sample size for the analysis. Per the crash tree in Figure 6, Principal Arterial-Other and Minor Arterial roads were selected as the focus facility type.

Table *9* summarizes the risk factors selected for the Pedestrian HRN.

Table ***10*** summarizes the resulting risk scores from those risk factors.

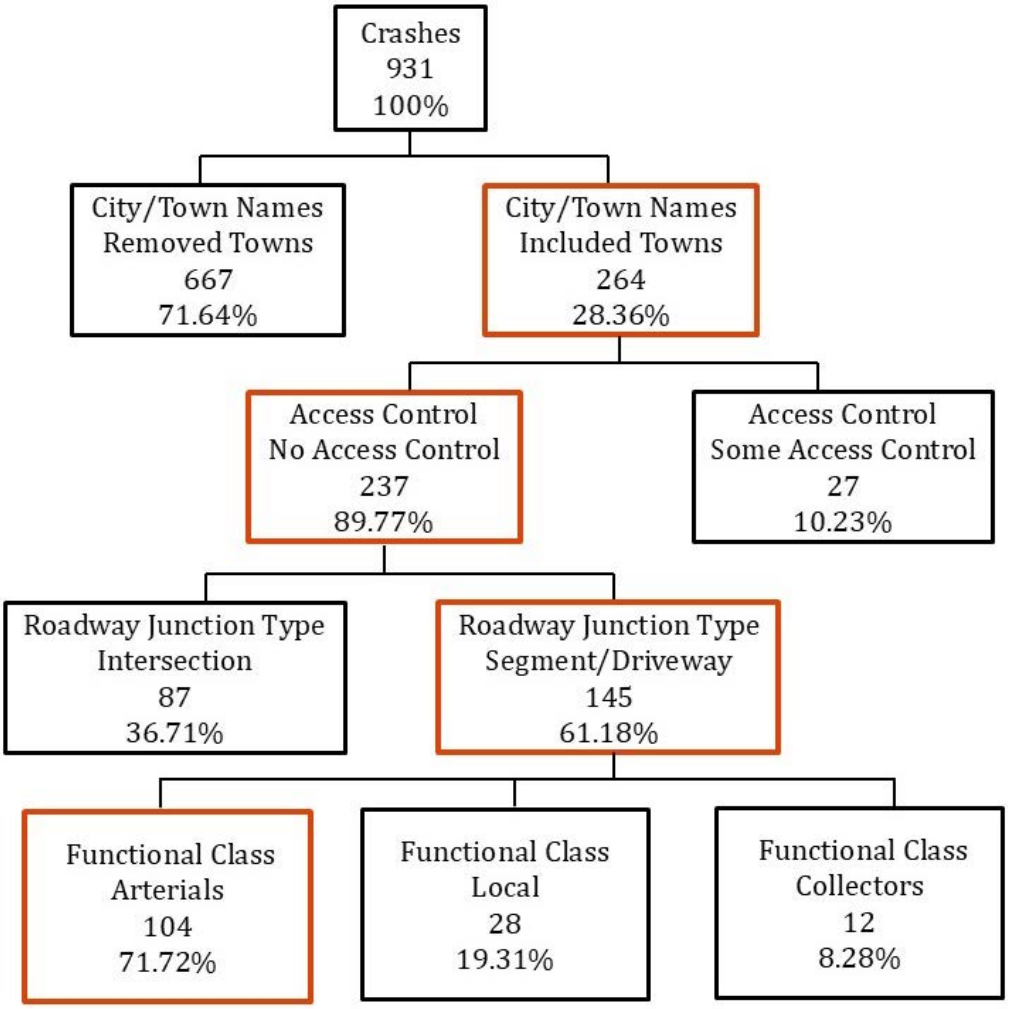


Figure 6. Crash tree for Pedestrian Crashes

Table 9. Summary of Pedestrian Risk Factors

Data Element	Risk Factor	KA Crashes	Mileage	% of KA Crashes	% of Mileage
Functional Class	**Principal Arterial – Other**	49	158.4	48.5%	30.5%
Jurisdiction	**City or Town Accepted Road**	84	358.2	83.2%	69.9%
Total Lanes	**4**	8	11.9	7.9%	2.3%
Street Operation	**One-Way**	13	12.4	12.9%	2.4%
Posted Speed Limit	**25 MPH or 30 MPH**	61	134.4	60.4%	25.9%
Curb	**Both Sides**	69	116.5	68.3%	22.4%
Shoulder Presence	**No Shoulder**	66	213.8	65.3%	41.1%
Walking Potential Score Category	**Medium or High**	95	247.7	94.1%	47.6%
Distance to Nearest School	**Within 1,000'**	13	41.1	12.9%	7.9%
REJ Status	**Segment within a REJ Census Tract**	56	273.1	55.4%	52.5%
Crosswalk Presence	**Crosswalk Present on Segment**	46	61.3	45.5%	11.8%

Table 10. Summary of Pedestrian Risk Scoring

Risk Score	Pedestrian Crashes	Mileage	% of Pedestrian Crashes	% of Mileage
8,9,10	31	14.3	10.7%	1.9%
7	62	37.2	21.4%	4.9%
6	69	67.1	23.8%	8.9%
5	66	94.0	22.8%	12.5%
4	34	122.1	11.7%	16.2%
3	18	153.6	6.2%	20.4%
2	9	160.0	3.1%	21.3%
1	1	82.3	0.3%	10.9%
0	0	22.2	0%	3.0%

Figure 8 shows the coverage of the pedestrian crash HRN throughout the region.

Bicycle HRN

Between 2019 and 2023, bicycle crashes accounted for 3 percent of the region's fatalities, while accounting for 4 percent of the region's serious injuries between 2020 and 2024[5]. Risk factors for the bicycle HRN were identified using all crashes irrespective of level of injury. Per the crash tree in Figure 7, the PVPC selected Principal Arterial-Other and Minor Arterial roads as the focus facility type. Table 11 summarizes the risk factors selected for the Bicycle HRN. Table 12 summarizes the resulting risk scores from those risk factors.

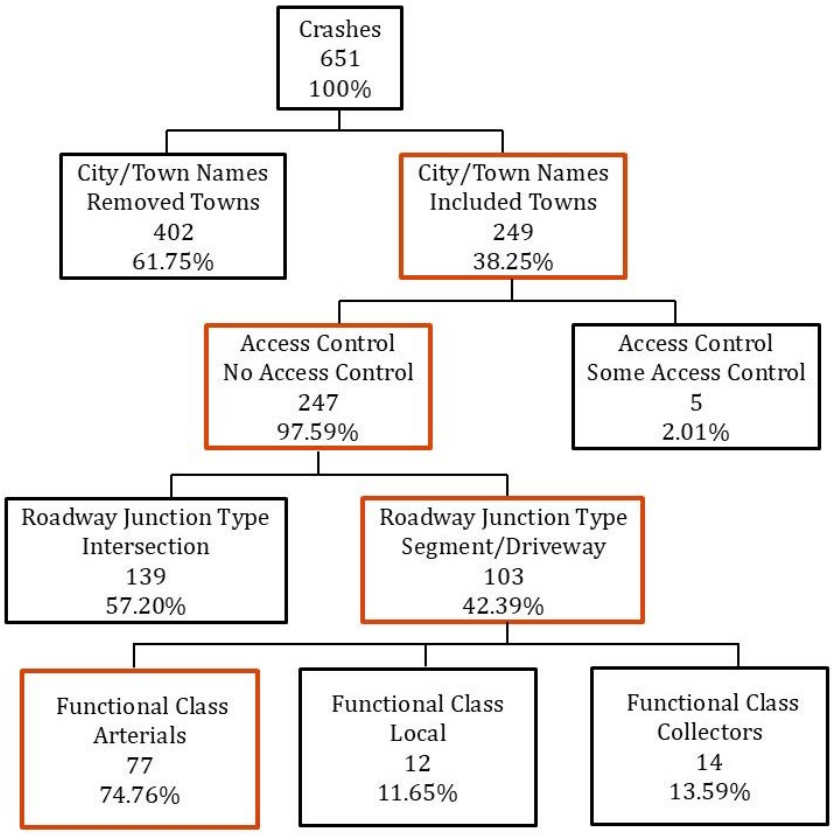


Figure 7. Crash tree for Bicycle Crashes

Table 11. Summary of Bicycle Risk Factors

Data Element	Risk Factor	KA Crashes	Mileage	% of KA Crashes	% of Mileage
Functional Class	**Principal Arterial – Other**	42	158.4	57.5%	30.5%
Jurisdiction	**City or Town Accepted Road**	57	358.1	78.1%	68.9%
Total Lanes	**4**	5	11.9	6.8%	2.3%
Posted Speed Limit	**25 MPH to 35 MPH**	62	280.7	84.9%	54.0%
Curb	**Both Sides**	47	116.5	64.4%	22.4%
Shoulder Presence	**No Shoulder**	41	213.8	56.2%	41.1%
Bike Level of Traffic Stress	**2 or Higher**	67	451.9	91.8%	87.0%
Distance to Nearest School	**Within 500'**	6	11.6	8.2%	2.2%
REJ Status	**Segment within a REJ Census Tract**	45	273.1	61.6%	52.5%

Table 12. Summary of Bicycle Risk Scoring

Risk Score	Bicycle Crashes	Mileage	% of Bicycle Crashes	% of Mileage
5, 6, 7	16	17.3	21.9%	3.3%
4	15	48.5	20.5%	9.3%
3	16	145.0	21.9%	27.9%
2	20	187.8	27.4%	36.1%
1	6	97.7	8.2%	18.8%
0	0	23.5	0%	4.5%

Figure 9

Pedestrian High Risk Network (HRN)

Pioneer Valley Planning Commission

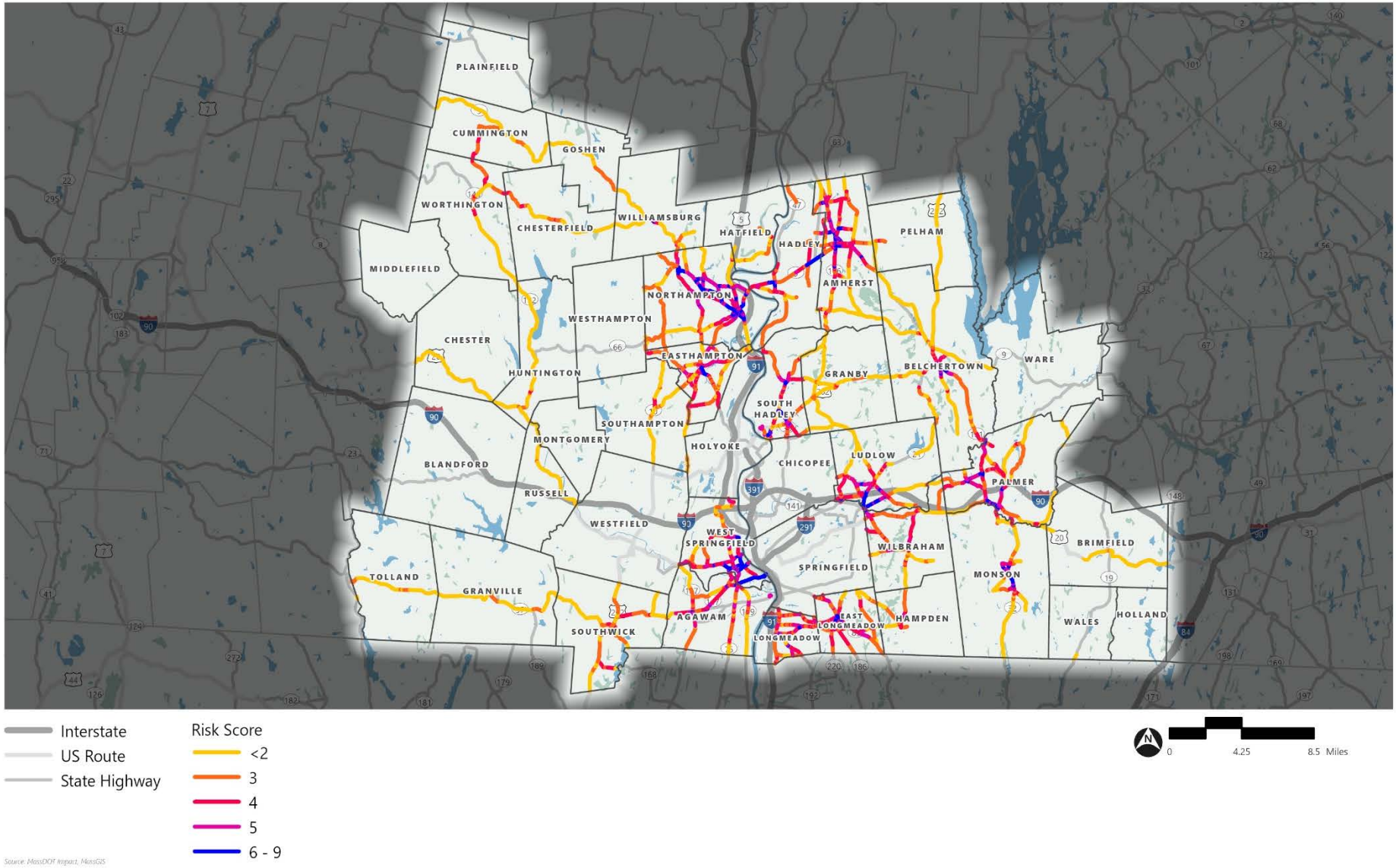


Figure 8: HRN for Pedestrian Crashes

Bicycle High Risk Network (HRN)

Pioneer Valley Planning Commission

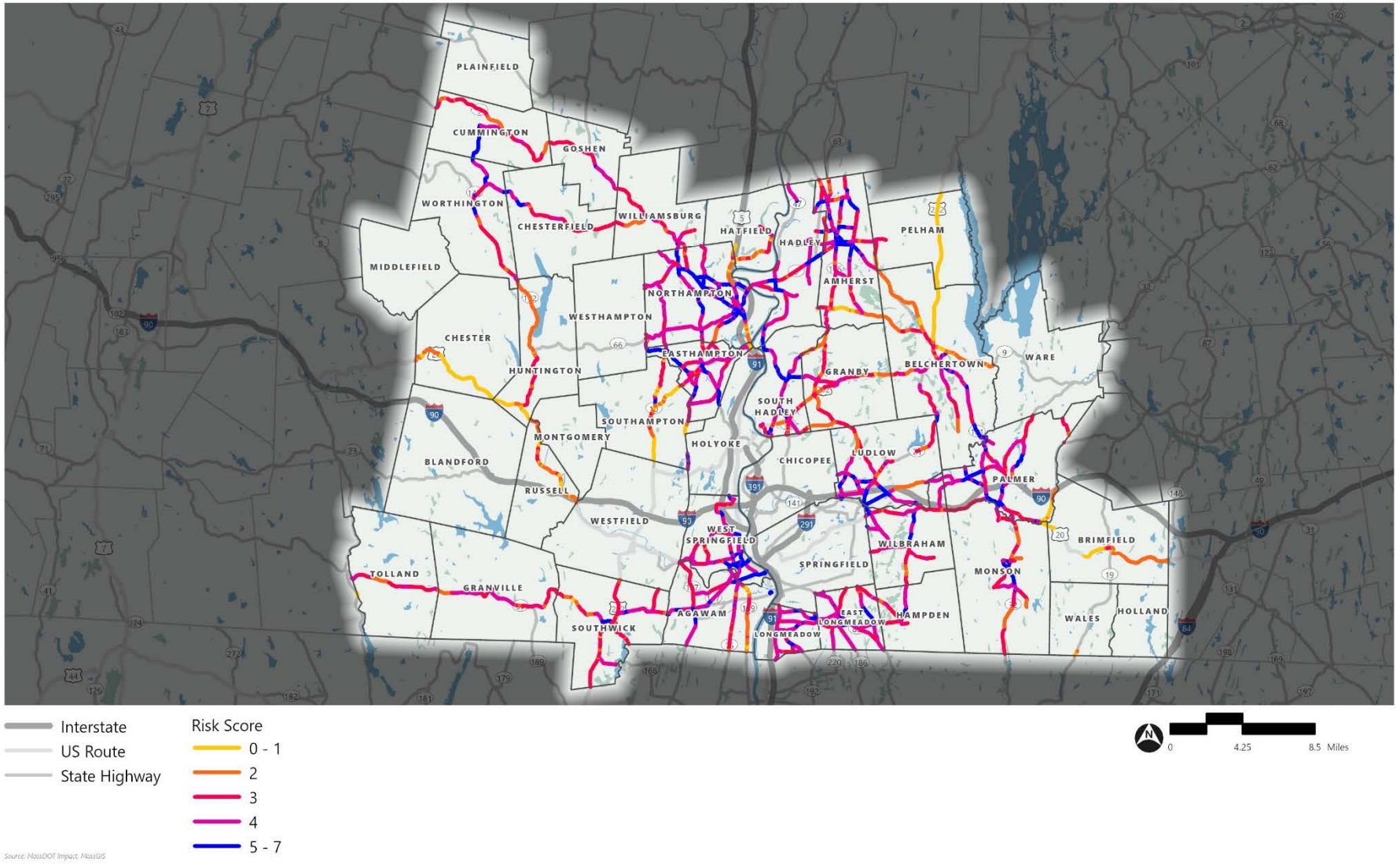


Figure 9: HRN for Bicycle Crashes

Motorcycle HRN

Between 2019 and 2023, motorcycle crashes accounted for 16 percent of the region's fatalities and 16 percent of the region's serious injuries between 2020 and 2024[5]. For this HRN, same methodology was followed as lane departure crashes, focusing on KAB crashes to identify risk factors. Per the crash tree in Figure 10, the PVPC selected Principal Arterial-Other and Minor Arterial roads as the focus facility type. Table 13 summarizes the risk factors selected for the Motorcycle HRN.

Table ***14*****Table *12*** summarizes the resulting risk scores from those risk factors.

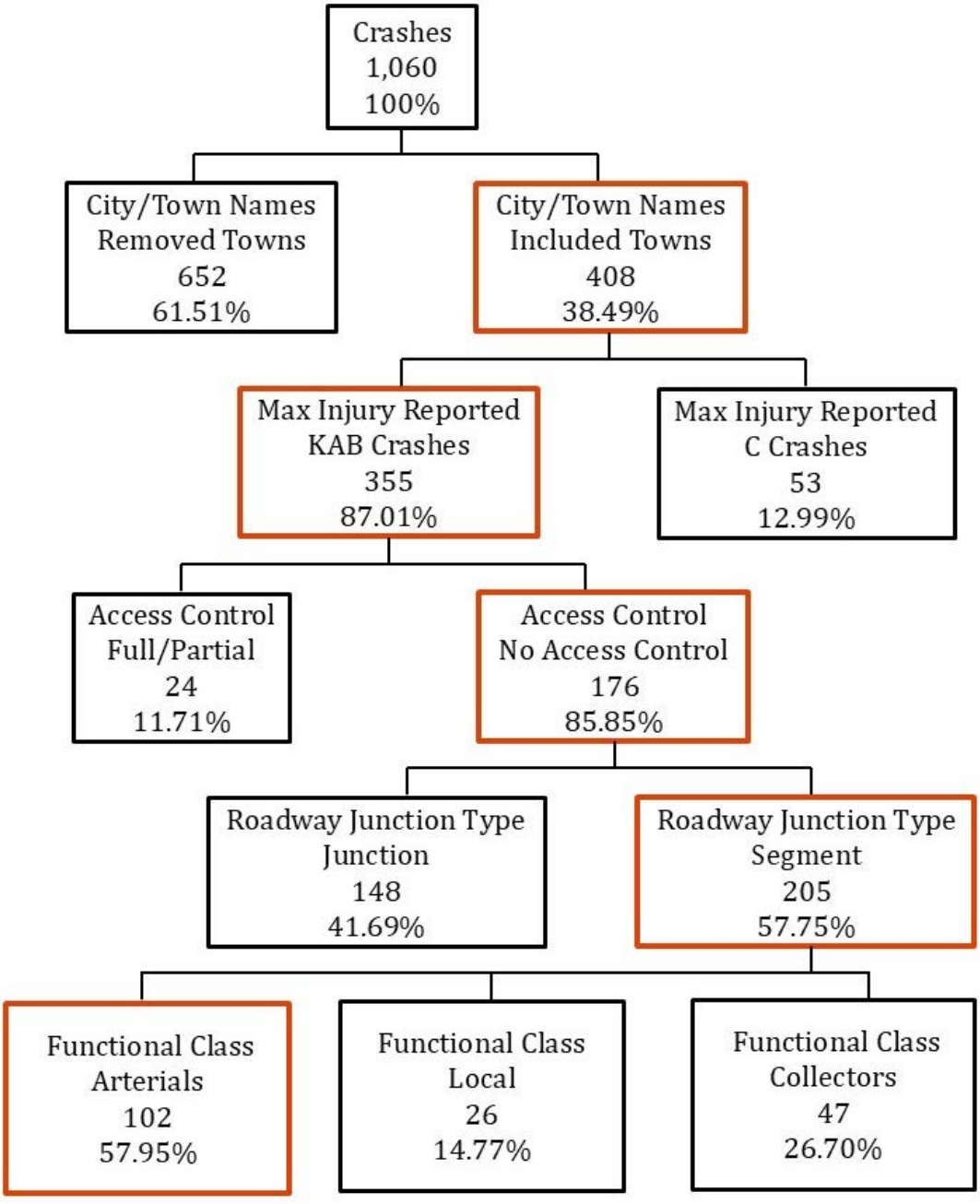


Figure 10: Crash tree for Motorcycle Crashes

Table 13. Summary of Motorcycle Risk Factors

Data Element	Risk Factor	KAB Crashes	Mileage	% of KAB Crashes	% of Mileage
Functional Class	**Principal Arterial – Other**	47	158.5	47.5%	30.5%
Total Lanes	**4**	11	12.0	11.1%	2.3%
Posted Speed Limit	**25 MPH to 30 MPH**	39	134.4	39.4%	25.9%
Curb	**Both Sides**	39	116.5	39.4%	22.4%
Shoulder Presence	**Shoulder 5' or Wider**	17	61.4	17.2%	11.8%
Crosswalk	**Crosswalk Present**	19	31.3	19.2%	11.8%

Table 14. Summary of Motorcycle Risk Scoring

Risk Score	Motorcycle Crashes	Mileage	% of Motorcycle Crashes	% of Mileage
4, 5	24	28.1	10.5%	3.7%
3	50	92.1	21.9%	12.2%
2	72	174.5	31.6%	23.2%
1	47	217.1	20.6%	28.9%
0	35	240.2	15.4%	31.9%

Figure 11 shows the coverage of the motorcycle crash HRN within PVPC region.

Motorcycle High Risk Network (HRN)

Pioneer Valley Planning Commission

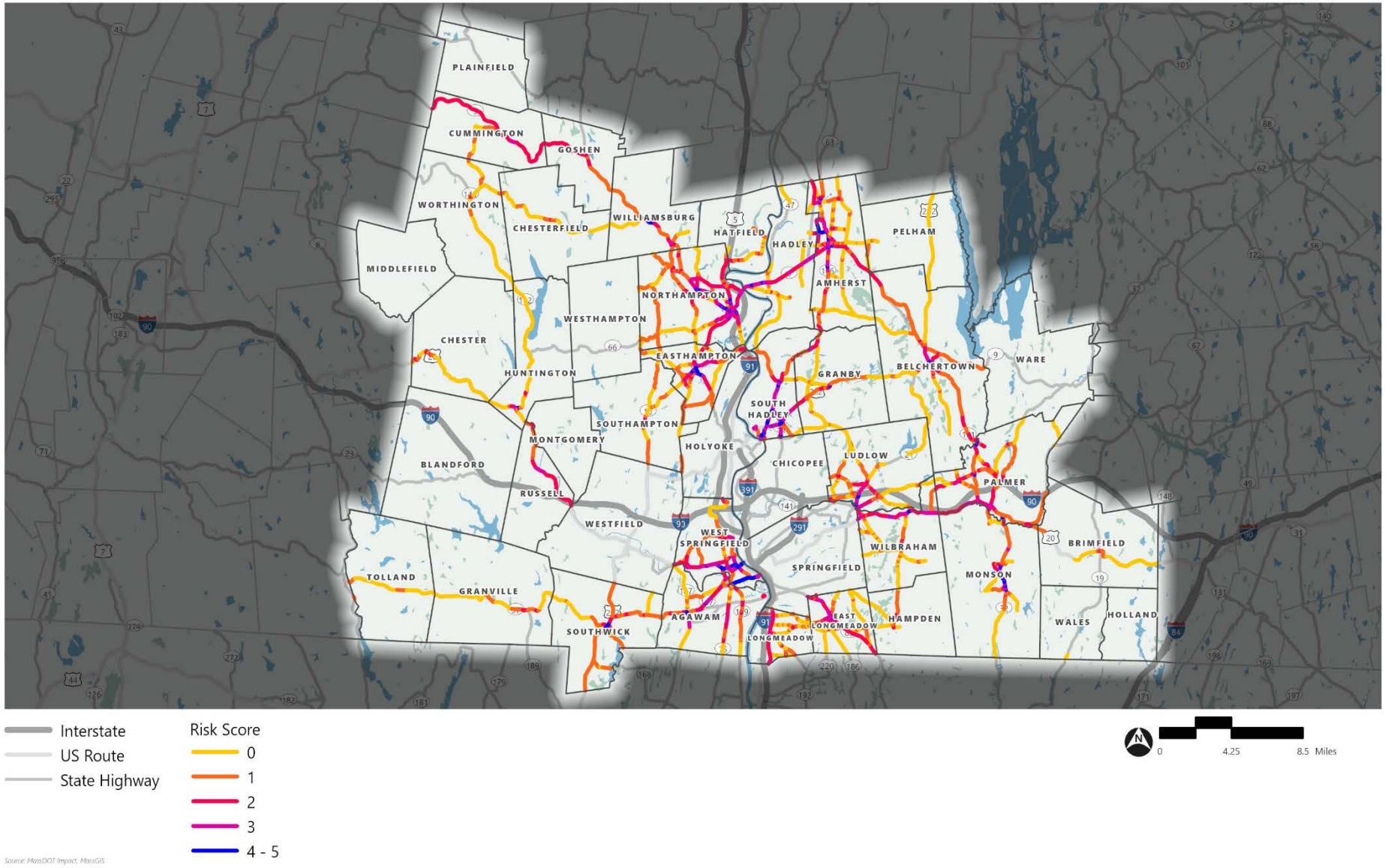


Figure 11: HRN for Motorcycle Crashes

Speeding HRN

Between 2019 and 2023, speeding crashes accounted for 35 percent of the region's fatalities and 12 percent of the region's serious injuries between 2020 and 2024[5]. To identify risk factors for the speeding HRN, KAB crashes were used and same methodology as described above were repeated. Per the crash tree in **Error! Reference source not found.**, the PVPC selected arterial and collector roads as the focus facility type. Table 15 summarizes the risk factors selected for the Speeding HRN.

Table 16**Table *12*** summarizes the resulting risk scores from those risk factors.

Table 15. Summary of Speeding Risk Factors

Data Element	Risk Factor	KAB Crashes	Mileage	% of KAB Crashes	% of Mileage
Functional Class	**Principal Arterial – Other or Minor Arterial**	185	557.6	65.4%	52.2%
Jurisdiction	**MassDOT**	81	220.8	28.6%	20.7%
Total Lanes	**4**	15	31.2	5.3%	2.9%
Posted Speed Limit	**25 MPH to 35 MPH**	166	497.9	58.7%	46.6%
Curb	**Present on at least one side**	99	234.2	35.0%	21.9%
Shoulder Presence	**No Shoulder**	115	375.0	40.6%	35.1%
Crosswalk	**Crosswalk Present**	34	92.1	12.0%	8.6%
Walking Potential	**Medium or High**	156	386.8	55.1%	36.2%
REJ	**Segment is in an REJ Census Tract**	159	522.8	56.2%	48.9%
Distance to nearest School	**Within 1 Mile**	151	461.8	53.4%	43.2%

Table 16. Summary of Speeding Risk Scoring

Risk Score	Speeding Crashes	Mileage	% of Speeding Crashes	% of Mileage
7, 8, 9, 10	60	120.8	21.2%	11.3%
6	44	102.7	15.6%	9.6%
5	37	125.9	13.1%	11.8%
4	44	168.4	15.6%	15.8%
3	37	208.8	13.1%	19.5%
2	41	197.3	14.5%	18.5%
0, 1	20	145.3	7.1%	13.6%

Figure 12 shows how the speeding HRN is distributed throughout the region.

Speeding High Risk Network (HRN)

Pioneer Valley Planning Commission

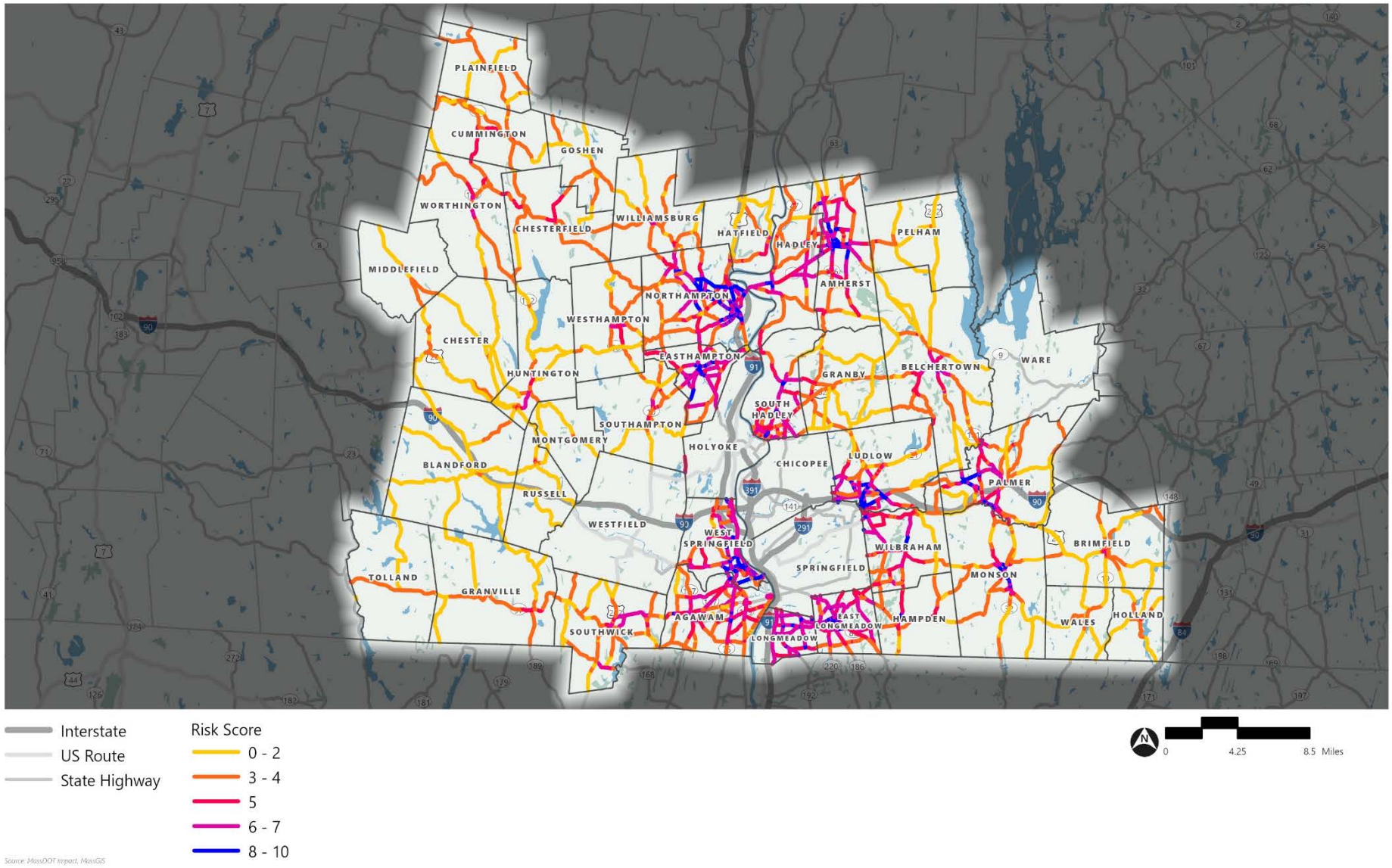


Figure 12: HRN for Speeding-Related Crashes

Intersection HRN

Between 2019 and 2023, intersection-related crashes accounted for 20 percent of the annual average fatalities in the region. Further, between 2020 and 2024[5], intersection-related crashes accounted for 38 percent of annual suspected serious injuries. PVPC chose not to select a focus facility type for this analysis, rather to include all eligible intersections for the analysis (after removing ramp terminals).

Overrepresentation analysis was done to identify intersection risk factors. Given the quantity of crashes, only KA crashes were used for this analysis. Table 17 is an example of an overrepresentation analysis, where Signalized traffic control was selected as a risk factor since 19 percent of KA crashes occurred at signalized intersections, which only accounted for 7 percent of intersections in the region.

Table 17. Identifying Traffic Control Risk Factor for PVPC Intersections

Traffic Control	KA Crashes	Intersections	% of KA Crashes	% of Intersections
All-Way Stop	5	30	2%	1%
Blank/Other	11	30	4%	1%
Signalized	51	168	19%	7%
Two-Way Stop	142	1,238	52%	51%
Uncontrolled	61	961	23%	39%
Yield Control	1	13	<1%	1%

Table 18 summarizes the risk factors selected for intersections. Note that several risk factors are derived from census tract data, taken from Massachusetts Regional Environmental Justice (REJ+) flags[3]. Table 19 summarizes risk scoring for intersections.

Table 18. Summary of Intersection Risk Factors

Data Element	Risk Factor	KA Crashes	Intersections	% of KA Crashes	% of Intersections
Number of Legs	**Four Legs**	82	470	30.3%	19.3%
Traffic Control	**Signalized**	47	168	18.8%	6.9%
Land Use	**Commercial Land Use**	43	135	15.9%	5.5%
School Proximity	**Within 0.75 miles of school**	175	1447	64.6%	59.3%
Number of Crosswalks	**At least two within 250' of the intersections**	113	734	41.7%	30.1%
English Proficiency	**Falls within a census tract for low English-speaking population**	43	228	12.1%	8.0%
Median Income	**Falls within a census tract for low median income**	38	159	10.7%	5.5%
Disabled Population	**Falls within a census tract for elevated percent of population with a disability**	29	183	8.2%	6.4%

Table 19. Summary of Intersection Risk Scoring.

Risk Score	KA Crashes	Intersections	% of KA Crashes	% of Intersections
6,7,8	16	38	5.9%	1.6%
5	15	48	5.5%	2.0%
4	34	103	12.5%	4.2%
3	26	269	9.6%	11.0%
2	54	515	19.9%	21.1%
1	69	790	25.5%	32.4%
0	57	677	21.0%	27.7%

Figure 13 shows how the intersection HRN is distributed throughout the PVPC region.

Intersection High Risk Network (HRN)

Pioneer Valley Planning Commission

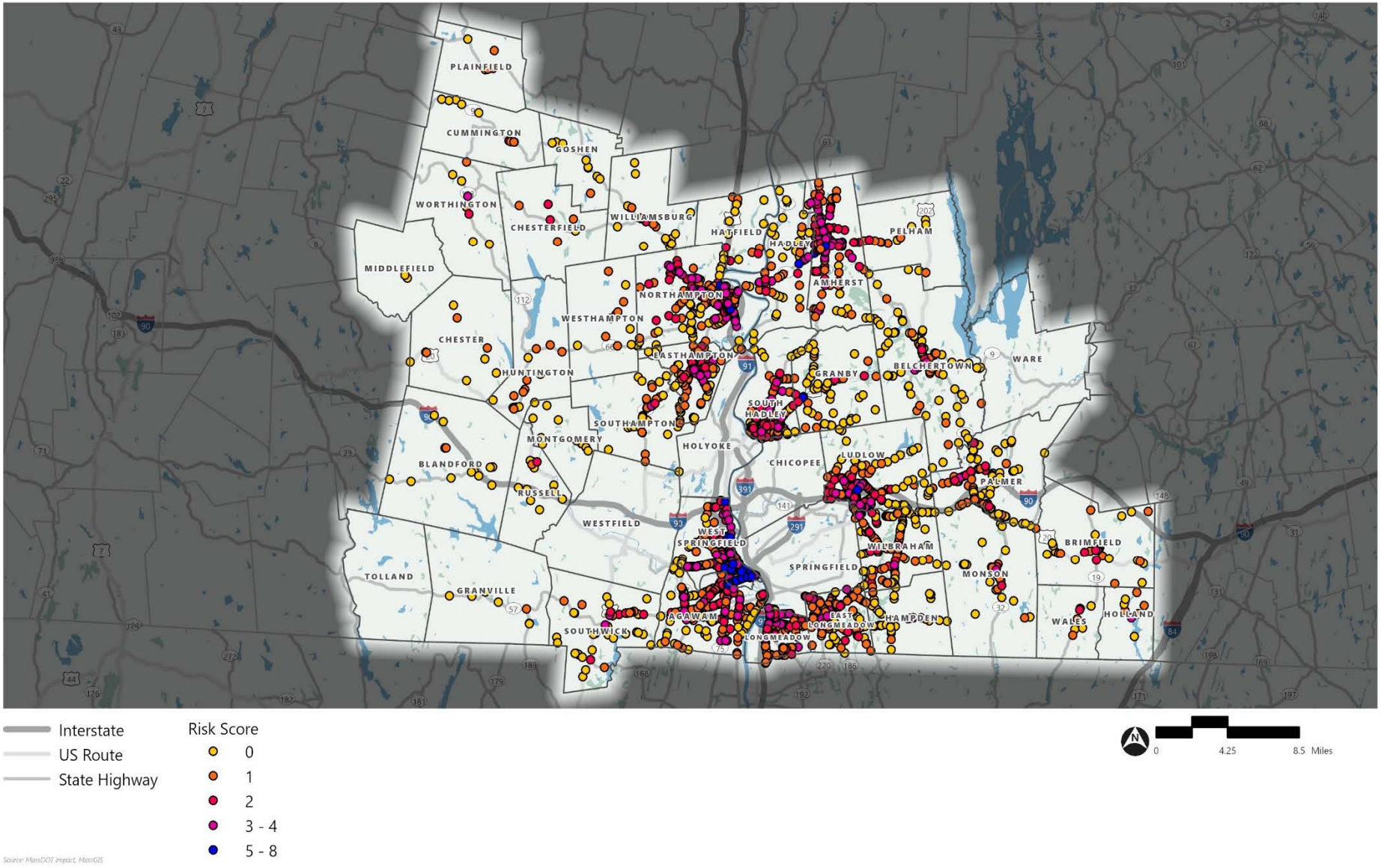


Figure 13: HRN for Intersection Crashes

Appendix C: Transportation Needs and Access

Pioneer Valley
SAFE STREETS

Purpose

The Pioneer Valley Planning Commission (PVPC) conducted a transportation needs and access assessment to identify areas with the highest relative transportation need across Hampden and Hampshire Counties. Relative transportation need measures how a community's social and mobility characteristics compare to regional averages to identify where transportation disadvantages are greatest. Indicators evaluated at the local, state, and federal levels vary, but generally include minority population, percent of residents living below the poverty level, limited English proficiency (LEP), seniors, youth, and households with no vehicle access.

This analysis supports prioritization of outreach and resource allocation to communities facing compounded transportation burdens.

Springfield, Holyoke, Chicopee, Westfield, and Ware are currently conducting independent safety studies. These five cities and towns were included in the needs and access analysis and overall scoring; however, they were filtered out of this subset of priority census tracts.

Methodology

The methodology included an internal review and analysis based on a multi-pronged evaluation framework: local analysis using U.S. Census Bureau American Community Survey (ACS) 5-Year Estimates (2017–2021), US DOT Underserved Communities' tool (2022), and MassDOT's Regional Environmental Justice (REJ+) layers (2025).

Local Analysis Methodology

For the local analysis, transportation needs and access indicators were evaluated at the census tract level and aggregated to produce an overall needs and access score. Indicators included minority population, households below the poverty level, limited English proficiency (LEP), people with disabilities, seniors, youth, and zero-vehicle households. Each indicator was equally weighted, with scores ranging from 0 to 4 based on an evenly distributed deviation from the regional average to the indicator's maximum percentage. A score of zero would indicate a census tract had a value lower than the study area average for that indicator. The maximum possible overall transportation needs and access score was calculated by aggregating the scores for each indicator, where the highest score would be 28. ***The analysis determined the census tracts with the greatest transportation needs and access burdens as areas in Amherst, West Springfield, Ludlow, Longmeadow, East Longmeadow, Northampton, and Belchertown.*** The tables below show the overall census tracts with the greatest transportation needs by town and approximate location. Two tables were presented, with one table filtering out the five cities and towns with their own SS4A initiatives from the top census tracts to guide engagement efforts.

Federal Analysis Methodology

Application of the USDOT Underserved Communities Tool identified a limited number of census tracts in the study area that meet the federal definition of an Underserved Community, primarily in areas with long-standing economic disadvantage. The tool defines an Underserved Community consistent with the definition of an Area of Persistent Poverty, where 20% of a county, census tract, or territory has continually lived in poverty.

State Analysis Methodology

MassDOT's REJ+ (Relative Environmental Justice +) determines if a census block group (often analyzed at the tract level) is disadvantaged by identifying areas with high concentrations of residents heavily impacted by transportation network change. It uses 23 variables across six dimensions, Environmental, Economy, Social, Health, Resilience, and Transportation, to identify these communities, mapping them at the block group level.

Federal/State comparison to Local Analysis

Use of the USDOT Underserved Communities Tool revealed that only a small number of census tracts within the study area meet the federal definition of an Underserved Community. These results do not fully overlap with the local needs analysis due to methodological differences, as the federal tool relies largely on sustained poverty rates for national consistency, while the local analysis incorporates a broader range of socioeconomic and transportation-related factors. As a result, some areas with significant transportation needs and access burdens were identified through the local analysis but do not meet the federal criteria for persistent poverty, reinforcing the value of using multiple analytical approaches to capture local conditions.

Similarly, comparison of the local analysis tool with MassDOT's REJ+ analysis shows areas of alignment but also key differences. REJ+ applies a broader and more multidimensional framework than the federal tool, incorporating environmental, economic, social, health, resilience, and transportation variables at the block group level. While this approach captures cumulative burden and vulnerability more comprehensively than poverty alone, it reflects thresholds standardized at the statewide level and not with a study-area specific scoring that the local analysis provides.

Regional Indicator Averages

The table below summarizes study area average values used as the baseline for scoring needs and access indicators. These study area indicator averages were derived from the aggregated ACS datasets used in the local analysis. A score of 0 means that the indicator value was equal to or less than the study area indicator average.

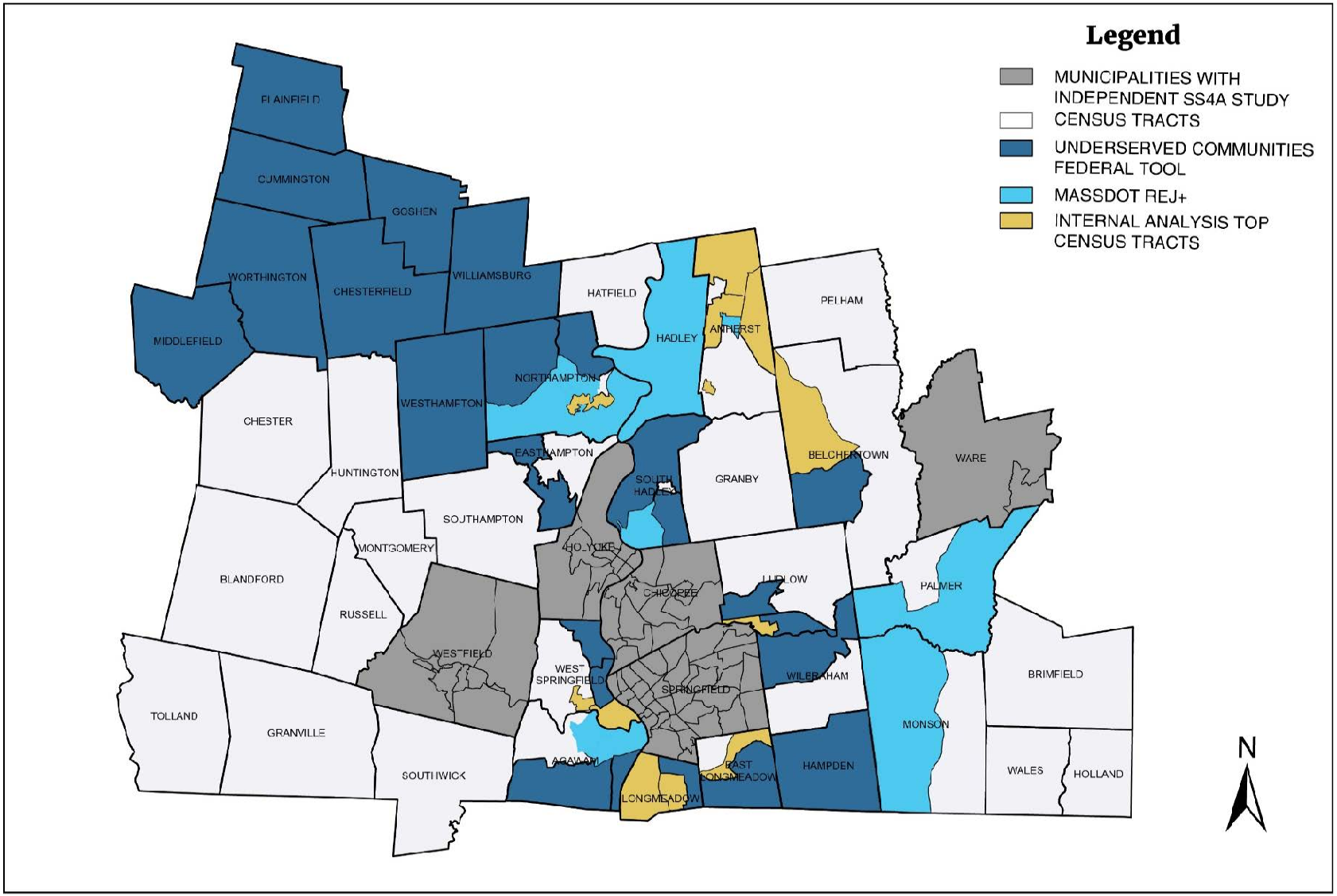
Indicator	PVPC Regional Average
Minority Population	33.1%
Below Poverty Level	14.1%
Limited English Proficiency	5.4%
People with a Disability	15.8%
Seniors (65+)	18.4%
Youth (<18)	17.6%
Zero Vehicle Ownership	10.3%

Top Priority Census Tracts for Community Outreach

To support comprehensive outreach planning, the highest-ranking census tracts in the study area were selected based on overall transportation needs and access scores. These areas are recommended as priority locations for targeted, inclusive community outreach and engagement efforts to ensure robust participation in regional planning initiatives. The table below show the census tracts with the highest overall score in the PVPC region not including Springfield, Holyoke, Chicopee, Ware, and Westfield (as these municipalities have their own SS4A studies). For comparison, the highest-ranking census tracts existed in Springfield, where the need and access score was as high as 20. We recognize Amherst's relatively high scores are influenced in part by its large student population, which affects several indicators used in the internal analysis.

Rank	Census Tract	Primary Municipality	Need and Access Score	People w/ Disabilities Score	Youth Score	Senior Score	Minority Score	Households Below Poverty	Zero Vehicle Score	LEP Score
1	Census Tract 8124.03	**West Springfield** – west of Piper Road and north of Amostown Road	**8**	2	1	2	1	0	1	1
2	Census Tract 8203.00	**Amherst** – North Amherst	**7**	1	0	2	2	2	0	0
3	Census Tract 8207.00	**Amherst** – East Amherst to Pelham Town line, Route 9 and Main Street	**7**	1	0	2	2	1	1	0
4	Census Tract 8208.02	**Amherst –** Hampshire College	**7**	0	0	3	4	0	0	0
5	Census Tract 8123	**West Springfield –** Merrick neighborhood Park Avenue south to Westfield River	**6**	2	0	0	2	1	1	0
6	Census Tract 8104.03	**Ludlow –** South of I-90, Center Street and East Street, South of Ludlow Town Center	**6**	1	0	1	1	0	1	2
7	Census Tract 8133.04	**Longmeadow –** South of Bliss Road, West of Laurel Street, East of Frank South Road	**6**	0	1	4	1	0	0	0
8	Census Tract 8202.07	**Belchertown** – North of Main Street, West of Amherst and Granby Town line, South of Route 9	**5**	1	1	1	1	0	1	0
9	Census Tract 8219.03	**Northampton** – North of Easthampton Road, South	**5**	1	0	1	1	1	1	0

Rank	Census Tract	Primary Municipality	Need and Access Score	People w/ Disabilities Score	Youth Score	Senior Score	Minority Score	Households Below Poverty	Zero Vehicle Score	LEP Score
		of Smith College								
10	Census Tract 8133.01	**Longmeadow –** North of CT State line, East of Connecticut River West of Laurel Street	**5**	0	2	2	1	0	0	0
11	Census Tract 8134.03	**East Longmeadow –** South of Maple and Elm Street, North of Pleasant Street	**5**	1	1	2	0	0	1	0
12	Census Tract 8205	**Amherst –** North and West of Amherst College	**5**	0	0	0	1	2	2	0



Top Census Tracts for Community Outreach
Transportation Needs and Access

Pioneer Valley
SAFE STREETS

Application to Community Outreach

PVPC will use this transportation need and access assessment as a targeting and implementation tool to ensure Safe Streets for All (SS4A) engagement activities prioritize communities with the greatest identified need. Census tracts with the highest needs will guide the placement of pop-up events, targeted stakeholder interviews, and focused promotion of virtual engagement tools, ensuring that outreach resources are concentrated where socioeconomic, mobility, and safety burdens are most acute.

This analysis directly operationalizes the SS4A Public Engagement Plan by aligning data-driven priorities with the plan's core principles of accessibility, inclusiveness, transparency, and responsiveness. Outreach strategies will be tailored to conditions identified through the need and access indicators, including multilingual and plain-language materials, ADA-accessible meeting locations, varied engagement formats, and partnerships with trusted community-based organizations serving environmental justice and historically underrepresented populations.

References

- U.S. Census Bureau. *American Community Survey (ACS) 5-Year Estimates, 2017–2021.*
- U.S. Department of Transportation. *Underserved Communities Tool*, 2022.
- Massachusetts Department of Transportation. *Regional Environmental Justice Plus (REJ+) Dataset*, 2025.

Appendix D: Municipal Projects

Note this appendix does not include the five cities and towns that have received SS4A funding to complete their own plan.

Pioneer Valley
SAFE STREETS

Town Name: Agawam

Roadway Segments

Roadway	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
-	Maple St	Springfield St	Walnut St	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
-	Moore St	Maple St	Town Line	No	Yes	Yes	No	Yes	Yes	No	No	Yes
-	Poplar St	Springfield St	Mill St	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
MA-75	Suffield St	Valentine St	Center St	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
MA-57	Southwick St	Westfield St	Agawam Junior High School	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes
MA-147	Springfield St	Walnut St	Columbus St	No	Yes	Yes	No	Yes	No	No	No	No
MA-75	Suffield St	Mill St	Valentine St	No	Yes	Yes	No	Yes	No	No	No	Yes
MA-57	Southwick St	S West St	Westfield St	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes
MA-75	Suffield St	Centerwood Dr	755 Suffield St	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes
MA-147	Springfield St	Portland St	Line St	No	No	Yes	No	Yes	No	No	Yes	No
MA-147	Springfield St	Brookline Ave	Poplar St	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
Maple St & Walnut St	Unsignalized	Yes	Yes	Yes	No	No	No	No	No	Yes	No	No	No	Yes	No
N Grand St & Barry Corner St	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	Yes	No	Yes
Main St & South St	Unsignalized	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	No	No	No	No
River Rd & Glendale Rd	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	Yes
US-5 & River Rd	Roundabout	Yes	Yes	Yes	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No
US-5 & River Rd	Roundabout	Yes	Yes	Yes	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No
US-5 & River Rd	Roundabout	Yes	Yes	Yes	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No
US-5 & River Rd	Roundabout	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	Yes	Yes	No
Suffield St & Centerwood Dr	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	Yes	No	Yes
Springfield St & S Westfield St	Signalized	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No

Town Name: Amherst

Roadway Segments

Roadway	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
MA-9	Belchertown Rd	S East St	Stanley St	Yes	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes
-	Main St	S Pleasant St	Triangle St	No	Yes	Yes	Yes	Yes	No	Yes	No	No	Yes
MA-9	College St	S Whitney St	S East St	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes
-	Triangle St	Main St	E Pleasant St	No	Yes	Yes	Yes	Yes	No	Yes	No	No	Yes
-	Main St	Triangle St	Amherst Crossing	No	Yes	Yes	Yes	Yes	No	Yes	No	No	Yes
-	N Pleasant St	Sellen St	Hallock St	No	Yes	Yes	Yes	Yes	No	Yes	No	No	Yes
MA-9	College St	Dickinson St	S Whitney St	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes
MA-116	S Pleasant St	Snell St	Walnut St	No	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes
-	S East St	College St	Main St	Yes	Yes	Yes	No	Yes	No	Yes	No	No	Yes
-	Strong St	Red Gate Ln	E Pleasant St	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No	Yes

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
S East St & College St	Signalized	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No
N Pleasant St & Puffton Village Dr	Unsignalized	Yes	Yes	Yes	No	No	No	No	No	Yes	No	No	No	Yes	No
Amity St & Blue Hills Rd	Unsignalized	Yes	Yes	Yes	No	No	No	No	No	Yes	No	No	No	Yes	No
Northampton Rd & Lincoln Ave	Unsignalized	No	Yes	Yes	No	No	No	No	No	Yes	No	No	No	Yes	No

Town Name: Belchertown

Roadway Segments

Roadway	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
US-202	State St	Turkey Hill Rd	Elementary School	Yes	Yes	Yes	No	Yes	No	No	No	Yes	Yes
US-202	State St	Elementary School	Maple St	Yes	Yes	No	No	Yes	No	No	No	No	Yes
US-202	State St	Maple St	S Main St	Yes	Yes	No	Yes	Yes	Yes	No	No	Yes	Yes
US-202	N Main St	Woodhaven Dr	Jackson St	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No	Yes
US-202	N Main St	Tucker Ln	Woodhaven Dr	Yes	Yes	Yes	No	Yes	No	Yes	No	No	Yes
US-202	N Main St	Llyod Ave	Tucker Ln	Yes	No	Yes	No	Yes	No	Yes	No	No	Yes
US-202	N Main St	Federal St	Llyod Ave	Yes	Yes	No	No	Yes	No	Yes	No	No	Yes
-	Jabish St	Jensen St	Ware Rd	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	Yes
-	Jabish St	S Main St	Jensen St	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
MA-181	Mill Valley Rd	Jensen St	N Washington St	No	Yes	No	No	Yes	Yes	Yes	No	No	Yes

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
S Main St & N Washington St	Unsignalized	Yes	Yes	Yes	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No
Franklin St & Kennedy Rd	Unsignalized	Yes	No	Yes	Yes	No	No	No	No	Yes	No	No	No	No	No
Federal St & George Hannum St	Signalized	Yes	No	Yes	No	Yes	No	Yes	Yes	Yes	Yes	No	No	Yes	No
Federal St & George Bay Rd	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	Yes	No
Federal St & Allen Rd	Unsignalized	Yes	Yes	Yes	No	No	Yes	No	No	No	No	No	Yes	No	No
N Main St & Sargent St	Signalized	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
N Main St & Lloyd Ave	Unsignalized	Yes	Yes	Yes	No	No	No	No	No	Yes	No	No	No	Yes	No
S Main St & Maple St	Signalized	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No
State St & Whitlock Way	Unsignalized	Yes	Yes	Yes	Yes	No	No	No	No	No	No	Yes	Yes	Yes	Yes

Town Name: Blandford

Roadway Segments

Roadway	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
-	Huntington Road	Town Line	Haight Rd	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
-	Russell Stage Road	Main St	Kaolin Road	Yes	Yes	Yes	No	Yes	No	No	No	No	Yes
-	Beech Hill Road	Town Line	Otis Stage Road	Yes	No	No	Yes	Yes	Yes	No	Yes	No	Yes
-	Curtis Hall Road	Town Line	Town Line	No	No	No	Yes	Yes	Yes	No	Yes	No	Yes
-	North Street	Main St	Huntington Road	Yes	Yes	No	Yes	Yes	Yes	No	Yes	No	Yes
-	Huntington Road	Haight Rd	Chester Road	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
-	North Blandford Road	Town Line	Otis Stage Road	Yes	No	No	Yes	Yes	Yes	No	Yes	No	Yes
MA-23	Otis Stage Road	Town Line	Main St	Yes	No	No	Yes	Yes	Yes	No	Yes	No	Yes
MA-23	Main St	Kaolin Road	North St	Yes	Yes	No	Yes	Yes	Yes	No	Yes	No	Yes

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
Sperry Road & Russell Stage Road	Unsignalized	Yes	Yes	Yes	No	No	No	No	No	Yes	No	No	No	Yes	No
Russel Stage Road & Kaolin Road	Unsignalized	Yes	Yes	Yes	No	No	No	No	No	Yes	No	No	No	Yes	No
North Blandford Road & George Miller Road	Unsignalized	No	No	Yes	Yes	No	No	No	No	Yes	No	No	No	No	No
Chester Road & Old Chester Road	Unsignalized	No	No	Yes	Yes	No	No	No	No	Yes	No	No	No	Yes	No
Sanderson Brook Road & Chester Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
Blandford Turnpike & Birch Hill Road	Unsignalized	Yes	No	Yes	Yes	No	No	No	No	Yes	No	No	No	No	No
Beech Hill Road & Otis Stage Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	Yes	No
Otis Stage Road & Sheppard Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Otis Stage Road & Gibbs Road	Unsignalized	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	Yes	No
Blandford Turnpike & North Street	Unsignalized	Yes	No	No	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No
Gore Road & Josh Cross Road/North Blandford Road	Unsignalized	Yes	No	Yes	Yes	No	No	No	No	Yes	No	No	Yes	No	No
Kaolin Road & Blandford Turnpike	Unsignalized	Yes	Yes	Yes	No	No	No	No	No	Yes	No	No	No	Yes	No

Town Name: Brimfield

Roadway Segments

Roadway	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
US-20	Main St	Warren Rd	Brookfield Rd	No	Yes	Yes	No	Yes	No	Yes	No	No	Yes
-	Monson Rd	Town Line	Palmer Rd	Yes	No	No	Yes	Yes	No	No	Yes	No	Yes
US-20	Sturbridge Rd	Town Line	East Old Sturbridge Rd	Yes	No	No	No	Yes	Yes	Yes	No	No	No
US-20	Sturbridge Rd	New Holland Rd	Brookfield Rd	No	No	No	Yes	Yes	No	Yes	Yes	No	Yes
-	Brookfield Rd	Main St	Dix Hill Rd	No	Yes	No	No	Yes	No	No	No	No	Yes
-	New Holland Rd	Sturbridge Rd	98 Holland Rd	Yes	No	No	Yes	Yes	No	No	No	No	No
MA-19	Wales Rd	Main St	34 Wales Rd	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	No
-	Apple Rd	Town Line	Town Line	Yes	No	No	Yes	Yes	No	No	No	No	Yes
-	Brookfield Rd	Town Line	East Hill Rd	Yes	No	No	No	Yes	No	No	No	No	Yes

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
Monson Rd & Old Palmer Rd	Unsignalized	No	No	Yes	Yes	No	No	No	No	Yes	No	No	No	No	No
Main St/Sturbridge Rd & North Main St	Signalized	No	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No
East Hill Rd & Brookfield Rd	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	Yes	No
Little Alum Rd & Apple Rd	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Palmer Rd & Monson Rd	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
Holland Rd & Five Bridge Rd/Agard Rd	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
North Main St & Brookfield Rd	Unsignalized	No	Yes	No	No	No	No	No	No	No	No	No	Yes	No	Yes
Palmer Rd & Prospect Hill Rd	Unsignalized	No	No	No	No	No	No	No	No	Yes	No	No	Yes	No	No
Warren Rd & North Main St	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	Yes	Yes
Mill Lane Rd & Main St/Palmer Rd	Unsignalized	No	No	Yes	No	No	No	No	No	Yes	No	No	No	Yes	No
Dunham Town Palmer Rd/Old Palmer Rd & Palmer Rd	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Sturbridge Rd & Brookfield Rd	Unsignalized	No	No	Yes	No	No	No	No	No	Yes	No	No	No	Yes	No
Sturbridge Rd & West Old Sturbridge Rd	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Saint Claire Rd/Dearth Hill Rd & Palmer Rd	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
Tower Hill Rd/Dunham Town Brimfield Rd & Warren Rd	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Wales Rd & Haynes Hill Rd	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Sturbridge Rd & Little Alum Rd	Unsignalized	No	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Cross St & Main St	Unsignalized	No	No	Yes	No	No	No	No	No	No	No	No	No	No	No

Town Name: Chester

Roadway Segments

Route ID	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
US-20	Huntington Road	Baystate Drive	Huntington Town Line	Yes	No	No	No	Yes	No	No	No	No	Yes
US-20	West Main Street	Becket Town Line	Hampden Street	Yes	No	No	No	Yes	No	No	No	No	Yes
US-20	West Main Street	Hampden Street	Baystate Drive	No	Yes	No	No	Yes	Yes	No	Yes	No	Yes
-	Middlefield Road	Middlefield Town Line	West Main Street	Yes	No	No	Yes	No	Yes	No	Yes	No	No
-	Old State Highway	Huntington Road	Huntington Town Line	Yes	No	No	Yes	Yes	No	No	Yes	No	No
-	Skyline Trail	Bromley Road	Middlefield Town Line	Yes	No	No	No	Yes	No	No	No	No	No
-	Bromley Road	Skyline Trail	Huntington Town Line	Yes	No	No	Yes	Yes	No	No	Yes	No	Yes
-	Skyline Trail	Bromley Road	East River Rd	No	No	No	Yes	Yes	No	No	Yes	No	No

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
Skyline Trail & East River Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Holcomb Road & Skyline Trail	Uncontrolled	No	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Bromley Road & East River Road	Uncontrolled	No	No	Yes	No	No	No	No	No	No	No	No	No	No	Yes
Bromley Road & Higgins Road	Uncontrolled	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Huntington Road & Old State Highway	Unsignalized	No	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Skyline Trail & Western View Road/Lyon Hill Road	Uncontrolled	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
West Main Road & School Street	Uncontrolled	No	Yes	Yes	No	No	No	No	No	Yes	No	No	No	Yes	No
West Main Road/Huntington Road & Main Street	Unsignalized	No	Yes	Yes	No	No	No	No	No	No	No	No	No	Yes	No
West Main Street & Blandford Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No

Town Name: Chesterfield

Roadway Segments

Route ID	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
MA-143	Main Road	Buck Road	709 Main Rd	No	No	No	Yes	Yes	No	Yes	Yes	No	No
MA-143	Main Road	709 Main Rd	Cummington Road	No	No	Yes	Yes	Yes	No	Yes	Yes	No	No
MA-143	Main Road	Cummington Road	Smith Road	No	No	Yes	Yes	Yes	No	Yes	Yes	No	No
MA-143	Main Road	Smith Road	North Road	No	No	Yes	Yes	Yes	No	Yes	Yes	No	No
MA-143	Main Road	North Road	Stage Road	No	No	Yes	Yes	Yes	No	Yes	Yes	No	No
MA-143	Main Road	Stage Road	Sugar Hill Road	No	No	Yes	Yes	Yes	No	Yes	Yes	No	No
-	East Street	South Street	Westhampton Town Line	No	No	No	No	Yes	No	No	No	No	No
-	Damon Pond Road	North Road	Goshen Town Line	No	No	No	No	Yes	No	No	No	No	No
-	Ireland Street	Old Post Rd	River Road	No	No	No	No	Yes	No	No	No	No	No
-	North Road	Smith Road	Main Road	No	No	No	No	Yes	No	No	No	No	No

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
Main Road & North Road/South Street	Unsignalized	No	Yes	Yes	No	No	No	No	No	Yes	No	No	Yes	Yes	Yes
Smith Road/Damon Pond Road & Willcutt Road/North Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	Yes	No	No
South Street & East Street/Munson Road	Unsignalized	No	No	No	No	No	No	No	No	No	No	No	No	No	Yes
Main Road & Sugar Hill Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
Main Road & Ireland Street/Cummington Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	Yes
Old Chesterfield Road & Sugar Hill Road	Unsignalized	No	No	No	No	No	No	No	No	No	No	No	No	No	Yes

Town Name: Cummington

Roadway Segments

Route ID	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
MA-112	Bryant Rd	W Cummington Rd	Berkshire Trail	No	No	No	No	Yes	No	Yes	Yes	No	Yes
-	W Cummington Rd	Berkshire Trail	Bryant Rd	No	No	No	Yes	Yes	No	No	Yes	No	No
MA-9	Berkshire Trail	Bryant Rd	Main St	No	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes
MA-9	Berkshire Trail	Old Rt 9	Howes hill Rd	No	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes
MA-9	Berkshire Trail	Main St	Old Rt 9	No	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes
-	Plainfield Rd/ Main St	Stage Rd	Berkshire Trail	Yes	Yes	Yes	No	Yes	No	No	No	No	Yes
MA-112	W Cummington Rd	Bryant Rd	Cummington Town Line	No	No	No	No	Yes	No	Yes	Yes	No	Yes
-	W Main St	Cummington Town Line	Berkshire Trail	No	No	No	No	Yes	No	No	No	No	Yes
MA-9	Berkshire Trail	Cummington Town Line	Westfield River Rest Stop	No	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes
MA-9	Berkshire Trail	Packard St	Bryant Rd	No	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
Packard Road & Berkshire Trail	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Bug Hill Road & Berkshire Trail	Uncontrolled	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Walker Road & Berkshire Trail	Uncontrolled	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Beechwood Road & Berkshire Trail	Uncontrolled	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Westfield River Rest Stop & Berkshire Trail	Uncontrolled	No	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Main Street & Berkshire Trail	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Old Route 9 & Berkshire Trail	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Thayer Corner Road & Berkshire Trail	Uncontrolled	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Lilac Ave & Berkshire Trail	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No

Town Name: East Longmeadow

Roadway Segments

Route ID	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
MA-83	Somers Road	Quarry Hill Road	William Street	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes
MA-220	Shaker Road	Maple Street	Chestnut Street	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
MA-83	North Main Street	Elm Street	Westwood Avenue	Yes	Yes	Yes	No	No	Yes	Yes	No	No	Yes
MA-83	North Main Street	Audubon Street	Westwood Avenue	Yes	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes
MA-186	Prospect Street	Maple Street	Prospect Hills Drive	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No	Yes
-	Chestnut Street	Somers Road	Prospect Street	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No	Yes
-	Maple Street	Longmeadow Town Line	Shaker Road	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
Dwight Road/Benton Drive & Chestnut Street	Signalized	Yes	No	Yes	No	Yes	No	No	No	No	Yes	No	Yes	Yes	No
Mapleshade Avenue & Elm Street	Signalized	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
Porter Road & Markham Road	Unsignalized	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	No	Yes	No
Chestnut Street & Prospect Street	Unsignalized	Yes	Yes	Yes	Yes	No	No	No	No	Yes	No	No	Yes	Yes	Yes
Harkness Avenue & North Main Street	Signalized	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Allen Street & Parker Street	Signalized	Yes	Yes	Yes	No	No	No	No	No	Yes	No	No	Yes	Yes	No
North Main Street & Westwood Avenue/Mapleshade Avenue	Signalized	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
North Main Street/Somers Road & Shaker Road/Elm Street & Maple Street/Pleasant Street & Prospect Street	Unsignalized	Yes	Yes	Yes	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No
Somers Road & South Bend Lane/Hampden Road	Unsignalized	Yes	No	Yes	Yes	No	No	No	No	Yes	No	No	No	No	No

Town Name: Easthampton

Roadway Segments

Route ID	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
-	Glendale Street	South Street	West Street	Yes	No	No	No	Yes	No	No	No	No	Yes
-	Pleasant Street	Searle Ave	Ferry Street	No	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes
-	South Street	Main Street	Glendale Street	Yes	No	Yes	Yes	Yes	No	No	No	No	Yes
MA-141	Holyoke Street	East Street	Stone Path Lane	No	No	Yes	No	Yes	No	Yes	No	No	Yes
-	Ferry Street	East Street	Pleasant Street	No	Yes	Yes	Yes	Yes	No	No	No	No	Yes
MA-10	Northampton Street	Highland Avenue	West Street	No	Yes	Yes	No	Yes	No	No	Yes	No	Yes
MA-10	Main Street	Payson Lane	Clark Avenue	No	Yes	Yes	No	Yes	No	No	No	Yes	Yes
MA-10	Main Street	Donais Street	Glendale Street	No	Yes	Yes	No	Yes	No	No	No	Yes	Yes
-	Park Street	Main Street	Tufts Ave	No	Yes	Yes	No	Yes	No	Yes	No	No	Yes
MA-10	Main Street	Glendale St	Payson Lane	No	Yes	Yes	No	Yes	No	No	No	Yes	Yes

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
Park Street & Center Street	Unsignalized	Yes	Yes	Yes	No	No	No	No	No	Yes	No	No	No	No	No
Ferry Street & Parsons Street	Unsignalized	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	No	Yes
East Street & North Street	Unsignalized	No	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	No	No	No	No
Northampton Street & Oniell Street	Signalized	Yes	No	Yes	No	Yes	Yes	Yes	No	No	Yes	No	No	No	No
Main Street & South Street	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
Pomeroy Meadow Road, West Street, Loudville Road & Glendale Street	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	Yes
Parsons Street & Everett Street/Duda Drive	Unsignalized	Yes	Yes	Yes	No	No	No	No	No	Yes	No	No	No	Yes	Yes
Holyoke Street & Fairfield Avenue	Unsignalized	No	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No
Cottage Street & Pine Street	Unsignalized	No	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No

Town Name: Goshen

Roadway Segments

Route ID	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
MA-112	Cape Street	USCM League Highway	Ashfield Town Line	No	No	No	No	Yes	No	No	No	No	No
-	West Street	Main Street	Chesterfield Town Line	No	No	No	No	Yes	No	No	No	No	No
MA-9	Berkshire Trail	Main Street	Williamsburg Town Line	No	No	Yes	Yes	Yes	No	Yes	Yes	No	Yes
MA-9	USMC League Highway	Spruce Corner Road	Cape Street	No	No	Yes	No	Yes	No	Yes	Yes	No	No
MA-9	Main Street	Cape Street	East Street	No	No	Yes	Yes	Yes	No	Yes	No	No	No
MA-9	Main Street	East Street	Berkshire Trail	No	Yes	Yes	Yes	Yes	No	Yes	Yes	No	No
-	S Main St/S Chesterfield Rd	West St	Goshen Town Line	No	No	No	Yes	Yes	No	No	Yes	No	Yes
-	Spruce Corner Rd	USMC League Hwy	Goshen Town Line	No	No	No	Yes	Yes	No	No	Yes	No	Yes

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
South Main Street/Main Street & West Street	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
Stone Road & Spruce Corner Road	Uncontrolled	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Main Street & Berkshire Trail	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
Pond Hill Road/Hyde Hill Road & South Chesterfield Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	Yes
Main Street & East Street	Unsignalized	No	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No
Berkshire Trail & South Main Street	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
Marine Corps League Highway/Berkshire Trail & Old Goshen Road	Uncontrolled	Yes	No	No	No	No	No	No	No	Yes	No	No	No	No	No
USMC League Highway & Sears Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
USMC League Highway & Loomis Road	Uncontrolled	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No

Town Name: Granby

Roadway Segments

Roadway	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
-	Amherst St	W State St	Smith Ave	Yes	No	No	Yes	Yes	Yes	No	Yes	No	Yes
US-202	W State St	Pleasant St	Phins Hil Manor	Yes	No	Yes	Yes	Yes	Yes	No	Yes	No	Yes
US-202	W State St	Phins Hil Manor	Crescent St	Yes	No	Yes	Yes	Yes	Yes	No	No	No	Yes
US-202	State St	Ferry Hill Rd	Center St	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
US-202	State St	Center St	North St	No	No	Yes	No	Yes	No	Yes	No	No	Yes
US-202	E State St	North St	Lyman St	No	No	No	No	Yes	No	No	Yes	No	Yes
US-202	E State St	Deerbrook Drive	School St	No	No	No	No	Yes	No	No	Yes	No	Yes
-	East St	Morgan St	New Ludlow Rd	No	No	Yes	Yes	Yes	No	Yes	Yes	No	Yes
-	Pleasant St	East St	W State St	Yes	No	No	Yes	Yes	Yes	No	Yes	No	Yes

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
Aldrich St & Amherst St	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	Yes
New Ludlow Rd & South St	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	Yes
Amherst Rd & Amherst St	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
W State St & Amherst St	Unsignalized	Yes	Yes	Yes	No	No	No	No	No	Yes	No	No	No	No	No
Amherst Rd & Burnett Rd	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	Yes	No	Yes
State St & Porter St	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	Yes	No	No
E State St & Lyman St	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
W State St & High St	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
E State St & Chicopee St	Unsignalized	No	No	Yes	No	No	No	No	No	Yes	No	No	No	No	Yes

Town Name: Granville

Roadway Segments

Roadway	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
-	Old Westfield Rd	Main Rd	Winchell Rd	Yes	No	No	Yes	Yes	Yes	No	Yes	No	Yes
MA-189	Granby Rd	Town Line	Main Rd	No	No	No	Yes	Yes	Yes	No	Yes	No	Yes
MA-57	Main Rd	Wendy's Rd	Barnard Rd	Yes	No	No	Yes	Yes	Yes	No	Yes	No	Yes
MA-57	Main Rd	Lovers Ln	Wendy's Rd	Yes	No	No	Yes	Yes	No	Yes	Yes	No	Yes
MA-57	Main Rd	Barnard Rd	Granby Rd	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
MA-57	Main Rd	Granby Rd	Sodom St	Yes	No	No	Yes	Yes	No	Yes	Yes	No	Yes
MA-57	Main Rd	Sodom St	Town Line	Yes	No	No	Yes	Yes	No	Yes	Yes	No	Yes
MA-57	Main Rd	Town Line	Lovers Ln	Yes	No	No	Yes	Yes	No	Yes	Yes	No	Yes
-	W Hartland Rd	Town Line	Main Rd	No	No	No	Yes	Yes	Yes	No	Yes	No	Yes
-	North Ln	Main Rd	Town Line	No	No	No	Yes	Yes	Yes	No	Yes	No	Yes

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
North Lane and Main Rd	Unsignalized	No	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
Granby Rd & Silver St	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	Yes	No	No
Granby Rd & Silver St	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	Yes	No	No
Main Rd & Lovers Ln	Uncontrolled	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Main Rd & Reagan Rd	Unsignalized	Yes	No	Yes	Yes	No	No	No	No	Yes	No	No	No	No	Yes
Main Rd & Wendy's Rd	Uncontrolled	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
Main Rd & Granby Rd	Unsignalized	No	Yes	Yes	No	No	No	No	No	Yes	No	No	Yes	No	Yes

Town Name: Hadley

Roadway Segments

Route ID	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
MA-47	Middle Street/River Road	Russell Street	Hadley Elementary School	Yes	No	No	No	Yes	No	No	Yes	Yes	Yes
-	South Maple Street	Russell Street	Mill Valley Road	No	Yes	Yes	No	Yes	No	No	No	Yes	Yes
-	North Hadley Road	Mullins Way	Amherst Town Line	No	No	No	Yes	Yes	No	No	Yes	No	Yes
-	Commonwealth Avenue	Holdsworth Way	Amherst Town Line	No	No	No	No	Yes	No	No	No	Yes	No
-	North Maple Street	Rocky Hill Road	Mount Warner Road	No	No	No	No	Yes	No	No	Yes	No	Yes
-	North Maple Street	Rocky Hill Road	Russell Street	No	No	No	No	Yes	No	No	Yes	No	Yes
MA-47	Bay Road	Middle Street	East Street	Yes	No	No	Yes	Yes	No	No	Yes	No	No
MA-47	Lawrence Plain Rd	Bay Road	Neely Ln	Yes	No	No	No	Yes	No	No	Yes	No	No
MA-47	Bay Road	East Street	Bay Rd	Yes	No	No	No	Yes	No	No	Yes	No	No

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
Bay Road & Aquavitae Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Bay Road & West Street	Uncontrolled	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	Yes
Bay Road & South Maple Street	Unsignalized	No	No	Yes	No	No	No	No	No	Yes	No	No	No	No	Yes
North Maple Street & Plainville Road	Unsignalized	No	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
South Maple Street & Mill Valley Road	Unsignalized	No	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
South Maple Street & Moody Bridge Road	Unsignalized	No	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
Rocky Hill Road & East Street	Unsignalized	No	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
North Maple Street & Rocky Hill Road	Signalized	No	No	Yes	No	Yes	Yes	No	No	Yes	Yes	Yes	No	No	No
Roosevelt Street & Stockbridge Street	Unsignalized	No	No	Yes	No	No	No	No	No	Yes	No	No	Yes	No	No
North Maple Street & Venture Way	Unsignalized	No	No	Yes	No	No	No	No	No	Yes	No	No	Yes	No	No
Russell Street & Mill Valley Road	Unsignalized	No	Yes	No	Yes	No	No	No	No	Yes	No	No	No	Yes	No
Middle Street & Kosior Drive	Uncontrolled	No	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No
Middle Street & North Lane	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
Middle Street & Maple Avenue	Uncontrolled	No	Yes	Yes	No	No	No	No	No	Yes	No	No	No	No	No
Bay Road & East Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Middle Street & River Drive	Uncontrolled	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Russell Street & Cross Path Road	Unsignalized	Yes	Yes	No	No	No	No	No	No	Yes	No	No	No	No	No
Russell Street & Pine Hill Road	Uncontrolled	No	Yes	No	No	No	No	No	No	Yes	No	No	No	No	No
North Hadley Rd & Mullins Way	Unsignalized	No	No	Yes	No	No	No	No	No	Yes	No	No	Yes	No	No
Middle Street & Bay Road	Unsignalized	Yes	Yes	Yes	No	No	No	No	No	Yes	No	No	No	No	Yes
Middle Street & Railroad St	Unsignalized	Yes	Yes	Yes	No	No	No	No	No	Yes	No	No	No	No	No

Town Name: Hampden

Roadway Segments

Roadway	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
-	Stony Hill Rd	Edwards St	Town Line	No	No	No	No	Yes	No	No	No	Yes	No
-	Wilbraham Rd	Echo Valley Dr	Town Line	Yes	No	No	Yes	Yes	No	Yes	Yes	Yes	No
-	Wilbraham Rd	Raymond Dr	Echo Valley Dr	Yes	No	No	Yes	Yes	No	Yes	Yes	Yes	No
-	Main St	Somers Rd	Country Club Rd	No	No	Yes	No	Yes	No	Yes	No	No	Yes
-	Somers Rd/Allen St	Main St	Pinewood Rd	No	Yes	Yes	No	Yes	No	Yes	Yes	Yes	No
-	Somers Rd	Martin Farms Rd	Main St	Yes	Yes	No	No	Yes	No	Yes	No	No	Yes
-	Somers Rd	Pinewood Rd	Town Line	No	No	Yes	No	Yes	No	Yes	No	Yes	No
-	E Longmeadow Rd	Carmody Rd	Town Line	Yes	No	No	No	Yes	No	Yes	Yes	No	No
-	E Longmeadow Rd	Somers Rd	Carmody Rd	Yes	Yes	Yes	No	Yes	No	Yes	Yes	No	Yes

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
Main St, Glendale Rd & Scantic Rd	Unsignalized	No	No	No	Yes	No	No	No	No	Yes	No	No	No	No	Yes
Main St & Hampden Memorial Park	Unsignalized	No	Yes	Yes	Yes	No	No	No	No	Yes	No	No	No	No	No
Main St & Hampden Colonial Village	Uncontrolled	Yes	No	Yes	No	No	No	No	No	No	No	No	No	Yes	No
Scantic Rd & Cross Rd	Uncontrolled	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Stony Hills Rd & Woodland Dr	Uncontrolled	No	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
Stony Hills Rd & Andrew Cir	Uncontrolled	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Allen St & Hunting Rd	Unsignalized	No	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Somers Rd & Martin Farms Rd	Uncontrolled	No	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Main St & Chapin Rd	Unsignalized	No	Yes	Yes	No	No	No	No	No	Yes	No	No	Yes	No	No
Somers Rd & Main St	Unsignalized	No	Yes	Yes	No	No	No	No	No	Yes	No	No	No	Yes	No
Somers Rd, Allen St & E Longmeadow Rd	Unsignalized	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No	Yes	Yes	No

Town Name: Hatfield

Roadway Segments

Route ID	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
-	Elm Street	Interstate 91	Dwight Street	No	No	Yes	No	Yes	No	No	Yes	No	Yes
-	Elm Street	Dwight Street	Scotland Road	No	No	Yes	No	Yes	No	No	Yes	No	Yes
-	Elm Street	Scotland Road	Prospect Street	No	No	Yes	No	Yes	No	No	Yes	No	Yes
-	Main Street	Maple Street	North Street	No	No	Yes	No	Yes	No	Yes	No	No	Yes
-	Main Street	North Street	King Street	No	No	Yes	No	Yes	No	Yes	No	No	Yes
-	King Street	Prospect Street	Main Street	Yes	No	No	Yes	Yes	No	No	No	No	Yes
-	N Hatfield Rd	King St	MA-10	Yes	No	No	No	Yes	No	No	Yes	No	Yes

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
Elm Street/Maple Street & Prospect Street	Unsignalized	No	Yes	Yes	No	No	No	No	No	Yes	No	No	No	No	Yes
Main Street & Billings Way	Uncontrolled	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	No	Yes	No
Elm Street & Elm Court	Uncontrolled	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	Yes
Maple Street/Bridge Lane & Main Street/Valley Street	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Elm Street & Interstate 91 Ramps	Unsignalized	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No
Pantry Road/Chestnut Plain Road & Mountain Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	Yes
West Street & Mountain Drive/Depot Road	Unsignalized	Yes	Yes	Yes	No	No	No	No	No	Yes	No	No	No	Yes	No
West Street & Linseed Road/Church Avenue	Unsignalized	No	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No

Town Name: Holland

Roadway Segments

Roadway	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
-	Sand Hill Rd	Sturbridge Rd	Mashapaug Rd	Yes	No	Yes	Yes	Yes	No	No	No	No	Yes
-	East Brimfield Rd	Town Line	Sturbridge Rd	Yes	No	No	Yes	Yes	No	No	No	No	No
-	Mashapaug Rd	Pond bridge Rd	Old Country Rd	No	No	No	Yes	Yes	No	No	No	No	Yes
-	Sturbridge Rd	Mashapaug Rd	Alexander Rd	Yes	Yes	Yes	Yes	Yes	No	No	Yes	No	Yes

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
Mashapaug Rd & Causeway Rd	Unsignalized	No	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
Brimfield Rd & Hisgen Rd	Unsignalized	No	No	Yes	Yes	No	No	No	No	No	No	No	No	No	No
Wales Rd & Brimfield Rd	Unsignalized	Yes	No	Yes	No	No	Yes	No	No	Yes	No	No	No	No	No
Brimfield Rd & Pond Bridge Rd	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
Sturbridge Rd & Sand Hill Rd/East Brimfield Rd	Unsignalized	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	Yes
Sturbridge Rd & Leno Rd	Unsignalized	No	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
East Brimfield Rd & Long Hill Rd	Unsignalized	No	No	Yes	No	No	No	No	No	Yes	No	No	No	No	Yes
Sturbridge Rd & Alexander Rd	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No

Town Name: Huntington

Roadway Segments

Route ID	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
MA-112	East Main Street	Bromley Road	Russell Road	No	Yes	Yes	No	Yes	No	Yes	No	No	Yes
US-20	Russell Road	14 Laurel Rd	East Main Street	No	Yes	Yes	No	Yes	No	Yes	No	No	Yes
MA-112	Worthington Road	Montgomery Road	Bromley Road	No	Yes	Yes	No	Yes	No	Yes	No	No	Yes
MA-112	Worthington Road	Rocky Brook Drive	Montgomery Road	No	No	No	No	Yes	No	Yes	No	No	Yes
MA-112	Worthington Road	Pond Brook Road	Rocky Brook Drive	No	No	No	No	Yes	No	Yes	No	No	Yes
-	Montgomery Road	13 Montgomery Road	Worthington Road	No	No	No	No	Yes	No	No	No	No	Yes
-	Montgomery Road	Montgomery Town Line	13 Montgomery Road	No	No	No	No	Yes	No	No	No	No	Yes
-	Bromley Rd	Worthington Road	Basket St	No	No	No	Yes	Yes	Yes	No	Yes	No	Yes

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
Bromley Road/Basket Street	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Montgomery Road & Worthington Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Worthington Road & County Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
East Main Street & Basket Street & Maple Street	Uncontrolled	No	No	No	No	No	No	No	No	No	No	No	Yes	No	Yes
Worthington Road & County Road & Bromley Road	Unsignalized	No	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No
Searle Road & Pond Brook Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Blandford Hill Road/Main Street & Russell Road	Unsignalized	Yes	Yes	Yes	No	No	No	No	No	No	No	No	Yes	No	No
Pond Brook Road & County Road & Tucker Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	Yes
Russell Road & East Main Street	Unsignalized	Yes	Yes	Yes	No	No	No	No	No	No	No	No	Yes	No	No
Lyman Road/Bean Hill Road & Pond Brook Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	Yes

Town Name: Longmeadow

Roadway Segments

Route ID	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
-	Converse Street	Redfern Drive	Dwight Road	Yes	Yes	No	No	Yes	No	No	Yes	No	Yes
-	Converse Street	Laurel Street	Redfern Drive	Yes	No	No	Yes	Yes	No	Yes	No	No	Yes
	Dwight Road	Chestnut Street	Springfield Town Line	Yes	No	Yes	Yes	Yes	No	Yes	No	No	Yes
US-5	Longmeadow Street	Maple Road	Williams Street	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
US-5	Longmeadow Street	Connecticut State Line	Maple Road	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
US-5	Longmeadow Street	Williams Street	Bliss Road	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
US-5	Longmeadow Street	Forest Glen Road	Bliss Road	No	No	No	No	Yes	No	Yes	No	No	Yes
-	Williams Street	Bliss Road	Redfern Drive	Yes	Yes	No	Yes	No	No	No	No	No	Yes
-	Bliss Road	Longmeadow Street	Laurel Street	Yes	Yes	No	Yes	Yes	No	Yes	No	No	Yes

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
Converse Street & Dickinson St	Signalized	Yes	No	No	No	No	No	No	No	Yes	Yes	No	No	No	No
Converse Street & Rugby Road	Unsignalized	No	Yes	No	No	No	No	No	No	No	No	No	No	No	No
Williams Street & Redfern Dr	Signalized	No	Yes	Yes	No	No	Yes	No	No	Yes	No	Yes	Yes	No	No
Converse Street & Park Drive/Park Drive South	Unsignalized	No	No	No	No	No	No	No	No	No	No	No	No	Yes	No
Converse Street & Porter Lake Drive/Lake Drive	Unsignalized	No	No	No	No	No	No	No	No	No	No	No	No	Yes	No
Converse Street & Normandy Road/Burbank Road	Unsignalized	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No	Yes
Converse Street & Poppies Way/Blueberry Hill Road	Unsignalized	No	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No
Bliss Road & Burbank Road/Blokland Drive	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
Bliss Road & Oakwood Dr	Unsignalized	Yes	Yes	Yes	No	No	No	No	No	Yes	No	No	No	No	Yes
Wolf Swamp Road & Frank Smith Road	Unsignalized	No	Yes	Yes	No	No	No	No	No	Yes	No	No	Yes	No	No
Laurel Street & Westmoreland Avenue	Uncontrolled	Yes	Yes	No	No	No	No	No	Yes	No	No	No	No	No	No
Williams Street & Laurel Street	Signalized	No	Yes	No	No	No	No	No	No	Yes	Yes	Yes	Yes	No	No
Forest Glen Road & Park Drive	Uncontrolled	Yes	Yes	No	No	No	No	No	No	Yes	No	No	No	No	Yes
Longmeadow Street & Emerson Road/Bliss Road	Signalized	No	Yes	Yes	No	No	No	No	No	Yes	Yes	Yes	No	No	No
Longmeadow Street & Forest Glen Road	Signalized	Yes	Yes	Yes	Yes	No	Yes	No	No	Yes	Yes	Yes	Yes	No	No

Town Name: Ludlow

Roadway Segments

Route ID	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
-	East Street	State St	Ludlow Ave	No	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes
-	Chapin Street	Parkview Street	Crest Street	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes
-	Chapin Street	Fuller Street	Center Street	No	Yes	Yes	Yes	Yes	No	No	Yes	No	Yes
MA-21	Center Street	Rood Street	Harding Avenue	No	Yes	Yes	No	Yes	No	No	Yes	No	Yes
-	West Street	Emma Way	Nash Hill Road	No	Yes	No	Yes	Yes	No	No	Yes	No	Yes
MA-21	Ludlow Ave	Ludlow Town Line	East Street	No	No	Yes	Yes	Yes	No	No	No	No	Yes
-	East Street	Amherst St	State Street	No	Yes	Yes	No	Yes	No	Yes	Yes	No	Yes
-	East Street	Amherst St	Laroche St	No	Yes	Yes	Yes	Yes	No	No	Yes	No	Yes
-	Holyoke Street	Cady Street	Evergreen Circle	No	No	Yes	Yes	Yes	No	Yes	Yes	No	Yes
-	West St	Emma Way	Town Line	No	Yes	Yes	Yes	Yes	No	No	Yes	No	Yes

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
West Street & Fuller Street	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	Yes
Rood Street & Church Street	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	Yes
Brook Street & West Street	Unsignalized	No	No	Yes	No	No	No	No	No	Yes	No	No	No	No	Yes
Chapin Street & Center Street	Signalized	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No
Center Street & Church Street	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	Yes
Chapin Street & Sportsmen Road	Signalized	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No
Center Street & Miller Street	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	Yes	No	Yes
West Avenue & Ronald Street	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	Yes
West Avenue & Dover Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	Yes

Town Name: Middlefield

Roadway Segments

Route ID	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
-	Skyline Trail	140 Main Road	Chester Town Line	No	No	No	No	Yes	Yes	No	No	No	Yes
-	Chester Road	Chester Town Line	Skyline Trail	No	No	No	Yes	Yes	No	No	Yes	No	Yes

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
Skyline Trail & Chester Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Skyline Trail & Bryan Road	Uncontrolled	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No

Town Name: Monson

Roadway Segments

Roadway	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
MA-32	Main St	High St	Chestnut St	No	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes
MA-32	Main St	King Ave	Main St	No	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes
-	State Ave	Town Line	Hospital Rd	Yes	No	Yes	Yes	Yes	No	Yes	No	No	Yes
-	Margaret St/High St	Thompson St	Main St	No	Yes	No	Yes	Yes	No	Yes	No	No	Yes
-	Thompson St	Margaret St	Main St	No	Yes	Yes	No	Yes	No	Yes	No	No	Yes
MA-32	Main St	King Ave	Maple St	No	No	Yes	Yes	Yes	No	Yes	Yes	No	Yes
MA-32	Palmer Lower Rd	Country Club Dr	Bethany Rd	No	Yes	Yes	No	Yes	No	Yes	Yes	No	Yes
-	Chestnut St/Bethany Rd	Main St	Tobey Rd	Yes	No	No	No	Yes	No	Yes	No	No	Yes
-	Wales Rd	Main St	Munn Rd	No	No	Yes	Yes	Yes	No	Yes	Yes	No	Yes

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
High St & Ely Rd	Unsignalized	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	No	Yes
High St & Fountain St	Unsignalized	No	Yes	Yes	No	No	No	No	No	Yes	No	No	No	No	No
High St & Margaret St	Unsignalized	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	No	Yes
Main St & High St	Unsignalized	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No	No	Yes	No	No
Bridge St & Lower Hampden Rd	Unsignalized	No	No	Yes	No	No	No	No	No	Yes	No	No	No	Yes	Yes
Palmer Rd & Chestnut St	Unsignalized	No	No	Yes	No	No	Yes	No	No	Yes	No	No	No	Yes	No
Main St & Cushman St	Unsignalized	No	Yes	Yes	No	No	No	No	No	Yes	No	No	No	No	No
Main St & Belmont Ave	Unsignalized	No	Yes	Yes	No	No	No	No	No	Yes	No	No	No	Yes	No
Main St & State St	Unsignalized	No	Yes	Yes	No	No	No	No	No	Yes	No	No	No	No	No
Main St & Lincoln St	Unsignalized	No	Yes	Yes	No	No	No	No	No	Yes	No	No	No	No	No
High St & Spring St	Unsignalized	Yes	Yes	Yes	Yes	No	Yes	No	No	Yes	No	No	No	Yes	Yes
Main St & Washington St/Huntington Ave	Unsignalized	No	Yes	Yes	No	No	No	No	No	Yes	No	No	No	No	Yes

Town Name: Montgomery

Roadway Segments

Route ID	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
-	Carrington Road	Russell Town Line	Main Road	No	No	No	Yes	Yes	Yes	No	Yes	No	No
-	Main Road	Carrington Road	Avery Road	No	No	No	Yes	Yes	No	No	No	No	Yes
-	Main Road	Westfield Town Line	Avery Road	No	Yes	No	No	Yes	No	Yes	Yes	No	Yes
-	Main Road	Carrington Road	Huntington Town Line	No	No	No	Yes	Yes	No	No	No	No	No

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
Main Road & Carrington Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
New State Road & Main Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Main Road & Avery Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Main Road & Southampton Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Main Road & Old Main Road	Uncontrolled	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Old Main Road & Main Road	Uncontrolled	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Main Road & Pine Ridge Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Main Road & Fuller Road	Uncontrolled	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Carrington Road & Thomas Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Carrington Road & Chamberlain Road	Uncontrolled	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Carrington Road & Lower Russell Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No

Town Name: Northampton

Roadway Segments

Roadway	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
-	Finn St	Prospect St	US-5	No	No	Yes	No	Yes	No	No	No	No	Yes
US-5	Mass Route 10	Finn ST	North St	No	No	Yes	No	Yes	No	No	No	Yes	Yes
-	Elm St	N Elm St	Franklin St	No	No	Yes	No	No	No	No	No	No	Yes
-	Bridge Rd	Mark Warner Dr	Mountain St	No	No	Yes	No	Yes	No	No	Yes	No	Yes
-	Bridge Rd	Mountain St	575 Bridge Rd	No	No	Yes	No	Yes	No	No	Yes	No	Yes
-	Bridge Rd	Jackson Street	Norwottuck Rail Trail	No	No	Yes	No	Yes	No	No	Yes	No	Yes
MA-9	Bridge St	Bridge St & Damon Rd Roundabout	Northampton Town Line	No	No	No	No	Yes	No	No	No	No	No
-	Locust St	S Main St	Hatfield St	No	No	Yes	Yes	Yes	No	Yes	No	No	Yes
MA-9	Bridge St	Hawley St	Fairgrounds Rd	No	No	Yes	No	Yes	No	Yes	Yes	No	Yes
MA-10	South Street	Earle St	Columbus Ave	No	No	Yes	No	Yes	No	Yes	No	No	Yes
US-5	Mass Route 10	I-91 Ramp	Carlon Drive	No	Yes	Yes	No	Yes	No	Yes	No	Yes	Yes
MA-9	N Elm St	Elm St	Prospect Ave	Yes	No	Yes	No	Yes	No	No	Yes	No	Yes

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
Bridge Rd & Chestnut St	Unsignalized	No	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Bridge Rd & Hatfield St	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Bridge Rd & Prospect Ave	Unsignalized	No	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Westhampton Rd & Glendale Rd	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
Westhampton Rd & N Loudville Rd	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Maple St & Pine St	Unsignalized	No	Yes	Yes	No	No	No	No	No	No	No	No	No	Yes	No
Locust St & Hatfield St	Unsignalized	Yes	No	Yes	No	No	No	No	Yes	No	No	No	No	No	No
South St & Earle St	Signalized	Yes	No	No	Yes	Yes	Yes	No	Yes	No	Yes	No	No	No	No
Elm St & Paradise Rd	Unsignalized	No	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No
Main St & Keyes St	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
Bridge St & Parsons St	Unsignalized	No	Yes	Yes	No	No	No	No	No	No	No	No	No	Yes	No
Main St & Hawley St	Signalized	No	No	Yes	No	Yes	Yes	Yes	Yes	No	Yes	No	No	No	No
Main St & Crafts Ave	Unsignalized	No	No	Yes	Yes	No	No	No	No	Yes	No	No	No	No	No
Main St & Masonic St	Unsignalized	Yes	No	Yes	Yes	No	No	No	No	Yes	No	No	No	No	No
Main St & Center St	Unsignalized	No	No	Yes	Yes	No	No	No	No	Yes	No	No	No	No	No

Town Name: Palmer

Roadway Segments

Roadway	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
-	Sykes St	Main Street	Fire Department	No	No	No	No	No	No	No	No	No	No
-	Bridge Street	Main Street	Palmer Town Line	No	No	No	Yes	Yes	No	Yes	No	No	Yes
-	Bridge Street/Palmer Rd	Main Street	Sykes St	No	Yes	Yes	Yes	Yes	No	Yes	No	No	Yes
-	Park Street	Thorndike Street	Pearl Street	No	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes
US-20	N Main Street	Wilbraham Street	Bridge Street	No	Yes	Yes	Yes	Yes	No	Yes	No	No	Yes
MA-32	Thorndike St	Lawrence St	Mt Dumplin Rd	No	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes
-	Main St	Sykes St	Anderson St	No	Yes	Yes	Yes	Yes	No	Yes	No	No	Yes

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
Main Street & Bridge Street	Signalized	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Main Street & Pleasant Street	Unsignalized	No	Yes	Yes	No	No	No	No	Yes	No	No	No	No	Yes	No
Main Street & Lariviere Ave	Uncontrolled	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
Palmer Road & Ford Street	Uncontrolled	Yes	No	Yes	Yes	No	No	No	No	Yes	No	No	No	No	No
Main Street & Belanger St	Uncontrolled	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No	No	No	Yes	No
Boston Road & Old Warren Rd	Unsignalized	Yes	No	Yes	Yes	No	No	No	No	Yes	No	No	No	No	No
Sykes St & Bourne St	Unsignalized	No	No	Yes	Yes	No	No	No	No	Yes	No	No	No	No	No
Ware St & Breckenridge St	Unsignalized	No	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
Main Street & Wilbraham St	Signalized	No	Yes	No	No	No	Yes	No	No	Yes	No	No	Yes	No	No
Main Street & Sykes Street	Signalized	No	No	Yes	No	Yes	Yes	Yes	No	No	No	No	No	No	No

Town Name: Pelham

Roadway Segments

Route ID	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
US- 202	Daniel Shays Highway	Amherst Road	Shutesbury Town Line	No	No	No	No	Yes	No	Yes	Yes	No	Yes
-	Amherst Road	Enfield Road	Daniel Shays Highway	No	No	No	No	Yes	No	Yes	No	No	Yes
-	Amherst Road	Jones Road	Enfield Road	No	No	No	No	Yes	No	No	No	No	Yes
-	Amherst Road	Jones Road	Amherst Town Line	No	Yes	Yes	No	Yes	No	Yes	Yes	No	No
-	Harkness Road	Amherst Road	Stony Hill Road	No	No	Yes	Yes	Yes	No	Yes	Yes	No	Yes

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
Harkness Road & Amherst Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
Amherst Road & Meetinghouse Road/Enfield Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	Yes
Amherst Road & Country Lane	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
Amherst Road & Arnold Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Amherst Road & Jone Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Amherst Road & Cook Road/Bray Court	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
Amherst Road & North Valley Road/South Valley Road	Unsignalized	No	Yes	No	No	No	No	No	No	Yes	No	No	No	No	Yes
Packardville Road & Daniel Shays Highway	Unsignalized	Yes	No	No	No	No	No	No	No	Yes	No	No	No	No	No

Town Name: Plainfield

Roadway Segments

Route ID	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
MA-116	West Main Street	Plainfield Town Line	Hallockville Rd	Yes	No	No	Yes	Yes	No	No	Yes	No	Yes
-	Gloyd St	S Central St	Plainfield Town Line	No	No	No	No	Yes	No	No	Yes	No	Yes
MA-8A/116	Hallockville Rd/W Main St	Plainfield Town Line	Ashfield Town Line	No	No	No	Yes	Yes	No	No	Yes	No	No
-	S Central St	E Main St	Gloyd St	No	No	No	Yes	No	Yes	No	Yes	No	Yes
-	N Union St/North St	N Central St	Plainfield Town Line	No	No	No	No	Yes	Yes	No	No	No	Yes
-	Prospect St	Plainfield Town Line	West Main Street	No	No	No	Yes	Yes	No	No	Yes	No	Yes

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
Warner Hill Road & North Union Street	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	Yes
Hill Street & West Main Street	Uncontrolled	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Hawley Street & West Main Street	Uncontrolled	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
N Central Street, S Central Street & Main Street	Unsignalized	No	No	Yes	No	No	No	No	No	No	No	No	Yes	No	No
Union Street & Main Street	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No

Town Name: Russell

Roadway Segments

Route ID	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
-	Main Street	Huntington Road	Pomeroy Terrace	No	Yes	No	No	Yes	No	No	No	No	No
US-20	Westfield Road	Blandford Stage Road	Main Street	No	Yes	No	No	Yes	No	No	No	No	Yes
US-20	Westfield Road	Old Westfield Road	520 Westfield Road	No	No	No	Yes	Yes	No	Yes	Yes	No	No
US-20	Westfield Road	Laurel Road	Westfield Town Line	No	No	No	Yes	Yes	No	Yes	Yes	No	Yes
US-20	Westfield Road	520 Westfield Road	Laurel Road	No	No	No	Yes	Yes	No	Yes	Yes	No	No
US-20	Westfield Road	Blandford Stage Road	Old Westfield Road	No	No	No	Yes	Yes	No	Yes	Yes	No	No
US-20	Huntington Road	Shattuck Road	West Main Road	No	Yes	No	Yes	Yes	No	Yes	No	No	Yes

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
General Knox Road & Birch Hill Road	Uncontrolled	No	No	Yes	No	No	No	No	No	No	No	No	No	No	No
General Knox Road & Woodland Way	Uncontrolled	No	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Main Street & Old Westfield Road	Unsignalized	No	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No
Blandford Road & General Knox Road	Unsignalized	No	No	Yes	No	No	No	No	No	No	No	No	No	No	Yes
Blandford Road & Dickinson Avenue	Uncontrolled	No	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Westfield Road & Old Westfield Road	Unsignalized	No	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Westfield Road & Woronoco Road	Uncontrolled	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Woronoco Road & Westfield Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Huntington Road & Pine Hill Road	Uncontrolled	No	Yes	No	No	No	No	No	No	No	No	No	No	No	No
Westfield Road & Blandford Stage Road	Unsignalized	No	Yes	Yes	No	No	No	No	No	No	No	No	No	Yes	No
Main Street & Lincoln Avenue	Uncontrolled	No	Yes	No	No	No	No	No	No	No	No	No	No	Yes	No
Westfield Road & Blandford Road	Unsignalized	No	No	Yes	No	No	No	No	No	No	No	No	No	No	No

Town Name: South Hadley

Roadway Segments

Roadway	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
MA-116	Woodbridge St	Silver St	Amherst Rd	No	No	Yes	No	Yes	No	Yes	Yes	No	Yes
MA-116	College St	Morgan St	Church St	No	Yes	Yes	No	Yes	No	Yes	No	No	Yes
MA-116	College St	Mosier St	Morgan St	No	Yes	Yes	No	Yes	No	No	No	No	Yes
US-202	Granby Rd	Hillcrest Ave	Old Lyman Rd	No	Yes	Yes	No	Yes	No	No	No	No	Yes
US-202	Granby Rd	Old Lyman Rd	Dartmouth St	No	Yes	Yes	No	Yes	No	No	No	No	Yes
MA-33	Willimanssett St	Taylor Dr	Granby Rd	No	Yes	Yes	No	Yes	No	Yes	Yes	No	Yes
MA-33	Memorial Dr/Willimanssett St	South Hadley Town Line	Taylor Dr	No	No	Yes	No	Yes	No	Yes	Yes	No	Yes

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
N Main St & US-202	Roundabout	No	No	Yes	No	No	No	No	No	No	No	No	Yes	No	No
N Main St & US-202	Roundabout	No	No	Yes	No	No	No	No	No	No	No	No	Yes	No	No
Willimanssett St and Old Lyman Rd	Unsignalized	No	Yes	Yes	No	No	No	No	No	Yes	No	No	No	Yes	No
N Main St & US-202	Roundabout	No	Yes	Yes	No	No	No	No	No	No	No	No	Yes	No	No
Lyman St & Pittroff Ave	Unsignalized	No	No	Yes	Yes	No	No	No	No	No	No	No	No	No	No
Granby Rd & Sunset Ave	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
W State St & East St	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No

Town Name: Southampton

Roadway Segments

Route ID	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
-	Pomeroy Meadow Road	Wolcott Road	College Highway	Yes	No	Yes	No	Yes	No	No	No	No	Yes
MA-10	College Highway	Glendale Road	High Street	Yes	No	Yes	No	Yes	No	No	No	No	Yes
MA-10	College Highway	Fomer Road	Southampton Country Club	Yes	No	No	No	No	No	No	No	No	Yes
MA-10	College Highway	Center Street	Fomer Road	Yes	No	Yes	No	No	No	No	No	No	Yes
MA-10	College Highway	High Street	Center Street	Yes	No	Yes	No	No	No	No	No	No	Yes
-	County Road	Pheasant Drive	Dupuis Road	No	No	No	No	Yes	No	Yes	No	No	Yes

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
Line Street & Campbell Drive	Unsignalized	No	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No
College Highway & Lynn Drive/Country Gardens	Unsignalized	No	No	Yes	No	No	No	No	No	No	No	No	No	No	No

Town Name: Southwick

Roadway Segments

Route ID	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
MA-168	Congamond Road	Sheep Pasture Road	College Highway	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes
MA-57	Feeding Hills Road	North Longyard Road	M+M Trail	Yes	No	No	Yes	Yes	No	Yes	Yes	No	Yes
MA-57	Granville Road	Hillside Road	Granville Road	Yes	No	No	Yes	Yes	No	No	Yes	No	Yes
MA-57	Depot Street	Sheep Pasture Road	College Highway	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes
US202	College Highway	Robin Road	Bugbee Road	Yes	No	No	Yes	Yes	No	No	Yes	No	Yes
MA-57	Feeding Hills Road	Shirley Terrace	College Highway	No	Yes	Yes	Yes	Yes	No	No	No	No	Yes
MA-57	Feeding Hills Road	Great Brooks Ln	Foster Road	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes
-	Sheep Pasture Road	Point Grove Road	Depot Street	Yes	No	No	Yes	Yes	No	Yes	Yes	No	Yes
US202	College Highway	Sunnyside Road	Feeding Hills Road	No	Yes	Yes	No	Yes	No	No	Yes	No	Yes

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
Rising Corner Road & South Longyard Road	Unsignalized	Yes	No	Yes	Yes	No	No	No	No	Yes	No	No	Yes	No	Yes
College Highway & Sunnyside Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	Yes
College Highway & Jered Lane	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	Yes

Town Name: Tolland

Roadway Segments

Route ID	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
-	Schoolhouse Road	Town Line	New Boston Road	Yes	No	No	No	Yes	No	Yes	Yes	No	Yes
MA-57	New Boston Road	Town Line	East Otis Road	No	No	No	No	Yes	No	Yes	Yes	No	Yes
MA-57	New Boston Road	Clubhouse Road	East Otis Road	No	No	No	Yes	Yes	No	No	Yes	No	Yes
MA-57	New Boston Road	Town Line	Clubhouse Road	No	No	No	Yes	Yes	No	No	Yes	No	Yes

Town Name: Wales

Roadway Segments

Roadway	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
MA-19	Stafford Rd	Town Line	Birch Ln	No	No	No	Yes	Yes	Yes	No	Yes	No	Yes
MA-19	Main St/Stafford Rd	Reed Hill Rd	Monson Rd	No	No	No	Yes	Yes	No	No	Yes	Yes	Yes
MA-19	Main St	Church St	Holland Rd	No	No	Yes	Yes	Yes	No	No	Yes	No	Yes
-	Monson Rd	Main St	68 Monson Rd	Yes	No	No	Yes	Yes	No	No	Yes	No	Yes
MA-19	Main St	Monson Rd	Church St	No	Yes	No	Yes	Yes	No	No	Yes	No	Yes

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
Union Rd & Lake Shore Dr	Unsignalized	No	No	Yes	No	No	No	No	No	Yes	No	No	No	No	Yes
Haynes Hill Rd & Main St	Unsignalized	Yes	Yes	Yes	No	No	No	No	No	Yes	No	No	Yes	Yes	Yes
Haynes Hill Rd & Hollow Rd	Unsignalized	No	No	Yes	No	No	No	No	No	Yes	No	No	No	No	Yes
Stafford Rd/Union Rd & Main St	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
Haynes Hill Rd & Main St Ext	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	Yes	Yes	Yes
Main St & Hegan St	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
Stafford Rd & Shore Dr	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	Yes
Stafford Rd & Lake George Rd	Unsignalized	No	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No

Town Name: West Springfield

Roadway Segments

Roadway	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
-	Piper Rd	Morgan Rd	St Andrews Way	No	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes
MA-20	Westfield St	Tanglewood St	Talcott Ave	No	Yes	Yes	No	Yes	No	Yes	No	No	Yes
MA-20	Westfield St	Northwood Ave	Tanglewood St	No	Yes	Yes	No	Yes	No	Yes	Yes	No	Yes
-	Elm St	E Elm St	Elm St Roundabout	No	Yes	Yes	No	Yes	No	No	No	No	Yes
-	Morgan Rd	Piper Cross Rd	Riverdale St	No	No	Yes	Yes	Yes	Yes	No	Yes	No	Yes
-	Kings Highway	Amostown Rd	Elm St	No	Yes	Yes	Yes	Yes	No	No	No	No	Yes
MA-20	Westfield St	Charles Ave	Lower Beverly Hills	No	Yes	Yes	Yes	Yes	No	Yes	No	No	Yes
MA-20	Westfield St	Talcott Ave	Nelson St	No	Yes	Yes	No	Yes	No	No	No	No	No
-	South Blvd	River St	Westfield St	No	Yes	Yes	No	Yes	Yes	No	No	No	No
-	Union St	Park Ave	Day St	No	Yes	Yes	Yes	Yes	No	Yes	No	No	Yes

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
Front St & Second St	Unsignalized	No	Yes	Yes	No	No	No	No	No	Yes	No	No	No	No	Yes
Westfield St & Rogers Ave	Signalized	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	No	No
Westfield St & Lancaster Ave	Signalized	No	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes	No	No	No	No
Westfield St & Chestnut St	Signalized	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No
Westfield St & Hathorne Ave	Unsignalized	No	Yes	Yes	No	No	No	No	No	Yes	No	No	Yes	Yes	No
Westfield St & Vanhorn St	Unsignalized	No	Yes	Yes	No	No	No	No	No	Yes	No	No	No	No	No

Town Name: Westhampton

Roadway Segments

Route ID	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
-	Stage Road	North Road	Easthampton Road	Yes	No	Yes	No	Yes	No	No	No	No	Yes
-	Loudville Road	Loudville Road	Main Road	Yes	No	No	No	No	Yes	No	Yes	No	Yes
MA-66	Main Road	Mine Road	South Road	Yes	No	No	No	No	No	No	No	No	Yes
-	Southampton Road	North Road	Main Road	Yes	No	Yes	No	Yes	No	No	No	No	Yes
-	Southampton Road	Main Road	Laurel Hill Road	Yes	No	No	No	Yes	No	No	No	No	Yes
-	Easthampton Road	Stage Road	Turkey Hill Road	Yes	No	No	No	No	No	No	No	No	Yes
	Chesterfield Rd	Town Line	Town Line	Yes	No	No	No	Yes	No	No	Yes	No	Yes
	North Road	Southampton Road	Main Rd	Yes	No	Yes	No	Yes	No	No	No	No	Yes

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
North Road & Southampton Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	Yes
North Road & Kings Highway/Easthampton Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
North Road & Southampton Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
South Road & Cemetery Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Hooker Road & North Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Shaw Road & Chesterfield Road/Northwest Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	Yes
Southampton Road & Main Road	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No

Town Name: Wilbraham

Roadway Segments

Roadway	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
US-20	Boston Road	Forest St	Lake Dr	No	Yes	Yes	No	Yes	No	No	No	Yes	Yes
US-20	Boston Road	Town Line	Old Boston Rd	No	Yes	Yes	No	Yes	No	Yes	No	Yes	Yes
-	Main St	Pease St	Boston Rd	Yes	No	Yes	No	Yes	Yes	No	Yes	No	Yes
US-20	Boston Road	Cottage Ave	Lake Dr	No	No	No	No	Yes	No	No	Yes	Yes	Yes
-	Main St	Old Orchard Rd	Springfield St	No	Yes	Yes	Yes	Yes	No	No	Yes	No	Yes
-	Stony Hill Rd	Old Boston Rd	171 Stony Hill Rd	No	No	Yes	No	Yes	No	No	Yes	No	Yes
-	Stony Hill Rd	Town Line	Bridge St	No	Yes	Yes	No	Yes	No	No	Yes	No	Yes
-	Stony Hill Rd	Wilbraham Middle School	Springfield St	Yes	Yes	No	No	Yes	Yes	Yes	Yes	No	Yes
-	Stony Hill Rd	171 Stony Hill Rd	Wilbraham Middle School	No	No	Yes	No	Yes	No	No	Yes	No	Yes
US-20	Boston Road	Old Boston Rd	Forest St	No	No	Yes	No	Yes	No	Yes	Yes	Yes	Yes

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
Main St & Monson Rd	Unsignalized	No	No	Yes	No	No	No	No	No	Yes	No	No	No	No	Yes
Glendale Rd & Monson Rd	Unsignalized	No	No	Yes	No	No	No	No	No	Yes	No	No	Yes	Yes	Yes
Stony Hill Rd & Hitchcock Rd	Unsignalized	No	Yes	Yes	No	No	No	No	No	No	No	No	No	Yes	Yes
Stony Hill Rd & Soule Rd	Unsignalized	No	Yes	Yes	No	No	No	No	No	Yes	No	No	Yes	Yes	No
Boston Rd & Main St	Unsignalized	No	No	Yes	No	No	No	No	No	Yes	No	No	Yes	No	Yes
Boston Rd & Three Rivers Rd	Unsignalized	No	No	Yes	No	No	No	No	No	Yes	No	No	Yes	No	No
Boston Rd & Old Boston Rd	Signalized	No	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No	No	No
Boston Rd & Maynard Rd	Unsignalized	No	No	Yes	No	No	No	No	No	Yes	No	No	Yes	No	Yes
Old Boston Rd & Bridge St	Unsignalized	No	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No

Town Name: Williamsburg

Roadway Segments

Roadway	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
-	Mountain St	Laurel Rd	Dewey Circle	Yes	No	No	Yes	Yes	No	No	No	No	Yes
-	High Street	Main St	Laurel Rd	No	Yes	Yes	Yes	Yes	No	No	No	No	Yes
-	Bridge Street	S Main St	Main St	No	Yes	Yes	Yes	Yes	No	No	No	No	Yes
MA-9	Main St	Pine St	Northampton Town Line	No	Yes	Yes	No	Yes	No	Yes	Yes	No	Yes
MA-9	Main St	Hatfield St	Pine St	No	Yes	Yes	No	Yes	No	Yes	Yes	No	Yes
MA-9	Main St	River Rd	Depot Rd	Yes	No	Yes	No	Yes	No	Yes	Yes	No	Yes
MA-9	Main St	Depot Rd	Driveway to Village Greenhouse	Yes	No	No	No	Yes	No	Yes	Yes	No	Yes
MA-9	Main St	Driveway to Village Greenhouse	Hatfield St	Yes	No	No	No	Yes	No	Yes	Yes	No	Yes
MA-9	Goshen Rd	Old Goshen Rd/Nichols Rd	Buttonshop Rd	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
Main St, North St and Williams St	Unsignalized	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No
E Main St, N Main St and North St	Unsignalized	Yes	Yes	Yes	Yes	No	No	No	No	Yes	No	No	No	Yes	No
High Street, Bridge Street and Main Street	Unsignalized	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No
South St and Main St	Unsignalized	No	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No
Depot Rd and Main St	Unsignalized	No	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
Williams St and Buttonshop Rd	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
River Road and Main St	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Hillenbrand Road and Main St	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Williams St and Chesterfield Rd	Unsignalized	No	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
Goshen Rd, Old Goshen Rd and Nichols Rd	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No

Town Name: Worthington

Roadway Segments

Roadway	Street Name	From	To	Lighting	High Visibility Crosswalks	Pedestrian Facilities	Roadside Delineation	Speed Management	Improve sight lines	Roadway Reconfiguration	Roadway Departure Mitigation	Access Management	General Maintenance Improvements
MA-112/MA-143	Williamsburg Rd	Old North Rd	Elderberry Ln	Yes	No	No	No	Yes	No	Yes	No	No	Yes
MA-112	Cummington Rd	Town Line	Dingle Rd	No	No	No	Yes	Yes	No	Yes	Yes	No	Yes
MA-112	Dingle Rd	Clark Hill Rd	Capen St	No	No	No	Yes	Yes	No	Yes	Yes	No	Yes
MA-112	Clark Rd	Capen St	Williamsburg Rd	No	No	No	Yes	Yes	No	Yes	Yes	No	Yes
MA-112	Huntington Rd	Buffington Hill Rd	Harvey Rd/Sam Hill Rd	Yes	Yes	No	Yes	Yes	No	No	No	No	Yes
MA-112	Dingle Rd	Cummington Rd	Clark Hill Rd	No	No	No	Yes	Yes	No	Yes	Yes	No	Yes
MA-112	Williamsburg Rd	Elderberry Ln	Town Line	Yes	No	No	No	Yes	No	Yes	No	No	Yes

Intersections

Name	Type	Intersection Lighting	High Visibility Crosswalks	General Maintenance Improvements	Median Island	Vehicle Signal Timing Modifications	Signal Head Visibility	Pedestrian Signal Timing Modifications	Pedestrian Signal Equipment	Curb Modifications	No Turn on Red	Convert Signal to Mast Arm	Convert to Roundabout	Pedestrian Crossing	All Way Stop Control
Kinne Brook Rd & Guard Rd	Unsignalized	No	No	Yes	Yes	No	No	No	No	Yes	No	No	No	No	No
Huntington Rd & Witt Hill Rd	Unsignalized	No	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No
Huntington Rd & Starkweather Hill Rd	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	Yes	No
Old North Rd & Cold St	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Old North Rd & Cold St	Unsignalized	Yes	No	Yes	No	No	No	No	No	Yes	No	No	No	No	No
Huntington Rd & Harvey Rd/Sam Hill Rd	Unsignalized	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	No
Huntington Rd/Old North Rd & Williamsburg Rd/Buffington Hill Rd	Roundabout	No	Yes	No	No	No	No	No	No	No	No	No	Yes	No	Yes
Cummington Rd & Dingle Rd	Unsignalized	No	No	No	No	No	No	No	No	Yes	No	No	Yes	No	No