

FEBRUARY 2019

# AT-GRADE SHARED USE PATH AND ROADWAY INTERSECTIONS IN THE PIONEER VALLEY



Norwottuck Branch of Mass Central Rail Trail approaching East Street in Hadley

Prepared under the direction of the Pioneer  
Valley MPO by:

**PIONEER VALLEY PLANNING COMMISSION**

Prepared in cooperation with the Massachusetts Department of Transportation and the U. S.  
Department of Transportation

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The views and opinions of the Pioneer Valley Planning Commission expressed herein do not necessarily state or reflect those of the Massachusetts Department of Transportation or the U. S. Department of Transportation.



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**COMMENTS RECEIVED ON THE DRAFT REPORT DECEMBER 2018 / JANUARY 2019**

**APPENDIX**

## Introduction

The Pioneer Valley Planning Commission and its member communities are actively engaged in promoting sustainable growth and the principles of livability. Enhancing the regional multimodal transportation network is an important part of the transportation planning process. The Pioneer Valley region is home to a number of shared use paths and multi-use trails extending through several communities. These facilities are accessed by people belonging to a variety of age groups that utilize different modes of travel for either transportation or recreation.

As additional shared use paths are constructed, it becomes necessary to provide supporting infrastructure for the safe and secure movement of all users. Possible conflict points exist wherever these facilities intersect roadways at-grade. This current report focuses on these locations and on methods to improve safety through improved signs, striping, and maintenance.

This report provides an inventory of all the intersections of regional At-grade Shared Use Paths with Roadways. A brief inventory of each location is included along with the summary of existing conditions of the transportation infrastructure within the vicinity of the intersection. This report is intended to be a reference guide for local stake holders on the existing condition of the infrastructure in the vicinity of each at-grade shared use path crossing. It can also help guide local agencies in prioritizing maintenance and safety improvements. The report identifies several areas for improvement region wide however detailed recommendations for individual locations are not within the scope of this study.

## 'Shared Use Path'

The Massachusetts Department of Transportation (MassDOT) defines shared use paths as: *"Facilities for non-motorized users that are independently aligned and not necessarily associated with parallel roadways. Shared use paths are designed to accommodate a variety of users, including walkers, bicyclists, joggers, and people with disabilities, skaters, pets and sometimes equestrians. These users can be on the facility for a variety of purposes including recreation, commuting, and local travel."*<sup>1</sup>

Federal Highway Administration (FHWA)'s online resource utilizes THE American Association of State Highway and Transportation Official (AASHTO)'s definition: *"Shared use paths are facilities on exclusive right-of-way and with minimal cross flow by motor vehicles. Shared use paths are sometimes referred to as trails; however, in many states the term trail means an un-improved recreational facility. Users are non-motorized and may include but are not limited to: bicyclists, in-line skaters, roller skaters, wheelchair users (both non-motorized and motorized) and pedestrians, including walkers, runners, people with baby strollers, people walking dogs, etc. These facilities are most commonly designed for two-way travel."*<sup>2</sup>

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<sup>1</sup> Massachusetts Highway Department Project Development and Design Guide, 2006, Chapter 11  
<https://www.mass.gov/files/documents/2016/08/ng/ch-11.pdf>

<sup>2</sup> Guide for the Development of Bicycle Facilities, 1999 – AASHTO,  
<https://safety.fhwa.dot.gov/saferjourney1/Library/countermeasures/08.htm>

Shared use paths can serve a variety of purposes. They can provide users with a shortcut through a residential neighborhood (e.g., a connection between two cul-de-sac streets). Located in a park, they can provide an enjoyable recreational opportunity. Shared use paths can be located along rivers, ocean fronts, canals, abandoned or active railroad and utility rights-of-way, limited access freeways, within college campuses or within and between parks. Shared use paths can also provide bicycle access to areas that are otherwise served only by limited access highways closed to bicycles. Appropriate locations can be identified during the planning process.

The Pioneer Valley Joint Transportation Committee (JTC) and the Bicycle, Pedestrian, and Complete Street Advisory Sub-Committee recommended the use of the term ‘Shared Use Path’ for the purpose of this report to include all the off-road paved paths in the region designated for non-motorized users. The at-grade intersections of the shared use paths and roadways will be referred to as the “At-Grade Crossings”.

## Pioneer Valley Region

A total of 14 shared use paths were identified in the Pioneer Valley that intersected at-grade with roadways at 71 locations in 12 different communities in the region. These 71 locations were surveyed and the results are summarized in Tables 1 and 2:

**Table 1: Shared Use Paths and Number of At-grade Crossings with Roadways**

No.	Shared Use Path	At-Grade Roadway Intersections
1	Agawam Riverwalk and Bikeway	2
2	Columbia Greenway	2
3	Connecticut Riverwalk and Bikeway	1
4	East Longmeadow Red Stone Rail Trail	3
5	Hospital Hill Rail Trail Spur	4
6	Ludlow Mills Riverwalk	1
7	Manhan Rail Trail	11
8	Rocky Hill Greenway	3
9	Meadow Street Bike Path	2
10	New Haven and Northampton Canal Line	7
11	Mass Central Rail Trail	15
12	Norwottuck Branch of Mass Central Rail Trail	15
13	Southwick Rail Trail	4
14	Brimfield Trail Section of the Titanic Rail Trail	1
	<b>Total</b>	<b>71</b>

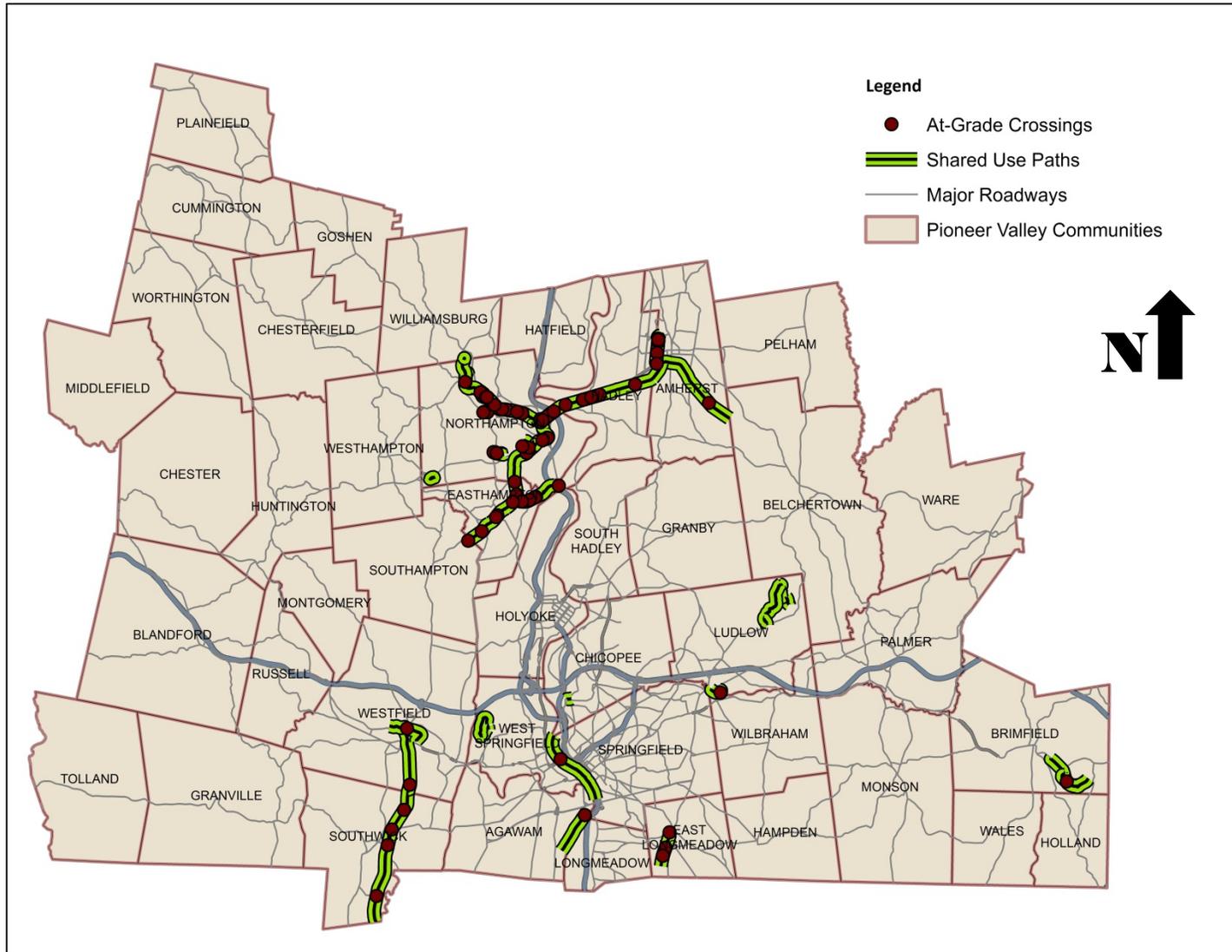
Source: Pioneer Valley Planning Commission, 2018

**Table 2: Communities with At-grade Shared Use Path and Roadway Crossings**

<b>No.</b>	<b>Community</b>	<b>At-Grade Roadway Crossings</b>
1	Agawam	2
2	Amherst	6
3	Brimfield	1
4	East Longmeadow	3
5	Easthampton	10
6	Hadley	6
7	Ludlow	1
8	Northampton	34
9	Southampton	1
10	Southwick	4
11	Springfield	1
12	Westfield	2
	<b>Total</b>	<b>71</b>

Source: Pioneer Valley Planning Commission, 2018

Figure 1: Shared use path and highway intersections in the Region



## Survey Criteria

The existing pavement markings, sight distance, and signage in the vicinity of the shared use path crossings were surveyed and rated based on the following criteria:

### Pavement Markings:

**Good:** The pavement markings are clear and fully visible

**Fair:** The pavement markings show signs of fading at different locations but are still mostly visible.

**Poor:** The pavement markings are highly faded and difficult to see.

### Condition of Signs:

**Good:** The signs are easily visible, not obscured by vegetation and are undamaged.

**Fair:** The signs may be partially covered by vegetation, obscured by other signs, slightly damaged or beginning to fade but are still mostly visible.

**Poor:** It is difficult to view the signs because of extreme wear and fading, vegetation cover, physical restriction by other signs or utility poles, and/or heavy damage to the poles or signage itself.

### Visibility of Shared Use Path from Roadway:

**Good:** The at-grade crossing is easily visible in advance to a motorist travelling at the posted speed limit.

**Fair:** The presence of existing signs, vegetation, and/or land uses distract from the visibility of the at-grade crossing.

**Poor:** Physical features such as grade, utility poles, signage, curves, and/or dense vegetation restricts the advance view of the at-grade crossing.

### Sight Distance from the Shared Use Path Stop Line:

*Not based on American Association of State Highway and Transportation Officials (AASHTO) methodology. Based on comfort factor from the point of view of a cyclist or a pedestrian..*

**Good:** A shared use path user can easily see oncoming traffic from both sides of the roadway without any obstructions.

**Restricted:** The shared use path user has difficulty in viewing oncoming traffic from either direction of travel because of existing vegetation, land use, fixed objects, and/or roadway geometry.

### Crash History:

A summary of crashes that occurred in the vicinity of the crossing in the five year period between 2011 and 2015 based on Massachusetts Department of Transportation (MassDOT)'s Traffic Safety database. At locations with higher number of crashes only non-motorized crashes are included along with information about total number of crashes. The term 'Pedalcyclist' is utilized in MassDOT's database to include the users of bicycle, tricycle, unicycle, or pedal car.

## Observations and Recommendations

A large variation was found in the type of traffic control devices such as warning signs, information signs, pavement markings, and crosswalk markings provided in the vicinity of the surveyed at-grade crossing

locations. Some consistency in devices was observed along similar shared use paths within a particular community however the type of control measures and warning devices varied from one shared use path to another.

**Along the Roadway:** Appendix 1 summarizes the data collected along approaches of roadways in the vicinity of at-grade crossings.

**Advance Warning Signs-** Advance warning signs and pavement marking play a significant role in alerting motorists of the possibility of either bicyclists or pedestrians potentially crossing the road. A variety of advance warning signs were observed as a part of this inventory. More than half of the approaches (89 out of 142) to a shared use path crossing did not have any form of advance warning sign. It is recommended that these locations be examined to determine if advance warning signs compliant with the MUTCD guidelines are necessary.

Most warning signs were observed to be in good condition (44). Only 9 signs were identified as having either fair or poor visibility because of overgrown vegetation. Regular vegetation maintenance is necessary to provide good sign visibility.

Figure 2 shows examples of different types of advance warning signs that were observed along various roadways. It was noted that many advance warning signs are either Manual on Uniform Traffic Control Devices (MUTCD) 2010 compliant advance pedestrian or bicycle warning sign, but not both. Ideally both pedestrians and bicycles should be displayed on advance warning signs to a shared use path crossing. Supplemental warning plaques displayed on the sign post should also comply with the MUTCD.

**Figure 2: Some Examples of Advance Warning Signs**



Source: PVPC, From Left: Station Road (Amherst), Damon Road (Northampton), Old South Street (Northampton)

**Shared Use Path Signs-** The information signs or warning signs (green or yellow background), along with crosswalk markings and the shark teeth yield markings at the at-grade crossings notify the motorist about the location of the shared use path. These signs should be clearly visible and completely unobstructed to maximize visibility. Figure 3 depicts some of the types of shared use path signs found in the region. Several guidelines exist for shared use path signs and different communities use different

types of signs. Most of these shared use path signs were found to be in good condition with optimal visibility. A total of 39 approaches did not have these any signs. Some of the locations summarized in the study are located at a three way intersection so the roadways have a single approach to the crossing. For all other locations it is recommended that an MUTCD complaint warning sign be installed for the approaches with no existing sign.

**Table 3: Condition of Shared Use Path Signs**

Condition	Approaches
Good	90
Fair	10
Poor	3
None	39
<b>Total</b>	<b>142</b>

**Figure 3: Shared Use Path Signs at the At-grade Crossings**



Source: PVPC, From Left: Damon Road (Northampton), Maple Street (East Longmeadow), And East Street (Hadley)

**Advance Pavement Markings-** Approximately one third of the total number of roadway approaches had advance pavement markings (48 out of 142) to alert motorists of the upcoming crossing. A majority of these existing pavement markings were noted to be in poor condition (29 out of 48) at the time of survey. Advance pavement markings are an important supplemental safety measure to alert the drivers of the potential need to reduce speed or stop. It is recommended that all pavement markings be maintained in good condition and installed along the approaches with higher speeds and traffic volumes.

**Figure 4: Types of Pavement Markings**



Source: PVPC, From Left: Woodmont Road (Northampton), Shaker Road (Westfield), Feeding Hills Road (Southwick)

**Crosswalk Markings-** Seven different styles of crosswalk markings were observed to be used for at-grade shared use path crossings. Additional data including the width, crossing distance, and style of crosswalk is presented in **Appendix 3**. A total of 8 locations in the region did not have a crosswalk. They are located within the communities of Amherst, Brimfield, Easthampton, Ludlow, and Northampton. A majority of locations had continental style crosswalk markings. Figure 5 represents the classification of crosswalks. Figure 6 shows pictures of Concrete and Boutique style crosswalks in the City of Northampton. Figure 7 shows a picture of raised brick crosswalk at North Elm Street in Westfield.

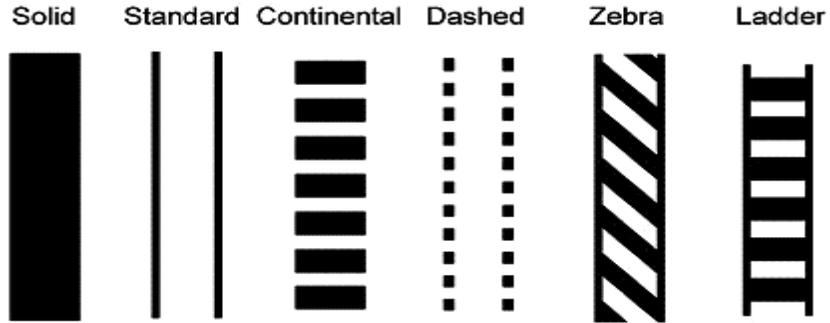
The condition of crosswalk markings has been summarized in **Appendix 3**. A majority of the crosswalks were found to be in either good or fair condition (98 out of 142). Proper maintenance of crosswalk markings is recommended to ensure maximum visibility. Shark teeth yield markings should also be considered in advance of crosswalks. Currently only 13 crossings have shark teeth yield markings and more than half of those are faded. Shark teeth yield markings are an effective supplemental measure along roadways with higher speeds and more traffic to reinforce to motorists the need to yield to pedestrians and bicyclists.

**Table 4: Types of Crosswalk Markings at Shared Use Path Crossings in the Region**

Style	Locations
Continental	29
Ladder	14
Zebra	9
Raised Brick	4
Standard	4
Boutique	2
Concrete	1
None	8
<b>Total</b>	<b>71</b>

Source: PVPC

Figure 5: Classification of Crosswalks



Source: Department of Transportation, Federal Highway Authority (FHWA), Publication Number: FHWA-HRT-04-100  
Date: September 2005.  
<https://www.fhwa.dot.gov/publications/research/safety/04100/02.cfm>

Figure 6: Boutique Style and Concrete Style Crosswalks in Northampton



Source: PVPC, From Left: Musante Drive, Old South Street Parking Lot, And Village Hill Road

Figure 7: Raised Brick Crosswalk in Westfield



Source: PVPC, North Elm Street (Westfield)

**Control Type**- Many roadways in our Region and elsewhere in the Commonwealth do not have traffic controls at their intersections with a shared use path. Traffic signals are more commonly used to assist pedestrians and bicyclists to cross the road at locations in close proximity to an existing intersection of two or more streets. Conventional wisdom and practice is for motor vehicles to approach these crossings with caution, sometimes resulting in the need to yield to the shared use path user. One effective measure to enhance safety at a shared use path crossing is the installation of a Rectangular Rapid Flashing Beacons (RRFB). The Federal Highway Administration (FHWA) has passed an Interim Approval No. 11 (IA-11) allowing the provisional use of the RRFBs which was briefly terminated but has been reinstated since the resolution of patent issues.

RRFBs are gaining popularity in the Commonwealth because of their effectiveness, ease of installation, and low maintenance. There are six locations with the RRFBs in the Pioneer Valley located in the communities of East Longmeadow (2 locations), Agawam, Hadley, Northampton, and Westfield. It is recommended that the local agencies and the bicycle advocate groups observe long term operations along these locations and document the effectiveness of the RRFBs in increasing safety and compliance at these crossings. In the future, depending upon the results of these observations more RRFB installations can be recommended throughout the region at locations with documented safety and compliance issues.

Table 5 summarizes the existing control measures for roadway approaches to shared use path crossings. As both roadway approaches have the same control measure, locations are summarized by the type of control rather than approach name.

**Table 5: Roadway Approaches Control Type**

Control Type	No. of Crossings
None	50
Signal	7
RRFB	6
Stop Sign	6
Speed Hump	1
Yield	1
<b>Total</b>	<b>71</b>

Source: PVPC

**Along The Shared Use Path:** Appendix 2 summarizes all data collected along each shared use path approach to the roadway.

**Control Type**- All shared use path users are advised to exercise caution before crossing a roadway regardless of the traffic controls in place. Bicyclists are advised to slow down and stop if necessary to ensure their safety before entering a crossing. As a result the majority of all the shared use path approaches have ‘Stop’ signs and supplemental pavement markings at roadway crossings. A total of 32 approaches in the region do not have any control measures. Most of these are located in rural or

residential areas with lower vehicle speeds and traffic volumes. These locations should be monitored and appropriate control measures should be implemented as necessary to ensure the safety of the shared use path users.

**Table 6: Shared Use Path Approaches Control Type**

Stop Sign	95
Signal	14
Yield	1
None	32
<b>Total</b>	<b>142</b>

Source: PVPC

**Signage-** More than half of the signs (72) located along the shared use path approaches were found to be in good condition. The remaining signs were either faded or obscured by vegetation which made it difficult to see them from a distance. Proper vegetation maintenance and sign maintenance is critical to maximize sign visibility along approaches to at-grade crossings.

**Pavement Markings-** Pavement markings are used along shared use paths in advance of at-grade crossings to alert users of the upcoming crossing and increase compliance with existing traffic controls. Recently upgraded shared use paths such as the Norwottuck branch of the Mass Central Rail Trail in Hadley and the Manhan Rail Trail in Easthampton have pavement markings along the shared use paths that are in very good condition. **Appendix 2** summarizes the location of these markings and their condition. It is recommended that all the shared use path approaches to at-grade crossings be upgraded with advance pavement markings.

**Figure 8: Pavement Markings along Shared Use Path Approaches**



Source: PVPC, From Left: Manhan Rail Trail approaching Ferry Street (Easthampton), Norwottuck Branch of Mass Central Rail Trail approaching South Maple Street (Hadley)

**Bollards**- Bollards are intended to secure the entrances to shared use paths by preventing access by unauthorized vehicles. They also reinforce the need of a user to stay to the right of the path prior to crossing a roadway; however per '***American Association of State Highway and Transportation Officials (AASHTO) 2012 Design Guide, Chapter 5: Restricting Motor Vehicle Traffic***': bollards and other similar physical barriers to restrict motor vehicles are not recommended.

A total of 56 approaches at 28 crossings have some form of bollard along the shared use path. Bicycle advocate groups have recently discouraged the use of bollards on the shared use paths as they can act as an obstacle and increase the risk of injuries and crashes. It is recommended that local officials develop a policy on the appropriate use of bollards. A preferred method of restricting entry of motor vehicles is to split the entry way into two sections separated by low landscaping. The approach to the split should be delineated with solid line pavement markings to guide the path user around the split. Each section should be half the nominal path width. Emergency vehicles can still enter if necessary by straddling the landscaping. Alternatively it may be more appropriate to designate emergency vehicles access via protected access drives that can be secured.

**Figure 9: Bollards at Shared Use Path Approaches**



Source: PVPC, From Left: Manhan Rail Trail approaching Payson Avenue (Easthampton), Southwick Rail Trail approaching Congamond Road (Southwick)

**Tactile Warning Panels**- Detectable or tactile warning panels are a requirement in the Commonwealth along all the ramps for crosswalks and side paths. The latest guidelines provided by MassDOT advocate a continuous panel consisting of truncated domes. The warning panel shall be placed on the entire width of the ramp opening. Appendix 4 enlists the locations that do not have any form of tactile warning plates installed along the ramps.

# AT-GRADE SHARED USE PATH CROSSINGS

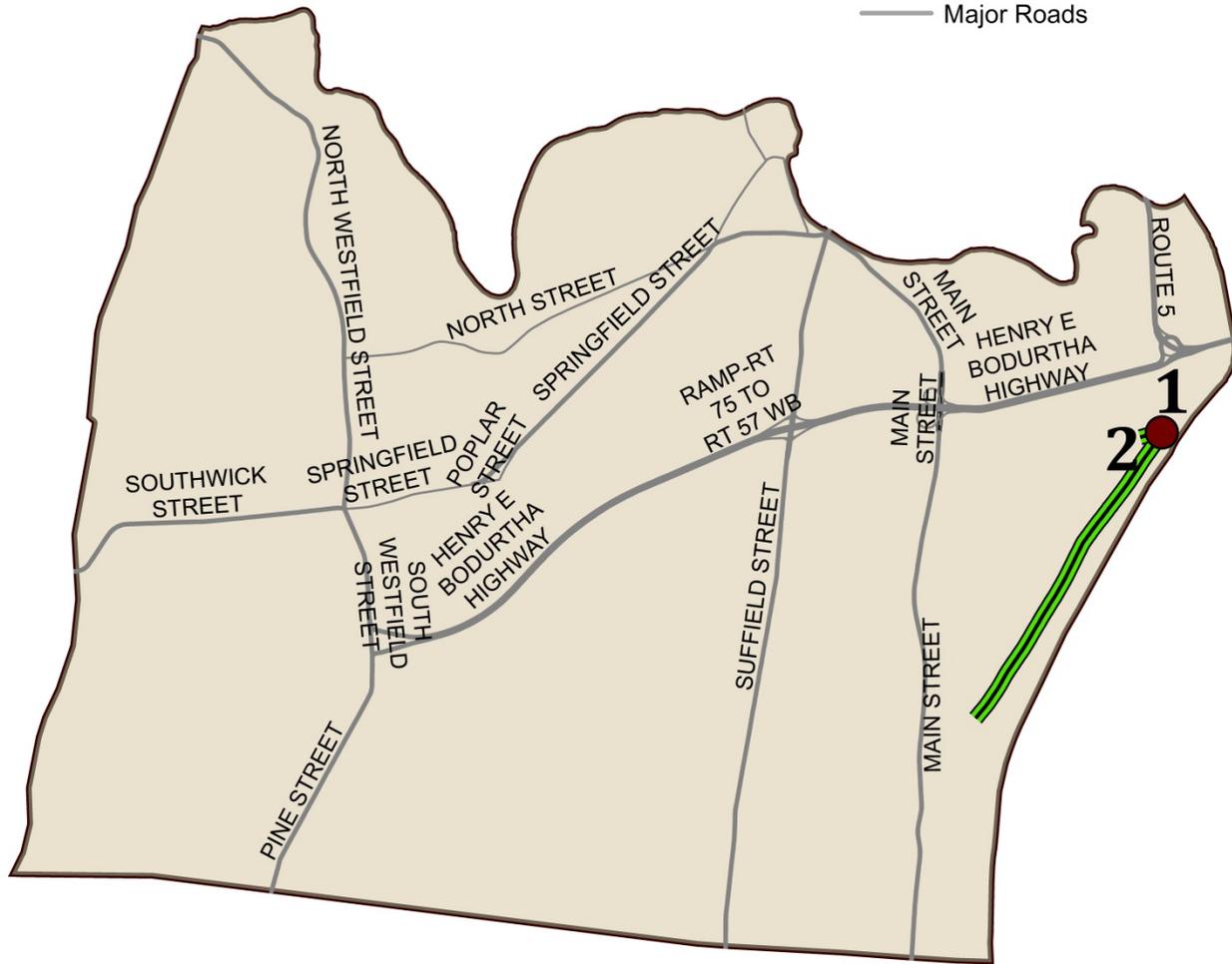
The following pages provide the summary of existing conditions along the inventoried shared use path crossings in the region. Each site is unique to each community and does not necessarily depict any standards or guidelines to be duplicated by other communities at other locations. For the purpose of designing new locations or redesigning the existing locations, the most recent and updated best practices guidelines should be referred.

# AGAWAM



## Legend

-  At-Grade Crossings
-  Shared Use Paths
-  Major Roads



**1. SCHOOL STREET (Urban area crossing with overhead lighting)**

**Crash History in the Vicinity of the Crossing:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
5/25/2011	3:48	None	Rear End collision between 3 motor vehicles	Property Damage	Day	Dry	Clear
5/25/2014	6:03	None	Backing vehicle collided with a parked vehicle	Property Damage	Day	Dry	Cloudy

**School Street Safety Features: (Urban Minor Collector, 2 Lanes, undivided, Jurisdiction: Massachusetts Department of Transportation (MassDOT))**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
EB	None	None	None	Stop Sign	None	Poor	None	Fair	None	None	10' 8" / 9"
WB	-	-	-		-	-	-	-	-	-	-

Shared Use Path’s northbound approach is not distinctly visible because of the geometry.

**Agawam Riverwalk Trail Safety Features: (Stop Control with Median, 9' 7" Wide Bituminous Pavement, Volume: No Data, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
NB	None	No sign	None	Poor	9' 10"	Bollard median both sides	66' 6"	None	10' 3" Continental	Concrete	Divided on both sides
SB	Stop	Good	Poor	Good							

Sight distance along the northbound approach of the shared use path is limited because of the alignment of School Street and the cars parked in the parking lot of the adjacent business. Shared use path signs are not present but a Connecticut Riverwalk and Bikeway sign is present at the crossing.

*Starting from left: (i) Eastbound approach of shared use path covered in dirt, (ii) Northbound approach of shared use path with bollards and crosswalk (iii) School Street approach and curved geometry*



**Remarks:**

The crossing is located at a three way intersection of two roadways. The crosswalk is placed right at the intersection of School Street and River Road. The shared use path follows EB/WB direction towards the west of the crossing and diverts to NB/SB direction at the crosswalk. There is light residential and retail development around the vicinity. The stop line on the EB shared use path has dirt covering it and is in poor condition due to its low visibility and faded shared use path markings.

**2. RIVER ROAD (Urban area crossing with overhead lighting)**

**Crash History in the vicinity of the Intersection:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
11/11/2011	5:43 AM	None	Motor Vehicle collided with a Tree	Property	Dark	Wet	Rainy

**River Road Street Safety Features: (Urban Minor Collector, 2 Lanes, ADT: 3,471 (2017, MassDOT), undivided, Jurisdiction: Massachusetts Department of Transportation (MassDOT))**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
NB	None	Good	None	RRFB*	None	Fair	RRFB*	Good	None	35	10' 11", 1' 11"
SB	None	Good	None		None	Fair	RRFB*	Good	None	40	11' 6", 3' 8"

\*RRFB – Rectangular Rapid Flashing Beacon.

Both RRFBs were not operational during the site visit. The solar panels above the RRFB posts were covered in shade during the morning hours.

**Agawam Riverwalk and Bikeway Trail Safety Features: (Stop Control with Median, 9' 10" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	Stop	Good	Fair	Good	11' 11"	Bollard, Median	31' 1"	None	17' 2" Ladder	Concrete	Divided on both sides
WB	Stop	Good	Fair	Good	18' 2"						

Both approaches of the shared use path had different widths at the crossing.

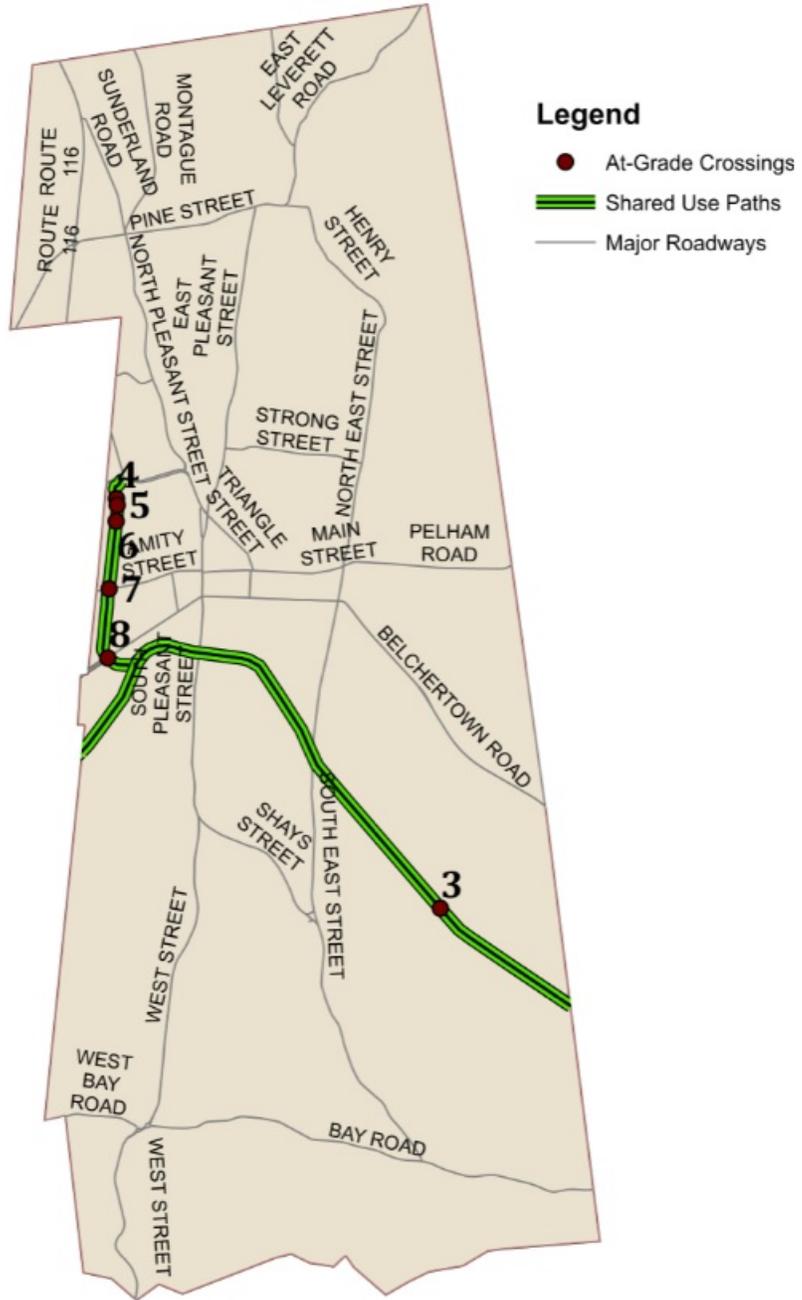
From Left (i) Westbound approach of shared use path, (ii) Stop sign along eastbound approach of shared use path, (iii) Southbound approach of River Road showing RRFBs under shade



**Remarks:**

RRFBs are solar powered and are under shade trees in the vicinity. Both approaches of the shared use path have stop signs with clearly defined stop lines. The area in the vicinity of the crossing has a mix of residential and retail development. The RRFBs are supplemented by pedestrian crossing signs and do not specify shared use path crossing or bicycle crossing.

# AMHERST



**3. STATION ROAD (Urban area crossing without overhead lighting)**

No crashes were reported in the vicinity of this crossing between the calendar years of 2011 and 2015.

**Station Road Safety Features: (Local Road, 2 Lanes, ADT: 1,400 (2000, MassDOT), undivided, Jurisdiction: Town Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
EB	Poor	Good	Fair	None	Fair	Good	None	Fair	None	None	11' 2"/ none
WB	Good	Good	Fair		Fair	Good	None	Fair	Downhill	None	10' 8"/ none

Both approaches of Station Road do not have shoulders. Thick vegetation in the vicinity of the crossing makes it difficult for the motorists to locate the approaches of the shared use path. Advance pavement markings have considerably faded. The advance warning sign along the eastbound approach is tilted and wobbly because of a damaged pole.

**Norwottuck Branch of the Mass Central Rail Trail Safety Features: (Stop Sign Control with brick Median, 8' 8" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
NB	Stop	Good	Poor	Good	8' 9"	Bollard	31' 9"	None	Zebra 20' 7"	Concrete NB only	Undivided NB only
SB	Stop	Good	Fair	Good		None					

Only the northbound approach has a brick median with a bollard. The Southbound approach of the shared use path is located in the parking lot adjacent to Station Road. The southbound approach to the Station Road crossing does not have a median; however the approach to the parking lot has a median without a bollard.

*From Left (i) Southbound approach of the shared use path within the parking lot with amenities, (ii) Northbound approach of shared use path, (iii)Tilted advance warning sign along eastbound approach of Station Road and thick vegetation along the sides in absence of shoulders*



**Remarks:**

The crossing is located in a residential area. The shared use path navigates through the parking lot along the southbound approach to the Station Road crossing. The shared use path approach towards the parking lot is highlighted by a brick median. A map of the trail, bike racks, portable restrooms, and benches have been installed in the vicinity of the shared use path approach to the parking lot.

**4. SOUTHWEST CIRCLE (EXIT) (Urban area crossing with overhead lighting)**

**Crash History in the Vicinity of the Southwest Circle:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
03-06-2011	1:48 AM	None	Rear End Collision	Property Damage	Dark	Dry	Clear
12-02-2015	9:48 PM	None	Rear End Collision	Property Damage	Dark	Wet	Rain

**Southwest Circle Safety Features: (Local Road, One Lane, undivided, Jurisdiction: University of Massachusetts)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
EB	--	--	--	Stop Sign	--	--	--	--	--	--	--
WB	None	None	None		None	Good	None	Good	None	None	19' 7"/ none

The driveway operates as the exit for the Southwest Circle cul-de-sac. Only westbound traffic crosses the intersection.

**Norwottuck Branch of the Mass Central Rail Trail Safety Features: (Stop Sign Control without Median, 11' 9" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
NB	Stop	Good	Poor	Good	11' 8"	None	29' 2"	None	Ladder 11' 9"	Bitumen	None
SB	Stop	Good	Poor	Good						Concrete	Divided

The northbound approach of the shared use path has a stop line which is absent along the southbound approach. The southbound approach has a concrete ramp with divided tactile warning plates providing access to the two crosswalks across Southwest Circle and University Drive.

From Left (i) Southwest Circle driveway Exit, (ii) View from northbound approach of shared use path depicting crosswalk and concrete ramps along the southbound approach, (iii) View form University Drive showing Southwest Circle Exit.



**Remarks:**

The crossing is located along a one way approach exit from the Southwest Circle driveway. The shared use path approaches are very busy at this location which is situated within the University of Massachusetts campus.

**5. SOUTHWEST CIRCLE (ENTRY) (Urban area crossing with overhead lighting)**

**Crash History in the Vicinity of the Crossing:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
04/17/2015	2:26 PM	None	Angled Collision	Property Damage	Daylight	Dry	Cloudy

**Southwest Circle Safety Features: (Local Road, One Lane, undivided, Jurisdiction: University of Massachusetts)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
EB	None	None	None	None	None	Fair	None	Good	None	None	11' 7"/ 8' 8"
WB	--	--	--		--	--	--	--	--	--	--

The driveway operates as the entry for the Southwest Circle cul-de-sac. Only eastbound traffic crosses the intersection.

**Norwottuck Branch of the Mass Central Rail Trail Safety Features: (Yield Control without Median, 11' 7" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
NB	None	None	Poor	Good	12' 2"	None	30' 3"	None	Ladder 11' 8"	Concrete	Divided
SB	Yield	Good	Poor	Good						Bitumen	None

The southbound approach of the shared use path has a yield sign.

*From Left (i) View form UMASS parking lot showing Southwest Circle Entry, (ii) Yield sign along the southbound approach of the shared use path, (iii) Concrete ramp along northbound approach of the shared use path*



**Remarks:**

The crossing is located across the driveway for the University of Massachusetts Parking lot along the west side of University Drive. The crossing is located along a one way approach entry into Southwest Circle. The shared use path approaches are very busy at this location which is situated within the University of Massachusetts campus.

**6. FEARING STREET (Urban area crossing with overhead lighting)**

**Crash History in the Vicinity of the Crossing at the Intersection of Fearing Street and University Drive:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
4/12/2011	3:07 PM	None	Rear-end	Property Damage	Daylight	Dry	Cloudy
3/2/2014	1:27 AM	None	Angle	Property Damage	Dark	Dry	Clear
9/11/2014	5:55 PM	None	Sideswipe, same direction	Property Damage	Daylight	Dry	Cloudy
2/10/2013	2:19 PM	None	Rear-end	Not Reported	Daylight	Snow	Clear
9/11/2013	1:24 PM	None	Rear-end	Property Damage	Daylight	Dry	Clear

**Safety Features: (Urban Minor Collector, 2 Lanes, ADT: 3,200 (2006, MassDOT),undivided, Jurisdiction: University of Massachusetts)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
EB	None	None	None	Stop WB only	None	None	None	Good	None	None	--
WB	None	None	None		None	None	None	Good	None	None	10' 11"/ none

Fearing Street does not have double yellow center line pavement marking to separate traffic moving in different directions.

**Norwottuck Branch of the Mass Central Rail Trail Safety Features: (Stop Sign Control without Median, 11' 7" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'x'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
NB	Stop	Fair	Poor	Good	9' 3"	None	28' 9"	None	None	None	None
SB	Stop	Fair	Poor	Good							

The 'Stop' sign at the southbound approach of the shared use path is placed before the stop line.

Starting from left: (i) Southbound approach of the shared use path, 'Stop' sign installed before the stop line (ii) Fearing Street approach (iii) Northbound approach of the shared use path showing absence of crosswalk



**Remarks:**

The crossing is located at the intersection of Fearing Street and University Drive. At the time of the site visit no crosswalk markings were installed to mark the shared use path crossing. The crosswalk markings existed across University Drive for pedestrians.

**7. AMITY STREET (Urban area crossing with overhead lighting)**

**Crash History in the Vicinity of the Crossing:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
09/26/2014	4:52 PM	Bicyclist	A right turning vehicle collided with a bicyclist along the crosswalk	Non-fatal Injury	Daylight	Dry	Clear

A total of 39 crashes were reported at the intersection of Amity Street and University Drive between the calendar years of 2011 and 2015. One of the crashes involved a non- motorist. The information for that crash has been summarized in the table.

**Amity Street Safety Features: (Urban Minor Arterial, 2 Lanes, ADT: 7,932 (2017, MassDOT), undivided, Jurisdiction: Town Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
EB	Good	None	None	Signal	None	Good	None	Good	None	None	--
WB	None	None	None		None	Good	None	Good	None	None	10' 4"/ none

The crossing is located at the intersection of Amity Street and University Drive. Right turns on red are permissible along all the approaches of the intersection. Only the eastbound approach of Amity Street has an advance warning sign. This sign only depicts a bicycle and does not indicate a shared use path crossing.

**Norwottuck Branch of the Mass Central Rail Trail Safety Features: (Signal Control without Median, 8' 9" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
NB	Signal	None	Fair	Good	12' 3"	NB ADA compliant push	27' 3"	None	Zebra 12' 9"	None	None
SB	Signal	None	Poor	Good							

The northbound approach of the shared use path has been recently updated and has an Americans with Disabilities Act (ADA) compliant push button to activate the crosswalk signal.

From Left: (i) 'Signal ahead' sign along the shared use path, (ii) Advance warning sign along eastbound approach of Amity Street (iii) ADA compliant push button along northbound approach of the shared use path



**Remarks:**

The signal allocates approximately 15 seconds of 'Walk' time for the users of the shared use path to navigate through the cross walk across Amity Street.

**8. NORTHAMPTON ROAD (Urban area crossing without overhead lighting)**

**Crash History in the Vicinity of the Crossing:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
09/09/2014	7:41 PM	Bicyclist	A motor vehicle travelling westbound along Northampton Road collided with a bicyclist	Non-fatal Injury	Daylight	Dry	Clear

A total of 23 crashes were reported at the intersection of Northampton Road and University Drive between the calendar years of 2011 and 2015. One of the crashes involved a non- motorist. The information for that crash has been summarized in the table.

**Northampton Road Safety Features: (Principal Arterial, 4 Lanes, divided, Jurisdiction: Massachusetts Department of Transportation (MassDOT))**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
EB	Good	None	None	Signal	None	Poor	None	Good	None	None	--
WB	Poor	None	None		None	Poor	None	Good	None	35	12' 5" / 1' 5"

Advance warning sign for the westbound approach is covered in dirt and graffiti.

**Norwottuck Branch of the Mass Central Rail Trail Safety Features: (Signal Control without Median, 11' 9" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
NB	Signal	Fair	Poor	Good	8' 2"	ADA compliant button (NB)	83' 2"	Yes	Zebra 11' 0"	Concrete SB only	None
SB	Signal	Fair	Poor	Good							

Northbound approach has newly installed ADA compliant push button. Southbound approach does not have an upgraded push button.

*From Left: (i) Push button located at the southbound approach of the shared use path (ii) Faded crosswalk markings (iii) Push button located along northbound approach of the shared use path*



**Remarks:**

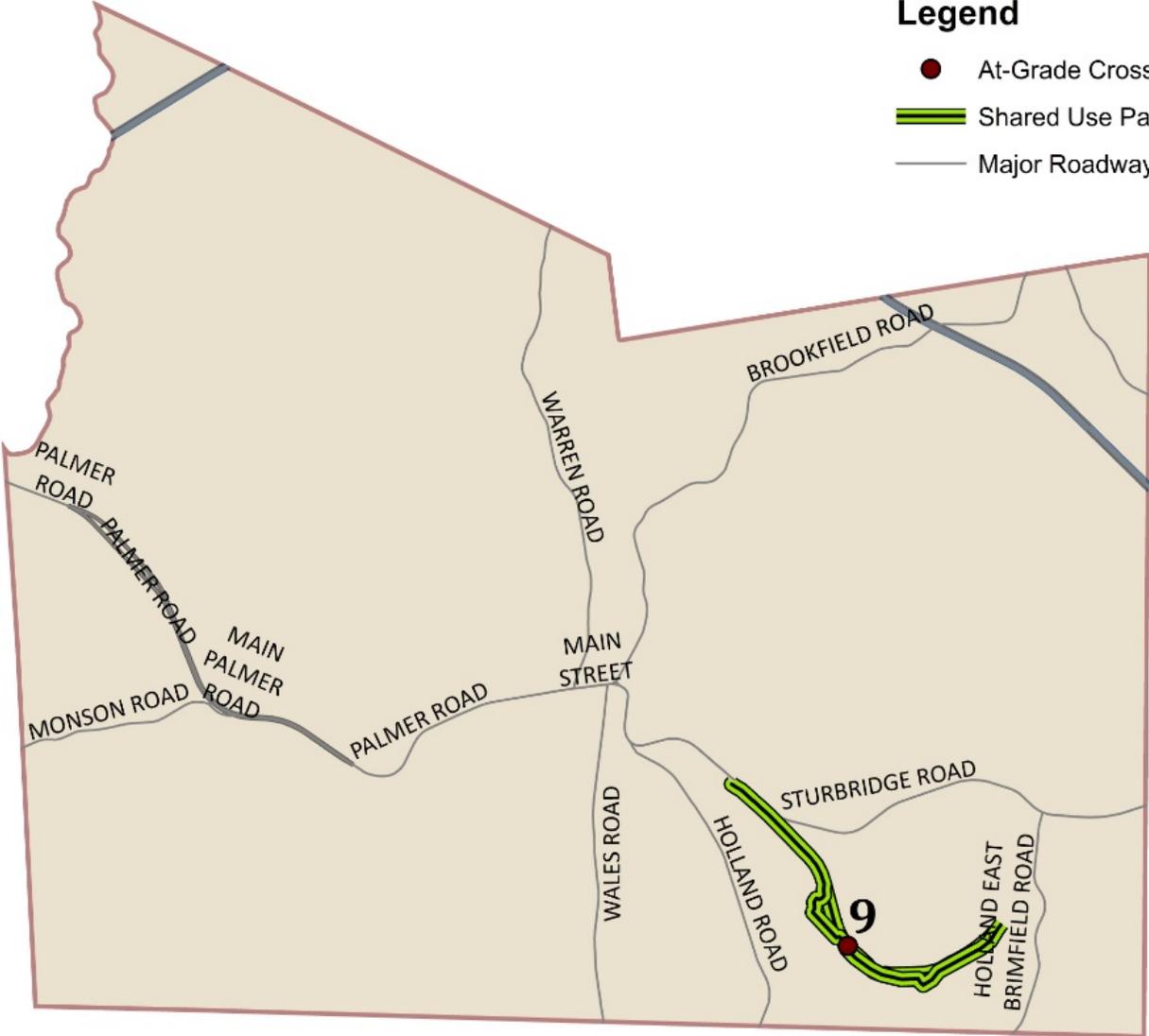
The signal allocates approximately 15 seconds of 'Walk' time for the users of the shared use path to navigate through the cross walk across Northampton Road. The crossing is located in a highly developed area with lot of retail and residential land use.

# BRIMFIELD



### Legend

- At-Grade Crossings
- ▬ Shared Use Paths
- Major Roadways



**9. FIVE BRIDGE ROAD (Rural area crossing without overhead lighting)**

No crashes were reported in the vicinity of this crossing between the calendar years of 2011 and 2015.

**Five Bridge Road Safety Features: (Local Road, 2 Lanes, undivided, Jurisdiction: Town Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
NB	None	Fair	None	None	None	None	None	Fair	None	None	7' 9" / none
SB	None	Fair	None		None	None	None	Fair	None	None	7' 2" / none

The shared use path sign for the northbound approach of Five Bridge Road is covered by vegetation and is tilted because of damage to the pole.

**Brimfield Trail Section of the Titanic Rail Trail Safety Features: (Unpaved Dirt Path, 6' 3" Wide, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'x'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	None	None	None	Fair	4' 5"	Gate Restricting vehicles	32' 9"	None	None	None	None
WB	None	None	None	Good							

Sight distance along both directions of the eastbound approach is limited because of overgrown vegetation. The approaches of the shared use path are gated to restrict motorized vehicles from entering. Three small information/guide signs are posted along the pole of the gate providing the name and information about the trail and the roadway.

From Left: (i) Gate at the approach of the shared use path, (ii) View from Five Bridge Road approach of shared use path signs covered in vegetation (iii) Signs mounted on a post of a guardrail along the crossing

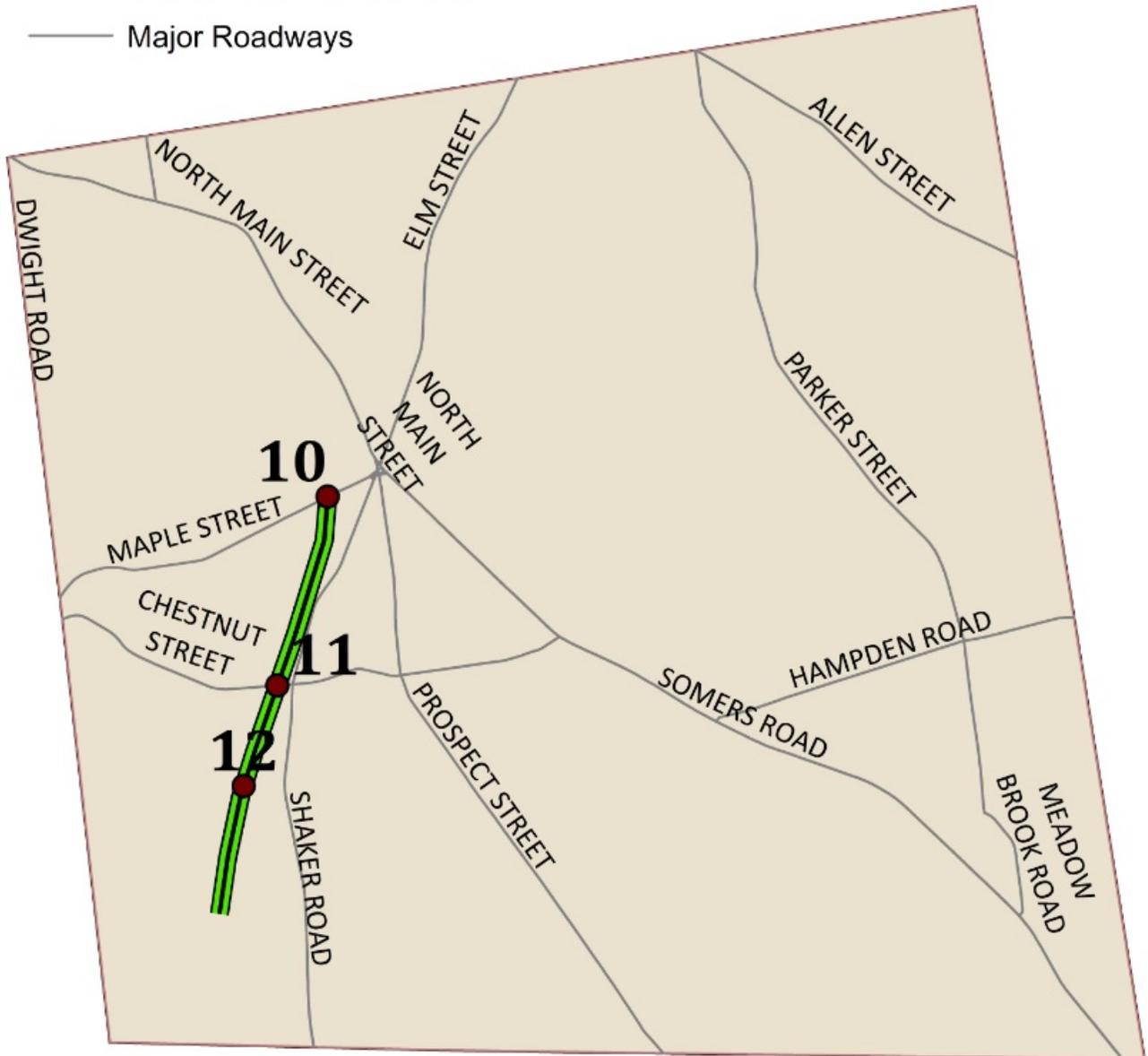
**Remarks:**

The crossing is located in very remote rural area with very light traffic. Both the roadway and the shared use path are unpaved. The signs posted along the guardrail posts at the crossing refer to the shared use path as Brimfield Trolley Trail, and U.S. Army Corps. Of Engineers Grand Trunk Trail. The Titanic Rail Trail is the official name as per the website for the shared use path.



## Legend

- At-Grade Crossings
- ▬ Shared Use Paths selection
- Major Roadways



**10. MAPLE STREET** (Urban area crossing without overhead lighting)

**Crash History in the Vicinity of the Crossing:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
08/17/2011	12:38 PM	Bicyclist	A motor vehicle collided with a cyclist	Non-fatal Injury	Daylight	Dry	Clear

A total of 11 crashes were reported in the vicinity of the Maple Street and Baldwin Street intersection towards the west of the crossing between the calendar years of 2011 and 2015. One of the crashes involved a non-motorist. The information for that crash has been summarized in the table.

**Maple Street Safety Features: (Urban Minor Arterial Road, 2 Lanes, ADT: 9,932 (2015, MassDOT) , undivided, Jurisdiction: Town Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
EB	Good	Good	None	RRFB	None	Fair	RRFB	Good	None	None	13' 4" / 3' 8"
WB	Good	Good	None		None	Fair	RRFB	Good	None	None	13' 7" / 3' 4"

A temporary sign stating the 'State Law to Yield for Pedestrians' was placed in the center of the crossing. Rectangular Rapid Flashing Beacons have been installed along both approaches of Maple Street.

**East Longmeadow Red Stone Rail Trail Safety Features: (Stop sign Control with Median, 9' 11" Wide bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
NB	Stop	Good	Good	Good	10' 0"	Bollard in median, RRFB	43' 8"	None	Zebra 10' 8"	Concrete	Yes, divided
SB	-	-	-	-							

Southbound approach had a RRFB activation switch.

Photos from left: (i) View from Maple Street eastbound approach and temporary sign in the center of crossing, (ii) Shared-use path northbound approach 'Stop' sign and median with bollard (iii) RRFB activation switch



**Remarks:**

The shared use path ends at the Maple Street crossing. The crossing is located in a commercial area and has more pedestrians on weekdays compared to bicyclists.

**11. CHESTNUT STREET** (Urban area crossing with overhead lighting)

**Crash History in the Vicinity of the Crossing:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
09/26/2014	4:52 PM	None	Single Vehicle Crash	Not Reported	Dark	Snow	Snowing

**Chestnut Street Safety Features: (Urban Minor Collector Road, 2 Lanes, undivided, Jurisdiction: Town Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
EB	Good	Good	Poor	RRFB	None	Fair	RRFB	Fair	None	20	18' 0" / 5' 2"
WB	Good	Good	Poor		None	Fair	RRFB	Good	Downhill	None	12' 1" / 6' 3"

A temporary sign stating the 'State Law to Yield for Pedestrians' was placed in the center of the crossing. Eastbound approach of Chestnut Street has overgrown vegetation which is obstructing the visibility of the shared use path for motorists.

**East Longmeadow Red Stone Rail Trail Safety Features: (Stop sign Control with Median, 9' 8" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
NB	Stop	Good	Fair	Good	9' 11"	Bollards in Median	46' 7"	None	Zebra 11' 7"	Concrete	Divided on both sides
SB	Stop	Good	Fair	Good							

The shared use path pavement markings have letters 'Crossing HWY' instead of 'Stop Ahead' which is a more common type of pavement marking observed along shared use paths in the region.

Photos from left: (i) Chestnut Street pavement markings and temporary sign in the center of the crossing, (ii) Shared-use path pavement markings and bollards (iii) Advance warning sign along Chestnut Street approach



**Remarks:**

At the time of the survey it was observed that the trail was busy with a significant number of pedestrians crossing at the crosswalk; however a lot of the pedestrians did not utilize the RRFB activation buttons despite the fact that both RRFBs were functioning fine.

**12. Industrial Drive (Urban area crossing without overhead lighting)**

**Crash History in the Vicinity of the Crossing:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
06/25/2013	4:18 PM	None	Single Vehicle	Property Damage	Daylight	Dry	Clear
09/23/2014	11:10 AM	None	Angle	Property Damage	Daylight	Dry	Clear

**Industrial Drive Safety Features: (Local Road, 2 Lanes, undivided, Jurisdiction: City or Town Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
EB	Good	Good	Fair	None	None	Fair	Temporary sign	Good	None	None	14' 3" / 6' 9"
WB	Fair	Good	Fair		None	Fair		Good	None	None	13' 8" / 8' 5"

A temporary sign stating the 'State Law to Yield for Pedestrians' was placed in the center of the crossing. Shared use path signs were marginally covered by overgrown vegetation. The advance warning sign for the westbound approach was covered by vegetation.

**East Longmeadow Red Stone Rail Trail Safety Features: (Stop Sign Control with Median, 9' 7" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
NB	Stop	Good	Fair	Good	9' 9"	Bollards in the median	52' 7"	None	Zebra 10' 6"	Concrete	Divided on both sides
SB	Stop	Good	Poor	Good							

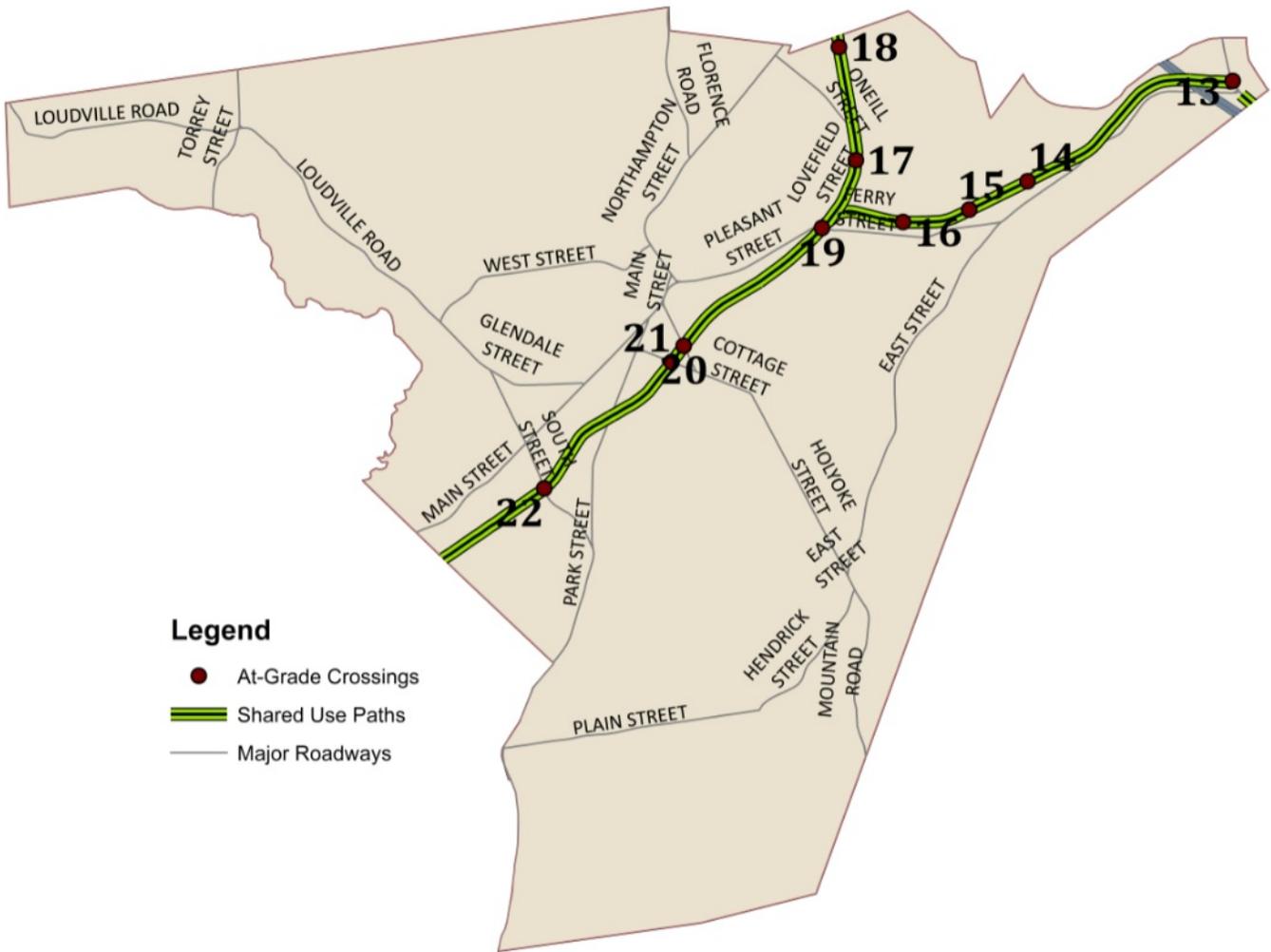
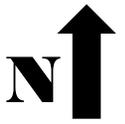
Photos from left: (i) Shared use path approach showing bollards and temporary sign, (ii) Advance warning sign for westbound Industrial Drive approach covered by vegetation (iii) Shared use path sign and additional Bike Route sign along Industrial Drive



**Remarks:**

A parking lot has been constructed along the northbound approach of the shared use path at this location.

# EASTHAMPTON



**13. NORTH STREET (Urban area crossing without overhead lighting)**

No crashes were reported in the vicinity of this crossing between the calendar years of 2011 and 2015.

**North Street Safety Features: (Urban Minor Arterial, 2 Lanes, ADT: 8,400 (2002, MassDOT), undivided, Jurisdiction: Massachusetts Department of Transportation (MassDOT))**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
NB	None	None	None	None	None	None	None	Good	None	None	--
SB	None	None	None		None	None	None	Good	None	None	--

This location does not have a crosswalk; however a significant number of non-motorists were observed to cross the street during the site visit.

**Manhan Rail Trail Safety Features: (Stop Sign Control without Median, 9' 5" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	Stop	Fair	Fair	Good	15' 6"	None	--	--	--	--	--
WB	--	--	--	--							

The shared use path begins at the North Street location; therefore there is no westbound approach.

Photos from left: (i) View from North Street northbound approach showing driveway to the shared use path parking lot (ii) Shared-use path 'entrance within the parking lot (iii) 'Bike Route Ends' sign along the shared use path eastbound approach.



**Remarks:**

The Manhan Rail Trail begins at this location and a small parking lot has been constructed for users of the shared use path. The location does not have any crosswalk installed. The path provides a connection to the sidewalk along the west side of North Street. The location has a mix of commercial and industrial land use in the vicinity.

**14. FORT HILL ROAD (Urban area crossing without overhead lighting)**

No crashes were reported in the vicinity of this crossing between the calendar years of 2011 and 2015.

**Fort Hill Road Safety Features: (Local Road, 2 Lanes, undivided, Jurisdiction: City Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
NB	Fair	Good	None	None	None	Good	None	Fair	None	None	9' 0"/ none
SB	None	Good	None		None	Good	None	Fair	None	None	9' 1"/ none

The shared use path signs at the crossing do not include pedestrian signs. Both approaches of Fort Hill Road lack shoulders. Because of overgrown vegetation the visibility of shared use path is limited along both approaches of Fort Hill Road.

**Manhan Rail Trail Safety Features: (Stop Sign Control without Median, 9' 7" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	Stop	Fair	Good	Good	11' 9"	Red bollards	22' 6"	None	Continental 10' 11"	None	None
WB	Stop	Fair	Good	Good							

The westbound approach of the shared use path has overgrown vegetation within the right of way which creates obstructions for bicyclists.

Photos from left: (i) View from Fort Hill Road approach, (ii) Advance warning sign along Fort Hill Road (iii) Shared use path approach



**Remarks:**

The shared use path has advance warning signs along with pavement markings to inform bicyclists about upcoming 'Stop' sign.

**15. ARTHUR STREET (Urban area crossing without overhead lighting)**

No crashes were reported in the vicinity of this crossing between the calendar years of 2011 and 2015.

**Arthur Street Safety Features: (Local Road, 2 Lanes, undivided, Jurisdiction: City Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
NB	None	Good	None	None	None	Poor	None	Fair	None	None	14' 8"/ none
SB	None	Good	None		None	Poor	None	Fair	None	None	14' 9"/ none

The shared use path signs at the crossing do not include pedestrian signs. Both approaches of Arthur Street lack shoulders. Because of overgrown vegetation the visibility of the shared use path is limited along both approaches of Arthur Street.

**Manhan Rail Trail Safety Features: (Stop Sign Control without Median, 9' 6" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	Stop	Fair	Good	Fair	10' 9"	Red Bollards	28' 11"	None	Continental 10' 7"	None	None
WB	Stop	Good	Good	Fair							

The sight distance along both approaches of the Manhan Rail Trail is limited because of over grown vegetation.

Photos from left: (i) View from Arthur Street approach showing shared use path sign, (ii) Advance Warning sign along shared-use path approach (iii) Shared use path sign along the crossing



**Remarks:**

The advance warning sign along both approaches of the shared use path alerts non-motorists of the upcoming 'Stop' sign and about truck traffic on Arthur Street.

**16. GOSSELIN DRIVE** (Urban area crossing with overhead lighting)

No crashes were reported in the vicinity of this crossing between the calendar years of 2011 and 2015.

**Gosselin Drive Safety Features: (Local Road, 2 Lanes, undivided, Jurisdiction: City Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
NB	Good	Good	None	None	None	Good	None	Poor	None	None	10' 4"/ none
SB	None	Good	None		None	Poor	None	Poor	Uphill	None	9' 9"/ none

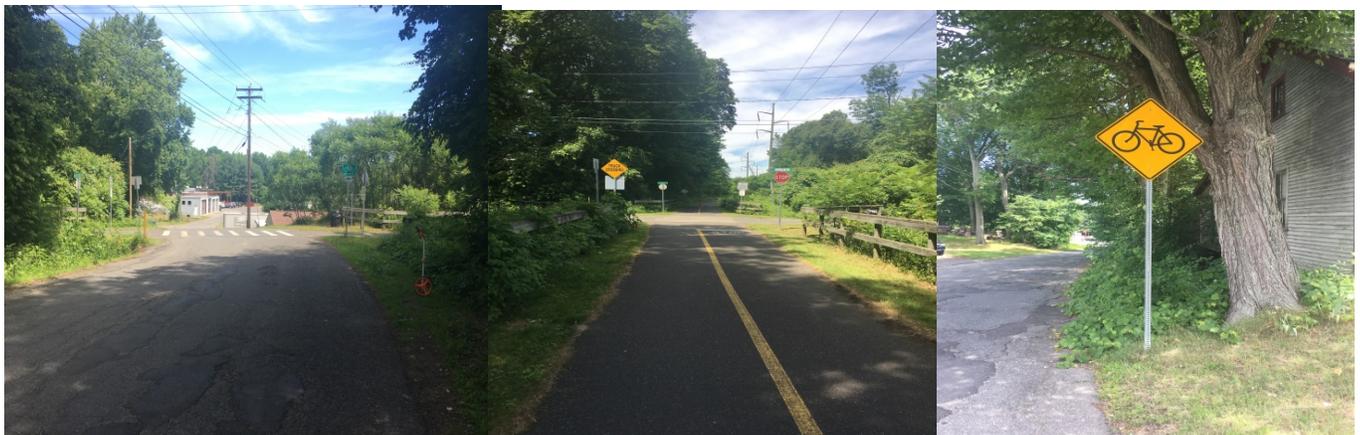
The shared use path signs at the crossing do not include pedestrian signs. Both approaches of Gosselin Drive lack shoulders. Because of overgrown vegetation the visibility of the shared use path is limited along both approaches of Gosselin Drive.

**Manhan Rail Trail Safety Features: (Stop Sign Control without Median, 9' 6" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	Stop	Fair	Good	Fair	10' 8"	Red Bollards	25' 1"	None	Continental 10' 9"	None	None
WB	Stop	Fair	Good	Fair							

The westbound approach has a supplemental warning sign at the crossing along with a 'Stop' sign. This sign is similar to the advance warning sign for the eastbound approach.

Photos from left (i) View from Gosselin Drive approach, (ii) Shared-use path approach (iii) Shared use path sign along the roadway



**Remarks:**

Gosselin Drive has a sharp curve south of the crossing. This geometry limits the sight distance along the shared use path and makes it difficult for motorists to see the crossing from adequate distance.

**17. LOVEFIELD STREET (at Intersection with O’Neil Street)** (Urban area crossing with overhead lighting)

**Crash History in the Vicinity of the Crossing at the Intersection of Lovefield Street and O’Neil Street:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
8/10/2011	4:26 PM	None	Angle	Fatality	Daylight	Dry	Clear
6/15/2013	2:20 AM	None	Single Vehicle collision with embankment	Property Damage	Dark	Dry	Clear
1/04/2014	1:23 AM	None	Single Vehicle Collision with ditch	Property Damage	Dark	Dry	Clear
1/18/2014	7:11 PM	None	Unknown	Property Damage	Dark	Slush	Snow

**Lovefield Street Safety Features: (Local Road, 2 Lanes, undivided, Jurisdiction: City Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
EB	--	--	--	WB has Stop Sign	None	Good	None	Good	None	30	--
WB	Fair	None	None		None	Good	None	Poor	Slight Downhill	None	14' 1" / none

Lovefield Street curves east of the crossing along. There is also a hill with an embankment on the northern side of the roadway. Because of this geometry, the sight distance of the shared use path approaches is restricted and motorists on the westbound approach of Lovefield Street have limited visibility of the shared use path.

**Manhan Rail Trail Safety Features: (Stop Sign Control without Median, 9' 11" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
NB	Stop	Good	Fair	Good	10' 10"	Yellow Bollards	38' 8"	None	Continental 10' 5"	Concrete	On NB Side
SB	Stop	Good	Good	Fair							

The northbound approach of the shared use path has a ramp and a tactile warning plate which is absent on the southbound approach. The northbound approach stop line is faded.

*Photos from left (i) Southbound approach of shared use path and embankment along Lovefield Street, (ii) Northbound approach of shares use path with ramp and tactile warning plate (iii) Lovefield Street southbound/westbound approach before the curvature*



**Remarks:** The crossing is located at the three-way intersection of Lovefield Street and O’Neil Street in a residential area with a low volume of traffic. The geometry of the roadway creates sight distance issues for shared use path and roadway users.

**18. LOVEFIELD STREET (Urban area crossing without overhead lighting)**

No crashes were reported in the vicinity of this crossing between the calendar years of 2011 and 2015.

**Lovefield Street Safety Features: (Local Road, 2 Lanes, undivided, Jurisdiction: City Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
EB	Fair	Good	Fair	None	None	Good	None	Fair	None	35	10' 7"/ none
WB	Good	Good	Fair		None	Good	None	Fair	None	None	10' 9"/ none

The shared use path signs at the crossing do not include pedestrian signs. Lovefield Street does not have shoulders. The pavement markings have faded. The shared use path sign for the eastbound approach is partially covered by overgrown vegetation.

**Manhan Rail Trail Safety Features: (Stop Sign Control without Median, 10' 3' Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
NB	Stop	Good	Good	Good	11' 9"	Yellow Bollards	51' 2"	None	Continental 24' 6"	None	None
SB	Stop	Good	Good	Good							

The yellow paint has peeled on a significant portion of the bollards. The northbound approach has an advance warning 'Stop Ahead' sign. The southbound approach 'Stop' sign has been damaged and needs to be replaced.

*Photos from left: (i) View from Lovefield Street approach with faded pavement markings, (ii) Bollard losing paint color (iii) Advance warning sign along shared use path northbound approach.*



**Remarks:**

The shared use path crosses Lovefield Street at an acute angle which limits the sight distance at the stop line of the shared use path approaches. There is an additional paved right of way for the shared use path beyond the stop line for users to get a better advance view of the roadway.

**19. FERRY STREET** (Urban area crossing with overhead lighting)**Crash History in the Vicinity of the Crossing:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
08/24/2012	12:44 PM	Bicyclist	A motor vehicle travelling eastbound on Ferry Street collided with a bicyclist in the vicinity of the crossing.	Non-fatal Injury	Daylight	Dry	Clear

A total of 12 crashes were reported at the intersection of Ferry Street and Pleasant Street between the calendar years of 2011 and 2015. One of the crashes involved a non-motorist. The information for that crash has been summarized in the table above.

**Ferry Street Safety Features: (Urban Minor Arterial, 2 Lanes, undivided, Jurisdiction: City Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
EB	None	Good	None	None	None	Good	None	Good	Downhill	None	25' 7" / None
WB	None	Good	None		None	Fair	None	Poor	Uphill	None	11' 5" / 1' 8"

The shared use path signs at the crossing do not include pedestrian signs. A brick building is located at the northeast corner of the crossing which limits the visibility of the shared use path along the westbound approach of the roadway.

**Manhan Rail Trail Safety Features: (Stop Sign Control without Median, 9' 10" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
NB	Stop	Good	Good	Good	12' 0"	Warning Signs	51' 6"	None	Continental 11' 5"	None	None
SB	Stop	Good	Fair	Fair							

The stop sign post at the northbound approach of the shared use path is damaged. The sight distance along the southbound approach is limited by the building located in the northeast corner of the crossing. Advance warning sign informing the shared use path users about the upcoming 'Stop' is located along the southbound approach.

Photos from left: (i) View from eastbound approach of Ferry Street (ii) View from westbound approach of Ferry Street and building located in the northeast corner of the crossing, (iii) Southbound approach of the shared use path

**Remarks:**

The crossing is located in an area with mixed residential and industrial development. The building located in the northeast corner of the crossing limits the visibility of the shared use path along the roadway. Installing advance warning signs along the westbound approach of the Ferry Street is recommended to alert motorists about upcoming crosswalk.

**20. UNION STREET (Urban area crossing with overhead lighting)**

**Crash History in the vicinity of the intersection of Union Street and Liberty Street:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
2/14/2013	5:52 PM	Pedestrian	Angle	Property Damage	Dark	Wet	Clear
6/8/2013	2:31 PM	Bicyclist	Angle	Property Damage	Daylight	Dry	Clear
8/25/2014	10:31 AM	Pedestrian	Angle	Property Damage	Daylight	Dry	Clear
9/3/2014	1:55 PM	Bicyclist	Angle	Property Damage	Daylight	Dry	Clear

A total of 36 crashes were reported in the vicinity of the crossing along Union Street between the calendar years of 2011 and 2015. Four of those crashes involved non- motorists. The information for these four crashes has been summarized in the table above.

**Union Street Safety Features: (Urban Principal Arterial, 2 Lanes, ADT: 19,200 (2002, MassDOT), undivided, Jurisdiction: City Accepted**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
NB	None	Good	None	None	None	Fair	None	Fair	Uphill	25	18' 7"/ none
SB	None	None	None		None	Fair	None	Fair	Downhill	None	17' 5"/ none

The visibility of the shared use path is limited along both approaches of Union Street because of overgrown vegetation.

**Manhan Rail Trail Safety Features: (Stop Sign Control without Median, 10' 9' Wide, Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'x'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	Stop	Good	Fair	Good	15' 9"	Bollards	45' 3"	None	Continental 11' 0"	None	None
WB	Stop	Good	Fair	Good							

There are supplemental pavement markings including the legend 'Stop Ahead' in advance of the shared use path crossing.

*Photos from left: (i) Shared use path sign at the crossing, (ii) View from northbound approach of Union Street in the vicinity of its intersection with Liberty Street, (iii) Shared use path approach with bollard and pavement markings.*



**Remarks:** The crossing is located in the vicinity of the intersection of Union Street and Liberty Street in a commercial business district.

**21. PAYSON AVENUE (Urban area crossing with overhead lighting)**

**Crash History in the Vicinity of the Crossing:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
09/06/2015	10:43 AM	Pedalcyclist	Angled Collision	Non-Fatal Injury	Daylight	Dry	Clear

A total of 8 crashes were reported in the vicinity of the crossing between the calendar years of 2011 and 2015. One of the crashes involved a non- motorist. The information for that crash has been summarized in the table above.

**Payson Avenue Safety Features: (Urban Minor Arterial, 2 Lanes, undivided, Jurisdiction: City Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
EB	Good	None	None	None	None	Good	None	Good	Uphill	None	15' 9"/ none
WB	Good	Poor	None		None	Good	None	Good	Downhill	None	14' 6"/ none

The shared use path sign at the crossing does not include pedestrian signs. Payson Avenue does not have shoulders.

**Manhan Rail Trail Safety Features: (Stop Sign Control without Median, 10' Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
NB	Stop	Good	Good	Good	10' 11"	Bollards	30' 1"	None	Continental 10' 7"	None	None
SB	Stop	Good	Good	Good							

The northbound approach of the shared use path has an advance warning sign informing the shared use path users about the upcoming stop.

Photos to capture (i) View from Payson Avenue approach, (ii) View from northbound approach of the shared use path showing advance warning sign (iii) Red bollard along the shared use path approach



**Remarks:**

The majority of pavement markings and signs are in good condition and there is adequate sight distance along all approaches.

**22. SOUTH STREET (Urban area crossing with overhead lighting)**

**Crash History in the Vicinity of the Crossing:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
01/15/2013	8:57 AM	None	Not Reported	Not Reported	Daylight	Dry	Clear

**South Street Safety Features: (Urban Minor Arterial, 2 Lanes, ADT: 1,772 (2017, Mass DOT), undivided, Jurisdiction: City Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
NB	None	Good	Fair	None	None	Fair	None	Poor	None	None	15' 4" / none
SB	Good	None	Fair		None	Fair	None	Poor	Downhill	None	13' 7" / none

The shared use path signs at the crossing do not include pedestrian signs. South Street does not have shoulders. The crosswalk markings have faded along several locations. The visibility of the shared use path approaches is limited because of overgrown vegetation.

**Manhan Rail Trail Safety Features: (Stop Sign Control without Median, 9' 10" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	Stop	Good	Good	Good	12' 11"	Bollards	33' 0"	None	Continental 11' 0"	Bitumen	None
WB	Stop	Good	Good	Good							

Both approaches of the shared use path have supplemental advance pavement markings.

Photos to capture (i) View from shared use path approach showing advance pavement markings, (ii) View from South Street approach, (iii) Advance warning sign and supplemental pavement markings along shared use path approach



**Remarks:**

The crossing is located in a residential area with low traffic volumes.



### Legend

- At-Grade Crossings
- ▬ Shared Use Paths
- Major Roadways



**23. SOUTH MAPLE STREET** (Urban area crossing without overhead lighting)

**Crash History:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
07/20/2012	9:16 pm	None	Collision with Ditch	Injury	Dark	Dry	Clear
08/27/2015	7:33 pm	Pedalcyclist	Collision with Non-motorist	Injury	Daylight	Dry	Clear
09/07/2015	2:34 pm	None	Rear End Collision with Motor Vehicle	Property Damage	Daylight	Dry	Clear

**South Maple Street Safety Features: (Urban Minor Arterial, Two Lanes, Undivided, Jurisdiction: Town of Hadley)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
NB	Good	Good	Poor	Warning Signs, Push Button activated RRFB	Fair	Fair	RRFB	Fair	None	35	9'2",1'5"
SB	Fair	Good	Poor		Fair	Fair	RRFB	Fair	None	35	9'2",0'9"

Push button activated Rectangular Rapid Flashing Beacons (RRFBs) are provided for both directions of South Maple Street in conjunction with shared use path advance warning signs and pavement markings. The intersection is highlighted by 'Multi-use Trail' signs and shark teeth yield pavement markings.

**Mass Central / Norwottuck Rail Trail Safety Features: (Stop Control with Median, 10 ft. Wide Trail, Jurisdiction: DCR)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at X	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	Stop	Good	Good	Good	15 feet	Push Button RRFB	Appx. 21 feet	None	15 feet, Ladder Style	Concrete	Undivided
WB	Stop	Good	Good	Good							

Both approaches of the shared use path have 'Stop' signs and 'Stop Ahead' pavement markings. Maps of the Mass Central/Norwottuck Rail Trail and benches have been installed along both sides of the shared use path.

From left: (i) View from South Maple Street southbound approach showing advance warning signs, RRFB, faded pavement markings, (ii) Pavement markings and Stop sign along Mass Central / Norwottuck Rail Trail East bound approach, (iii) Faded crosswalk markings and shark teeth yield markings



**Remarks:** Advance pavement markings along both directions of South Maple Street have completely faded. Shark Teeth Yield lines and cross walk markings at the intersection have also faded. This location has retail development in the immediate vicinity; however there are no sidewalks to connect the intersection with the retail establishments on both sides of South Maple Street.

**24. EAST STREET (Urban area crossing without overhead lighting)**

**Crash History:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
04/22/2011	4:26 pm	Pedalcyclist	Collision with Pedalcyclist at an angle	Injury	Daylight	Dry	Clear

**East Street Safety Features: (Local Road, Two Lanes, ADT: 8,100 (1996, MassDOT), Undivided, Jurisdiction: Town of Hadley)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
NB	Good	Good	Poor	Warning Signs	Poor	Fair	-	Good	None	-	11'10"/3'2"
SB	Fair	Fair	Poor		Poor	Fair	-	Good	None	30	12'1"/3'6"

Advance warning signs and pavement markings are installed along both approaches of East Street. 'Multi-use trail' signs are located both approaches to alert drivers of the intersection.

**Mass Central / Norwottuck Rail Trail Safety Features: (Stop Control with Median, 10 ft. Wide Trail, Jurisdiction: DCR)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	Stop	Good	Good	Restricted	15 feet	None	Appx. 31'8"	None	15 feet, Ladder Style	Concrete	Undivided Both Sides
WB	Stop	Good	Good	Good							

Both approaches of the shared use path have 'Stop' signs and 'Stop Ahead' pavement markings.

From left: (i) View from South East Street southbound approach showing advance warning signs partially covered by vegetation and faded pavement markings, (ii) Sight distance north of Mass Central / Norwottuck Rail Trail east bound approach, (iii) Shared-use path 'Stop' sign and crosswalk markings



**Remarks:** The existing pavement markings have faded and the advance warning sign for East Street south bound approach is partially covered by vegetation. The sight distance to the north for the eastbound approach of the shared use path is limited because of the road geometry, existing vegetation and utility poles. The advance warning sign for the shared use path crossing along the southbound approach of East Street is partially covered by vegetation.

**25. MIDDLE STREET (Urban area crossing with overhead lighting)**

**Crash History in the vicinity of the crossing:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
02/12/2014	3:14 PM	None	Rear End	Property Damage Only	Daylight	Dry	Clear
09/05/2014	2:10 PM	None	Rear End	Property Damage Only	Daylight	Dry	Clear

**Middle Street Safety Features: (Urban Minor Arterial, 2 Lanes, ADT: 2,200 (2001, Mass DOT), undivided, Jurisdiction: Town Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
NB	Good	Good	Poor	None	Fair	Good	None	Good	None	30	11' 10"/ 7' 1"
SB	Good	Good	Fair		Fair	Good	None	Good	None	35	11' 4"/ 6' 4"

Advanced warning signs for both approaches of Middle Street are partially covered by vegetation.

**Norwottuck Branch of Mass Central Rail Trail Safety Features: (Stop Sign Control with Median, 10' 3" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	Stop	Good	Good	Good	10' 4"	Pavement Markings	41' 8"	None	Ladder 13' 1"	Concrete	Undivided On Both Sides
WB	Stop	Good	Good	Good							

Photos from left: (i) View from shared use path approach, (ii) Advance warning signs along Middle Street, (iii) Shared use path signs at the crossing.



**Remarks:**

The crossing is located in the vicinity of the intersection of Middle Street with Golden Court and Railroad Street.

**WEST STREET (EAST) (Urban area crossing without overhead lighting)**

**Crash History in the Vicinity of the Crossing:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
01/15/2013	8:57 AM	None	Not Reported	Not Reported	Daylight	Dry	Clear

**West Street Safety Features: (Urban Minor Arterial, 2 Lanes, ADT: 1,100 (1998, MassDOT), undivided, Jurisdiction: Town Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
NB	Good	Good	None	None	Poor	Poor	None	Good	None	35	12'3"/none
SB	Good	Good	None		Fair	Poor	None	Good	None	None	10'7"/none

Northbound approach has two advance warning signs at varying distances from the crossing.

**Norwottuck Branch of Mass Central Rail Trail Safety Features: (Stop Sign Control, Brick Median, 10'4" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	Stop	Good	Good	Good	10' 9"	None	28' 0"	None	Ladder 16' 4"	Concrete	Undivided Both Sides
WB	Stop	Good	Good	Good							

Westbound approach of the shared use path has a median and pavement markings.

Photos from left: (i) View from shared use path approach, (ii) Shared-use path 'Stop' sign and crosswalk markings, (iii) West Street northbound approach.



**Remarks:** At the time of the field visit, West Street was being repaved. As a result, the condition of the pavement and crosswalk markings should improve to 'Excellent'.

**27. WEST STREET (WEST) (Urban area crossing without overhead lighting)**

No crashes were reported in the vicinity of this crossing between the calendar years of 2011 and 2015.

Street Safety Features: (Urban Minor Arterial, 2 Lanes, undivided, Jurisdiction: Town Accepted)

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
NB	Good	Good	Poor	None	Fair	Fair	None	Good	None	35	11' 7" / none
SB	Good	Good	Poor		Fair	Fair	None	Good	None	None	11' 6" / none

The northbound approach of the roadway has two advance warning signs. West Street does not have any shoulders.

Norwottuck Branch of Mass Central Rail Trail Safety Features: (Stop Sign Control with brick Median, 10'5" Wide Bituminous Pavement, Jurisdiction: Municipal)

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	Stop	Good	Fair	Good	11'	None	23' 2"	None	16' 1" Zebra	Concrete	Undivided both sides
WB	Stop	Good	Good	Good	11"						

The westbound approach of the shared use path has a median and pavement markings.

Photos from left: (i) Pavement markings along the roadway (ii) Shared-use path pavement markings (iii) Westbound approach of shared use path with median



**Remarks:** The crossing is located in a thickly settled residential area. West Street provides two way travel lanes on both sides of the Hadley Town Commons.

**28. CROSS PATH ROAD (Urban area crossing without overhead lighting)**

No crashes were reported in the vicinity of this crossing between the calendar years of 2011 and 2015.

**Cross Path Road Safety Features: (Local Road, 2 Lanes, ADT: 2,700 (1998, MassDOT), undivided, Jurisdiction: Town Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
NB	None	Good	Fair	None	Poor	Fair	None	Fair	None	30	9' 0" / none
SB	None	Good	Poor		Poor	Fair	None	Fair	Uphill	None	10' 0" / none

Thick overgrown vegetation is partially blocking the view of the shared use path approaches from the roadway. Crosswalk markings and shark teeth yield markings have faded at several locations. The sign post for the shared use path sign on the southbound approach of Cross Path Road is tilted.

**Norwottuck Branch of Mass Central Rail Trail Safety Features: (Stop Control with Median, 10'5" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	Stop	Good	Fair	Good	14' 0"	None	19' 10"	None	Ladder 16' 0"	Concrete	Present Thru
WB	Stop	Good	Fair	Good							

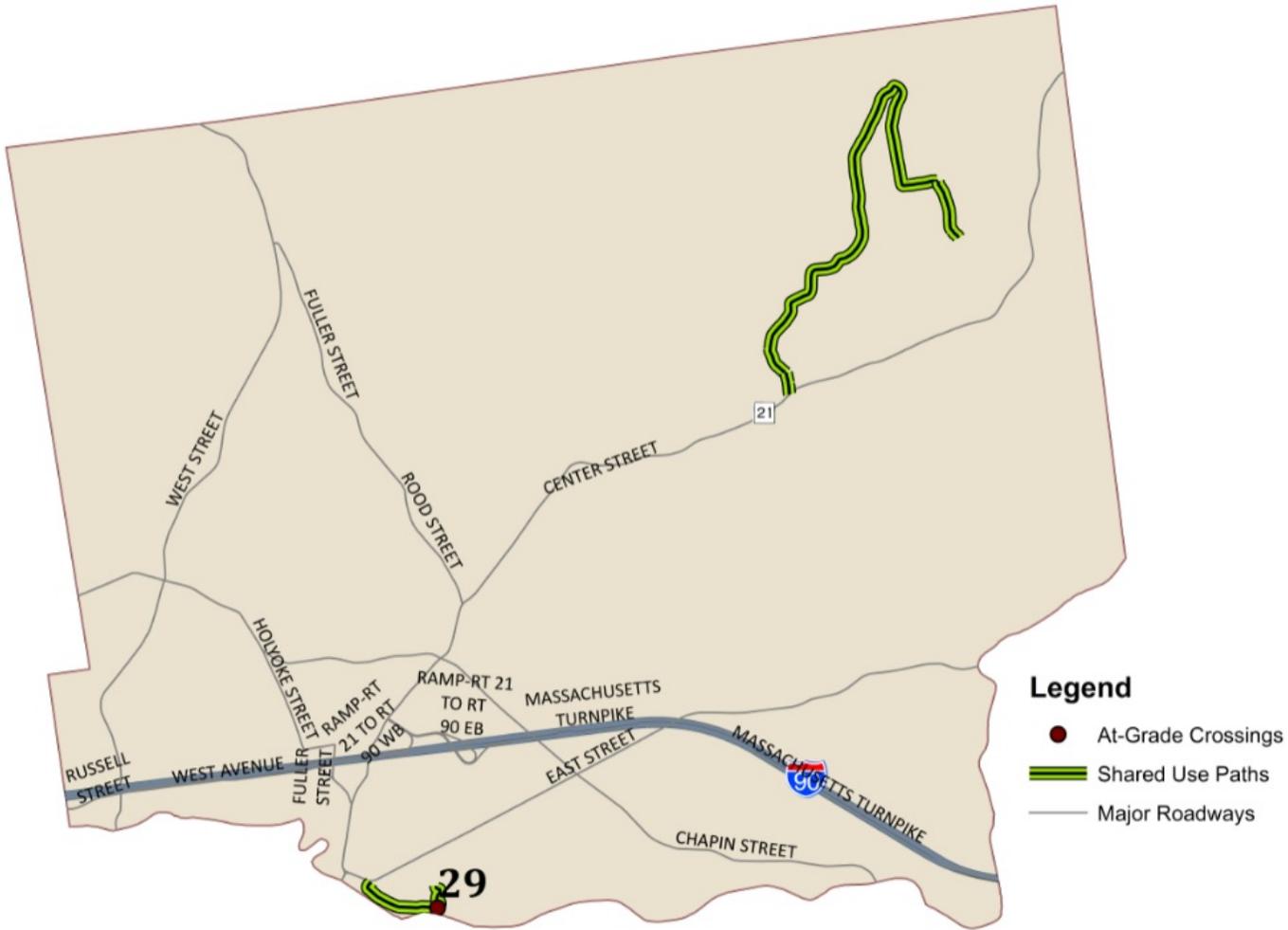
Sight distance along the westbound approach of the shared use path towards the Route 9 westbound approach is limited.

Photos from left: (i) Tilted sign post along southbound approach of Cross Path Road, (ii) Pavement markings along the roadway, (iii) Pavement markings along shared use path



**Remarks:** The crossing is located in the vicinity of the intersection of Route 9 and Cross Path Road.

# LUDLOW



**29. FIRST AVENUE (Rural area crossing with overhead lighting)**

No crashes were reported in the vicinity of this crossing between the calendar years of 2011 and 2015.

**First Avenue Safety Features: (Local Road, 1 Lane, ADT: No Data, undivided, Jurisdiction: Town Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
EB	None	None	None	None	None	None	None	Good	None	10	13' 9"/ none
WB	None	None	None		None	None	None	Good	None	None	12' 8"/ none

First Avenue has no shoulders or pavement markings.

**Ludlow Mills Riverwalk Trail Safety Features: (No Control, No Median, 9'11" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
NB	None	None	None	Good	36' 3"	Bollards	24' 0"	None	None	Concrete	None
SB	None	None	None	Good							

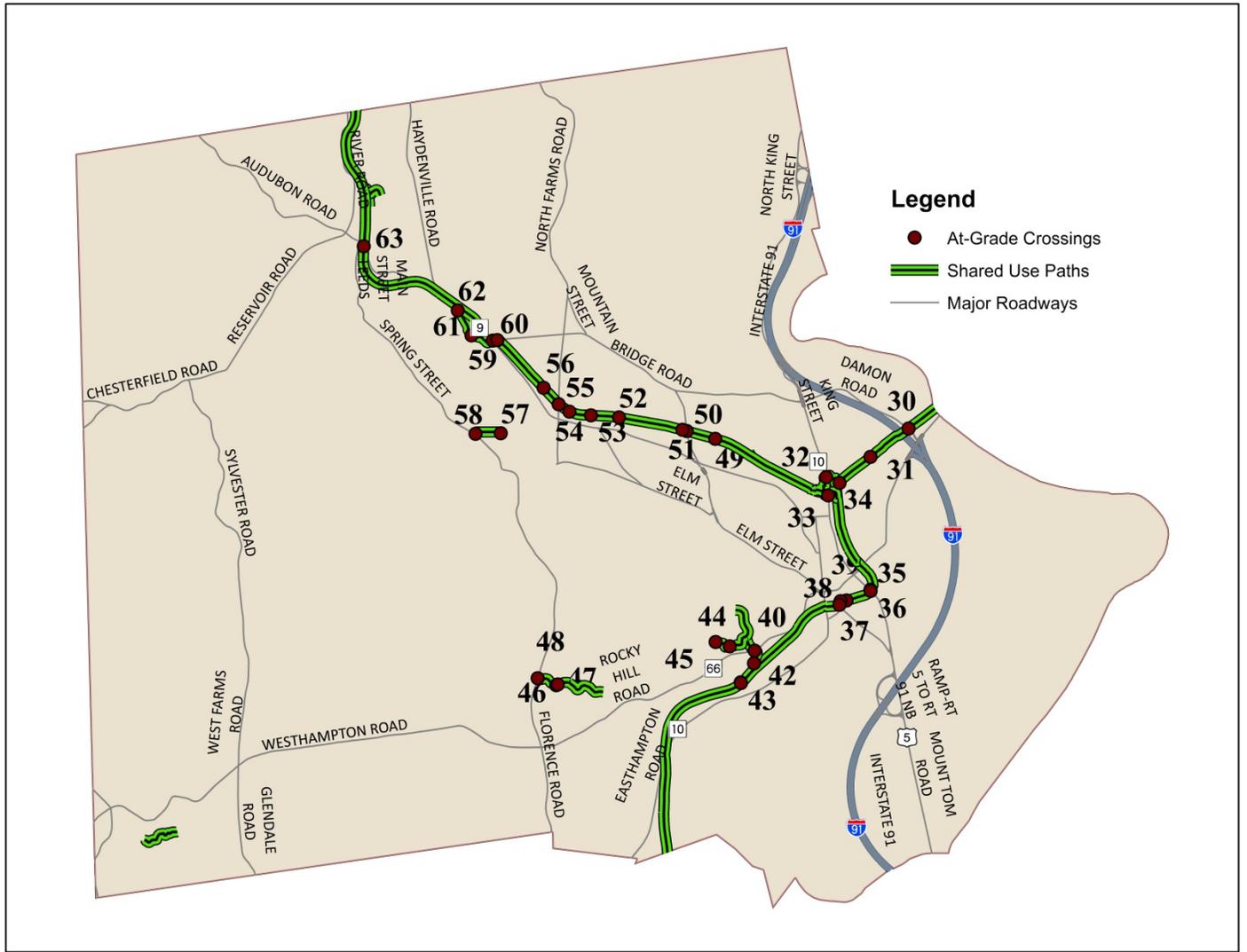
Both approaches of the shared use path have multiple bollards to restrict motor vehicles from entering the path.

*Photos from left: (i) Bollards and overhead lighting along shared use path approach, (ii) View from First Avenue, (iii) Benches and trash cans along shared use path approaches.*



**Remarks:** The crossing is located in an area with low volume of traffic. Benches have been installed along both approaches of the shared use path along with trash cans and overhead lights.

# NORTHAMPTON



**30. DAMON ROAD (Urban area crossing with overhead lighting)**

**Crash History in the Vicinity of the Crossing:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
03-06-2011	1:48 AM	None	Rear End Collision	Property Damage	Dark	Dry	Clear
12-02-2015	9:48 PM	None	Rear End Collision	Property Damage	Dark	Wet	Rain

**Damon Road Safety Features: (Urban Minor Arterial, 2 Lanes, ADT: 21,000 (2002, MassDOT), undivided, Jurisdiction: City Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
EB	Good	Good	None	Signal	None	Poor	None	Fair	None	30	13' 8" / none
WB	Good	Fair	None		None	Poor	None	Good	None	30	15' 5" / none

The stop lines for both approaches of Damon Road are faded. Damon Road does not have shoulders. The shared use path crossing is marked by bike path signs and does not include pedestrian signs. The visibility of the shared use path crossing is limited from the eastbound approach because of overgrown vegetation.

**Norwottuck Branch of Mass Central Rail Trail Safety Features: (Stop Sign/Signal Control with Median, 10'3" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
NB	Signal	Poor	Fair	Good	13' 2"	Signal	32' 9"	None	13' 5" Ladder	Concrete	Yes, divided
SB	Signal	Good	Fair	Good							

The advance warning sign and the stop sign along the northbound approach of the shared use path are in poor condition and need to be replaced.

Photos from left (i) View from Street approach showing shared use path sign (ii) View from shared use path approach showing faded crosswalk markings (iii) Stop sign along northbound approach of shared use path



**Remarks:** The crossing is located on a high traffic volume corridor. There is a parking lot on Damon Road in the vicinity of the crossing. The crossing has a push button activated signal which allocates approximately 13 seconds of crossing time. The pavement markings and crosswalk markings need to be repainted at this crossing.

**31. BATES STREET (Urban area crossing with overhead lighting)**

No crashes were reported in the vicinity of this crossing between the calendar years of 2011 and 2015.

**Bates Street Safety Features: (Urban Collector, 2 Lanes, ADT: 3,500 (MassDOT, 2000), undivided, Jurisdiction: City Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Speed Limit	Avg. Lane and Shoulder Width
NB	Good	Good	None	RRFB	Good	Good	None	Fair	None	30	14' 5"/ none
SB	Good	Good	None		Good	Good	None	Fair	None	30	14' 0"/ none

The crossing has Rectangular Rapid Flashing Beacons (RRFB)s installed along both approaches of the roadway along with a 'Yield to Pedestrians Sign'. Bates Street does not have shoulders. The shared use path crossing is marked by bike path signs and does not include pedestrian signs. The visibility of the westbound approach of the shared use path is limited along both approaches of Bates Street because of overgrown vegetation.

**Norwottuck Branch of Mass Central Rail Trail Safety Features: (Stop Sign Control without Median, 10'4" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	Stop	Fair	Good	Good	18' 6"	Bollards	29' 4"	none	Continental 11' 0"	Concrete	Undivided both sides
WB	Stop	Fair	Fair	Good							

The paint is peeling off the bollards on both the approaches of the shared use path.

Photos from left: (i) View from the shared use path approach (ii) RRFB partially covered by vegetation (iii) View from Bates Street approach showing 'Yield to Pedestrians' sign and crosswalk



**Remarks:**

The solar panels for the RRFB and the flashing lights activated by the westbound approach are partially covered by vegetation.

**32. WOODMONT ROAD (Urban area crossing with overhead lighting)**

No crashes were reported in the vicinity of this crossing between the calendar years of 2011 and 2015.

**Woodmont Road Safety Features: (Local Road, 2 Lanes, ADT: 200 (MassDOT, 1996), undivided, Jurisdiction: Department of Conservation and Recreation and the City of Northampton)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
NB	Good	Good	Good	None	None	Good	None	Good	Downhill	None	10' 1" / none
SB	Good	Good	Good		None	Good	None	Fair	Downhill	None	9' 8" / none

The advance warning sign for the northbound approach is partially covered by vegetation. Woodmont Road does not have a double yellow center line to divide opposing traffic.

**Norwottuck Branch of Mass Central Rail Trail Safety Features: (Stop Sign Control without Median, 10' Wide, Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	Stop	Good	Good	Fair	21' 3"	None	37' 8"	None	18' 4" Continental	None	Yes, divided
WB	Stop	Fair	Good	Good							

The westbound approach of the shared use path has an advance warning sign to inform users about the approaching stop. The sight distance to the south from the eastbound approach at the stop line is restricted by overgrown vegetation and geometry.

Photos from left : (i) View from northbound approach of Woodmont Road showing advance warning sign partially covered by vegetation, (ii) Eastbound approach of the shared use path going through the tunnel (iii) Restricted sight distance from the stop line of the eastbound approach of the shared use



**Remarks:**

The crossing is located in a residential area with a very low volume of traffic. The eastbound approach of the shared use path goes through a tunnel under the railroad in the immediate vicinity of the crossing.

**33. KING STREET (In the Vicinity of Walgreens Pharmacy) (Urban area crossing with overhead lighting)**

**Crash History in the Vicinity of the Crossing:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
9/20/2012	7:02 PM	None	Sideswipe, same direction	Property Damage	Daylight	Dry	Clear
2/13/2014	5:47 PM	None	Angle	Property Damage	Daylight	Snow	Snow
6/2/2014	12:36 PM	None	Single vehicle crash	Property Damage	Dark	Dry	Clear
11/21/2014	4:56 PM	None	Angle	Property Damage	Daylight	Dry	Clear

**King Street Safety Features: (Urban Minor Arterial, 5 Lanes, ADT: 19,281 (MassDOT, 2017), divided, Jurisdiction: City Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Speed Limit	Avg. Lane and Shoulder Width
NB	None	None	None	Signal	None	Good	None	Good	None	30	10' 3"/ 1' 3"
SB	None	None	None		None	Good	None	Good	None	30	11' 2"/ 2' 5"

The northbound approach of King Street at the crossing has 3 lanes and the southbound approach has 2 lanes.

**Mass Central Rail Trail Safety Features: (Signal Control without Median, 8' Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	Signal	None	None	Good	7' 4"	ADA Button	64' 7"	None	Continental 8' 5"	Concrete	None
WB	Signal	None	None	Good							

The shared use path approaches have Americans with Disabilities Act compliant push buttons.

Photos from left (i) Shared use path approach, (ii) Crosswalk without median (iii) ADA compliant push button



**Remarks:** The crossing is located at a four way intersection of King Street with the Shopping Center. The shared use path signs and advance warning signs along the roadway are missing. It is recommended that a median be considered for the King Street crosswalk to allow for pedestrian refuge area while crossing multiple lanes of traffic.

**34. KING STREET (Urban area crossing with overhead lighting)**

A total of 8 crashes were reported in the vicinity of this crossing between the calendar years of 2011 and 2015. None of these crashes involved non-motorists.

**King Street Safety Features: (Urban Minor Arterial, 4 Lanes, ADT: 19,281 (2017, MassDOT), partially divided, Jurisdiction: City Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Speed Limit	Avg. Lane and Shoulder Width
NB	Good	Good	Poor	Signal	None	Good	None	Good	None	30	10' 9"/ 3' 9"
SB	Good	Good	Poor		None	Good	None	Good	None	30	10' 10"/ 3' 9"

Both approaches of King Street have green bike route signs but no pedestrian signs. The northbound approach of King Street is undivided while the southbound approach is divided.

**Mass Central Rail Trail Safety Features: (Signal Control without Median, 9' 8" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	Signal	Fair	Poor	Good	10' 5"	Stop Sign	52' 6"	none	Continental 11' 2"	Concrete	Undivided
WB	Signal	None	Poor	Good							

Both approaches of the shared use path have advance pavement markings for bicyclists informing them to slow down.

Photos from left (i) Green bike route signs along the crossing, (ii) Faded pavement markings along the shared use path approach, (iii) Push button activated signal and crosswalk at the crossing



**Remarks:** The crossing is located in commercial area with a high volume of traffic and shared use path users. The shared use path connects to the sidewalks in the vicinity of the shopping center. The signal allocates approximately 20 seconds of walk time to cross King Street. Proposed King Street Reconstruction project is currently at 75% design stage which proposes narrowing down of King Street south of the crossing to accommodate bike lanes.

**35. RAILROAD AVENUE** (Urban area crossing without overhead lighting)

No crashes were reported in the vicinity of this crossing between the calendar years of 2011 and 2015.

Railroad Avenue Safety Features: (Local Road, 2 Lanes, undivided, Jurisdiction: Private Parking Lot)

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
NB	None	None	None	None	None	Poor	None	Good	None	None	--
SB	None	None	None		None	Poor	None	Good	None	None	--

Railroad Avenue is an access road providing a connection to the Northampton Union Station parking lot.

New Haven and Northampton Canal Line Trail Safety Features: (No Control, No Median, 10' 9" Wide Bituminous Pavement, Jurisdiction: Municipal)

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	None	None	None	Good	16' 9"	Bollard for eastbound approach	99' 6"	None	Zebra 5' 8"	Concrete	Undivided WB only
WB	None	None	None	Good							

The westbound approach is located inside the parking lot of Union Station.

Photos from left (i) View from Railroad Avenue southbound approach, (ii) View from shared use path eastbound approach (iii) View from shared use path westbound approach showing faded crosswalk.



**Remarks:** This crossing is located within the Northampton Union Station parking lot. The crosswalk markings are faded at several locations. It is recommended this crosswalk be repainted.

**36. PLEASANT STREET** (Urban area crossing with overhead lighting)

No crashes were reported in the vicinity of this crossing between the calendar years of 2011 and 2015.

**Pleasant Street Safety Features:** (Urban Principal Arterial, 2 Lanes, ADT: 14,200 (2003, MassDOT), undivided, Jurisdiction: City Accepted)

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
NB	Good	Good	None	Yield	None	Fair	None	Good	None	25	11' 7" / none
SB	None	Good	None		None	Fair	None	Good	None	None	11' 6" / none

Pleasant Street provides on street parking along both approaches.

**New Haven and Northampton Canal Line Safety Features:** (Stop Sign Control without Median, 9' 9" Wide Bituminous Pavement, Jurisdiction: Municipal)

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	None	Good	Poor	Good	46' 1"	Bollard Rocks	27' 9"	None	51' 2"	Concrete	Divided both sides
WB	Stop	Poor	Poor	Good	10' 8"						

Pavement markings along both approaches of the shared use path have faded in several locations. The 'Stop' sign for the westbound approach is partially covered by vegetation. The eastbound approach of the shared use path has granite bollards.

*Photos from left (i) View from eastbound approach of the shared use path showing rock bollards and raised brick crosswalk platform, (ii) View from Pleasant Street approach, (iii) Westbound approach of shared use path showing faded pavement markings and Stop sign covered by vegetation*



**Remarks:** The crossing is a wide raised brick crosswalk.

**37. OLD SOUTH STREET** (Urban area crossing without overhead lighting)

No crashes were reported in the vicinity of this crossing between the calendar years of 2011 and 2015.

**Old South Street Safety Features:** (Urban Collector, 2 Lanes, partially divided (see remarks), Jurisdiction: City Accepted)

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Speed Limit	Avg. Lane and Shoulder Width
NB	Good	Good	Poor	None	None	Good	None	Good	None	25	12'4" / 1'5"
SB	Fair	Good	Poor		None	Good	None	Good	None	25	12'2" / 1'8"

The northbound approach has shared use path signs and bike route signs at the crossing. Advance pavement markings for both approaches of the roadway have faded in several locations.

**New Haven and Northampton Canal Line Trail Safety Features:** (Stop Control without Median, 10'8" Wide Bituminous Pavement, Jurisdiction: Municipal)

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	Stop	Fair	None	Good	9'9"	None	43'9"	Yes	8'3" Continental	Concrete	Undivided
WB	Stop	Fair	Poor	Good							

The advance warning sign for the westbound approach is partially covered by graffiti. Pavement markings along the westbound approach have faded in several locations. The eastbound approach does not have pavement markings.

*Photos from left: (i) View from westbound approach of the shared use path, (ii) Advance warning sign for the westbound approach of the shared use path partially damaged by graffiti, (iii) View from southbound approach of Old South Street.*



**Remarks:** The northbound approach of Old South Street has a center median.

**38. ROUNDHOUSE PLAZA (Urban area crossing with overhead lighting)**

No crashes were reported in the vicinity of this crossing between the calendar years of 2011 and 2015.

**Roundhouse Plaza Safety Features: (Local Road, 2 Lanes, undivided, Jurisdiction: City Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
EB	None	Good*	None	Stop Sign	None	Fair	None	Fair	None	None	11' 9"/ none
WB	--	--	--		--	--	None	Good	--	--	--

There are bike path signs at the crossing but no pedestrian signs.

**New Haven and Northampton Canal Line Trail Safety Features: (Stop Sign Control without Median, 9' 7" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB/NB	Stop	Poor	Poor	Good	11' 8"	None	36' 9"	None	Continental 11' 4"	Concrete SB only	Undivided SB only
SB	Stop	None	None	Good							

The eastbound approaches of the shared use path and the roadway have a common 'Stop' sign.

*Photos from left: (i) View from southbound approach of shared use path, (ii) View from eastbound approach of Roundhouse Plaza adjacent to the eastbound approach of shared use path, (iii) View of crosswalk from northbound approach of shared use path.*



**Remarks:** The crossing is located at a three way intersection of Roundhouse Plaza and Old South Street. The shared use path approach direction changes from eastbound to northbound at the crossing.

**39. OLD SOUTH STREET (PARKING LOT) (Urban area crossing with overhead lighting)**

No crashes were reported in the vicinity of this crossing between the calendar years of 2011 and 2015.

**Parking Lot Driveway Safety Features: (Local Road, 2 Lanes, undivided, Jurisdiction: City Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
NB	None	Poor*	Poor	None	None	Poor	None	Fair	None	None	--
SB	None	Fair*	Poor		None	Poor	none	Fair	None	none	--

Pavement markings along both approaches of the driveway are faded at several locations. The visibility of the shared use path along both approaches can be restricted by parked vehicles within the parking lot. The crossing is marked by bike path signs but no pedestrian signa.

**New Haven and Northampton Canal Line Trail Safety Features: (Stop Sign Control without Median, 10' Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	Stop	Poor	Poor	Good	11' 0"	Warning Sign	25' 2"	None	Concrete 11' 1"	None	None
WB	Stop	Poor	Poor	Good							

Pavement markings along both approaches of the shared use path have faded in several locations. 'Stop' Signs for both approaches are partially covered in graffiti.

Photos from left: (i) Green bike path signs, (ii) 'Stop' sign along the shared use path approach partially covered by graffiti (iii) Faded pavement markings along the driveway approach



**Remarks:** This crossing is located inside the Old South Street Parking Lot.

**40. PRINCE STREET / WEST STREET (Urban area crossing with overhead lighting)**

**Crash History in the Vicinity of the Crossing:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
05/07/2012	11:59 AM	None	Angle Collision	Property Damage	Daylight	Dry	Clear
11/18/2013	8:47 AM	None	Rear End Collision	Property Damage	Daylight	Wet	Clear

**Prince Street/ West Street Safety Features: (Urban Minor Arterial, 2 Lanes, ADT: 4,353 (2017, MassDOT), divided, Jurisdiction: City Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
EB	Good	Good	Poor	None	None	Good	None	Good	Downhill	25	11' 6"/ 2' 9"
WB	Good	Good	Poor		None	Good	None	Good	Uphill	25	11' 3"/ 0' 9"

All signs along the eastbound approach of the roadway are partially covered by vegetation. The equestrian advance warning signs are provided prior to the crossing.

**Hospital Hill Rail Trail Spur Safety Features: (No Control without Median, 9'7" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
NB	None	None	None	Good	8' 9"	None	48' 2"	none	Continental 16' 5"	Concrete	Undivided
SB	--	--	--	--							

The shared use path provides a connection to another minor trail to the north.

Photos from left: (i) Equestrian sign along roadway, (ii) View from Prince Street approach (iii) Crosswalk viewed from northbound approach of the shared use path



**Remarks:** The crossing is located in an area with moderate traffic along both roadway and shared use path.

**41. EARLE STREET (Urban area crossing without overhead lighting)**

No crashes were reported in the vicinity of this crossing between the calendar years of 2011 and 2015.

Earle Street Safety Features: (Local Road, 2 Lanes, undivided, Jurisdiction: City Accepted)

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
NB	Good	Good	Poor	None	None	Good	None	Fair	None	None	10' 8" / 4' 6"
SB	Good	Good	Poor		None	Good	None	Fair	None	None	11' 4" / 4' 1"

The visibility of the shared use path is restricted along the northbound approach because of overgrown vegetation. Signs along both approaches are partially covered by vegetation.

Hospital Hill Rail Trail Spur Safety Features: (Stop Sign Control without Median, 9' 10" Wide Bituminous Pavement, Jurisdiction: Municipal)

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	--	--	--	--	12' 2"	None	31' 6"	None	Continental 12' 6"	Concrete	Both sides undivided
WB	Stop	Good	Good	Good							

The shared use path ends at the eastbound approach of the crossing.

Photos from left: (i) View of crosswalk from westbound approach of shared use path, (ii) View from roadway approach,, (iii) Westbound approach of the shared use path.



**Remarks:** The crossing is located in an area of moderate traffic along.

**42. EARLE STREET (At intersection with Grove Street) Urban area crossing with overhead lighting)**

**Crash History in the Vicinity of the Crossing:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
10/15/2012	3:39 PM	Pedalcyclist	Angle Collision	Non-fatal Injury	Daylight	Dry	Cloudy
5/20/2014	9:48 AM	Pedalcyclist	Side Swipe Collision	Non-fatal Injury	Daylight	Dry	Clear
10/1/2014	5:03 PM	Pedalcyclist	Angle Collision	Non-fatal Injury	Daylight	Wet	Cloudy

**A total of six crashes were reported in the vicinity of the intersection of Earle Street with Grove Street. Three of those crashes involved non-motorists. Information regarding those three crashes is summarized in the table above.**

**Earle Street Safety Features: (Local Road, 2 Lanes, ADT: No Data, undivided, Jurisdiction: City Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
NB	None	Good	None	Stop Sign	None	Good	None	Good	None	None	12' 2"/ none
SB	None	Good	None		None	Good	None	Good	Slight Downhill	None	11' 5"/ none

The shared use path signs are located at a distance of about 100 ft. from the crosswalk.

**New Haven and Northampton Canal Line Trail Safety Features: (Stop Sign Control without Median, 10'4" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
NB	Stop	Good	Fair	Good	14' 1"	None	66' 2"	None	Standard 10' 0"	Concrete	Both sides Undivided
SB	Stop	Fair	Fair	Good							

Bollards along both approaches have been removed.

*Photos from left: (i) View from Earle Street depicting the crossing (ii) Shared use path sign at a distance from crossing (iii) Shared use path approach.*



**Remarks:** The crossing is located at an intersection controlled by a four-way 'Stop'.

**43. GROVE STREET** (Urban area crossing with overhead lighting)

**Crash History in the Vicinity of the Crossing:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
10/15/2012	3:39 PM	Pedalcyclist	Angle Collision	Non-fatal Injury	Daylight	Dry	Cloudy
5/20/2014	9:48 AM	Pedalcyclist	Side Swipe Collision	Non-fatal Injury	Daylight	Dry	Clear
10/1/2014	5:03 PM	Pedalcyclist	Angle Collision	Non-fatal Injury	Daylight	Wet	Cloudy

A total of six crashes were reported in the vicinity of the intersection of Earle Street with Grove Street. Three of those crashes involved non-motorists. Information regarding those three crashes is summarized in the table above.

**Grove Street Safety Features: (Local Road, 2 Lanes, ADT: 5,006 (2015, MassDOT), undivided, Jurisdiction: City Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
EB	None	Good	Poor	Stop Sign	None	Good	None	Good	Downhill	None	10' 9" / 0' 8"
WB	None	Good	Poor		None	Good	None	Good	None	None	11' 5" / 0' 10"

The crossing is marked with green bike route signs which do not depict pedestrians. The 'Stop' sign for the westbound approach of the roadway is partially covered by the shared use path sign.

**New Haven and Northampton Canal Line Trail Safety Features: (Stop Sign Control without Median, 10'4" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'x'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
NB	Stop	Good	Fair	Good	14' 1"	None	25' 6"	None	Standard 10' 0"	Concrete	Both sides Undivided
SB	Stop	Fair	Fair	Good							

The bollards have been removed from both approaches of the shared use path.

Photos from left: (i) View from the shared use path approach, (ii) Faded pavement markings along Grove Street, (iii) 'Stop' sign along Gove Street partially blocked by shared use path sign.



**Remarks:** The crossing is located at an intersection controlled by a four-way 'Stop'.

**44. VILLAGE HILL ROAD (Urban area crossing with overhead lighting)**

No crashes were reported in the vicinity of this crossing between the calendar years of 2011 and 2015.

Village Hill Road Safety Features: (Local Road, 2 Lanes, undivided, Jurisdiction: City Accepted)

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
NB	None	None	None	None	None	Good	None	Fair	None	None	14' 1" / 10"
SB	None	None	None		None	Good	None	Fair	None	None	15' 0" / 11"

Olander Drive is located north of the crossing adjacent to the crosswalk.

Hospital Hill Rail Trail Spur Safety Features: (No Control, No Median, 8' Wide Concrete Pavement, Jurisdiction: Municipal)

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	None	None	None	Good	8'	None	37'	None	Boutique 10' 6"	Concrete	Both sides undivided
WB	None	None	None	Fair							

The shared use path has bituminous pavement west of the crossing and has concrete pavement east of the crossing.

Photos from left: (i) View from Village Hill Road northbound approach, (ii) View from shared use path westbound approach, (iii) Shared use path



**Remarks:** The crossing is located in a newly developed residential area.

**45. MUSANTE DRIVE** (Urban area crossing with overhead lighting)

No crashes were reported in the vicinity of this crossing between the calendar years of 2011 and 2015.

**Musante Drive Safety Features:** (Local Road, 2 Lanes, undivided, Jurisdiction: City Accepted)

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
NB	None	None	For Speed Hump	None	None	Good	Raised Speed Hump	Poor	None	None	23'6" / 0
SB	None	None			None	Good		Good	None	None	22' / 0

Pavement markings for parking spaces have been installed along the west side of the northbound approach.

**Hospital Hill Rail Trail Spur Safety Features:** (No Control, Bollard Median, 10'3" Wide Concrete Pavement, Jurisdiction: Municipal)

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	None	None	None	Good	10'	Raised Crosswalk	23'	None	Boutique 12' 6"	Concrete	Both sides undivided
WB	None	None	None	Good							

Hospital Hill Rail Trail Spur has two sections. The section in the east is composed of bituminous and concrete pavements. West of the crossing the trail provides an access to the community gardens.

*Photos from left: (i) View from Musante Drive southbound approach, (ii) Shared use path along east of the crossing, (iii) Shared use path extension in the west of the crossing proving access to community garden*



**Remarks:** The crossing is located in a newly developed residential area.

**46. BLACK BIRCH TRAIL (1) (Urban area crossing without overhead lighting)**

No crashes were reported in the vicinity of this crossing between the calendar years of 2011 and 2015.

**Black Birch Trail Street Safety Features: (Local Road, 2 Lanes, undivided, Jurisdiction: Private)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
EB	None	None	None	None	None	None	None	Good	None	None	10' 0" / none
WB	--	--	--		--	--	--	--	--	--	--

The shared use path ends in a parking lot.

**Rocky Hill Greenway Safety Features: (No Control without Median, 9' 7" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'x'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	--	--	--	--	13' 2"	Temporary traffic cone	None	None	None	None	None
WB	None	None	None	Good							

The shared use path ends in the parking lot.

Photos from left: (i) View from shared use path depicting parking lot, (ii) Walkway sign along the shared use path approach, (iii) Temporary traffic cone along the shared use path approach to restrict vehicles from the parking



**Remarks:** At the time of the field visit a temporary traffic cone was placed at the approach of the shared use path to restrict vehicles in the parking lot from entering the path.

**47. BLACK BIRCH TRAIL (2) (Urban area crossing without overhead lighting)**

No crashes were reported in the vicinity of this crossing between the calendar years of 2011 and 2015.

**Black Birch Trail Street Safety Features: (Local Road, 1 Lane, undivided, Jurisdiction: Private)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
EB	None	None	None	None	None	None	None	Good	None	None	9' 9" / none
WB	--	--	--		--	--	--	--	--	--	--

Black Birch Trail is one way in the eastbound direction.

**Rocky Hill Greenway Safety Features: (No Control without Median, 10'3" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
NB	None	None	None	Good	18' 5"	None	None	None	None	None	None
SB	--	--	--	--							

The shared use path does not have a southbound approach.

*Photos from left: (i) View from shared use path approach, (ii) View from Black Birch Trail, (iii) Shared use path.*



**Remarks:** The shared use path ends at the crossing.

**48. FLORENCE ROAD (Urban area crossing with overhead lighting)**

**Crash History in the Vicinity of the Crossing:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
10/20/2011	7:31 AM	None	Rear End Collision	Property Damage	Daylight	Wet	Rain

**Florence Road Safety Features: (Urban Minor Arterial Road, 2 Lanes, ADT: 7,900 (2005, MassDOT), undivided, Jurisdiction: City Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Speed Limit	Avg. Lane and Shoulder Width
NB	None	None	None	None	None	None	None	Fair	None	40	14' 6"/ none
SB	None	None	None		None	None	None	Good	None	40	11' 9"/ none

Neither approach of the roadway has advance warning signs or pavement markings.

**Rocky Hill Greenway Safety Features: (No Control without Median, 8' 9" ft. Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	--	--	--	--	24' 5"	None	None	None	None	None	None
WB	None	None	Poor	Good							

The shared use path ends at the crossing.

*Photos from left: (i) View from shared use path approach, (ii) Sign along shared use path, (iii) View from Florence Road approach.*



**Remarks:** The shared use path follows the Black Birch Trail alignment. The crossing is located in a residential area with moderate traffic volumes.

**49. PROSPECT AVENUE** (Urban area crossing without overhead lighting)

No crashes were reported in the vicinity of this crossing between the calendar years of 2011 and 2015.

**Prospect Avenue Safety Features: (Local Road, 2 Lanes, undivided, Jurisdiction: City Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
NB	None	Fair	None	None	None	Good	None	Poor	None	30	11' 2"/ none
SB	None	Fair	None		None	Fair	None	Poor	Downhill	30	11' 5"/ none

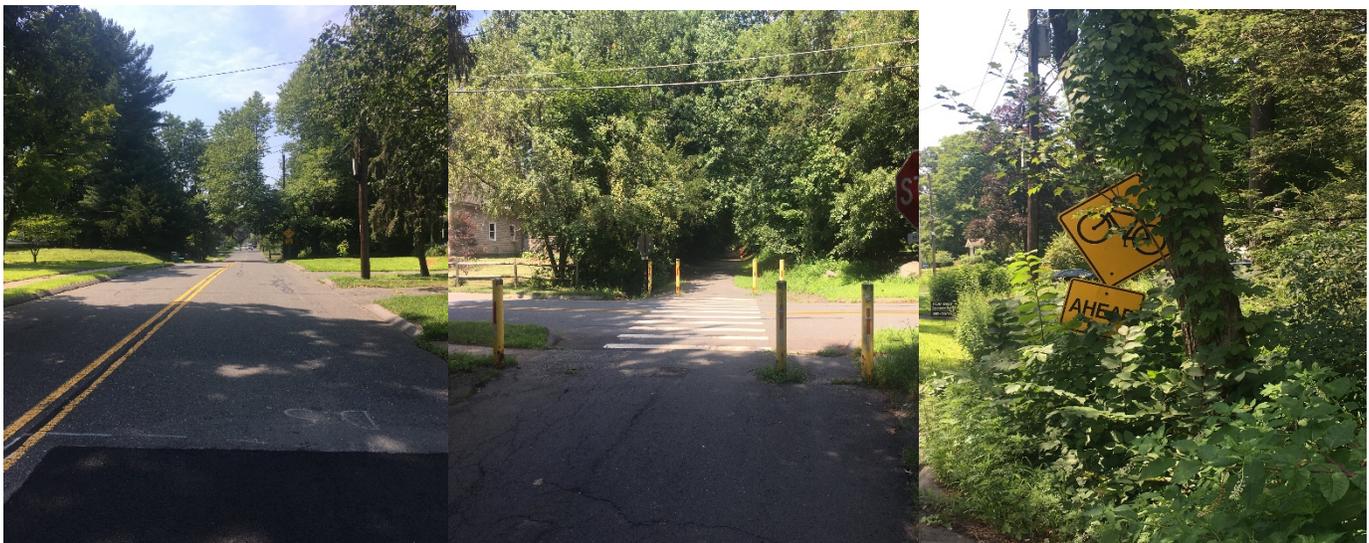
The advance warning sign for the northbound approach is tilted and partially covered by vegetation. Both approaches of the shared use path are partially covered by vegetation.

**Mass Central Rail Trail Safety Features: (Stop Sign Control without Median, 10'4" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	Stop	Good	None	Fair	19' 1"	Bollards	29' 0"	None	Continental 11' 2"	None	None
WB	Stop	Good	None	Fair							

Sight distance along approaches of the shared use path is limited to the south because of the uphill geometry of the roadway.

*Photos from left: (i) View from Prospect Avenue southbound approach, (ii) View from shared use path westbound approach, (iii) Tilted advance warning sign along northbound approach of Prospect Avenue*



**Remarks:** The crossing is located in residential area with a moderate volume of traffic.

**50. NORTH ELM STREET** (Urban area crossing with overhead lighting)

No crashes were reported at this crossing between the calendar years of 2011 and 2015.

**North Elm Street Safety Features:** (Urban Collector, 2 Lanes, ADT: 1,134 (2017, MassDOT), undivided, Jurisdiction: City Accepted)

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Speed Limit	Avg. Lane and Shoulder Width
NB	None	Good	None	None	None	Poor	None	Poor	None	30	12' 1" / none
SB	None	Good	None		None	Poor	None	Good	None	30	12' 1" / none

The shared use path approaches are partially blocked by vegetation restricting the visibility of the path from the northbound approach of the roadway.

**Mass Central Rail Trail Safety Features:** (Stop Sign Control without Median, 10' Wide Bituminous Pavement, Jurisdiction: Municipal)

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	Stop	Good	None	Fair	11' 9"	None	23' 10"	None	Continental 7' 8"	None	None
WB	Stop	Good	None	Poor							

The westbound approach of the shared use path has four bollards installed to restrict motor vehicles from entering the path.

Photos from left: (i) View from westbound approach of the shared use path, (ii) View from North Elm Street approach, (iii) View from eastbound approach of the shared use path



**Remarks:** Residential area with moderate traffic volumes.

**51. HATFIELD STREET (Urban area crossing with overhead lighting)**

**Crash History in the Vicinity of the Crossing:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
12/20/2013	2:00 PM	Pedalcyclist	Angle Collision	Non-fatal Injury	Daylight	Wet	Cloudy

**Hatfield Street Safety Features: (Urban Collector, 2 Lanes, ADT: 3,400 (1996, MassDOT), undivided, Jurisdiction: City Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Speed Limit	Avg. Lane and Shoulder Width
NB	None	Good	None	None	None	Poor	None	Good	None	30	12' 0"/ none
SB	None	Good	None		None	Poor	None	Good	None	30	12' 0"/ none

The shared use path signs are partially blocked by vegetation.

**Mass Central Rail Trail Safety Features: (Stop Sign Control without Median, 11' 8" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	Stop	Good	None	Good	12' 0"	Bollards	24' 0"	None	None	None	None
WB	Stop	Good	None	Good							

Bollards are present only along the eastbound approach of the shared use path. The style of existing crosswalk markings could not be identified because they were very faded.

*Photos from left: (i) View from Hatfield Street approach, (ii) Faded crosswalk markings at the crossing, (iii) View from eastbound approach of the shared use path.*



**Remarks:** The crosswalk needs to be repainted at this location.

**52. STRAW AVENUE** (Urban area crossing with overhead lighting)

No crashes were reported at this crossing between the calendar years of 2011 to 2015.

**Straw Avenue Safety Features:** (Local Road, 2 Lanes, undivided, Jurisdiction: City Accepted)

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
NB	None	Good	None	None	None	Fair	None	Fair	None	None	13' 11"/ none
SB	None	Fair	None		None	Fair	None	Fair	None	None	13' 1"/ none

The shared use path is marked by green bike route signs at the crossing which do not depict pedestrians. The shared use path sign and approaches are partially blocked by overgrown vegetation along the southbound approach of the roadway.

**Mass Central Rail Trail Safety Features:** (Stop Sign Control without Median, 10'2" Wide Bituminous Pavement, Jurisdiction: Municipal)

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	Stop	Poor	None	Good	10' 0"	Warning Sign	27' 6"	None	9' 9" Ladder	None	None
WB	Stop	Fair	None	Fair							

Signs along both approaches of the shared use path are partially covered with graffiti. The sight distance from the westbound approach is restricted by overgrown vegetation.

Photos from left: (i) View from southbound approach of the roadway showing partially blocked shared use sign, (ii) Advance warning sign along shared use path covered in graffiti, (iii) 'Stop' sign along shared use path approach partially covered in graffiti.



**Remarks:** The crossing is located in a residential area with low traffic volumes.

**53. CHESTNUT STREET (Urban area crossing with overhead lighting)**

**Crash History in the Vicinity of the Crossing:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
07/16/2014	6:58 PM	Pedalcyclist	Angle Collision	Non-fatal Injury	Daylight	Dry	Clear

**Chestnut Street Safety Features: (Urban Collector, 2 Lanes, ADT: 1,898 (2015, MassDOT), undivided, Jurisdiction: City Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Speed Limit	Avg. Lane and Shoulder Width
NB	Poor	Good	None	None	Fair	Good	None	Poor	None	30	12' 2"/ none
SB	Good	Good	None		Fair	Good	None	Fair	Downhill	30	11' 9"/ none

The view of the shared use path approaches is restricted along both approaches of the roadway by overgrown vegetation.

**Mass Central Rail Trail Safety Features: (Stop Sign Control without Median, 10'6" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	Stop	Fair	None	Good	23' 4"	Bollards	25' 7"	None	Continental 12' 6"	None	None
WB	Stop	Poor	None	Good							

The 'Stop' sign for the eastbound approach of the shared use path is partially covered in graffiti. The 'Stop' sign for the westbound approach is partially covered by vegetation.

Photos from left: (i) View from roadway approach, (ii) Shared use path approaches and crosswalk, (iii) Cars parked in the vicinity of the crosswalk at the crossing.



**Remarks:** The paint is wearing off all bollards. At the time of the field visit cars were parked in the immediate vicinity of the crossing which restricted the view of the westbound approach of the shared use path. It is recommended that no parking be allowed in the immediate vicinity of this crosswalk.

**54. KEYES STREET (Urban area crossing without overhead lighting)**

No crashes were reported at this crossing between the calendar years of 2011 to 2015.

**Keyes Street Safety Features: (Local Road, 2 Lanes, undivided, Jurisdiction: City Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
NB	Good	Good	None	None	None	Fair	None	Fair	None	None	10' 8" / none
SB	Good	Good	None		None	Fair	None	Fair	None	None	10' 11" / none

The shared use path sign for the southbound approach is misaligned and tilted.

**Mass Central Rail Trail Safety Features: (Stop Sign Control without Median, 10'5" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	Stop	Good	None	Good	16' 6"	None	28' 9"	None	Continental 17' 2"	None	None
WB	Stop	Good	None	Good							

The eastbound approach has an advance warning sign.

Photos from left: (i) View from shared use path approach, (ii) Advance warning sign along eastbound approach of shared use path, (iii) View from Keyes Street approach



**Remarks:** Residential area with low traffic volumes.

**55. NORTH MAPLE STREET (Urban area crossing with overhead lighting)**

**Crash History in the Vicinity of the Crossing:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
09/07/2012	4:31 PM	None	Angle Collision	Non-fatal Injury	Daylight	Dry	Clear
12/14/2012	12:06 PM	None	Angle Collision	Property Damage	Daylight	Dry	Clear

**North Maple Street Safety Features: (Urban Minor Arterial, 2 Lanes, undivided, Jurisdiction: City Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
NB	None	Good	None	None	None	Poor	Senior Citizen 'X' Sign	Poor	None	30	18' 6" / none
SB	None	Good	None		None	Poor		Good	None	None	18' 6" / none

The view of the shared use path along the northbound approach of the roadway is partially blocked by a building in the southeast direction of the crossing. A sign for senior citizens crossing the street is posted on both approaches of the roadway.

**Mass Central Rail Trail Safety Features: (Stop Control without Median, 11'2" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	Stop	Poor	None	Good	22' 0"	Rail Trail Map	42' 10"	None	11' 6" Continental	None	None
WB	Stop	Fair	Poor	Good							

Signs along both approaches of the shared use path are partially covered by graffiti.

Photos from left: (i) Senior citizen sign along the roadway,, (ii) Advance warning sign along shared use path partially covered by graffiti, (iii) Building in the southeast corner of the crossing along North Maple Street



**Remarks:** The crossing is located in a mixed use area with moderate traffic volumes.

**56. BARDWELL STREET** (Urban area crossing with overhead lighting)

No crashes were reported in the vicinity of this crossing between the calendar years of 2011 to 2015.

**Bardwell Street Safety Features: (Local Road, 2 Lanes, undivided, Jurisdiction: City Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
EB	None	Good	None	None	None	Fair	None	Good	None	None	12' 9"/ none
WB	None	Good	None		None	Fair	None	Fair	None	None	12' 9"/ none

The visibility of the shared use path is restricted because of overgrown vegetation along the westbound approach of the roadway. The crosswalk markings have faded in several locations.

**Mass Central Rail Trail Safety Features: (Stop Sign Control without Median, 10'10" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
NB	Stop	Fair	None	Good	18' 4"	None	45' 3"	None	Continental 14' 5"	None	None
SB	Stop	Fair	None	Good							

Signs along both approaches are damaged by graffiti and are faded.

Photos from left: (i) 'Stop' sign at shared use path approach partially covered by graffiti, (ii) View from Bardwell street approach, (iii) View from shared use path approach



**Remarks:** The crossing is located in a residential area with moderate volumes of traffic.

**57. MEADOW STREET (Urban area crossing without overhead lighting)**

**Crash History in the Vicinity of the Crossing:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
04/22/2011	5:49 PM	None	Rear End Collision	Property Damage	Daylight	Dry	Clear

**Meadow Street Safety Features: (Urban Collector, 2 Lanes, undivided, Jurisdiction: City Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
EB	None	Good	None	None	Poor	Good	None	Good	None	35	11' 8"/ none
WB	None	Good	None		Poor	Good	None	Good	None	None	11' 3"/ none

Meadow Street does not have a double yellow center line pavement markings or shoulders to define travel lanes.

**Meadow Street Bike Path Trail Safety Features: (Stop Sign Control without Median, 8' 6" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
NB	None	None	None	Good	11' 8"	None	25' 3"	None	Continental 16' 8"	Concrete	Both sides undivided
SB	Stop	Poor	Fair	Good							

There is a 'Stop' sign along the southbound approach of the shared use path but the sign is missing for the northbound approach.

*Photos from left: (i) 'Stop' sign along southbound approach of the shared use path, (ii) View from Meadow Street approach, (iii) View from northbound approach of the shared use path*



**Remarks:** It is recommended that a 'Stop sign and stop line be installed for the northbound approach of the shared use path.

**58. SPRING STREET (Urban area crossing with overhead lighting)**

**Crash History in the Vicinity of the Crossing:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
04/08/2012	2:58 AM	None	Single Vehicle Collision with curb	Property Damage	Dark	Dry	Clear

**Spring Street Safety Features: (Urban Minor Arterial, 2 Lanes, ADT: 1,630 (2017, MassDOT), undivided, Jurisdiction: City Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
NB	None	Good	None	None	Poor	Good	None	Good	None	30	12' 2"/ none
SB	None	Good	None		Poor	Good	None	Good	None	30	11' 9"/ none

The pavement markings along Spring Street have faded in several locations. The sign posts for the shared use path signs are both tilted and misaligned.

**Meadow Street Bike Path Trail Safety Features: (Stop Sign Control without Median, 7' 9" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	--	--	--	Good	19' 6"	None	25' 1"	None	Continental 18' 9"	Concrete	Both sides undivided
WB	Stop	Good	Good	Good							

The shared use path ends at this crossing and connects to a sidewalk along the eastbound approach.

Photos from left: (i) Crosswalk and tilted sign post along northbound approach of Spring Street, (ii) View from westbound approach of the shared use path. (iii) Tilted signpost along southbound approach of the roadway



**Remarks:** The crossing is located in the vicinity of the intersection of Spring Street with Meadow Street.

**59. BRIDGE ROAD (Urban area crossing with overhead lighting)**

**Crash History in the Vicinity of the Crossing:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
04/26/2012	6:59 AM	Pedestrian	Sideswipe Collision	Non-Fatal Injury	Daylight	Dry	Clear

A total of 13 crashes were reported in the vicinity of this crossing and the intersection of Bridge Road with North Main Street. One of those crashes involved a non-motorist. Information regarding that crash has been summarized in the table above.

**Bridge Road Safety Features: (Urban Minor Arterial Road, 3 Lanes, ADT: 11,139 (2017, MassDOT), divided, Jurisdiction: City Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
EB	None	Good	None	None	Fair	Fair	None	Good	None	None	13' 0"/ 1' 0"
WB	None	Good	None		Poor	Fair	None	Fair	None	15	26' 0"/ 1' 0"

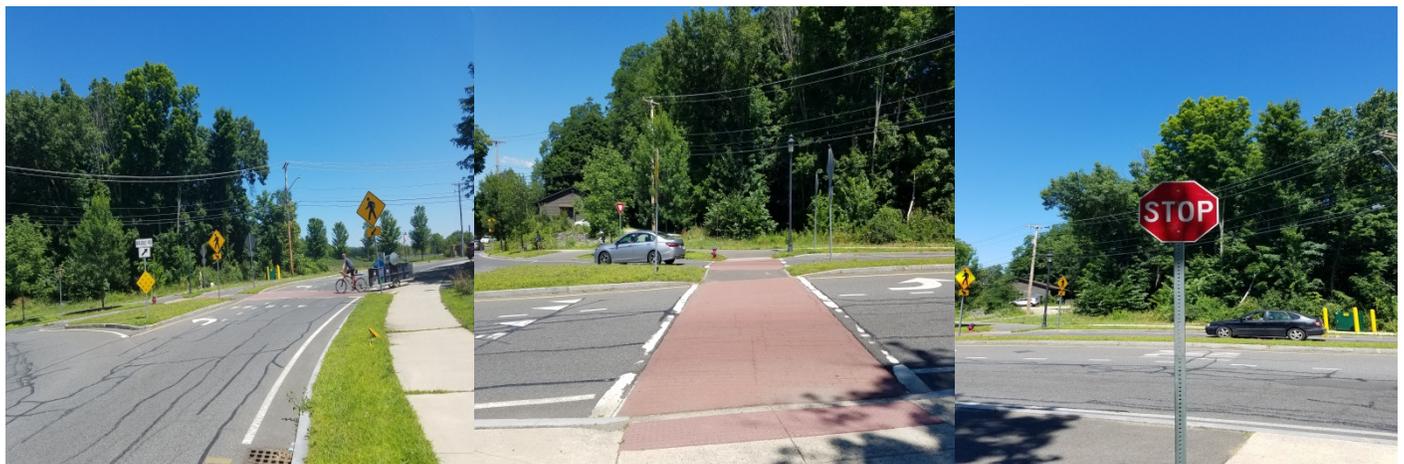
Pavement markings along the roadway have faded at several locations.

**Mass Central Rail Trail Safety Features: (Stop Sign Control without Median, 10'9" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
NB	Stop	Fair	None	Fair	10' 1"	None	55' 4"	Grass Median	13' 0" Raised Brick	Concrete	Undivided both sides
SB	None	None	None	Good							

The sight distance towards east from the northbound approach is restricted because of overgrown vegetation.

Photos from left: (i) View from Bridge Road eastbound approach, (ii) Raised brick crosswalk at the roundabout, (iii) Stop sign at the shared use path approach.



**Remarks:** The crossing is located in the vicinity of a roundabout.

**60. NORTH MAIN STREET** (Urban area crossing with overhead lighting)

**Crash History in the Vicinity of the Crossing:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
04/26/2012	6:59 AM	Pedestrian	Sideswipe Collision	Non-Fatal Injury	Daylight	Dry	Clear

A total of 13 crashes were reported in the vicinity of this crossing and the intersection of North Main Street with Bridge Road. One of those crashes involved a non-motorist. Information regarding that crash has been summarized in the table above. This crash is the same one reported for location number 59) Bridge Road.

**North Main Street Safety Features: (Urban Principal Arterial, 2 Lanes, ADT: 11,139 (2017, MassDOT), Divided, Jurisdiction: City Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
NB	None	Good	None	None	Fair	Fair	None	Good	None	None	20' 1" / 1' 10"
SB	None	Good	None		Poor	Poor	None	Good	None	15	17' 10" / 1' 11"

Pavement markings along the roadway have faded in several locations.

**Mass Central Rail Trail Safety Features: (Stop Control without Median, 11'9" Wide, Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	Stop	Good	None	Good	9'8"	10 mph speed sign on path	53' 11"	Grass Median	13' 5" Raised Brick	Concrete	Undivided on both sides
WB	None	None	Good	Good							

The eastbound approach of the shared use path has a 'Stop Ahead' advance warning sign but there is no 'Stop' sign at the approach in the vicinity of the crosswalk. There is a '10 mph' speed limit sign posted for the westbound direction leading into Look Park.

Photos from left: (i) North Main Street approach entering the roundabout, (ii) Speed limit sign along the eastbound approach of the shared use path, (iii) Advance 'Stop Ahead' sign along eastbound approach of shared use path



**Remarks:** The crossing is located in the vicinity of a roundabout.

**61. LOWER POOL ROAD (Urban area crossing with overhead lighting)**

No crashes were reported at this crossing between the calendar years of 2011 to 2015.

**Lower Pool Road Safety Features: (Local Road, 1 Lane, ADT: 9,792 (2017, MassDOT), undivided, Jurisdiction: Look Park)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
NB	None	Good	Fair	Speed Hump	None	Fair	See note	Good	None	None	19' 0"/ none
SB	--	--	--		--	--	--	--	--	--	--

Lower Pool Road is a one way street with traffic in the northbound direction. There is a speed hump in the roadway before the crosswalk for the shared use path.

**Mass Central Rail Trail Safety Features: (Stop Sign Control without Median, 10'1" Wide bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	Stop	Good	Fair	Good	10' 2"	Yellow bollard	18'6"	None	Standard 10' 7"	Concrete	Undivided
WB	Stop	Good	Fair	Good							

The shared use path is located inside Look Park.

Photos from left (i) View from northbound approach of Lower Pool Road, (ii) Crosswalk and temporary pedestrian crossing sign at the crossing, (iii) Shared use path approach.



**Remarks:** This crossing is located along a one way internal road inside Look Park. The pavement markings are faded at several locations along the roadway.

**62. OLD TROLLEY ROAD (Urban area crossing without overhead lighting)**

No crashes were reported at this crossing between the calendar years of 2011 to 2015.

Old Trolley Road Safety Features: (Local Road, 1 Lane, ADT: 9,792 (2017, MassDOT), undivided, Jurisdiction: Look Park)

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
EB	--	--	--	Speed Hump	--	--	--	--	--	--	--
WB	None	Good	None		None	Good	None	Good	None	15	21' 0"/ none

Old Trolley Road is a one way street in the westbound direction. There is a speed hump in the roadway before the crosswalk for the shared use path.

Mass Central Rail Trail Safety Features: (Stop Sign Control without Median, 10' 5" Wide bituminous Pavement, Jurisdiction: Municipal)

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
NB	Stop	Good	Fair	Good	13' 0"	Yellow Bollards	22' 4"	none	Standard 14' 6"	None	None
SB	Stop	Good	Fair	Good							

Photos from left: (i) View from shared use path approach depicting pavement markings, (ii) View from Old Trolley Road approach, (iii) View from shared use path approach depicting 'Stop' sign, crosswalk and bollards



**Remarks:** This crossing is located along a one way internal road inside Look Park.

**63. MULBERRY STREET (Urban area crossing with overhead lighting)**

**Crash History in the Vicinity of the Crossing:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
08/07/2012	5:08 PM	Pedalcyclist	Angle Collision	Non-fatal Injury	Daylight	Dry	Clear
09/01/2014	2:23 PM	None	Rear End Collision	Property Damage	Daylight	Dry	Clear

**Mulberry Street Safety Features: (Urban Minor Arterial Road, 2 Lanes, ADT: 2,500 (2003, MassDOT), undivided, Jurisdiction: City Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
EB	Good	Good	None	None	None	Fair	None	Poor	Uphill	25	15' 1"/ none
WB	Good	Good	Poor		None	Good	None	Poor	Slight	25	14' 4"/ none

The visibility of the shared use path on the northern side is restricted from the westbound approach because of overgrown vegetation.

**Mass Central Rail Trail Safety Features: (Stop Sign Control without Median, 10' 3" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
NB	Stop	Good	Poor	Fair	16' 0"	None	38' 1"	None	Continental 16' 6"	Concrete	Undivided both sides
SB	Stop	Good	Poor	Good							

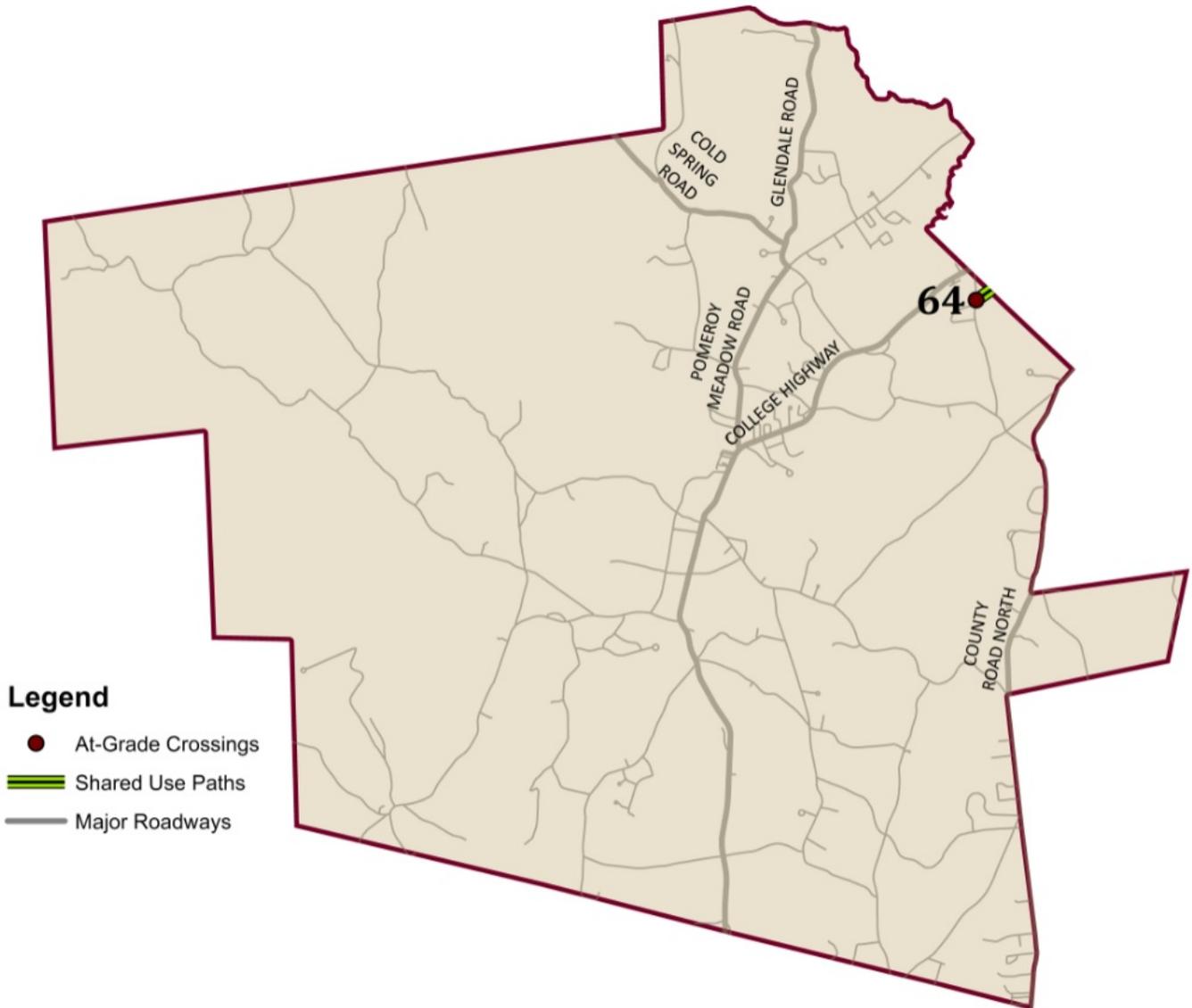
Pavement markings along both approaches have faded in several locations.

Photos from left: (i) Faded pavement markings along shared use path, (ii) Southbound approach of the shared use path, (iii) View from Mulberry Street approach.



**Remarks:** The crossing is located in a residential area with moderate traffic volumes.

# SOUTHAMPTON



**64. COLEMAN ROAD** (Urban area crossing without overhead lighting)

**Crash History in the Vicinity of the Crossing:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
2/6/2015	7:59 AM	None	Side Swipe	Property Damage	Day	Dry	Clear

**Coleman Road Safety Features: (Urban Minor Arterial Road, 2 Lanes, ADT: No data, undivided, Jurisdiction: Town Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
NB	Good	Good	Fair	None	None	Fair	None	Poor	Downhill	25	11' 2" / 0' 8"
SB	Good	Good	Fair		None	Fair	None	Fair	None	25	11' 2" / 1' 3"

Overgrown vegetation partially restricts the visibility of the shared use path approaches from both directions on the roadway.

**Manhan Rail Trail Safety Features: (Stop Sign Control without Median, 10' Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	-	-	-	-	10' 2"	Red Bollard	28' 0"	None	10' 9" Continental	None	None
WB	Stop	Good	Fair	Good							

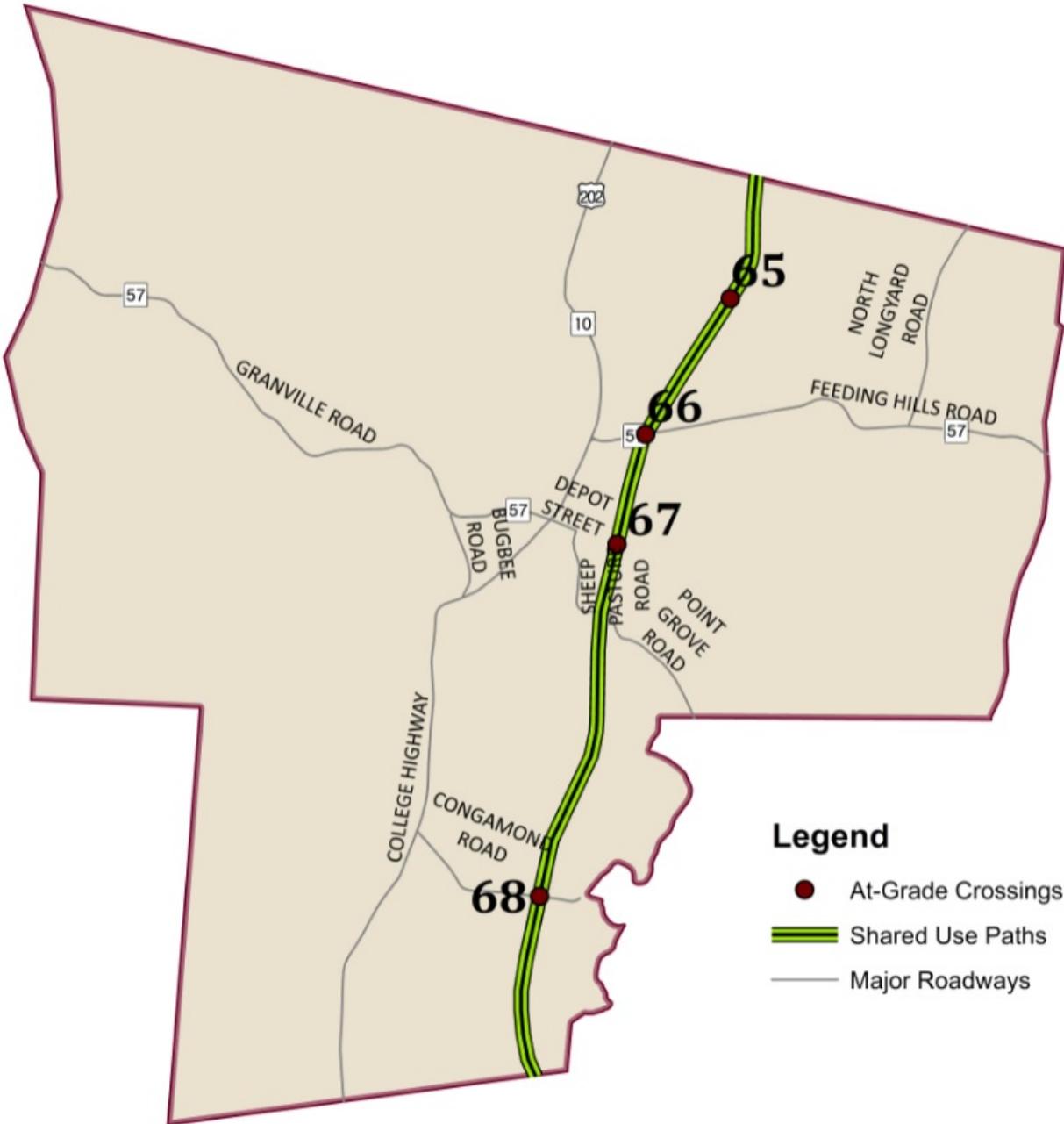
The advance warning sign along the westbound approach of the shared use path is partially blocked by overgrown vegetation.

Photos from left: (i) View from Coleman Road approach showing pavement markings, (ii) View from shared use path westbound approach, (iii) Advance warning sign along westbound approach of the roadway partially covered by vegetation



**Remarks:** The shared use path ends at this crossing.

# SOUTHWICK



**65. SAM WEST ROAD (Urban area crossing without overhead lighting)**

No crashes were reported in the vicinity of this crossing between the calendar years of 2011 and 2015.

**Sam West Road Safety Features: (Local Road, 2 Lanes, ADT: No Data, undivided, Jurisdiction: City or Town Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
EB	None	Good	Good	None	None	Fair	None	Good	None	None	8' 2"
WB	None	None	None		None	Fair	None	Good	None	None	8' 0"

The westbound approach of the roadway is an unpaved cul-de-sac.

**Southwick Rail Trail Safety Features: (Stop Sign Control without Median, 10'1" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
NB	Stop Sign	Good	Poor	Fair	10' 5"	Bollards	18' 6"	None	Ladder 10' 11"	Concrete	Yes, Undivided
SB	Stop Sign	Good	Poor	Good							

The advance warning sign along northbound approach is partially blocked by overgrown vegetation.

*Photos from left: (i) View from westbound approach of Sam West Road, (ii) Overgrown vegetation along northbound approach of shared use path, (iii) View from eastbound approach of the roadway*



**Remarks:** The westbound approach of Sam West Road is an unpaved cul-de-sac. The crossing is located in a residential area with low traffic volumes.

**66. FEEDING HILLS ROAD** (Urban area crossing with overhead lighting)**Crash History in the Vicinity of the Crossing:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
3/11/2011	7:33 AM	None	Rear-end	Property Damage	Daylight	Wet	Cloudy
8/30/2011	1:29 PM	None	Rear-end	Non-fatal Injury	Daylight	Dry	Clear
12/7/2011	2:33 PM	None	Angle	Property Damage	Daylight	Wet	Cloudy
1/10/2014	2:00 PM	None	Angle	Property Damage	Daylight	Snow	Snow
2/3/2015	5:39 AM	None	Angle	Property Damage	Dawn	Snow	Snow

**Feeding Hills Road Safety Features: (Urban Principle Arterial, 2 Lanes, ADT: 13,555 (2017, MassDOT), undivided, Jurisdiction: Town Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
EB	None	Good	Fair	Signal	None	None	Stop Ahead	Good	None	None	11' 0" / 5' 6"
WB	None	Good	Poor		None	None		Fair	Downhill	None	11' 8" / 2' 7"

The visibility of the southbound approach of the shared use path is partially restricted from the westbound approach of the roadway because of overgrown vegetation

**Southwick Rail Trail Safety Features: (Signal Control without Median, 10' 5" Wide bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
NB	Signal	Good	Poor	Good	18' 7"	Signal, Bollards	33' 7"	None	Ladder 11'	Concrete	Yes, Undivided
SB	Signal	Good	Poor	Good							

Both approaches of the shared use path have push button activated pedestrian signals.

Photos from left: (i) View from Feeding Hills Road approach, (ii) View from shared use path approach, (iii) Advance warning sign along the roadway.



**Remarks:** The signal at this crossing allocates approximately 15 seconds of walk time.

**67. DEPOT STREET (Urban area crossing with overhead lighting)**

**Crash History in the Vicinity of the Crossing:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
6/13/2015	10:04 PM	None	Single vehicle collision with a tree	Non –fatal Injury	Dark	Dry	Clear

**Depot Street Safety Features: (Urban Collector, 2 Lanes, ADT: 6,934 (2017, MassDOT), undivided, Jurisdiction: Town Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
EB	None	Good	Fair	Stop Sign	None	Fair	None	Fair	None	15	10' 4" / 0' 7"
WB	None	Good	Good		None	Fair	None	Good	None	None	10' 9" / 2' 8"

The visibility of the shared use path is restricted from the eastbound approach because of overgrown vegetation. The 'Stop' sign for the westbound approach of the Depot Street is partially covered in graffiti.

**Southwick Rail Trail Safety Features: (Stop Sign Control without Median, 10'2" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
NB	Stop	Good	Poor	Good	10' 5"	Bullion	34' 5"	None	Ladder 11' 3"	Concrete	Yes, Undivided
SB	Stop	Good	Poor	Good							

Overgrown vegetation along northbound approach of the shared use path partially covers the advance warning sign.

Photos from left: (i) View from westbound approach of the roadway, (ii) Shared use path approach, (iii) View from eastbound approach of Depot Street.



**Remarks:** The crossing located in the vicinity of the 3-way intersection between Depot Street, Powder Mill Road, and S Longyard Road.

**68. CONGAMOND ROAD** (Urban area crossing with overhead lighting)**Crash History in the Vicinity of the Crossing:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
4/11/2011	5:07 PM	None	Rear-end	Non-fatal Injury	Daylight	Dry	Clear
4/2/2013	9:43 PM	None	Sideswipe	Property Damage	Dusk	Dry	Clear
11/18/2013	7:53 AM	None	Angle	Property Damage	Daylight	Wet	Rain
2/6/2014	8:34 PM	None	Rear-end	Property Damage	Dark	Dry	Clear
9/24/2014	7:51 AM	None	Angle	Property Damage	Daylight	Dry	Clear
10/12/2015	12:21 PM	None	Rear-end	Property Damage	Daylight	Dry	Clear

**Congamond Road Safety Features: (Urban Minor Arterial Road, 2 Lanes, ADT: 5,269 (2017, MassDOT), undivided, Jurisdiction: City or Town Accepted)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
EB	None	Fair	Poor	None	None	Poor	None	Good	None	25	12' 0" / 1' 6"
WB	None	Fair	Poor		None	Poor	None	Good	None	None	12' 4" / 2' 7"

The shared use path signs are smaller and do not conform to MUTCD guidelines.

**Southwick Rail Trail Safety Features: (Stop Sign Control without Median, 9' 10" Wide Bituminous Pavement, Jurisdiction: Municipal)**

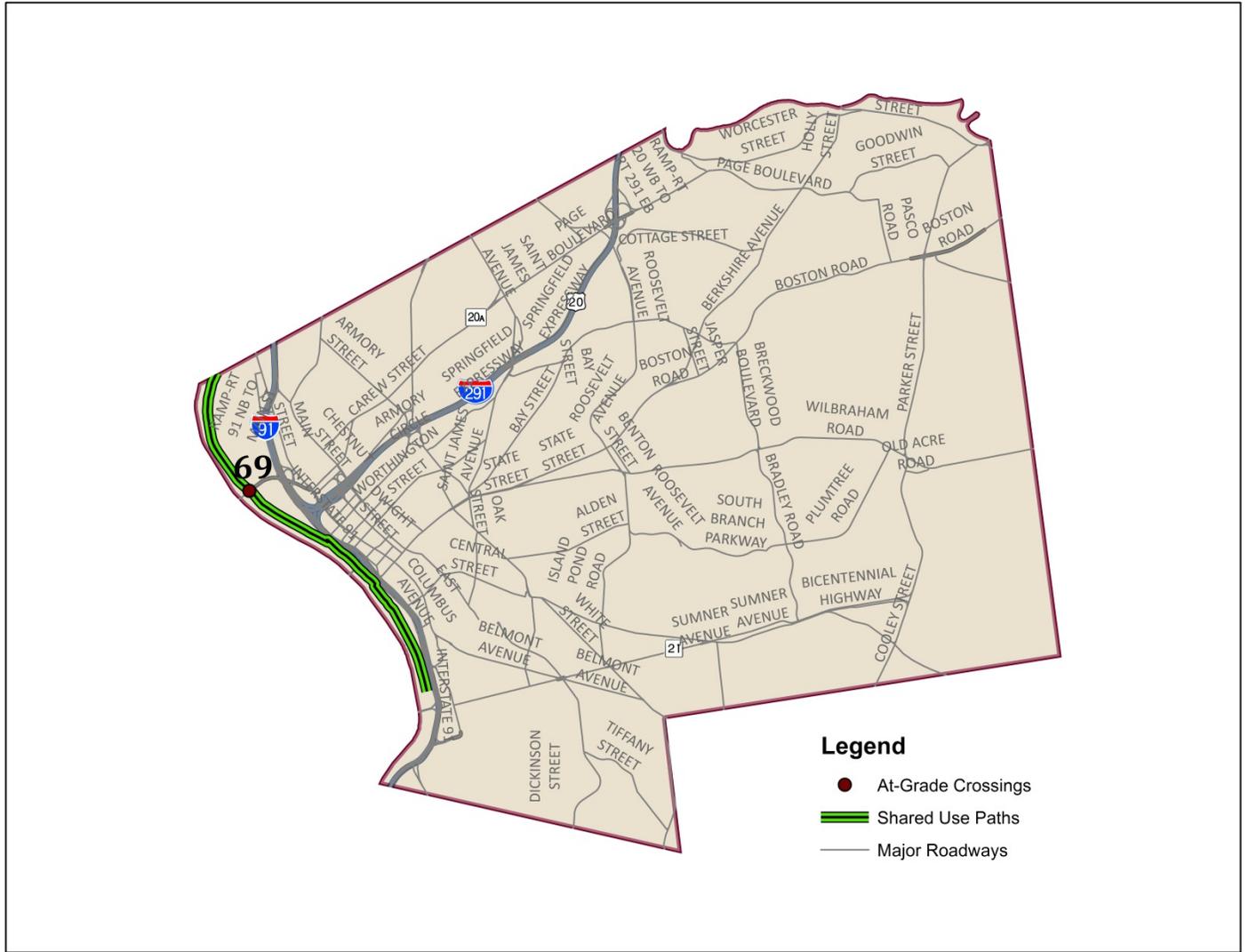
Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
NB	Stop	Good	Fair	Good	10' 0"	Bollards	30' 9"	None	Ladder 13' 1"	Concrete	Yes, Undivided
SB	Stop	Good	Fair	Good							

Photos from left: (i) Faded crosswalk markings, (ii) View from Congamond Road approach showing shared use path signs at a distance, (iii) Shared use path approach



**Remarks:** The crossing is located in a residential area with moderate volume of traffic. This crossing is currently undergoing improvements as a part of Congamond Road Reconstruction Project which is proposed to be completed by Fall of 2019. The proposed improvements include a new signalized crossing similar to the Feeding Hills Road location.

# SPRINGFIELD



**69. WEST STREET** (Urban area crossing with overhead lighting)

A total of 22 crashes were reported in the vicinity of this crossing along the intersection of West Street and Riverside Road between the calendar years of 2011 and 2015. None of these crashes involved non-motorists.

**West Street Safety Features: (Urban Principle Arterial, 4 Lanes, ADT: 31,251 (2017, MassDOT), undivided, Jurisdiction: Massachusetts Department of Transportation)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
EB	None	Poor	None	Signal	None	Good	Signal	Poor	Downhill	None	11', 3' 11"
WB	Fair	Good	None		None	Fair	Supplemental Signs	Good	None	None	11' 6", 4' 3"

The advanced warning sign for the westbound approach is partially covered by vegetation.

**Connecticut Riverwalk and Bikeway Trail Safety Features: (Signal Control with Median, 9'10" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
NB	Signal	Fair	Fair	Fair	14'	ADA compliant push button	56' 10"	None	Continental 8' 5"	Concrete	Undivided
SB		Good	Fair	Fair							Divided

The crossing is located by the offset intersection of the shared use path and West Street.

Photos from left: (i) View from eastbound approach of West Street, (ii) Westbound approach of West Street, (iii) Northbound approach of the shared use path.



**Remarks:** The signal allocates approximately 16 seconds of walk time. It is recommended that the MassDOT consider increasing this time. The driveway for the Pioneer Valley Riverfront Club is located on the southwest side of the crossing.

# WESTFIELD



### Legend

- At-Grade Crossings
- ▬ Shared Use Paths
- Major Roadways



**70. NORTH ELM STREET** (Urban area crossing with overhead lighting)

**Crash History in the Vicinity of the Crossing:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
10/3/2011	12:31 PM	None	Rear-end	Property damage	Daylight	Dry	Cloudy
10/16/2012	2:24 AM	None	Angle	Property damage	Dark	Wet	Rain
6/3/2013	8:38 AM	None	Rear-end	Property damage	Daylight	Wet	Cloudy
7/22/2014	1:25 PM	None	Rear-end	Non-fatal injury	Daylight	Dry	Clear
2/19/2015	2:01 PM	None	Rear-end	Property damage	Daylight	Dry	Clear
9/16/2015	12:45 PM	None	Rear-end	Non-fatal injury	Daylight	Dry	Clear

**North Elm Street Safety Features: (Urban Principal Arterial, 3 Lanes, ADT: 13,200 (2006, MassDOT), undivided, Jurisdiction: Mass Department of Transportation)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
NB	--	--	--	None	--	--	--	--	--	--	--
SB	None	None	None		None	Fair	Ped Sign	Good	None	None	11' 11" / 2' 1"

North Elm Street is a one way street in the southbound.

**Columbia Greenway Trail Safety Features: (No Control with Median, 9'8" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	None	Good	Good	Good	22' 4"	None	41' 6"	None	Raised brick 9' 6"	Concrete	Undivided
WB	None	None	None	Good	5' 8"						

The shared use path ends at the crossing and there are 'Path Ends' pavement markings along the eastbound approach. A bike repair stand is located along the eastbound approach which provides basic tools for quick bicycle repairs.

Photos from left: (i) View from southbound approach of North Elm Street, (ii) Pavement markings along eastbound approach of the shared use path, (iii) Bike repair stand installed along the shared use path approach



**Remarks:** The crossing is located in a busy commercial area with high a volume of traffic. A bike repair stand is provided on one approach of the shared use path.

**71. SHAKER ROAD (Urban area crossing with overhead lighting)**

**Crash History in the Vicinity of the Crossing:**

Date	Time	Non-Motorist	Manner	Severity	Light	Road	Weather
10/8/2013	5:12 PM	None	Rear-end	Property damage	Daylight	Dry	Clear
12/9/2015	11:48 PM	None	Single Vehicle Crash	Property damage	Dark	Dry	Cloudy

**Shaker Road Safety Features: (Urban Collector, 2 Lanes, ADT: 5,731 (2017, MassDOT), undivided, Jurisdiction: City of Westfield)**

Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
NB	None	Good	Fair	RRFB	None	Poor	RRFB	Fair	Uphill	None	12' 7"
SB	None	Fair	Fair		None	Fair	RRFB	Fair	None	None	12' 11"

The visibility of the shared use path along from approaches of Shaker Road is partially blocked by overgrown vegetation.

**Columbia Greenway Trail Safety Features: (Stop sign Control with Median, 9'5" Wide Bituminous Pavement, Jurisdiction: Municipal)**

Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Width and Style	Ramp Material	Tactile Warning Plates
EB	Stop	Fair	Fair	Good	19' 2"	Blinking LED lights	27' 5"	None	Ladder 19' 6"	Concrete	Yes, undivided
WB	Stop	Fair	Fair	Good							

Stop signs for both approaches of the shared use path have flashing LED lights. Push buttons to activate Rectangular Rapid Flashing Beacons (RRFBs) are installed for both approaches of the shared use path.

*Photos from left: (i) RRFB and 'Stop' sign with LED lights along the shared use path approach, (ii) View from the shared use path approach (iii) View from Shaker Road Approach*



**Remarks:** The crossing is located in a residential area with low traffic volumes.

## Non-motorized Counts

PVPC collects bicycle and pedestrian volume counts for shared use paths, pedestrian counts on urban sidewalks and bicycle volumes for on-road dedicated bike lanes as a part of regional transportation goal to document data in the Pioneer Valley. There are currently 82 miles of bike lanes, and shared use path facilities combined in 15 communities in the Region. Shared use paths in the towns of Williamsburg and Belchertown do not have any at-grade roadway crossings. The City of Holyoke has a Canal/River Walk Recreation path which is only open to pedestrians.

PVPC uses a passive infra-red signal detector (Trafx Corp) with a data logger on shared use paths to tabulate and store volume counts. The device records a count each time an infra-red beam is interrupted by a passing cyclist or pedestrian. Pedestrian and Bicycle volume data is useful in predicting peak hours of use, seasonal fluctuations, and for engineering studies such a signal warrant analysis. This data is used to improve existing facilities and assist in the design of future bikepath projects in the region. An “on-road” bicycle counting program records the use of on-road bike lanes using a TRAX Cycles Plus automatic traffic data recorder. This counter can accurately count mixed bicycle and automotive traffic.

All non-motorized count data collected by PVPC is available through the online statewide database at: [http://bostonmpo.org/apps/bike\\_ped/bike\\_ped\\_query.cfm#](http://bostonmpo.org/apps/bike_ped/bike_ped_query.cfm#)

## Right of Way

Bicyclists and motorists are often confused by who has to yield the right-of-way at the intersection of a path and a street or roadway. Crosswalk markings can compound the confusion.

The unsignalized roadway crossing (crosswalk) on a shared use path can be confusing for both shared use path user and motorists. Under Massachusetts law motorists must yield to pedestrians in the crosswalk, however a stop sign facing the path means that cyclists must yield to traffic on the road. The safety of the crosswalk depends on the understanding of these rules by all users. It is important for bicyclists to slow down and even stop to check for cross traffic, and for motorists to yield to bicyclists already in the crosswalk, even if the path’s signage indicates that the bicyclist must yield. The operation of the crossing is further confused when a cyclist stops and intends to yield, then a motorist also stops. The confusion results in unnecessary delay and increased risk for both users. Additional risk at the crossing occurs when traffic in a more distant lane does not stop (when a view of the cyclist in the crossing is obscured the stopped by the traffic in the closer lane). Motorists typically do not recognize that bicyclists are not pedestrians, and cyclists further confuse the issue by riding across crosswalks, instead of dismounting and crossing as pedestrians. It is unrealistic to expect that all bicyclists will dismount and walk through crosswalk because it is so much slower. Many bicyclists would prefer that motorists not stop.<sup>3</sup>

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<sup>3</sup> [https://www.youtube.com/watch?time\\_continue=84&v=jHCMhM3tJjo](https://www.youtube.com/watch?time_continue=84&v=jHCMhM3tJjo)

Throughout the Pioneer Valley Region there is increasing concern that the priority assigned to the shared use path and roadway traffic at intersections and corresponding controls are not being implemented consistently or with due consideration of the intersection traffic conditions. This lack of a consistent methodology results in pathway and roadway users behaving unpredictably at intersections. This, in turn, can cause crashes. For example, in many cases a STOP sign is placed on the shared use path approaches “just to make sure” that pathway users behave in a safe manner. Often, motorists on low speed or low volume roadways will yield to users on the pathway; some even wave pathway users through the intersections. Consequently, pathway users may come to expect this yielding behavior from motorists. Some motorists, however, do not yield and surprise cyclists who expect to be able to ride through the intersection without yielding. Alternatively, a path user may come to expect motorists to yield at other intersections where motorists may be traveling faster and be less inclined to stop for path users. Essentially, the put-STOP-signs-everywhere approach to pathway / roadway intersection control leads to users ignoring the signs or failing to stop / yield when necessary. When overused or placed inappropriately, STOP signs are not seen as fulfilling a real need. Consequently, they fail to command the attention and respect of pathway users

“As users lose respect for the traffic control devices placed on the pathway, the safety of the shared use pathway is compromised. This is especially dangerous at locations where the STOP is warranted and non-compliance by some path users creates a serious safety problem. The Manual on Uniform Traffic Control Devices does not provide specific guidance on how to sign and stripe pathway / roadway intersections. The AASHTO Guide for the Development of Bicycle Facilities states only that intersection striping should be placed as warranted by the Manual on Uniform Traffic Control Devices (MUTCD). This lack of guidance contributes to the inconsistent and, in some cases, inappropriate, application of traffic control devices at these intersections, which, in turn, results in unpredictable and potentially dangerous behaviors on the part of motorists and path users.”<sup>4</sup>

## Guidance and Safety Measures for all Users

This section is intended to summarize the preferred behavior of all users as they approach a crossing or an intersection of shared use path and roadway.

**Pedestrians along the path:** When entering a path-street crossing and the path is marked with a crosswalk, treat it just like any other intersection that has a marked or unmarked crosswalk, or mid-block marked crosswalk. This means to communicate your intention to cross to approaching drivers and expect them (but wait for them) to yield / stop for you to cross.

**Bicyclists along the Path:** When approaching an intersection, obey the traffic controls as you encounter them. If there is a yield or stop sign on the path, then a crosswalk across the intersecting street, first obey the yield or stop sign before you cross the sidewalk or enter the street if there is no sidewalk. Once you have met this obligation, and yielded to pedestrians on the sidewalk, crossing the

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<sup>4</sup> <http://www.dot.state.mn.us/research/TS/2013/201323.pdf>

street is similar to crossing at any other crosswalk at an unsignalized intersection. Enter the crosswalk in a manner that is consistent with the safe use of the crosswalk by pedestrians, which means the bicyclist cannot suddenly leave a curb or other place of safety into the path of a vehicle that is so close that it is difficult for the operator of the vehicle to yield. If a motorist slows or stops to yield to you, or is yielding to a pedestrian also waiting to cross, ride across with care, being alert that another motorist (either approaching in another lane from behind the driver that stopped, or coming from the other direction) may not yield.

**Drivers along the highway:** A crosswalk is a regulatory control. You must yield to pedestrians and bicyclists that are in the crosswalk. Stay alert and watch for pedestrians and bicyclists approaching the crosswalk. Be prepared to yield or stop in the event a bicyclist or pedestrian enters the crosswalk.

## Design Standards and Guidelines

As mentioned earlier in the report a large variation in traffic control devices was observed along shared use paths in the region. There was a lack of uniformity along shared use paths and at the community level. Currently, there are many different guidelines and practices that are being adopted and advocated by MassDOT, local communities, bicycle and pedestrian advocate groups. As a result a uniform solution does not currently exist. The Pioneer Valley Planning Commission understands the need for uniform design and operational guidelines however this was not included as part of the scope of work for this inventory. All traffic control devices for shared use paths, roadways, and along at-grade crossings must be supported by an engineering study and local data before implementation.

All traffic control devices along shared use path crossings should be designed to accommodate all users with special needs. The United States Access Board and MassDOT provide public rights-of-way accessibility guidelines which help local agencies in planning and designing different transportation networks.

It is worthwhile to note that uniformity along a path is beneficial to the users to convey the proper message on how to safely navigate across the roadway. Similarly, standardized traffic control measures and warning devices along roadways enhance operations, improve safety and compliance. This issue requires public and private agencies to coordinate and adopt a set of guidelines. In the meantime, resources on traffic control measures for shared use paths and roadways are listed below:

1. Manual on Uniform Traffic Control Devices (MUTCD) 2009, *Federal Highway Authority, Revisions 1 and 2*(May 2012) <https://mutcd.fhwa.dot.gov/pdfs/2009r1r2/mutcd2009r1r2edition.pdf>
2. Separated Bike Lane Planning and Design Guide 2015, *Massachusetts Department of Transportation (MassDOT)* <https://www.mass.gov/lists/separated-bike-lane-planning-design-guide>
3. A Policy on Geometric Design of Highways and Streets 2011, *American Association of State Highway and Transportation Officials (AASHTO)*
4. Guide for the Development of Bicycle Facilities 2012, *American Association of State Highway and Transportation Officials (AASHTO)*
5. Urban Bikeway Design Guide 2014, *National Association of City Transportation Officials (NACTO)*
6. Americans with Disabilities Act 2018, *(ADA Guidelines)*

**COMMENTS RECEIVED ON THE DRAFT REPORT DEC 2018 / JAN 2019**

<b>NO.</b>	<b>NAME/AFFILIATION</b>	<b>COMMENT</b>	<b>ACTION/RESPONSE</b>
1	Matthew Sokop City of Springfield	McKnight Trail shown in the figure is proposed not existing.	All proposed shared use paths are removed from the diagrams in the Final Report
2	Michelle Chase Town of Agawam	<ol style="list-style-type: none"> <li>1. Proposed shared use paths shown in the maps</li> <li>2. New shared use path constructed along Route 10 in Southampton</li> <li>3. Distortion of images</li> <li>4. Damon Road misspelled</li> </ol>	<ol style="list-style-type: none"> <li>1. All proposed shared use paths are removed from the diagrams in the Final Report.</li> <li>2. The new locations along the Route 10 path in Southampton could be included in a future addendum</li> <li>3. Noted</li> <li>4. Corrected</li> </ol>
3	Guilford Mooring Town of Amherst	<ol style="list-style-type: none"> <li>1. Proposed shared use paths depicted in Map</li> <li>2. Shared Use Path along West Street not included</li> </ol>	<ol style="list-style-type: none"> <li>1. All proposed shared use paths are removed from the diagrams in the Final Report.</li> <li>2. Crossings along the West Street shared use path could be included in a future addendum</li> </ol>
4	Wayne Feiden City of Northampton	<ol style="list-style-type: none"> <li>1. Comment about Tactile Warning Plates write up</li> <li>2. Retired name 'Northampton Bikeway'</li> <li>3. More emphasis on discouraging bollards</li> <li>4. Proposed shared use paths in the map</li> <li>5. King Street Reconstruction project details for that location</li> <li>6. Veteran's Field Driveway location addition</li> </ol>	<ol style="list-style-type: none"> <li>1. A description was added in the 'Introduction' and a table with locations without Tactile Warning Plates was included in Appendix 4</li> <li>2. Change made</li> <li>3. Appropriate write up added to this section</li> <li>4. All proposed shared use paths are removed from the diagrams in the Final Report.</li> <li>5. Information added</li> <li>6. Sheldon Field Driveway could be included in a future addendum</li> </ol>

		<ul style="list-style-type: none"> <li>7. Crossings 40-41 are for Hospital Hill Rail Trail Spur and not New Haven Northampton Canal Line</li> <li>8. Renamed Manhan Rail Trail Spur to Rocky Hill Greenway</li> <li>9. Discussion regarding legislation for bicyclists to walk or ride bikes along crosswalks</li> <li>10. Additional 2 locations along Veteran’s Administration Park and Ride Lot</li> </ul>	<ul style="list-style-type: none"> <li>7. Corrected</li> <li>8. Changes made</li> <li>9. Noted. Beyond the scope of this report.</li> <li>10. These locations could be included in a future addendum</li> </ul>
5	David Veleta and Maggie Chan City of Northampton	<ul style="list-style-type: none"> <li>1. What shared use path layer was used?</li> <li>2. Was latest crash data used?</li> <li>3. Specific signage recommendation</li> <li>4. Damon Road spell check</li> <li>5. Ambiguity in shared use path sign description</li> <li>6. Recommendation regarding installation of advance warning signs at different locations along with pavement markings</li> <li>7. Musante Drive not road</li> <li>8. Guidelines for shared use path pavement markings</li> <li>9. Proposed paths included</li> <li>10. Moving route markers in map to avoid overlap</li> <li>11. Railroad Avenue location jurisdiction is Private</li> <li>12. Provided speed limits for a number of locations that did not have posted speed limit signs</li> <li>13. Question about counts within Look Park</li> </ul>	<ul style="list-style-type: none"> <li>1. MassDOT layer</li> <li>2. Yes</li> <li>3. Beyond the scope of the report. Appropriate sources cited</li> <li>4. Done</li> <li>5. Changes made to convey the correct message</li> <li>6. Beyond the scope of this report</li> <li>7. Corrected</li> <li>8. Beyond the scope of this report. Appropriate sources cited.</li> <li>9. All proposed shared use paths are removed from the diagrams in the Final Report.</li> <li>10. Done</li> <li>11. Corrected</li> <li>12. Information added</li> <li>13. Provided count source information</li> </ul>

		14. Jurisdiction changes for 2 other locations	14. Changes made
6	Laura Hanson MassDOT	<ol style="list-style-type: none"> <li>1. Disclaimer that each location is unique and cannot be duplicated or confused as standard</li> <li>2. New designs should follow latest standards</li> <li>3. Most recent crash data and counts</li> <li>4. Pedestrian and bicycle counts information</li> <li>5. Reference to PVPC aiding in data collection as RTP goal</li> <li>6. Cooperation with MassDOT to update GIS inventory as RTP goal</li> </ol>	<ol style="list-style-type: none"> <li>1. Disclaimer added</li> <li>2. Noted</li> <li>3. Most recent data was used</li> <li>4. Available information was included and sources cited</li> <li>5. Done</li> <li>6. Discussion about RTP goals</li> </ol>
7	Robert Peirent City of Holyoke	<ol style="list-style-type: none"> <li>1. Clarifying the scope of the report in Introduction</li> <li>2. Rules of road and right of way at crossings</li> <li>3. Consistent standards and practices</li> </ol>	<ol style="list-style-type: none"> <li>1. Scope identified in the 'Introduction'</li> <li>2. A write up addresses this issue. Further details beyond the scope of the report</li> <li>3. Noted</li> </ol>
8	Randy Brown Town of Southwick	<ol style="list-style-type: none"> <li>1. Southwick section footer correction</li> <li>2. Information for Congamond Road Reconstruction Project</li> </ol>	<ol style="list-style-type: none"> <li>1. Corrected</li> <li>2. Information added</li> </ol>
9	Meg Robertson Massachusetts Commission for the Blind	<ol style="list-style-type: none"> <li>1. Nothing in report about public right-of-way accessibility issues</li> <li>2. Tactile warning plates</li> <li>3. ADA compliant signals</li> </ol>	<ol style="list-style-type: none"> <li>1. Reference to the guidelines added in the report</li> <li>2. Write up and table added</li> <li>3. Reference added</li> </ol>
10	Sheila McElwaine	<ol style="list-style-type: none"> <li>1. Special note about West Street crossing location in Springfield. Personal experience highlighted.</li> <li>2. Wanted to add Clinton Street and Pan AM Railroad tracks location for assessment</li> <li>3. Wanted to add crossing along the Riverfront Park</li> </ol>	<ol style="list-style-type: none"> <li>1. Noted</li> <li>2. Could be included in a future addendum</li> <li>3. Could be included in a future addendum</li> </ol>

		entrance on State Street	
11	Jennifer Richard MassDOT	<ol style="list-style-type: none"> <li>1. Comment on crosswalk diagram</li> <li>2. Write up clarifying policy on Bollards</li> <li>3. Shared Use Path sign recommendation</li> </ol>	<ol style="list-style-type: none"> <li>1. FHWA Figure included only for informational purposes to show the type of crosswalks</li> <li>2. Information added as per the comment in the Bollard section</li> <li>3. Specific signage recommendations are beyond the scope of this report</li> </ol>
12	Betsy Johnson Joint Transportation Complete Streets Sub Committee	<ol style="list-style-type: none"> <li>1. Importance of the report as an advocacy tool</li> <li>2. Wants to include the State Street and Clinton Street locations within the addendum</li> </ol>	<ol style="list-style-type: none"> <li>1. Noted</li> <li>2. Noted</li> </ol>

**APPENDIX 1: SUMMARY OF DATA COLLECTED ALONG HIGHWAY APPROACHES**

No.	Community	Location	Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
1	Agawam	School Street	EB	None	None	None	Stop Sign	None	Poor	None	Fair	None	None	10' 8" / 9"
1	Agawam	School Street	WB	None	None	None	Stop Sign	None	None	None	None	None	40	10' 6" / 11"
2	Agawam	River Road	NB	None	Good	None	RRFB	None	Fair	RRFB	Good	None	35	10' 11", 1' 11"
2	Agawam	River Road	SB	None	Good	None	RRFB	None	Fair	RRFB	Good	None	40	11' 6", 3' 8"
3	Amherst	Station Road	EB	Poor	Good	Fair	None	Fair	Good	None	Fair	None	None	11' 2" / none
3	Amherst	Station Road	WB	Good	Good	Fair	None	Fair	Good	None	Fair	Slight Downhill	None	10' 8" / none
4	Amherst	Southwest Circle (OUT)	EB	None	None	None	None	None	None	None	None	None	None	None
4	Amherst	Southwest Circle (OUT)	WB	None	None	None	Stop Sign	None	Good	None	Good	None	None	19' 7" / none
5	Amherst	Southwest Circle (IN)	EB	None	None	None	None	None	Fair	None	Good	None	None	11' 7" / 8' 8"
5	Amherst	Southwest Circle (IN)	WB	None	None	None	None	None	None	None	None	None	None	None
6	Amherst	Fearing Street	EB	None	None	None	None	None	None	None	Good	None	None	--
6	Amherst	Fearing Street	WB	None	None	None	Stop Sign	None	None	None	Good	None	None	10' 11" / none

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7	Amherst	Amity Street	EB	Good	None	None	Signal	None	Good	None	Good	None	None	--
7	Amherst	Amity Street	WB	None	None	None	Signal	None	Good	None	Good	None	None	10' 4" / none
8	Amherst	Northampton Road	EB	Good	None	None	Signal	None	Poor	None	Good	None	None	--
8	Amherst	Northampton Road	WB	Poor	None	None	Signal	None	Poor	None	Good	None	35	12' 5" / 1' 5"
9	Brimfield	Five Bridge Road	NB	None	Fair	None	None	None	None	None	Fair	None	None	7' 9" / none
9	Brimfield	Five Bridge Road	SB	None	Fair	None	None	None	None	None	Fair	None	None	7' 2" / none
10	East Longmeadow	Maple Street	EB	Good	Good	None	RRFB	None	Fair	RRFB	Good	None	None	13' 4" / 3' 8"
10	East Longmeadow	Maple Street	WB	Good	Good	None	RRFB	None	Fair	RRFB	Good	None	None	13' 7" / 3' 4"
11	East Longmeadow	Chestnut Street	EB	Good	Good	Poor	RRFB	None	Fair	RRFB	Fair	None	20	18' 0" / 5' 2"
11	East Longmeadow	Chestnut Street	WB	Good	Good	Poor	RRFB	None	Fair	RRFB	Good	Slight Downhill	None	12' 1" / 6' 3"
12	East Longmeadow	Industrial Drive	EB	Good	Good	Fair	None	None	Fair	-	Good	None	None	14' 3" / 6' 9"
12	East Longmeadow	Industrial Drive	WB	Good	Good	Fair	None	None	Fair	-	Good	None	None	13' 8" / 8' 5"

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13	Easthampton	North Street	NB	None	None	None	None	None	None	None	Good	None	None	--
13	Easthampton	North Street	SB	None	None	None	None	None	None	None	Good	None	None	--
14	Easthampton	Fort Hill Road	NB	Fair	Good	None	None	None	Good	None	Fair	None	None	9' 0" / none
14	Easthampton	Fort Hill Road	SB	None	Good	None	None	None	Good	None	Fair	None	None	9' 1" / none
15	Easthampton	Arthur Street	NB	None	Good	None	None	None	Poor	None	Fair	None	None	14' 8" / none
15	Easthampton	Arthur Street	SB	None	Good	None	None	None	Poor	None	Fair	None	None	14' 9" / none
16	Easthampton	Gosselin Drive	NB	Good	Good	None	None	None	Good	None	Poor	None	None	10' 4" / none
16	Easthampton	Gosselin Drive	SB	None	Good	None	None	None	Poor	None	Poor	Uphill	None	9' 9" / none
17	Easthampton	Lovefield Street	EB	Fair	Good	Fair	None	None	Good	None	Fair	None	35	10' 7" / none
17	Easthampton	Lovefield Street	WB	Good	Good	Fair	None	None	Good	None	Fair	None	None	10' 9" / none
18	Easthampton	Lovefield Street (Intersection)	EB	None	None	None	None	None	Good	None	Good	None	30	None
18	Easthampton	Lovefield Street (Intersection)	WB	Fair	None	None	Stop Sign	None	Good	None	Poor	Slight Downhill	None	14' 1" / none

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19	Easthampton	Ferry Street	EB	None	Good	None	None	None	Good	None	Good	Downhill	None	25' 7" / None
19	Easthampton	Ferry Street	WB	None	Good	None	None	None	Fair	None	Poor	Slight Uphill	None	11' 5" / 1' 8"
20	Easthampton	Union Street	NB	None	Good	None	None	None	Fair	None	Fair	Uphill	25	18' 7" / none
20	Easthampton	Union Street	SB	None	None	None	None	None	Fair	None	Fair	Downhill	None	17' 5" / none
21	Easthampton	Payson Avenue	EB	Good	None	None	None	None	Good	None	Good	Uphill	None	15' 9" / none
21	Easthampton	Payson Avenue	WB	Good	Poor	None	None	None	Good	None	Good	Downhill	None	14' 6" / none
22	Easthampton	South Street	NB	None	Good	Fair	None	None	Fair	None	Poor	None	None	15' 4" / none
22	Easthampton	South Street	SB	Good	None	Fair	None	None	Fair	None	Poor	Downhill	None	13' 7" / none
23	Hadley	South Maple Street	NB	Good	Good	None	RRFB	Poor	Fair	RRFB	Good	None	None	9' 4" / 0' 8"
23	Hadley	South Maple Street	SB	Fair	Good	Poor	RRFB	Fair	Fair	RRFB	Good	None	None	11' 10" / 0' 10"
24	Hadley	East Street	NB	Good	Good	Poor	None	Fair	Fair	None	Fair	None	None	11' 5" / 3' 0"
24	Hadley	East Street	SB	Good	Good	Poor	None	Fair	Good	None	Poor	None	30	11' 9" / 2' 8"

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25	Hadley	Middle Street	NB	Good	Good	Poor	None	Fair	Good	None	Good	None	30	11' 10" / 7' 1"
25	Hadley	Middle Street	SB	Good	Good	Fair	None	Fair	Good	None	Good	None	35	11' 4" / 6' 4"
26	Hadley	West Street (East)	NB	Good	Good	Poor	None	Fair	Fair	None	Good	None	35	11' 7" / none
26	Hadley	West Street (East)	SB	Good	Good	Poor	None	Fair	Fair	None	Good	None	None	11' 6" / none
27	Hadley	West Street (West)	NB	Good	Good	Poor	None	Fair	Fair	None	Good	None	35	11' 7" / none
27	Hadley	West Street (West)	SB	Good	Good	Poor	None	Fair	Fair	None	Good	None	None	11' 6" / none
28	Hadley	Cross Path Road	NB	None	Good	Fair	None	Poor	Fair	None	Fair	None	30	9' 0" / none
28	Hadley	Cross Path Road	SB	None	Good	Poor	None	Poor	Fair	None	Fair	Uphill	None	10' 0" / none
29	Ludlow	First Avenue	EB	None	None	None	None	None	None	None	Good	None	10	13' 9" / none
29	Ludlow	First Avenue	WB	None	None	None	None	None	None	None	Good	None	None	12' 8" / none
30	Northampton	Damon Road	EB	Good	Good	None	Signal	None	Poor	None	Fair	None	30	13' 8" / none
30	Northampton	Damon Road	WB	Good	Fair	None	Signal	None	Poor	None	Good	None	None	15' 5" / none

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31	Northampton	Bates Street	NB	Good	Good	None	RRFB	Good	Good	None	Fair	None	None	14' 5" / none
31	Northampton	Bates Street	SB	Good	Good	None	RRFB	Good	Good	None	Fair	None	None	14' 0" / none
32	Northampton	Woodmont Road	NB	Good	Good	Good	None	None	Good	None	Good	Slight Downhill	None	10' 1" / none
32	Northampton	Woodmont Road	SB	Good	Good	Good	None	None	Good	None	Fair	Slight Downhill	None	9' 8" / none
33	Northampton	King Street (Walgreens)	NB	None	None	None	Signal	None	Good	None	Good	None	None	10' 3" / 1' 3"
33	Northampton	King Street (Walgreens)	SB	None	None	None	Signal	None	Good	None	Good	None	None	11' 2" / 2' 5"
34	Northampton	King Street	NB	Good	Good	Poor	Signal	None	Good	None	Good	None	None	10' 9" / 3' 9"
34	Northampton	King Street	SB	Good	Good	Poor	Signal	None	Good	None	Good	None	None	10' 10" / 3' 9"
35	Northampton	Railroad Avenue	NB	None	None	None	None	None	Poor	None	Good	None	None	--
35	Northampton	Railroad Avenue	SB	None	None	None	None	None	Poor	None	Good	None	None	--
36	Northampton	Pleasant Street	NB	Good	Good	None	Yield	None	Fair	None	Good	None	25	11' 7" / none
36	Northampton	Pleasant Street	SB	None	Good	None	Yield	None	Fair	None	Good	None	None	11' 6" / none

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37	Northampton	Old South Street	NB	Good	Good	Poor	None	None	Good	None	Good	None	None	12'4" / 1'5"
37	Northampton	Old South Street	SB	Fair	Good	Poor	None	None	Good	None	Good	None	None	12'2" / 1'8"
38	Northampton	Roundhouse Plaza	EB	None	Good	None	Stop Sign	None	Fair	None	Fair	None	None	11' 9" / none
38	Northampton	Roundhouse Plaza	WB	None	None	None	None	None	None	None	Good	None	None	None
39	Northampton	Old South Street (Parking Lot)	NB	None	Poor	Poor	None	None	Poor	None	Fair	None	None	None
39	Northampton	Old South Street (Parking Lot)	SB	None	Fair	Poor	None	None	Poor	none	Fair	None	None	None
40	Northampton	Prince/ West Street	EB	Good	Good	Poor	None	None	Good	None	Good	Downhill	25	11' 6" / 2' 9"
40	Northampton	Prince/ West Street	WB	Good	Good	Poor	None	None	Good	None	Good	Uphill	25	11' 3" / 0' 9"
41	Northampton	Earle Street	NB	Good	Good	Poor	None	None	Good	None	Fair	None	None	10' 8" / 4' 6"
41	Northampton	Earle Street	SB	Good	Good	Poor	None	None	Good	None	Fair	None	None	11' 4" / 4' 1"
42	Northampton	Earle Street (Intersection)	NB	None	Good	None	Stop Sign	None	Good	None	Good	None	None	12' 2" / none
42	Northampton	Earle Street (Intersection)	SB	None	Good	None	Stop Sign	None	Good	None	Good	Slight Downhill	None	11' 5" / none

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43	Northampton	Grove Street (Texas Road)	EB	None	Good	Poor	Stop Sign	None	Good	None	Good	downhill	None	10' 9"/ 0' 8"
43	Northampton	Grove Street (Texas Road)	WB	None	Good	Poor	Stop Sign	None	Good	None	Good	None	None	11' 5"/ 0' 10"
44	Northampton	Village Hill Road	NB	None	None	None	None	None	Good	None	Good	None	None	12'5"/0
44	Northampton	Village Hill Road	SB	None	None	None	None	None	Good	None	Good	None	None	11'/0
45	Northampton	Musante Drive	NB	None	Good	None	Raised Crosswalk	Speed Bump Markings/ Fair	Good	Speed Bump	Fair	None	None	12'7"/0
45	Northampton	Musante Drive	SB	None	Good	None	Raised Crosswalk	Speed Bump Markings/ Fair	Good	Speed Bump	Good	None	None	12'7"/0
46	Northampton	(1) Black Birch Trail	EB	None	None	None	None	None	None	None	Good	None	None	10' 0"/ none
46	Northampton	(1) Black Birch Trail	WB	None	None	None	None	None	None	None	None	None	None	None
47	Northampton	(2) Black Birch Trail	EB	None	None	None	None	None	None	None	Good	None	None	9' 9"/ none
47	Northampton	(2) Black Birch Trail	WB	None	None	None	None	None	None	None	None	None	None	None
48	Northampton	Florence Road	NB	None	None	None	None	None	None	None	Fair	None	None	14' 6"/ none
48	Northampton	Florence Road	SB	None	None	None	None	None	None	None	Good	None	None	11' 9"/ none

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49	Northampton	Prospect Avenue	NB	None	Fair	None	None	None	Good	None	Poor	None	30	11' 2" / none
49	Northampton	Prospect Avenue	SB	None	Fair	None	None	None	Fair	None	Poor	Downhill	30	11' 5" / none
50	Northampton	North Elm Street	NB	None	Good	None	None	None	Poor	None	Poor	None	None	12' 1" / none
50	Northampton	North Elm Street	SB	None	Good	None	None	None	Poor	None	Good	None	None	12' 1" / none
51	Northampton	Hatfield Street	NB	None	Good	None	None	None	Poor	None	Good	None	None	12' 0" / none
51	Northampton	Hatfield Street	SB	None	Good	None	None	None	Poor	None	Good	None	None	12' 0" / none
52	Northampton	Straw Avenue	NB	None	Good	None	None	None	Fair	None	Fair	None	None	13' 11" / none
52	Northampton	Straw Avenue	SB	None	Fair	None	None	None	Fair	None	Fair	None	None	13' 1" / none
53	Northampton	Chestnut Street	NB	Poor	Good	None	None	Fair	Good	None	Poor	None	None	12' 2" / none
53	Northampton	Chestnut Street	SB	Good	Good	None	None	Fair	Good	None	Fair	Slight Downhill	None	11' 9" / none
54	Northampton	Keyes Street	NB	Good	Good	None	None	None	Fair	None	Fair	None	None	10' 8" / none
54	Northampton	Keyes Street	SB	Good	Good	None	None	None	Fair	None	Fair	None	None	10' 11" / none

**APPENDIX 1: SUMMARY OF DATA COLLECTED ALONG HIGHWAY APPROACHES**

No.	Community	Location	Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
55	Northampton	North Maple Street	NB	None	Good	None	None	None	Poor	Sr. Citizen Sign	Poor	None	30	18' 6" / none
55	Northampton	North Maple Street	SB	None	Good	None	None	None	Poor	Sr. Citizen Sign	Good	None	None	18' 6" / none
56	Northampton	Bardwell Street	EB	None	Good	None	None	None	Fair	None	Good	None	None	12' 9" / none
56	Northampton	Bardwell Street	WB	None	Good	None	None	None	Fair	None	Fair	None	None	12' 9" / none
57	Northampton	Meadow Street	EB	None	Good	None	None	Poor	Good	None	Good	None	35	11' 8" / none
57	Northampton	Meadow Street	WB	None	Good	None	None	Poor	Good	None	Good	None	None	11' 3" / none
58	Northampton	Spring Street	NB	None	Good	None	None	Poor	Good	None	Good	None	30	12' 2" / none
58	Northampton	Spring Street	SB	None	Good	None	None	Poor	Good	None	Good	None	30	11' 9" / none
59	Northampton	Bridge Road	EB	None	Good	None	None	Fair	Fair	None	Good	None	None	13' 0" / 1' 0"
59	Northampton	Bridge Road	WB	None	Good	None	None	Poor	Fair	None	Fair	None	15	26' 0" / 1' 0"
60	Northampton	North Main Street	NB	None	Good	None	None	Fair	Fair	None	Good	None	None	20' 1" / 1' 10"
60	Northampton	North Main Street	SB	None	Good	None	None	Poor	Poor	None	Good	None	15	17' 10" / 1' 11"

**APPENDIX 1: SUMMARY OF DATA COLLECTED ALONG HIGHWAY APPROACHES**

No.	Community	Location	Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
61	Northampton	Lower Pool Road	NB	None	Good	Fair	Speed Bump	None	Fair	See note	Good	None	None	19' 0" / none
61	Northampton	Lower Pool Road	SB	None	None	None	None	None	None	None	None	None	None	None
62	Northampton	Old Trolley Road	EB	None	None	None	None	None	None	None	None	None	None	None
62	Northampton	Old Trolley Road	WB	None	Good	None	Speed Bump	None	Good	None	Good	None	15	21' 0" / none
63	Northampton	Mulberry Street	EB	Good	Good	None	None	None	Fair	None	Poor	Uphill	25	15' 1" / none
63	Northampton	Mulberry Street	WB	Good	Good	Poor	None	None	Good	None	Poor	Slight Downhill	25	14' 4" / none
64	Southampton	Coleman Road	NB	Good	Good	Poor	None	None	Fair	None	Poor	Downhill	25	11' 2" / 0' 8"
64	Southampton	Coleman Road	SB	Good	Good	Poor	None	None	Fair	None	Fair	None	25	11' 2" / 1' 3"
65	Southwick	Sam West Road	EB	None	Good	Good	None	None	Fair	None	Good	None	None	8' 2"
65	Southwick	Sam West Road	WB	None	None	None	None	None	Fair	None	Good	None	None	8' 0"
66	Southwick	Feeding Hill Road	EB	None	Good	Fair	Signal	None	None	Stop Ahead	Good	None	None	11' 0" / 5' 6"
66	Southwick	Feeding Hill Road	WB	None	Good	Poor	Signal	None	None	Flashing Stop Ahead	Fair	Slight Downhill	None	11' 8" / 2' 7"

**APPENDIX 1: SUMMARY OF DATA COLLECTED ALONG HIGHWAY APPROACHES**

No.	Community	Location	Dir.	Advance Warning Signs	Shared use path Signs	Advance Pavement Markings	Control Type	Shark Teeth Yield Markings	Cross Walk Markings	Additional Safety Features	Visibility of shared use path	Grade	Posted Speed Limit	Avg. Lane and Shoulder Width
67	Southwick	Depot Street	EB	None	Good	Fair	Stop Sign	None	Fair	None	Fair	None	15	10' 4" / 0' 7"
67	Southwick	Depot Street	WB	None	Good	Good	Stop Sign	None	Fair	None	Good	None	None	10' 9" / 2' 8"
68	Southwick	Congamond Road	EB	None	Fair	Poor	None	None	Poor	None	Good	None	25	12' 0" / 1' 6"
68	Southwick	Congamond Road	WB	None	Fair	Poor	None	None	Poor	None	Good	None	None	12' 4" / 2' 7"
69	Springfield	West Street	EB	None	Poor	None	Signal	None	Good	Signal	Poor	Downhill	None	11', 3' 11"
69	Springfield	West Street	WB	Fair	Good	None	Signal	None	Fair	Supplemental Signs	Good	None	None	11' 6", 4' 3"
70	Westfield	North Elm Street	NB	None	None	None	None	None	None	None	None	None	None	None
70	Westfield	North Elm Street	SB	None	None	None	None	None	Fair	Ped Sign	Good	None	None	11' 11" / 2' 1"
71	Westfield	Shaker Road	NB	None	Good	Fair	RRFB	None	Fair	RRFB	Fair	None	20	18' 0" / 5' 2"
71	Westfield	Shaker Road	SB	None	Fair	Fair	RRFB	None	Fair	RRFB	Good	Slight Downhill	None	12' 1" / 6' 3"

**APPENDIX 2: SUMMARY OF DATA COLLECTED ALONG SHARED USE PATH APPROACHES**

No.	Community	Shared Use Path	Location	Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Style	Width Feet	Add Width Inches	Tactile Warning Plates
1	Agawam	Agawam Riverwalk and Bikeway	School Street	NB	None	No sign	None	Poor	9' 10"	Bollard in a Median	66' 6"	None	Continental	10'	3"	Divided
1	Agawam	Agawam Riverwalk and Bikeway	School Street	SB	Stop Sign	Good	Poor	Good	9' 10"	Bollard in a Median	66' 6"	None	Continental	10'	3"	Divided
2	Agawam	Agawam Riverwalk and Bikeway	River Road	EB	Stop Sign	Good	Fair	Good	11' 11"	Bollard in a Median	31' 1"	None	Ladder	17'	2"	Divided
2	Agawam	Agawam Riverwalk and Bikeway	River Road	WB	Stop Sign	Good	Fair	Good	18' 2"	Bollard in a Median	31' 1"	None	Ladder	17'	2"	Divided
3	Amherst	Norwottuck Branch of Mass Central Rail Trail	Station Road	NB	Stop Sign	Good	Fair	Good	8' 9"	Bollard	31' 9"	None	Zebra	20'	7"	Undivided
3	Amherst	Norwottuck Branch of Mass Central Rail Trail	Station Road	SB	Stop Sign	Good	Fair	Good	8' 9"	None	31' 9"	None	Zebra	20'	7"	None
5	Amherst	Norwottuck Branch of Mass Central Rail Trail	Southwest Circle (IN)	NB	None	None	Poor	Good	12' 2"	None	30' 3"	None	Ladder	11'	8"	Undivided
5	Amherst	Norwottuck Branch of Mass Central Rail Trail	Southwest Circle (IN)	SB	Yield	Good	Poor	Good	12' 2"	None	30' 3"	None	Ladder	11'	8"	None
4	Amherst	Norwottuck Branch of Mass Central Rail Trail	Southwest Circle (OUT)	NB	Stop Sign	Good	Poor	Good	11' 8"	None	29' 2"	None	Ladder	11'	9"	None
4	Amherst	Norwottuck Branch of Mass Central Rail Trail	Southwest Circle (OUT)	SB	Stop Sign	Good	Poor	Good	11' 8"	None	29' 2"	None	Ladder	11'	8"	Undivided

**APPENDIX 2: SUMMARY OF DATA COLLECTED ALONG SHARED USE PATH APPROACHES**

No.	Community	Shared Use Path	Location	Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Style	Width Feet	Add Width Inches	Tactile Warning Plates
6	Amherst	Norwottuck Branch of Mass Central Rail Trail	Fearing Street	NB	Stop Sign	Fair	Poor	Good	9' 3"	None	28' 9"	None	None			None
6	Amherst	Norwottuck Branch of Mass Central Rail Trail	Fearing Street	SB	Stop Sign	Fair	Poor	Good	9' 3"	None	28' 9"	None	None			None
7	Amherst	Norwottuck Branch of Mass Central Rail Trail	Amity Street	NB	Signal	None	Fair	Good	12' 3"	ADA Compliant Push Button	27' 3"	None	Zebra	12'	9"	None
7	Amherst	Norwottuck Branch of Mass Central Rail Trail	Amity Street	SB	Signal	None	Poor	Good	12' 3"	None	27' 3"	None	Zebra	12'	9"	None
8	Amherst	Norwottuck Branch of Mass Central Rail Trail	Northampton Road	NB	Signal	Fair	Poor	Good	8' 2"	ADA Compliant Push Button	83' 2"	Yes	Zebra	11'	0"	None
8	Amherst	Norwottuck Branch of Mass Central Rail Trail	Northampton Road	SB	Signal	Fair	Poor	Good	8' 2"	None	83' 2"	Yes	Zebra	11'	0"	None
9	Brimfield	Brimfield Trail Section of the Titanic Rail Trail	Five Bridge Road	EB	None	None	None	Fair	4' 5"	None	32' 9"	None	None			None
9	Brimfield	Brimfield Trail Section of the Titanic Rail Trail	Five Bridge Road	WB	None	None	None	Good	4' 5"	None	32' 9"	None	None			None
10	East Longmeadow	Longmeadow Red Stone Rail Trail East	Maple Street	NB	Stop Sign	Good	Good	Good	10' 0"	Bollard in a Median	43' 8"	None	Zebra	10'	8"	Divided
10	East Longmeadow	Longmeadow Red Stone Rail Trail	Maple Street	SB	None	Good	Good	Good	10' 0"	Bollard in a Median	43' 8"	None	Zebra	10'	8"	Divided

**APPENDIX 2: SUMMARY OF DATA COLLECTED ALONG SHARED USE PATH APPROACHES**

No.	Community	Shared Use Path	Location	Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Style	Width Feet	Add Width Inches	Tactile Warning Plates
11	East Longmeadow	East Longmeadow Red Stone Rail Trail	Chestnut Street	NB	Stop Sign	Good	Fair	Good	9' 11"	Bollard in a Median	46' 7"	None	Zebra	11'	7"	Divided
11	East Longmeadow	East Longmeadow Red Stone Rail Trail	Chestnut Street	SB	Stop Sign	Good	Fair	Good	9' 11"	Bollard in a Median	46' 7"	None	Zebra	11'	7"	Divided
12	East Longmeadow	East Longmeadow Red Stone Rail Trail	Industrial Drive	NB	Stop Sign	Good	Fair	Good	9' 9"	Bollard in a Median	52' 7"	None	Zebra	10'	6"	Divided
12	East Longmeadow	East Longmeadow Red Stone Rail Trail	Industrial Drive	SB	Stop Sign	Good	Poor	Good	9' 9"	Bollard in a Median	52' 7"	None	Zebra	10'	6"	Divided
13	Easthampton	Manhan Rail Trail	North Street	EB	Stop	Fair	Fair	Good	15' 6"	None	None	None	None	None	None	None
13	Easthampton	Manhan Rail Trail	North Street	WB	None	None	None	none	15' 6"	None	None	None	None	None	None	None
14	Easthampton	Manhan Rail Trail	Fort Hill Road	EB	Stop Sign	Fair	Good	Good	11' 9"	Bollard Red	22' 6"	None	Continental	10'	11"	None
14	Easthampton	Manhan Rail Trail	Fort Hill Road	WB	Stop Sign	Fair	Good	Good	11' 9"	Bollard Red	22' 6"	None	Continental	10'	11"	None
15	Easthampton	Manhan Rail Trail	Arthur Street	EB	Stop Sign	Fair	Good	Fair	10' 9"	Bollard Red	28' 11"	None	Continental	10'	7"	None
15	Easthampton	Manhan Rail Trail	Arthur Street	WB	Stop Sign	Good	Good	Fair	10' 9"	Bollard Red	28' 11"	None	Continental	10'	7"	None

**APPENDIX 2: SUMMARY OF DATA COLLECTED ALONG SHARED USE PATH APPROACHES**

No.	Community	Shared Use Path	Location	Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Style	Width Feet	Add Width Inches	Tactile Warning Plates
16	Easthampton	Manhan Rail Trail	Gosselin Drive	EB	Stop Sign	Fair	Good	Fair	10' 8"	Bollard Red	25' 1"	None	Continental	10'	9"	None
16	Easthampton	Manhan Rail Trail	Gosselin Drive	WB	Stop Sign	Fair	Good	Fair	10' 8"	Bollard Red	25' 1"	None	Continental	10'	9"	None
17	Easthampton	Manhan Rail Trail	Lovefield Street	NB	Stop Sign	Good	Good	Good	11' 9"	Bollard Yellow	51' 2"	None	Continental	24'	6"	None
17	Easthampton	Manhan Rail Trail	Lovefield Street	SB	Stop Sign	Good	Good	Good	11' 9"	Bollard Yellow	51' 2"	None	Continental	24'	6"	None
18	Easthampton	Manhan Rail Trail	Lovefield Street (Intersection)	NB	Stop Sign	Good	Good	Good	10' 10"	Bollard Yellow	38' 8"	None	Continental	10'	5"	Undivided
18	Easthampton	Manhan Rail Trail	Lovefield Street (Intersection)	SB	Stop Sign	Good	Good	Fair	10' 10"	Bollard Yellow	38' 8"	None	Continental	10'	5"	None
19	Easthampton	Manhan Rail Trail	Ferry Street	NB	Stop Sign	Good	Good	Good	12' 0"	Warning Sign	51' 6"	None	Continental	11'	5"	None
19	Easthampton	Manhan Rail Trail	Ferry Street	SB	Stop Sign	Good	Fair	Fair	12' 0"	Warning Sign	51' 6"	None	Continental	11'	5"	None
20	Easthampton	Manhan Rail Trail	Union Street	EB	Stop Sign	Good	Fair	Good	15' 9"	Bollard	45' 3"	None	Continental	11'	0"	None
20	Easthampton	Manhan Rail Trail	Union Street	WB	Stop Sign	Good	Fair	Good	15' 9"	Bollard	45' 3"	None	Continental	11'	0"	None

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No.	Community	Shared Use Path	Location	Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Style	Width Feet	Add Width Inches	Tactile Warning Plates
21	Easthampton	Manhan Rail Trail	Payson Avenue	NB	Stop Sign	Good	Good	Good	10' 11"	Bollard	30' 1"	None	Continental	10'	7"	None
21	Easthampton	Manhan Rail Trail	Payson Avenue	SB	Stop Sign	Good	Good	Good	10' 11"	Bollard	30' 1"	None	Continental	10'	7"	None
22	Easthampton	Manhan Rail Trail	South Street	EB	Stop Sign	Good	Good	Good	12' 11"	Bollard	33' 0"	None	Continental	11'		None
22	Easthampton	Manhan Rail Trail	South Street	WB	Stop Sign	Good	Good	Good	12' 11"	Bollard	33' 0"	None	Continental	11'		None
23	Hadley	Norwottuck Branch of Mass Central Rail Trail	South Maple Street	WB	Stop Sign	Good	Good	Good	13' 8"	RRFB	21' 10"	None	Ladder	14'	9"	Undivided
23	Hadley	Norwottuck Branch of Mass Central Rail Trail	South Maple Street	EB	Stop Sign	Good	Good	Good	13' 8"	RRFB	21' 10"	None	Ladder	14'	9"	Undivided
24	Hadley	Norwottuck Branch of Mass Central Rail Trail	East Street	EB	Stop Sign	Good	Good	Fair	13' 6"	None	31' 9"	None	Ladder	16'	8"	Undivided
24	Hadley	Norwottuck Branch of Mass Central Rail Trail	East Street	WB	Stop Sign	Good	Good	Good	13' 6"	None	31' 9"	None	Ladder	16'	8"	Undivided
25	Hadley	Norwottuck Branch of Mass Central Rail Trail	Middle Street	EB	Stop Sign	Good	Good	Good	10' 4"	Pavement Markings	41' 8"	None	Ladder	13'	1"	Undivided
25	Hadley	Norwottuck Branch of Mass Central Rail Trail	Middle Street	WB	Stop Sign	Good	Good	Good	10' 4"	Pavement Markings	41' 8"	None	Ladder	13'	1"	Undivided

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No.	Community	Shared Use Path	Location	Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Style	Width Feet	Add Width Inches	Tactile Warning Plates
26	Hadley	Norwottuck Branch of Mass Central Rail Trail	West Street (East)	EB	Stop Sign	Good	Fair	Good	11' 11"	None	23' 2"	None	Zebra	16'	1"	Undivided both sides
26	Hadley	Norwottuck Branch of Mass Central Rail Trail	West Street (East)	WB	Stop Sign	Good	Good	Good	11' 11"	None	23' 2"	None	Zebra	16'	1"	Undivided both sides
27	Hadley	Norwottuck Branch of Mass Central Rail Trail	West Street (West)	EB	Stop Sign	Good	Fair	Good	11' 11"	None	23' 2"	None	Zebra	16'	1"	Undivided
27	Hadley	Norwottuck Branch of Mass Central Rail Trail	West Street (West)	WB	Stop Sign	Good	Good	Good	11' 11"	None	23' 2"	None	Zebra	16'	1"	Undivided
28	Hadley	Norwottuck Branch of Mass Central Rail Trail	Cross Path Road	EB	Stop Sign	Good	Fair	Good	14' 0"	None	19' 10"	None	Ladder	16'	0"	Undivided
28	Hadley	Norwottuck Branch of Mass Central Rail Trail	Cross Path Road	WB	Stop Sign	Good	Fair	Good	14' 0"	None	19' 10"	None	Ladder	16'	0"	Undivided
29	Ludlow	Ludlow Mills Riverwalk	First Avenue	NB	None	None	None	Good	36' 3"	Bollard	24' 0"	None	None			None
29	Ludlow	Ludlow Mills Riverwalk	First Avenue	SB	None	None	None	Good	36' 3"	Bollard	24' 0"	None	None			None
30	Northampton	Norwottuck Branch of Mass Central Rail Trail	Damon Road	NB	Signal	Poor	Fair	Good	13' 2"	Signal	32' 9"	None	Ladder	13'	5"	Divided
30	Northampton	Norwottuck Branch of Mass Central Rail Trail	Damon Road	SB	Signal	Good	Fair	Good	13' 2"	Signal	32' 9"	None	Ladder	13'	5"	Divided

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31	Northampton	Norwottuck Branch of Mass Central Rail Trail	Bates Street	EB	Stop Sign	Fair	Good	Good	18' 6"	Bollard	29' 4"	None	Continental	11'	0"	Undivided
31	Northampton	Norwottuck Branch of Mass Central Rail Trail	Bates Street	WB	Stop Sign	Fair	Fair	Good	18' 6"	Bollard	29' 4"	None	Continental	11'	0"	Undivided
32	Northampton	Norwottuck Branch of Mass Central Rail Trail	Woodmont Road	EB	Stop Sign	Good	Good	Fair	21' 3"	None	37' 8"	None	Continental	18'	4"	Divided
32	Northampton	Norwottuck Branch of Mass Central Rail Trail	Woodmont Road	WB	Stop Sign	Fair	Good	Good	21' 3"	None	37' 8"	None	Continental	18'	4"	Divided
33	Northampton	Mass Central Rail Trail	King Street (Walgreens)	EB	Signal	None	None	Good	7' 4"	ADA Compliant Push Button	64' 7"	None	Continental	8'	5"	None
33	Northampton	Mass Central Rail Trail	King Street (Walgreens)	WB	Signal	None	None	Good	7' 4"	ADA Compliant Push Button	64' 7"	None	Continental	8'	5"	None
34	Northampton	Mass Central Rail Trail	King Street	EB	Signal	Fair	Poor	Good	10' 5"	Signal	52' 6"	None	Continental	11'	2"	Undivided
34	Northampton	Mass Central Rail Trail	King Street	WB	Signal	None	Poor	Good	10' 5"	Signal	52' 6"	None	Continental	11'	2"	Undivided
35	Northampton	New Haven and Northampton Canal Line	Railroad Avenue	EB	None	None	None	Good	16' 9"	Bollard	99' 6"	None	Zebra	5'	8"	None
35	Northampton	New Haven and Northampton Canal Line	Railroad Avenue	WB	None	None	None	Good	16' 9"	None	99' 6"	None	Zebra	5'	8"	Undivided

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No.	Community	Shared Use Path	Location	Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Style	Width Feet	Add Width Inches	Tactile Warning Plates
36	Northampton	New Haven and Northampton Canal Line	Pleasant Street	EB	None	Good	Poor	Good	46' 1"	Bollard Rock	27' 9"	None	Raised Brick	51'	2"	Divided
36	Northampton	New Haven and Northampton Canal Line	Pleasant Street	WB	Stop Sign	Poor	Poor	Good	10' 8"	Bollard Rock	27' 9"	None	Raised Brick	51'	2"	Divided
37	Northampton	New Haven and Northampton Canal Line	Old South Street	EB	Stop Sign	Fair	None	Good	9'9"	None	43'9"	Yes	Continental	8'3"		Undivided
37	Northampton	New Haven and Northampton Canal Line	Old South Street	WB	Stop Sign	Fair	Poor	Good	9'9"	None	43'9"	Yes	Continental	8'3"		Undivided
38	Northampton	New Haven and Northampton Canal Line	Roundhouse Plaza	NB	Stop Sign	Poor	Poor	Good	11' 8"	None	36' 9"	None	Continental	11'	4"	None
38	Northampton	New Haven and Northampton Canal Line	Roundhouse Plaza	SB	Stop Sign	None	None	Good	11' 8"	None	36' 9"	None	Continental	11'	4"	Undivided
39	Northampton	New Haven and Northampton Canal Line	Old South Street Parking Lot	EB	Stop Sign	Poor	Poor	Good	11' 0"	Warning Sign	25' 2"	None	Concrete	11'	1"	None
39	Northampton	New Haven and Northampton Canal Line	Old South Street Parking Lot	WB	Stop Sign	Poor	Poor	Good	11' 0"	Warning Sign	25' 2"	None	Concrete	11'	1"	None
40	Northampton	Hospital Hill Rail Trail Spur	Prince/ West Street	NB	None	None	None	Good	8' 9"	None	48' 2"	None	Continental	16'	5"	Undivided
40	Northampton	Hospital Hill Rail Trail Spur	Prince/ West Street	SB	None	None	None	None	8' 9"	None	48' 2"	None	Continental	16'	5"	Undivided

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41	Northampton	Hospital Hill Rail Trail Spur	Earle Street	EB	None	None	None	None	12' 2"	None	31' 6"	None	Continental	12'	6"	Undivided
41	Northampton	Hospital Hill Rail Trail Spur	Earle Street	WB	Stop Sign	Good	Good	Good	12' 2"	None	31' 6"	None	Continental	12'	6"	Undivided
42	Northampton	New Haven and Northampton Canal Line	Earle Street (Intersection)	NB	Stop Sign	Good	Fair	Good	14' 1"	None	66' 2"	None	Standard	10'	0"	Undivided
42	Northampton	New Haven and Northampton Canal Line	Earle Street (Intersection)	SB	Stop Sign	Fair	Fair	Good	14' 1"	None	66' 2"	None	Standard	10'	0"	Undivided
43	Northampton	New Haven and Northampton Canal Line	Grove Street (Texas Road)	NB	Stop Sign	Good	Fair	Good	14' 1"	None	25' 6"	None	Standard	10'	0"	Undivided
43	Northampton	New Haven and Northampton Canal Line	Grove Street (Texas Road)	SB	Stop Sign	Fair	Fair	Good	14' 1"	None	25' 6"	None	Standard	10'	0"	Undivided
44	Northampton	Hospital Hill Rail Trail Spur	Village Hill Road	EB	None	None	None	Good	8'2"	None	43'22"	None	Boutique	9'	4"	Undivided
44	Northampton	Hospital Hill Rail Trail Spur	Village Hill Road	WB	None	None	None	Good	8'2"	None	43'22"	None	Boutique	9'	4"	Undivided
45	Northampton	Hospital Hill Rail Trail Spur	Musante Drive	EB	None	None	None	Goog	10'2"	Raised Speed Bump and bollard	23"	None	Boutique	9'	8"	Undivided
45	Northampton	Hospital Hill Rail Trail Spur	Musante Drive	WB	None	None	None	Good	10'2"	Raised Speed Bump and bollard	23"	None	Boutique	9'	8"	Undivided

**APPENDIX 2: SUMMARY OF DATA COLLECTED ALONG SHARED USE PATH APPROACHES**

No.	Community	Shared Use Path	Location	Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Style	Width Feet	Add Width Inches	Tactile Warning Plates
46	Northampton	Rocky Hill Greenway	(1) Black Birch Trail	EB	None	None	None	None	13' 2"	None	None	None	None			None
46	Northampton	Rocky Hill Greenway	(1) Black Birch Trail	WB	None	None	None	Good	13' 2"	Temporary Traffic Cone	None	None	None			None
47	Northampton	Rocky Hill Greenway	(2) Black Birch Trail	NB	None	None	None	Good	18' 5"	None	None	None	None			None
47	Northampton	Rocky Hill Greenway	(2) Black Birch Trail	SB	None	None	None	None	18' 5"	None	None	None	None			None
48	Northampton	Rocky Hill Greenway	Florence Road	EB	None	None	None	None	24' 5"	None	None	None	None			None
48	Northampton	Rocky Hill Greenway	Florence Road	WB	None	None	Poor	Good	24' 5"	None	None	None	None			None
49	Northampton	Mass Central Rail Trail	Prospect Avenue	EB	Stop Sign	Good	None	Fair	19' 1"	Bollard	29' 0"	None	Continental	11'	2"	None
49	Northampton	Mass Central Rail Trail	Prospect Avenue	WB	Stop Sign	Good	None	Fair	19' 1"	Bollard	29' 0"	None	Continental	11'	2"	None
50	Northampton	Mass Central Rail Trail	North Elm Street	EB	Stop Sign	Good	None	Fair	11' 9"	None	23' 10"	None	Continental	7'	8"	None
50	Northampton	Mass Central Rail Trail	North Elm Street	WB	Stop Sign	Good	None	Poor	11' 9"	None	23' 10"	None	Continental	7'	8"	None

**APPENDIX 2: SUMMARY OF DATA COLLECTED ALONG SHARED USE PATH APPROACHES**

No.	Community	Shared Use Path	Location	Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Style	Width Feet	Add Width Inches	Tactile Warning Plates
51	Northampton	Mass Central Rail Trail	Hatfield Street	EB	Stop Sign	Good	None	Good	12' 0"	Bollard	24' 0"	None	None			None
51	Northampton	Mass Central Rail Trail	Hatfield Street	WB	Stop Sign	Good	None	Good	12' 0"	Bollard	24' 0"	None	None			None
52	Northampton	Mass Central Rail Trail	Straw Avenue	EB	Stop Sign	Poor	None	Good	10' 0"	Warning Sign	27' 6"	None	Ladder	9'	9"	None
52	Northampton	Mass Central Rail Trail	Straw Avenue	WB	Stop Sign	Fair	None	Fair	10' 0"	Warning Sign	27' 6"	None	Ladder	9'	9"	None
53	Northampton	Mass Central Rail Trail	Chestnut Street	EB	Stop Sign	Fair	None	Good	23' 4"	Bollard	25' 7"	None	Continental	12'	6"	None
53	Northampton	Mass Central Rail Trail	Chestnut Street	WB	Stop Sign	Poor	None	Good	23' 4"	Bollard	25' 7"	None	Continental	12'	6"	None
54	Northampton	Mass Central Rail Trail	Keyes Street	EB	Stop Sign	Good	None	Good	16' 6"	None	28' 9"	None	Continental	17'	2"	None
54	Northampton	Mass Central Rail Trail	Keyes Street	WB	Stop Sign	Good	None	Good	16' 6"	None	28' 9"	None	Continental	17'	2"	None
55	Northampton	Mass Central Rail Trail	North Maple Street	EB	Stop Sign	Poor	None	Good	22' 0"	Rail Trail Map	42' 10"	None	Continental	11'	6"	None
55	Northampton	Mass Central Rail Trail	North Maple Street	WB	Stop Sign	Fair	Poor	Good	22' 0"	Rail Trail Map	42' 10"	None	Continental	11'	6"	None

**APPENDIX 2: SUMMARY OF DATA COLLECTED ALONG SHARED USE PATH APPROACHES**

No.	Community	Shared Use Path	Location	Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Style	Width Feet	Add Width Inches	Tactile Warning Plates
56	Northampton	Mass Central Rail Trail	Bardwell Street	NB	Stop Sign	Fair	None	Good	18' 4"	None	45' 3"	None	Continental	14'	5"	None
56	Northampton	Mass Central Rail Trail	Bardwell Street	SB	Stop Sign	Fair	None	Good	18' 4"	None	45' 3"	None	Continental	14'	5"	None
57	Northampton	Meadow Street Bike Path	Meadow Street	NB	None	None	None	Good	11' 8"	None	25' 3"	None	Continental	16'	8"	Undivided
57	Northampton	Meadow Street Bike Path	Meadow Street	SB	Stop Sign	Poor	Fair	Good	11' 8"	None	25' 3"	None	Continental	16'	8"	Undivided
58	Northampton	Meadow Street Bike Path	Spring Street	EB	None	None	None	Good	19' 6"	None	25' 1"	None	Continental	18'	9"	Undivided
58	Northampton	Meadow Street Bike Path	Spring Street	WB	Stop Sign	Good	Good	Good	19' 6"	None	25' 1"	None	Continental	18'	9"	Undivided
59	Northampton	Mass Central Rail Trail	Bridge Road	NB	Stop Sign	Fair	None	Fair	10' 1"	None	55' 4"	Grass Median	Raised Brick	13'	0"	Undivided
59	Northampton	Mass Central Rail Trail	Bridge Road	SB	None	None	None	Good	10' 1"	None	55' 4"	Grass Median	Raised Brick	13'	0"	Undivided
60	Northampton	Mass Central Rail Trail	North Main Street	EB	Stop Sign	Good	None	Good	9' 8"	10 mph speed sign on path	53' 11"	Grass median	Raised Brick	13'	5"	Undivided
60	Northampton	Mass Central Rail Trail	North Main Street	WB	None	None	Good	Good	9' 8"	10 mph speed sign on path	53' 11"	Grass median	Raised Brick	13'	5"	Undivided

**APPENDIX 2: SUMMARY OF DATA COLLECTED ALONG SHARED USE PATH APPROACHES**

No.	Community	Shared Use Path	Location	Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Style	Width Feet	Add Width Inches	Tactile Warning Plates
61	Northampton	Mass Central Rail Trail	Lower Pool Road	EB	Stop Sign	Good	Fair	Good	10' 2"	Bollard Yellow	18' 6"	None	Standard	10'	7"	Undivided
61	Northampton	Mass Central Rail Trail	Lower Pool Road	WB	Stop Sign	Good	Fair	Good	10' 2"	Bollard Yellow	18' 6"	None	Standard	10'	7"	Undivided
62	Northampton	Mass Central Rail Trail	Old Trolley Road	NB	Stop Sign	Good	Fair	Good	13' 0"	Bollard Yellow	22' 4"	None	Standard	14'	6"	None
62	Northampton	Mass Central Rail Trail	Old Trolley Road	SB	Stop Sign	Good	Fair	Good	13' 0"	Bollard Yellow	22' 4"	None	Standard	14'	6"	None
63	Northampton	Mass Central Rail Trail	Mulberry Street	NB	Stop Sign	Good	Poor	Fair	16' 0"	None	38' 1"	None	Continental	16'	6"	Undivided
63	Northampton	Mass Central Rail Trail	Mulberry Street	SB	Stop Sign	Good	Poor	Good	16' 0"	None	38' 1"	None	Continental	16'	6"	Undivided
64	Southampton	Manhan Rail Trail	Coleman Road	EB	None	None	None	None	10' 2"	Bollard Red	28' 0"	None	Continental	10'	9"	None
64	Southampton	Manhan Rail Trail	Coleman Road	WB	Stop Sign	Good	Fair	Good	10' 2"	Bollard Red	28' 0"	None	Continental	10'	9"	None
65	Southwick	Southwick Rail Trail	Sam West Road	NB	Stop Sign	Good	Poor	Fair	10' 5"	Bollard	18' 6"	None	Ladder	10'	11"	Undivided
65	Southwick	Southwick Rail Trail	Sam West Road	SB	Stop Sign	Good	Poor	Good	10' 5"	Bollard	18' 6"	None	Ladder	10'	11"	Undivided

**APPENDIX 2: SUMMARY OF DATA COLLECTED ALONG SHARED USE PATH APPROACHES**

No.	Community	Shared Use Path	Location	Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Style	Width Feet	Add Width Inches	Tactile Warning Plates
66	Southwick	Southwick Rail Trail	Feeding Hill Road	NB	Signal	Good	Poor	Good	18' 7"	Bollard and Stop Sign	33' 7"	None	Ladder	11'	0"	Undivided
66	Southwick	Southwick Rail Trail	Feeding Hill Road	SB	Signal	Good	Poor	Good	18' 7"	Bollard and Stop Sign	33' 7"	None	Ladder	11'	0"	Undivided
67	Southwick	Southwick Rail Trail	Depot Street	NB	Stop Sign	Good	Poor	Good	10' 5"	Bollard	34' 5"	None	Ladder	11'	3"	Undivided
67	Southwick	Southwick Rail Trail	Depot Street	SB	Stop Sign	Good	Poor	Good	10' 5"	Bollard	34' 5"	None	Ladder	11'	3"	Undivided
68	Southwick	Southwick Rail Trail	Congamond Road	NB	Stop Sign	Good	Fair	Good	10' 0"	Bollard	30' 9"	None	Ladder	13'	1"	Undivided
68	Southwick	Southwick Rail Trail	Congamond Road	SB	Stop Sign	Good	Fair	Good	10' 0"	Bollard	30' 9"	None	Ladder	13'	1"	Undivided
69	Springfield	Connecticut Riverwalk and Bikeway	West Street	NB	Signal	Fair	Fair	Fair	14'	ADA Compliant Push Button	56' 10"	None	Continental	8'	5"	Present Thru
69	Springfield	Connecticut Riverwalk and Bikeway	West Street	SB	Signal	Good	Fair	Fair	14'	ADA Compliant Push Button	56' 10"	None	Continental	8'	5"	Divided
70	Westfield	Columbia Greenway	North Elm Street	EB	None	Good	Good	Good	22' 4"	None	41' 6"	None	Raised Brick	9'	6"	Undivided
70	Westfield	Columbia Greenway	North Elm Street	WB	None	None	None	Good	5' 8"	None	41' 6"	None	Raised Brick	9'	6"	Undivided

**APPENDIX 2: SUMMARY OF DATA COLLECTED ALONG SHARED USE PATH APPROACHES**

No.	Community	Shared Use Path	Location	Dir.	Control Type	Condition of Signage	Pavement Markings	Sight Distance	Width at the 'X'	Additional Features	Crossing Distance	Median Between Crosswalk	Crosswalk Style	Width Feet	Add Width Inches	Tactile Warning Plates
71	Westfield	Columbia Greenway	Shaker Road	EB	Stop Sign	Fair	Fair	Good	19' 2"	Stop sign has blinking LED lights	27' 5"	None	Ladder	19'	6"	Undivided
71	Westfield	Columbia Greenway	Shaker Road	WB	None	None	None	None	None	None	None	None	Ladder			None

**APPENDIX 3: SUMMARY OF CROSSWALK DATA**

No.	Community	Roadway	Shared Use Path	Crosswalk Markings Style	Crossing Distance	Crosswalk Width	Ramp Material	Tactile Warning Plates
1	Agawam	School Street	Agawam Riverwalk	Continental	66' 6"	10' 3"	Concrete	Divided on both sides
2	Agawam	River Road	Agawam Riverwalk	Ladder	31' 1"	17' 2"	Concrete	Divided on both sides
3	Amherst	Station Road	Norwottuck Branch of Mass Central Rail Trail	Zebra	31' 9"	20' 7"	Concrete (Only on NB)	Undivided (Only on NB)
4	Amherst	Southwest Circle (Exit)	Norwottuck Branch of Mass Central Rail Trail	Ladder	29' 2"	11' 9"	Concrete (Only on SB)	Undivided (Only on SB)
5	Amherst	Southwest Circle (Entry)	Norwottuck Branch of Mass Central Rail Trail	Ladder	30' 3"	11' 8"	Concrete (Only on NB)	Undivided (Only on NB)
6	Amherst	Fearing Street	Norwottuck Branch of Mass Central Rail Trail	None	28' 9"	None	None	None
7	Amherst	Amity Street	Norwottuck Branch of Mass Central Rail Trail	Zebra	27' 3"	12' 9"	None	None
8	Amherst	Northampton Road	Norwottuck Branch of Mass Central Rail Trail	Zebra	83' 2"	11' 0"	Concrete (Only on SB)	None

**APPENDIX 3: SUMMARY OF CROSSWALK DATA**

No.	Community	Roadway	Shared Use Path	Crosswalk Markings Style	Crossing Distance	Crosswalk Width	Ramp Material	Tactile Warning Plates
9	Brimfield	Five Bridge Road	Brimfield Trail Section of the Titanic Rail Trail	None	32' 9"	None	None	None
10	East Longmeadow	Maple Street	East Longmeadow Red Stone Rail Trail	Zebra	43' 8"	10' 8"	Concrete	Divided on both sides
11	East Longmeadow	Chestnut Street	East Longmeadow Red Stone Rail Trail	Zebra	46' 7"	11' 7"	Concrete	Divided on both sides
12	East Longmeadow	Industrial Drive	East Longmeadow Red Stone Rail Trail	Zebra	52' 7"	10' 6"	Concrete	Divided on both sides
13	Easthampton	North Street	Manhan Rail Trail	None	None	None	None	None
14	Easthampton	Fort Hill Road	Manhan Rail Trail	Continental	22' 6"	10' 11"	None	None
15	Easthampton	Arthur Street	Manhan Rail Trail	Continental	28' 11"	10' 7"	None	None
16	Easthampton	Gosselin Drive	Manhan Rail Trail	Continental	25' 1"	10' 9"	None	None

**APPENDIX 3: SUMMARY OF CROSSWALK DATA**

No.	Community	Roadway	Shared Use Path	Crosswalk Markings Style	Crossing Distance	Crosswalk Width	Ramp Material	Tactile Warning Plates
17	Easthampton	Lovefield Street	Manhan Rail Trail	Continental	51' 2"	24' 6"	None	None
18	Easthampton	Lovefield Street (Intersection)	Manhan Rail Trail	Continental	38' 8"	10' 5"	Concrete (Only on NB)	Only on NB
19	Easthampton	Ferry Street	Manhan Rail Trail	Continental	51' 6"	11' 5"	None	None
20	Easthampton	Union Street	Manhan Rail Trail	Continental	45' 3"	11' 0"	None	None
21	Easthampton	Payson Avenue	Manhan Rail Trail	Continental	30' 1"	10' 7"	None	None
22	Easthampton	South Street	Manhan Rail Trail	Continental	33' 0"	11' 0"	None	None
23	Hadley	South Maple Street	Norwottuck Branch of Mass Central Rail Trail	Ladder	21' 10"	14' 9"	Concrete	Undivided on both sides
24	Hadley	East Street	Norwottuck Branch of Mass Central Rail Trail	Ladder	31' 9"	16' 8"	Concrete	Undivided on both sides

**APPENDIX 3: SUMMARY OF CROSSWALK DATA**

No.	Community	Roadway	Shared Use Path	Crosswalk Markings Style	Crossing Distance	Crosswalk Width	Ramp Material	Tactile Warning Plates
25	Hadley	Middle Street	Norwottuck Branch of Mass Central Rail Trail	Ladder	41' 8"	13' 1"	Concrete	Undivided on both sides
26	Hadley	West Street (East)	Norwottuck Branch of Mass Central Rail Trail	Zebra	23' 2"	16' 1"	Concrete	Undivided on both sides
27	Hadley	West Street (West)	Norwottuck Branch of Mass Central Rail Trail	Zebra	23' 2"	16' 1"	Concrete	Undivided on both sides
28	Hadley	Cross Path Road	Norwottuck Branch of Mass Central Rail Trail	Ladder	19' 10"	16' 0"	Concrete	Undivided on both sides
29	Ludlow	First Avenue	Ludlow Mills Riverwalk	None	24' 0"	None	Concrete	None
30	Northampton	Damon Road	Mass Central Rail Trail	Ladder	32' 9"	13' 5"	Concrete	Undivided on both sides
31	Northampton	Bates Street	Mass Central Rail Trail	Continental	29' 4"	11' 0"	Concrete	Thru on both sides
32	Northampton	Woodmont Road	Mass Central Rail Trail	Continental	37' 8"	18' 4"	None	Undivided on both sides

**APPENDIX 3: SUMMARY OF CROSSWALK DATA**

No.	Community	Roadway	Shared Use Path	Crosswalk Markings Style	Crossing Distance	Crosswalk Width	Ramp Material	Tactile Warning Plates
33	Northampton	King Street (Walgreens)	Mass Central Rail Trail	Continental	64' 7"	8' 5"	Concrete	None
34	Northampton	King Street	Mass Central Rail Trail	Continental	52' 6"	11' 2"	Concrete	Undivided on both sides
35	Northampton	Railroad Avneue	New Haven and Northampton Canal Line	Zebra	99' 6"	5' 8"	Concrete	Undivided (Only on WB)
36	Northampton	Pleasant Street	Mass Central Rail Trail	Raised brick	27' 9"	51' 2"	Concrete	Divided on both sides
37	Northampton	Old South Road	New Haven and Northampton Canal Line	Continental	43' 9"	8' 3"	Concrete	Undivided on both sides
38	Northampton	Roundhouse Plaza	New Haven and Northampton Canal Line	Continental	36' 9"	11' 4"	Concrete (Only on SB)	Undivided (Only on SB)
39	Northampton	Old South Street (Parking lot)	New Haven and Northampton Canal Line	Concrete	25' 2"	11' 1"	None	None
40	Northampton	Prince/ West Street	Hospital Hill Rail Trail Spur	Continental	48' 2"	16' 5"	Concrete	Undivied on both sides

**APPENDIX 3: SUMMARY OF CROSSWALK DATA**

No.	Community	Roadway	Shared Use Path	Crosswalk Markings Style	Crossing Distance	Crosswalk Width	Ramp Material	Tactile Warning Plates
41	Northampton	Earle Street	Hospital Hill Rail Trail Spur	Continental	31' 6"	12' 6"	Concrete	Undivided on both sides
42	Northampton	Earle Street (Intersection)	New Haven and Northampton Canal Line	Standard	66' 2"	10' 0"	Concrete	Undivided on both sides
43	Northampton	Grove Street (Texas Road)	New Haven and Northampton Canal Line	Standard	25' 6"	10' 0"	Concrete	Undivided on both sides
44	Northampton	Village Hill Road	Hospital Hill Rail Trail	Boutique	43' 2"	9' 4"	Concrete	Undivided on both sides
45	Northampton	Musante Drive	Hospital Hill Rail Trail	Boutique	23' 0"	9' 8"	Concrete	Undivided on both sides
46	Northampton	(1) Black Birch Trail	Rocky Hill Greenway	None	None	None	None	None
47	Northampton	(2) Black Birch Trail	Rocky Hill Greenway	None	None	None	None	None
48	Northampton	Florence Road	Rocky Hill Greenway	None	None	None	None	None

**APPENDIX 3: SUMMARY OF CROSSWALK DATA**

No.	Community	Roadway	Shared Use Path	Crosswalk Markings Style	Crossing Distance	Crosswalk Width	Ramp Material	Tactile Warning Plates
49	Northampton	Prospect Avenue	Mass Central Rail Trail	Continental	29' 0"	11' 2"	None	None
50	Northampton	North Elm Street	Mass Central Rail Trail	Continental	23' 10"	7' 8"	None	None
51	Northampton	Hatfield Street	Mass Central Rail Trail	Continental	24' 0"	None	None	None
52	Northampton	Straw Avenue	Mass Central Rail Trail	Ladder	27' 6"	9' 9"	None	None
53	Northampton	Chestnut Street	Mass Central Rail Trail	Continental	25' 7"	12' 6"	None	None
54	Northampton	Keyes Street	Mass Central Rail Trail	Continental	28' 9"	17' 2"	None	None
55	Northampton	North Maple Street	Mass Central Rail Trail	Continental	42' 10"	11' 6"	None	None
56	Northampton	Bardwell Street	Mass Central Rail Trail	Continental	45' 3"	14' 5"	None	None

**APPENDIX 3: SUMMARY OF CROSSWALK DATA**

<b>No.</b>	<b>Community</b>	<b>Roadway</b>	<b>Shared Use Path</b>	<b>Crosswalk Markings Style</b>	<b>Crossing Distance</b>	<b>Crosswalk Width</b>	<b>Ramp Material</b>	<b>Tactile Warning Plates</b>
57	Northampton	Meadow Street	Meadow Street Bike Path	Continental	25' 3"	16' 8"	Concrete	Undivided on both sides
58	Northampton	Spring Street	Meadow Street Bike Path	Continental	25' 1"	18' 9"	Concrete	Undivided on both sides
59	Northampton	Bridge Road	Mass Central Rail Trail	Raised brick	55' 4"	13' 0"	Concrete	Undivided on both sides
60	Northampton	North Main Street	Mass Central Rail Trail	Raised brick	53' 11"	13' 5"	Concrete	Undivided on both sides
61	Northampton	Lower Pool Road	Mass Central Rail Trail	Standard	18' 6"	10' 2"	Concrete	Undivided on both sides
62	Northampton	Old Trolley Road	Mass Central Rail Trail	Standard	22' 4"	14' 6"	None	None
63	Northampton	Mulberry Street	Mass Central Rail Trail	Continental	38' 1"	16' 6"	Concrete	Undivided on both sides
64	Southampton	Coleman Road	Manhan Rail Trail	Continental	28' 0"	10' 9"	None	None

**APPENDIX 3: SUMMARY OF CROSSWALK DATA**

No.	Community	Roadway	Shared Use Path	Crosswalk Markings Style	Crossing Distance	Crosswalk Width	Ramp Material	Tactile Warning Plates
65	Southwick	Sam West Road	Southwick Rail Trail	Ladder	18' 6"	10' 11"	Concrete	Undivided on both sides
66	Southwick	Feeding Hill Road	Southwick Rail Trail	Ladder	33' 7"	11' 0"	Concrete	Undivided on both sides
67	Southwick	Depot Street	Southwick Rail Trail	Ladder	34' 5"	11' 3"	Concrete	Undivided on both sides
68	Southwick	Congamond Road	Southwick Rail Trail	Ladder	30' 9"	13' 1"	Concrete	Undivided on both sides
69	Springfield	West Street	Connecticut Riverwalk and Bikeway	Continental	56' 10"	8' 5"	Concrete	Present Thru on NB, Divided SB
70	Westfield	North Elm Street	Columbia Greenway	Raised brick	41' 6"	9' 11"	Concrete	Undivided on both sides
71	Westfield	Shaker Road	Columbia Greenway	Ladder	27' 5"	19' 6"	Concrete	Undivided on both sides

**APPENDIX 4: SUMMARY OF LOCATIONS WITHOUT TACTILE WARNING PLATES**

<b>No.</b>	<b>Community</b>	<b>Shared Use Path</b>	<b>Location</b>	<b>Dir.</b>	<b>Tactile Warning Plates</b>
3	Amherst	Norwottuck Branch of Mass Central Rail Trail	Station Road	SB	None
4	Amherst	Norwottuck Branch of Mass Central Rail Trail	Southwest Circle (OUT)	NB	None
5	Amherst	Norwottuck Branch of Mass Central Rail Trail	Southwest Circle (IN)	SB	None
6	Amherst	Norwottuck Branch of Mass Central Rail Trail	Fearing Street	NB	None
6	Amherst	Norwottuck Branch of Mass Central Rail Trail	Fearing Street	SB	None
7	Amherst	Norwottuck Branch of Mass Central Rail Trail	Amity Street	NB	None
7	Amherst	Norwottuck Branch of Mass Central Rail Trail	Amity Street	SB	None
8	Amherst	Norwottuck Branch of Mass Central Rail Trail	Northampton Road	NB	None
8	Amherst	Norwottuck Branch of Mass Central Rail Trail	Northampton Road	SB	None
9	Brimfield	Brimfield Trail Section of the Titanic Rail Trail	Five Bridge Road	EB	None
9	Brimfield	Brimfield Trail Section of the Titanic Rail Trail	Five Bridge Road	WB	None
13	Easthampton	Manhan Rail Trail	North Street	EB	None
13	Easthampton	Manhan Rail Trail	North Street	WB	None
14	Easthampton	Manhan Rail Trail	Fort Hill Road	EB	None
14	Easthampton	Manhan Rail Trail	Fort Hill Road	WB	None
15	Easthampton	Manhan Rail Trail	Arthur Street	EB	None
15	Easthampton	Manhan Rail Trail	Arthur Street	WB	None
16	Easthampton	Manhan Rail Trail	Gosselin Drive	EB	None

**APPENDIX 4: SUMMARY OF LOCATIONS WITHOUT TACTILE WARNING PLATES**

<b>No.</b>	<b>Community</b>	<b>Shared Use Path</b>	<b>Location</b>	<b>Dir.</b>	<b>Tactile Warning Plates</b>
16	Easthampton	Manhan Rail Trail	Gosselin Drive	WB	None
17	Easthampton	Manhan Rail Trail	Lovefield Street	NB	None
17	Easthampton	Manhan Rail Trail	Lovefield Street	SB	None
18	Easthampton	Manhan Rail Trail	Lovefield Street (Intersection)	SB	None
19	Easthampton	Manhan Rail Trail	Ferry Street	NB	None
19	Easthampton	Manhan Rail Trail	Ferry Street	SB	None
20	Easthampton	Manhan Rail Trail	Union Street	EB	None
20	Easthampton	Manhan Rail Trail	Union Street	WB	None
21	Easthampton	Manhan Rail Trail	Payson Avenue	NB	None
21	Easthampton	Manhan Rail Trail	Payson Avenue	SB	None
22	Easthampton	Manhan Rail Trail	South Street	EB	None
22	Easthampton	Manhan Rail Trail	South Street	WB	None
29	Ludlow	Ludlow Mills Riverwalk	First Avenue	NB	None
29	Ludlow	Ludlow Mills Riverwalk	First Avenue	SB	None
33	Northampton	Northampton Bikeway / Mass Central Rail Trail	King Street (Walgreens)	EB	None
33	Northampton	Northampton Bikeway / Mass Central Rail Trail	King Street (Walgreens)	WB	None
35	Northampton	New Haven and Northampton Canal Line	Railroad Avenue	EB	None
38	Northampton	New Haven and Northampton Canal Line	Roundhouse Plaza	NB	None

**APPENDIX 4: SUMMARY OF LOCATIONS WITHOUT TACTILE WARNING PLATES**

No.	Community	Shared Use Path	Location	Dir.	Tactile Warning Plates
39	Northampton	New Haven and Northampton Canal Line	Old South Street Parking Lot	EB	None
39	Northampton	New Haven and Northampton Canal Line	Old South Street Parking Lot	WB	None
46	Northampton	Rocky Hill Greenway	(1) Black Birch Trail	EB	None
46	Northampton	Rocky Hill Greenway	(1) Black Birch Trail	WB	None
47	Northampton	Rocky Hill Greenway	(2) Black Birch Trail	NB	None
47	Northampton	Rocky Hill Greenway	(2) Black Birch Trail	SB	None
48	Northampton	Rocky Hill Greenway	Florence Road	EB	None
48	Northampton	Rocky Hill Greenway	Florence Road	WB	None
49	Northampton	Mass Central Rail Trail	Prospect Avenue	EB	None
49	Northampton	Mass Central Rail Trail	Prospect Avenue	WB	None
50	Northampton	Mass Central Rail Trail	North Elm Street	EB	None
50	Northampton	Mass Central Rail Trail	North Elm Street	WB	None
51	Northampton	Mass Central Rail Trail	Hatfield Street	EB	None
51	Northampton	Mass Central Rail Trail	Hatfield Street	WB	None
52	Northampton	Mass Central Rail Trail	Straw Avenue	EB	None
52	Northampton	Mass Central Rail Trail	Straw Avenue	WB	None
53	Northampton	Mass Central Rail Trail	Chestnut Street	EB	None
53	Northampton	Mass Central Rail Trail	Chestnut Street	WB	None

**APPENDIX 4: SUMMARY OF LOCATIONS WITHOUT TACTILE WARNING PLATES**

<b>No.</b>	<b>Community</b>	<b>Shared Use Path</b>	<b>Location</b>	<b>Dir.</b>	<b>Tactile Warning Plates</b>
54	Northampton	Mass Central Rail Trail	Keyes Street	EB	None
54	Northampton	Mass Central Rail Trail	Keyes Street	WB	None
55	Northampton	Mass Central Rail Trail	North Maple Street	EB	None
55	Northampton	Mass Central Rail Trail	North Maple Street	WB	None
56	Northampton	Mass Central Rail Trail	Bardwell Street	NB	None
56	Northampton	Mass Central Rail Trail	Bardwell Street	SB	None
62	Northampton	Mass Central Rail Trail	Old Trolley Road	NB	None
62	Northampton	Mass Central Rail Trail	Old Trolley Road	SB	None
64	Southampton	Manhan Rail Trail	Coleman Road	EB	None
64	Southampton	Manhan Rail Trail	Coleman Road	WB	None
71	Westfield	Columbia Greenway	Shaker Road	WB	None