



Town of Hubbardston Master Plan Update

Transportation Element

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DRAFT



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- 2. Traffic Count Locations
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1. Introduction

This element of the Master Plan discusses Transportation in Hubbardston, including private automobiles, public transportation, bicycling, and pedestrian modes of travel. The ability to move people and goods is essential to the economic vitality and quality of life in the region. The existing conditions of the roadway system are reviewed by looking at such data as traffic counts and crash incidents. Proposals and recommendations will then be made taking into consideration other interrelated issues such as open space for an interconnected bicycle and pathway system within the Town and connections to other adjoining towns and the region.

2. Role of the Regional Planning Agency

The Montachusett Regional Planning Commission (MRPC) acts as staff to the Montachusett Metropolitan Planning Organization (MPO) that has the responsibility of prioritizing transportation projects within the Montachusett Region. This presents municipalities with greater chances for input in setting local priorities. This shift in priority setting is intended to give municipalities a stronger role in planning transportation improvements that directly affect them. It is important to note that transportation projects and plans must be included in a regional transportation plan in order to receive federal funding for implementation.

Regional Transportation Plan

The Regional Transportation Plan (RTP) outlines the transportation priority needs and policies for the region. Before projects receive federal funding, they must be identified and incorporated into the policy goals and visions of the RTP. The RTP is developed through studies, discussions with local officials, boards and commissions and public comment. Each MPO in the Commonwealth of Massachusetts develops an RTP to provide guidance to local and state officials in deciding how to spend federal and state transportation funds. The RTP for the Montachusett Region identifies both short- and long-range projects for local roads, highways, bridges, rail, transit, bike and pedestrian trails, freight and airports as well as priorities, goals, visions and strategies.

Information on the RTP can be found on the MRPC website at www.mrpc.org.

Transportation Improvement Program

The Transportation Improvement Program (TIP) is a federally required, annually updated, prioritized listing of short-range highway construction and transit projects proposed for implementation during a five federal fiscal year cycle. It is a means of allocating scarce federal and state monetary resources across the state to projects that each region deems to be its highest priorities. The TIP must be financially constrained to projections of available federal aid. The Massachusetts Department of Transportation (MassDOT) Highway Division, moreover, is committed to funding those projects that will be ready for advertisement in Federal Fiscal Year (FFY) 2020 and beyond. To this end the regional TIP contains a financial plan showing the revenue source or sources, current or proposed, for each project, for each anticipated FFY of advertisement.

To receive Federal or State funding, a transportation project must be included in the TIP. Projects listed in the TIP must also conform to the State Implementation Plan (SIP) for Air Quality Conformity in accordance with the Clean Air Act Amendments (CAAA), giving special consideration to "regionally significant" projects. Transportation projects funded with Federal funds from other Federal agencies, or with local or private resources, should be identified in the document to reflect the integrated and intermodal nature of the metropolitan transportation planning process.

The TIP must also be consistent with the current RTP for the Montachusett Region. In addition, the TIP estimates future funding sources for operating and maintaining the current transportation network as well as the costs of capital improvements. The agency responsible for implementing highway projects in the TIP, unless otherwise noted, is the MassDOT Highway Division and, for transit projects, the Franklin County or Montachusett Regional Transit Authorities.

The Montachusett TIP is the product of a comprehensive, continuing and cooperative effort (the 3C Process) to improve the regional transportation system by local officials, the Montachusett Joint Transportation Committee (MJTC), the Montachusett Regional Transit Authority (MART), the MRPC and the MassDOT. Together these organizations along with local officials comprise the signatories representing the MPO.

Project Development Summary

Project Development is the process that takes a transportation improvement from concept through construction.

Every year the Montachusett Region receives federal and state funds for projects to improve the transportation network in local communities. These funds and projects are prioritized through the MPO, a regional advisory group that annually develops the Montachusett TIP.

For a community to receive funds, the project must follow a multi-step review and approval process required by the MassDOT (MassDOT) Highway Division. This process is summarized in the figure below.

Project proponents are required to follow this process whenever MassDOT Highway Division is involved in the decision-making process. The project development procedures are, therefore, applicable to any of the following situations:

- When MassDOT is the proponent; or
- When MassDOT is responsible for project funding (state or federal-aid projects); or
- When MassDOT controls the infrastructure (projects on state highways).

Projects with local jurisdiction and local funding sources are not required to go through this review process unless the project is located on the National Highway or Federal-Aid Systems.

The project development process is designed to progressively narrow the projects focus in order to develop a project to addresses identified needs at that location. There should be opportunities for public participation throughout.

The eight steps are described in detail in Chapter 2, Project Development Guide of the MassDOT Highway Division Design Guidebook (<http://www.mhd.state.ma.us/default.asp?pgid=content/designGuide&sid=about>).

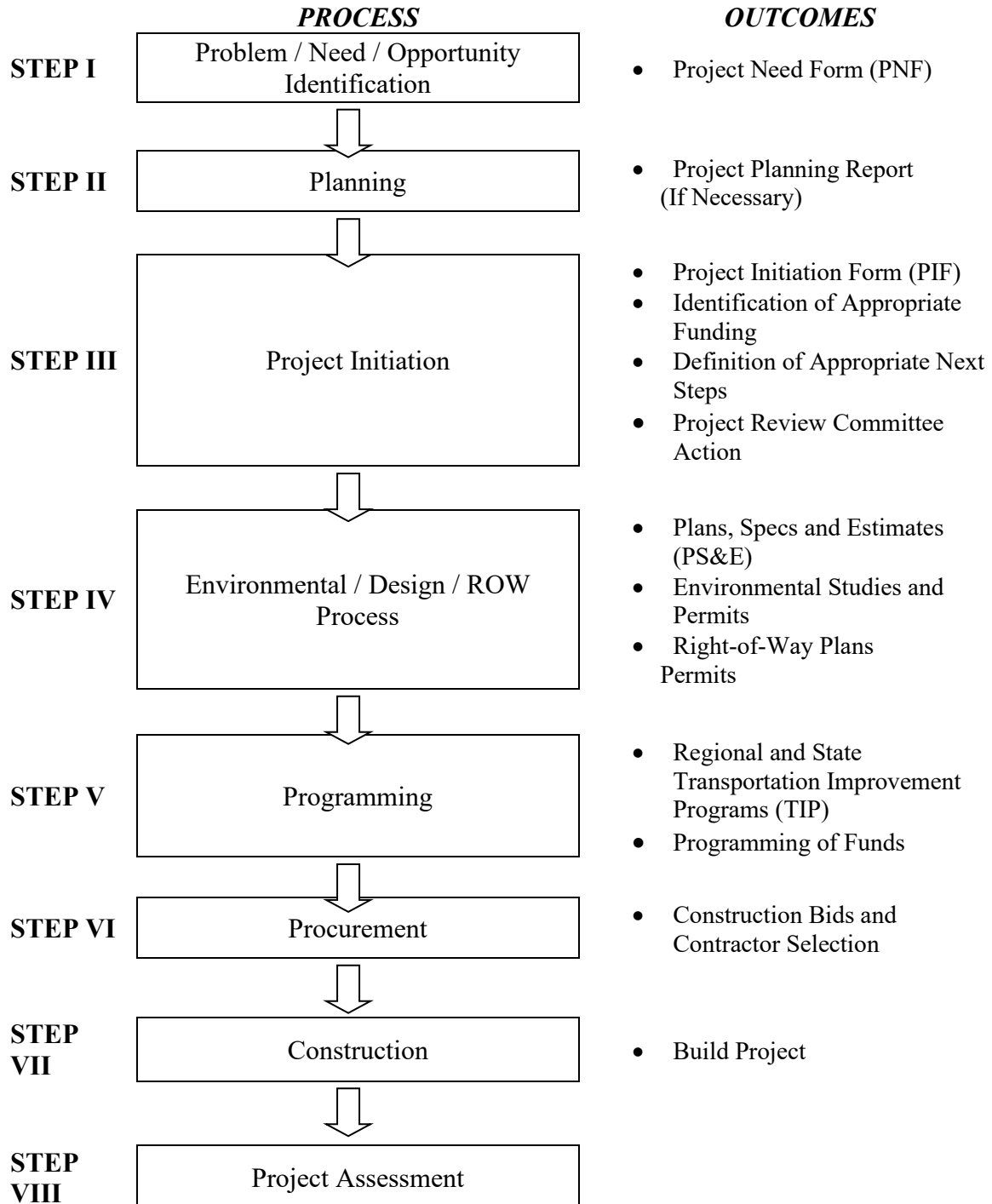
Summary

In summary, to get a project constructed, a community should:

1. Meet with the District Office of the MassDOT Highway Division to review and discuss the potential project. The District office can provide the community with information and feedback about the possible project's scope, cost, issues, etc.
2. Submit a Project Need Form (PNF), along with any support materials, on the potential project to the District office.
3. After review and feedback from MassDOT Highway Division on the PNF, a Project Initiation Form (PIF), again with any supporting materials, is prepared and submitted to the District office.*
4. MassDOT and the Project Review Committee (PRC) act upon the PIF. If the project is approved by the PRC, the community is notified and, if applicable, initiates the design process for the project.
5. The municipality hires a design consultant and also begins work on the right of way plans as well as any permits, local approvals, etc.
6. During this phase the project is incorporated into the regional Transportation Improvement Program (TIP). Placement and prioritization of the project is based upon available funds, evaluation criteria scoring, design status and public support and comments.
7. Design public hearing is held at the 25% design phase.
8. Design progresses to 100% and all plans, specifications and estimates (PS&E) are completed. Project is then ready for advertisement by MassDOT.

***NOTE:** Steps 3 and 4 can now be conducted electronically through the online system MaPIT (MassDOT Highway Project Intake Tool). MaPIT seeks to expedite the project implementation process. Each community should have access to this online tool. MaPIT can be found through Massachusetts Geo DOT site. Accounts can also be requested at this site (massdot.maps.aregis.com).

Project Development Process



Source: MassDOT Highway Division

3. Journey to Work

According to the American Community Survey 2018 estimates, about 99% of Hubbardston's workforce worked in Massachusetts and 79.3% worked in Worcester County. Using data from the 2010 Census and 2018 ACS Estimates, a comparison can also be made as to how Hubbardston's workforce gets to work and how its commuting patterns have changed during the past eight years.

	<u>2010</u>	<u>2018</u>
Drove Alone	85.6%	83.5%
Car-Pooled	9.0%	9.1%
Walked	0.0%	0.7%
Public Transportation	0.5%	0.6%
Worked at Home	5.0%	6.0%
Other Means	0.0%	0.0%

Reviewing the figures above, it should be noted that the “Worked at Home”, “Public Transportation”, “Walked” and “Car-Pooled” categories all increased in Hubbardston over the past eight years while “Drove Alone” has decreased. “Other Means” remained the same at 0.0%. The town should perhaps focus more attention on public transportation and telecommuting issues.

As indicated in the Table below, the mean travel time to work for Hubbardston's residents is 35.2 minutes, notably higher than the Massachusetts average (29.7), and significantly higher than the national average of 26.6 minutes.

Table 1
Travel to Work

Mean Travel Time to Work	
Community	Minutes
Hubbardston	35.2
Massachusetts	29.7
U.S.	26.6

Source: US Census 2014-2018 Five Year Estimates

Of notable interest, the mean travel time to work by total means of transportation increased in Hubbardston from 2010 to 2018 from 33.6 minutes to 35.2 minutes which is an 4.6% increase. This could be attributed, at least in part, to some increase in real estate prices statewide during this time span, widening the gap between income and purchase price. Historically, the average house price in North Central Massachusetts, where Hubbardston is located, has been the lowest statewide. This, along with the town's scenic beauty and attractive quality of life, brings homebuyers willing to travel greater distances to work.

4. Roadway System

Existing Network

The road infrastructure of Hubbardston is comprised of two state highways (Route 62 and Route 68), and a network of local and connector roads serving the town center and the rural residential areas. Route 68 is the main roadway through town traveling north to south from the Gardner city line, through Hubbardston Center to the Rutland town line at the southern end of town. Route 62 travels east-west from the Barre town line to the Princeton town line in the southern end of town. State Route 2, or the Old Mohawk Trail, is accessible via Route 68 north in the City of Gardner, providing a connection from Hubbardston to the major east-west highway across northern Massachusetts, linking Boston to the State of New York and providing access to Interstate 91 in Greenfield. It is a controlled access highway through Eastern and Central Massachusetts until it reaches Erving. One of the oldest designated tourist and scenic routes in the country, the Mohawk Trail is the gateway to the Connecticut River Valley. Route 2 also links Hubbardston to the employment markets in Gardner, Fitchburg, Leominster and other regions to the east.

Functional Classification

Functional classification identifies a roadway's purpose and use as part of the highway network. The highway network consists of a hierarchy of streets and highways designed to channel traffic from location to location in a safe and efficient manner. Streets and highways are classified into four functional highway systems: Principal Arterials, Minor Arterials, Collector Streets and Local Streets. These are further broken down into "urban" and "rural" classifications. Hubbardston can compete for limited federal aid funding to repair their Federal-Aid eligible roads through the annual TIP process. These federal-aid eligible roadways are displayed in Attachment 1A. Federal Aid Roads Map and Attachment 1B Fed Aid Routes Surveyed by MassDOT & MRPC 2017. Roads classified as "local" are not eligible for Federal-Aid and are maintained solely by the municipalities. Local roads are eligible for State Highway funds under Chapter 90.

Principal Arterials: The principal arterials are multi-lane roadways that connect major activity centers. These arterials carry the highest volumes of traffic at high speed and are often entirely or partially controlled-access facilities with interchanges or grade separations at major crossings. Principal arterials not only carry a major portion of trips entering and leaving a community; they also carry a significant amount of traffic passing through the community.

Principal arterials generally carry the highest traffic volumes. In Massachusetts, traffic volumes on principal arterials usually exceed 25,000 vehicles per day. Because the function of principal arterials is mostly to provide mobility at a high level of service, service to abutting land is of secondary importance. Parking along principal arterials is usually forbidden or discouraged; driveway access onto principal arterials is also discouraged. Just one road within the vicinity of town, just north of Hubbardston, fits the principal arterial classification: Route 2. Principal Arterials are eligible for Federal Aid. In Hubbardston, there are no Principal Arterials.

Minor Arterials: Minor arterials feed into principal arterials and serve the dual function of carrying high traffic volumes and providing access to adjacent land uses. Minor arterials place more emphasis on land access; on-street parking is generally permitted but is heavily regulated in order to maximize the street's traffic-carrying capacity during peak travel periods. Minor arterials generally have four travel lanes during peak travel periods (on-street parking may occupy one or more lanes during non-peak hours), but a minor arterial may also have two travel lanes and widen out at signalized intersections. Minor arterials generally carry traffic volumes in the range of 10,000-40,000 average daily trips (ADT). Minor arterials serve as a distribution network to geographic areas smaller than the principal arterials. Trip lengths associated with minor arterials are of a moderate length and travel is at a lower speed than on principal arterials. In Hubbardston, Route 68 is classified as a Minor Arterial.

Collector Streets: Collector streets collect traffic from local streets and channel it into the arterial street system. The focus of collectors is more on land access than on mobility. Collector streets provide traffic circulation within neighborhoods and commercial and industrial areas. Travel speeds are generally lower and parking restrictions fewer than on minor arterial streets.

Collectors are usually two-lane roadways with minor widening at intersections with arterial streets. Collectors carry traffic volumes in the range of 3,000 to 20,000 ADT. The higher flows are associated with collectors that are over two miles in length and where some element of through traffic between arterials is present. Roads classified as Collectors in Hubbardston are Route 62, Brigham Road, New Westminster Road, Williamsville Road, Burnshirt Road and New Templeton Road.

Local Road and Streets: The local streets include all the remaining streets that are not included in one of the higher systems. Local streets could be residential or industrial in character or could be access roads to recreation areas or parks. Traffic volumes on local streets are generally 4,000 ADT or less. A great majority of residential streets have volumes of 500 ADT or less. The high-volume local streets are very long residential roadways (over one mile in length) with access to subdivisions.

Local roads' and streets' main function is to provide access to land. Travel speeds on local streets are generally the lowest and parking restrictions generally do not apply. Through travel on residential streets is often discouraged through traffic calming mechanisms. Although local streets carry relatively low traffic volumes overall, they constitute by far the greatest road mileage, accounting for 65% to 80% of roadway mileage in a typical community. Local roads and streets are NOT eligible for Federal Aid, but they are eligible for State Highway funds under Chapter 90.

Below is the current mileage in each Functional Classification category displayed in Table 2.

Table 2
Mileage in Each Functional Classification Category

HUBBARDSTON	Rural - Arterial	8.18
HUBBARDSTON	Rural - Collector	19.83
HUBBARDSTON	Rural - Local	57.61
HUBBARDSTON	Total Mileage	85.61
HUBBARDSTON	Rural - Arterial	8.18
HUBBARDSTON	Rural - Collector	19.83
HUBBARDSTON	Rural - Local	57.61

5. Average Daily Traffic (ADT)

For many years the MRPC and MassDOT Highway Division have taken traffic counts at numerous locations in Hubbardston, as part of its regional traffic count program. Table 3 on the following page lists the traffic counts taken along major routes over the past 10 years by location. These locations can be seen on the map in Attachment 2 - Traffic Count Locations Map. The locations mentioned in the table will be shown with larger dots on the map and have been conducted regularly for volume comparison purposes. Other locations that have been conducted, but not regularly, will be shown with smaller dots and Turning Movement Counts will be shown in green.

The counts consist of data collected during a period of at least 24 weekday hours. To reflect seasonal differences in traffic volumes, MassDOT produces seasonal adjustment factors based on data collected at more than 200 statewide locations where traffic volume data is collected 365 days of the year. The seasonal adjustment factors are then applied to the 24-hour count volume to produce an Average Annual Daily Traffic (AADT) volume for the location. These factors were applied to all counts listed on Table 3.

Table 3
Hubbardston Traffic Volumes

Street/Route	Location	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Barre Road	South of Elm Street				1800			1600			1800	
Brigham Street	East of Main Street (Rt. 68)	1600								1800		
Elm Street	South of Main Street (Rt. 68)	1900	1200							2500		
Main Street	North of Brigham Street	6200				6400				6100		
Old Boston Turnpike	At Barre T.L.						2600	2600				2500
Old Boston Turnpike	At Princeton T.L.						1200					1400
Old Boston Turnpike	East of Worcester Road (Rt. 68)		1700				1200					2300
Williamsville Road	At Barre T.L.			1300				1000				

Given this limited traffic count data, it is clear that the traffic volumes are fairly consistent community-wide. There are a few areas where there is growth and a few that show a reduction in traffic volumes. This seems to be the trend throughout the entire Montachusett Region at the time of this report.

6. Roadway Safety

Traffic crashes are often unpredictable, unavoidable events. Most traffic crashes are the result of driver error; however, driver error can be magnified by poor roadway or intersection design, or by inadequate traffic control measures. When crashes occur in high numbers at a particular location, there is probably a common reason for the crashes related to the design and/or signage of the road. These crashes can be predictable and the conditions that increase the chances for crashes are often correctable. Detailed study of crash records can identify these high-crash locations and lead to design improvements that will reduce the numbers and severity of future crashes.

MassDOT develops and uses crash data to create crash tables for each community in Massachusetts for use in traffic engineering studies, safety planning activities, and distribution to government agencies and the public. The MRPC Transportation Department maintains and continually updates a crash database for the purpose of gathering crash statistics on the Region using historical and the most recent MassDOT crash tables available that currently exist from 2016-2018. To develop crash statistics from the database, MRPC staff has analyzed information such as number of crashes, crash location, and crash severity. Crash severity states the types of harm or the most serious outcome of a crash. There are essentially three possible outcomes:

1. Fatal Injury crash (Fatal Crash): Is the worst type of harm that involves at least one fatality or death of a person.
2. Non-fatal Injury crash (Injury Crash): Is the second worst type of harm that involves at least one injury to a person.
3. Property Damage Only crash (PDO Crash): Is the third worst type of harm that involves damage to property of any type.

Crash Statistics

The Region saw a total of 10,746 crashes occur between the 3-year period of 2016-2018 and 95 (1%) of those crashes occurred in Hubbardston. Of the Hubbardston total crashes, one (1) was a Fatal Crash and 23 were Injury Crashes (25% combined). PDO Crashes accounted for 69 and two (2) were not reported (75% combined) (see Table 4 below). See Attachment 3 Crash Map for crash locations.

Crash clusters at intersections arise when two or more crashes occur in a 3-year period at the intersection (hereinafter called Intersection Crash Clusters). There was a total of ten (10) Intersection Crash Clusters in Hubbardston which accounted for 31 (65%) of the 48 total crashes that occurred at intersections in Hubbardston. Crash Corridors on roadways arise when a minimum of three (3) crashes occur on a roadway with the added requirement that they must also be within a .25-mile radius of each other. There was a total of seven (7) roadways that experienced the minimum which

accounted for 79 of the 95 total crashes that occurred in Hubbardston. The Crash Corridors include the intersection crashes that occurred on the Crash Corridor. Table 4 below provides the Intersection Crash Clusters and Crash Corridors that occurred within Hubbardston in the 3-year period of 2016-2018. Table 4 includes the Fatal Crash location which will be discussed further due to its crash severity outcome.

Table 4: Crash Cluster Locations in Hubbardston

	Crash Count	Fatal Crashes	Injury Crashes	PDO/NR*
INTERSECTION CRASH TOTALS	48	0	11	37
MID-BLOCK CRASH TOTALS	47	1	12	34
TOTALS	95	1	23	71
Percent TOTALS		25%		75%
Intersections with Two or More Crashes	Crash Count	Fatal Crashes	Injury Crashes	PDO/NR
OLD BOSTON TURNPIKE/WORCESTER ROAD	9		2	7
WORCESTER ROAD/ELM STREET/MAIN STREET/BRIGHAM STREET	4			4
WORCESTER ROAD/DPW SOUTH	3			3
GARDNER ROAD/RIETTA DRIVEWAY SOUTH	3			3
EVERGREEN ROAD/BRIGHAM STREET	2			2
GARDNER ROAD/GARDNER ROAD CUTOFF SOUTH	2			2
HIGH STREET/GARDNER ROAD/RAGGED HILL ROAD	2			2
NEW TEMPLETON ROAD/CROSS ROAD	2		1	1
OLD PRINCETON ROAD/EVERGREEN ROAD	2		1	1
PITCHERVILLE ROAD/GARDNER ROAD/MORGAN ROAD	2			2
Totals	31	0	4	27
Percent of Intersection Crash Totals	65%	N/C	36%	73%
Crash Corridors	Crash Count	Fatal Crashes	Injury Crashes	PDO/NR
Gardner Rd (Route 68)	23		5	18
New Templeton Rd	10		4	6
Worcester Rd (.89 M north of Rt 62 to Rutland TL)	15		3	12
Main St (Williams Rd to just south of Elm St)	12		2	10
Brigham St / New Westminster Rd	10		2	8
Old Princeton Rd (from Evergreen Rd to Howard Rd)	5		2	3
Barre Rd (from Elm St to Route 62)	4		1	3
Totals	79	0	19	60
Fatal Crash Not in Crash Corridor	Crash Count	Fatal Crashes	Injury Crashes	PDO/NR
86 MOUNT JEFFERSON ROAD	1	1		

*Not Reported

Further study is recommended for the following top locations listed in Table 4 that may need corrective measures to improve safety:

- The Fatal Crash that occurred at 86 Mount Jefferson is the most severe crash severity outcome.

- The Old Boston Turnpike at Worcester Road Intersection Crash Cluster with its nine (9) total crashes that includes two (2) Injury Crashes.
- The Gardner Road (Route 68) Crash Corridor with its 23 total crashes and five (5) Injury Crashes.

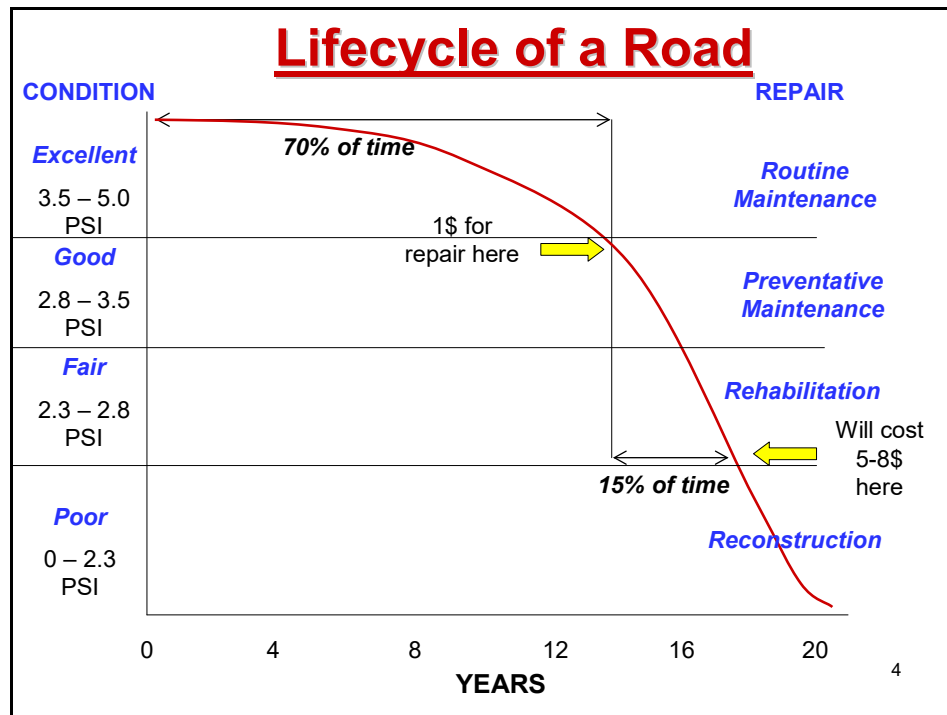
The remaining 15 total crashes did not occur in an Intersection Crash Cluster, Crash Corridor or was not a Fatal Crash. Each crash occurred at its own intersection or mid-block location. Attachment 3 includes a listing of the crashes that did not occur in a Crash Corridor and a listing of intersections with one crash, many of which occurred in Crash Corridors.

7. Pavement Condition

In most municipalities throughout the United States, road and street surfaces are the largest single cost of building and maintaining a transportation system. Forty to fifty percent of public funds spent on roadway systems are for the road surface. For smaller communities such as Hubbardston the percentage can be much higher. The role of a pavement management system is to provide an opportunity to improve roadway conditions while making cost effective decisions on maintenance priorities and schedules. The following list some faulty but common techniques for tending to a road network.

- Worst First - The roads in the worst condition get the first priority, which makes a noticeable difference in the worst roads, but often does not stretch funds to address many general maintenance tasks, resulting in a rapidly deteriorating network of roads.
- Fighting Fires - Respond to concerns as they arise. Ignoring preventative maintenance tasks that would save money in the long run.
- Scheduled Repairs - Attend to roads based on periodic maintenance, such as seal coats every five years and overlays every 10 years.
- Political Pressure - Establish maintenance repairs and schedules based on political considerations.

Unlike many maintenance methods which often rely on faulty practices such as these, a pavement management system relies heavily on pavement preservation early and often for the purpose of preventing an increasing deterioration of pavement structure. By maintaining an accurate database with up to date road conditions, the needs of a road network are better diagnosed.



The figure above, “Lifecycle of a Road”, represents the relationship between repair cost and time, it shows that it is far more economical to preserve roads than to delay repairs and reconstruct roads. A pavements lifecycle is the time between reconstruction periods. Lifecycle cost is the total cost spent on maintenance and repairs for a particular pavement section during its life cycle. One of the main focuses of pavement management is to keep a pavements lifecycle long while lifecycle cost is low to stretch the dollar in what is commonly an ever-decreasing maintenance budget.

While it is important to preserve a pavements condition in good standing for as long as possible by implementing various preventative and routine maintenance techniques throughout its lifecycle to keep lifecycle cost low, it is a reality that budgets often do not allow for this. It is encouraged that a pavement management plan be implemented to keep on track of maintenance needs and schedules to contribute to a cost-effective approach to maintaining roadways.

The MRPC has surveyed communities in the Montachusett region about their involvement in municipal Pavement Management System activities. Local municipal programs range from non-existent to basic annually maintained spreadsheets to ongoing contracts with consultants utilizing the latest Pavement Management software to analyze town roadways. Although a pavement management program does involve additional costs on top of maintenance budgets, many communities are realizing their potential to save money by making well informed decisions in the long run. The costs and benefits of utilizing a Pavement Management System in Hubbardston should be weighed and discussed with the appropriate decision makers.

Local Conditions

The structural conditions of the majority of the Federal Aid eligible roads in Hubbardston are determined by MassDOT and MRPC pavement surveys. The condition is expressed by assigning a Pavement Serviceability Index (PSI) number from 0 to 5 to segments along the roadway. PSI is an overall rating of the pavements condition. Conditions are rated as Excellent, Good, Fair and Poor.

The table below shows a general correlation between PSI, condition, repair strategies and associated cost. The estimated repair cost was derived from conversations with a Pavement Management Users Group (PMUG) comprised of other Regional Planning Agencies, the MassDOT and the Federal Highway Administration (FHWA) and reflects the estimated cost to bring the pavement condition to “excellent.”

Table 5
General Correlation Between PSI, Condition, Repair Strategies and Associated Cost

PSI	Condition	Associated Repair	Repair Cost Per. Sq. Yard
0 - 2.29	Poor	Reconstruction	\$45
2.3 - 2.79	Fair	Rehabilitation (Mill/Overlay)	\$18
2.8 - 3.49	Good	Preventative Maintenance	\$8.50
3.5 - 5	Excellent	Routine Maintenance	\$0.75

The Map “*Fed-Aid Eligible Roadways*” (see Attachment 1A) shows all Federal Aid Eligible roads. These are all roads in Hubbardston which are eligible to receive federal aid, including both State and Local Jurisdiction roads. Please note that due to the time frame between data collection and report preparation, conditions of the roadways may change. Therefore, this information should be viewed in general terms regarding needs and condition. Attachment 1B at the end of this document shows pavement conditions of *Federal Aid Eligible* roadways in Hubbardston. Federal Aid Eligible roads are comprised of all functionally classified as Interstate, Urban and Rural Arterial, Urban Collector and Rural Major Collector roads. These roads include all roads which are State maintained (State Jurisdiction) as well as a select number of roads which are maintained by the town of Hubbardston (Local Jurisdiction).

Table 6
Pavement Condition on Surveyed Federal Aid Eligible Road in Hubbardston

	State Jurisdiction			Local Jurisdiction			Repair Category	Combined		
	Miles	Sq. Yd	Cost	Miles	Sq. Yd	Cost		Miles	Sq. Yd	Total
Excellent			\$0	5.88	82790	\$62,093	Routine Maintenance	5.88	82790	\$62,093
Good			\$0	0.00	0	\$0	Preventative Maintenance	0.00	0	\$0
Fair			\$0	1.86	26189	\$484,497	Rehabilitation	1.86	26189	\$484,497
Poor	0.01	178	\$8,010	13.33	187686	\$8,445,870	Reconstruction	13.34	187864	\$8,453,880
Total	0.01		\$8,010	21.07		\$8,992,459	Total	21.08		\$9,000,469

Table 6 above shows pavement conditions on surveyed Federal Aid Eligible roads in Hubbardston. Also displayed is the cost to repair all roadways to excellent condition. Hubbardston is generally on par with other Montachusett communities with similar Federal Aid Eligible road miles in terms of overall condition. It should be noted that these conditions only reflect a portion of roadways in town, and do not reflect any local classification roadways.

Challenges

A major concern to communities is funding available for roadway maintenance (Chapter 90) lagging behind the rising price of such maintenance. On the following page is a chart showing the Chapter 90 allocations Hubbardston will receive in FY 2020 along with the roadway mileage that that money must maintain.

CHAPTER 90 FUNDS

	Local Jurisdiction Miles (Fed Aid and Non-Fed Aid eligible)	FY 2016 Ch. 90 Apportionm ent	FY 2017 Ch. 90 Apportionm ent	FY 2018 Ch. 90 Apportionm ent	FY 2019 Ch. 90 Apportionm ent	FY 2020 Ch. 90 Apportionm ent	% Change (2016 - 2020)
Ashburnham	74	\$346,340	\$345,504	\$343,472	\$343,284	\$341,939	-1.29%
Ashby	52	\$230,201	\$229,619	\$226,417	\$225,760	\$225,811	-1.94%
Athol	96	\$499,325	\$500,196	\$502,804	\$508,214	\$507,704	1.65%
Ayer	35	\$239,164	\$242,879	\$244,654	\$243,513	\$242,505	1.38%
Clinton	47	\$331,397	\$329,236	\$327,069	\$325,436	\$325,749	-1.73%
Fitchburg	179	\$1,122,369	\$1,127,480	\$1,122,926	\$1,120,288	\$1,119,259	-0.28%
Gardner	93	\$604,325	\$604,221	\$600,789	\$599,292	\$615,579	1.83%
Groton	100	\$505,608	\$505,008	\$504,132	\$502,295	\$501,734	-0.77%
Harvard	64	\$347,705	\$346,663	\$347,438	\$349,551	\$350,767	0.87%
Hubbardston	83	\$361,498	\$360,591	\$355,944	\$356,673	\$355,135	-1.79%
Lancaster	59	\$311,414	\$310,688	\$311,911	\$311,633	\$327,042	4.78%
Leominster	150	\$1,082,285	\$1,084,741	\$1,085,399	\$1,119,490	\$1,127,677	4.03%
Lunenburg	83	\$419,626	\$419,625	\$415,877	\$415,087	\$414,649	-1.20%
Petersham	62	\$255,951	\$255,744	\$252,089	\$251,354	\$250,869	-2.03%
Phillipston	45	\$189,823	\$189,594	\$186,873	\$189,780	\$189,271	-0.29%
Royalston	70	\$284,882	\$284,356	\$283,409	\$282,680	\$281,623	-1.16%
Shirley	44	\$253,904	\$253,372	\$252,029	\$252,036	\$252,072	-0.73%
Sterling	68	\$417,596	\$416,765	\$413,796	\$411,575	\$410,022	-1.85%
Templeton	87	\$338,351	\$335,950	\$333,245	\$333,029	\$335,718	-0.78%
Townsend	86	\$424,556	\$423,919	\$414,296	\$416,674	\$415,776	-2.11%
Westminster	91	\$419,830	\$418,675	\$414,252	\$410,852	\$419,901	0.02%
Winchendon	85	\$447,484	\$447,566	\$443,871	\$450,917	\$458,158	2.33%
TOTAL	1753	\$9,433,634	\$9,432,392	\$9,382,692	\$9,419,413	\$9,468,960	0.37%

Pavements are often the single largest expense in any municipal road maintenance budget. Chapter 90 allocations often do not provide sufficient funding to maintain local roads at the current condition let alone make major improvements. Due to inadequate funding it is recommended that communities routinely target funding for federal aid eligible Local roadways through the Transportation Improvement Program (TIP). It is also encouraged that a Pavement Management Plan be implemented by communities to keep on track of maintenance needs and schedules to contribute to a cost-effective approach to maintaining roadways.

Recommendations for Pavement Activities

- Hubbardston should consider the merits of applying the principals of Pavement Management when going forward with future maintenance schedules
- In an effort to reduce the strain on Chapter 90 funds Hubbardston should continue to seek funding for infrastructure projects on Local Jurisdiction Federal Aid eligible roads through the TIP process.

8. Bridges

Throughout the Montachusett region, many of its roads travel over numerous brooks, rivers and water bodies. Within the 22 communities of the Montachusett planning area, some 324 bridges are identified and rated by MassDOT as part of their inventory system. MassDOT provided a Bridge Rating Table to the MRPC. This table includes the town where the bridge is located, the road name the bridge is located on, functional classification of the road, year built, rebuilt date (if applicable), the deficiency status of each bridge, i.e. structurally deficient or functionally obsolete and AASHTO (American Association of State Highway and Transportation Officials) rating. AASHTO is a method of evaluating highway bridge data by calculating four separate factors to obtain a numeric value which is indicative of bridge sufficiency to remain in service. The result of this method is a percentage in which 100 percent would represent an entirely sufficient bridge and zero percent would represent an entirely insufficient or deficient bridge. To be eligible for federal aid for repair, a bridge must have a sufficiency rating of less than 80.

According to the MassDOT Project Development and Design Guidebook (January 2006), structurally deficient is defined as “a bridge structure that has a defect requiring corrective action.” Functionally obsolete bridges are defined as “a bridge which has no structural deficiencies but does not meet standards to adequately serve current user demands.” Due to the safety hazard factor, structurally deficient bridges are deemed to be a high priority to repair.

As of September 2018, there are 32 bridges rated as structurally deficient throughout the MRPC region and in Hubbardston there are three that are listed on Table 7 and mapped on Attachment 4. National Bridge Inventory Structurally Deficient & Functionally Obsolete Bridges along with AASHTO Rating. It should be noted that many of the Structurally Deficient bridges throughout the Commonwealth are being addressed through investments in the Accelerated Bridge Program. All of the bridges in Table 7 below are scheduled to be replaced within the next few years. Both Route 62 over the Ware River and Evergreen Road over Mason Brook are to be replaced in the winter of 2019/2020; Williamsville Road over the Burnshirt River is anticipated for replacement in 2023.

Table 7
Structurally Deficient Bridges in Hubbardston

Over	Under	Owner	Year Built	Year Rebuilt	AASHTO Rating
HWY Williamsville	Water Burnshirt River	Town Agency	1939	N/A	66.4
HWY Evergreen Rd.	Water Mason Brook	Town Agency	1920	1938	43.3
ST 62 Old Boston Turnpike	Water Ware River	Town Agency	1950	N/A	5.0

9. Public Transit System

Montachusett Area Regional Transit (MART) Service

There is no fixed route bus service provided in Hubbardston. However, the Montachusett Area Regional Transit Authority (MART) runs a bus service in the neighboring community Gardner, which connects to the wider system through the region. Individual route schedules are available online at MART's website at www.mrta.us. MART contracts with social and human service agencies for paratransit service. The Town and MART provide service in Hubbardston through the Council on Aging that employs a paid coordinator funded jointly.

Intercity Bus Service

There is currently no intercity bus service in the town of Hubbardston. Intercity bus service is provided by MART from Gardner to the Fitchburg Intermodal Center, and once a day in Leominster. Main Stops in Gardner are Mount Wachusett Community College and the City Hall. Service operates from 6:05 a.m. to 5:45 p.m. and is on weekdays and during the college school year only. MART also provides the "Hubbardston Link" Connects Gardner to Route 32 bus operated by the Franklin Regional Transit Authority (FRTA) to Greenfield via Hubbardston, Orange and Phillipston. Service operates from 5:33 a.m. to 7:00 p.m. on weekdays only.

Commuter Rail

The nearest commuter rail station to Hubbardston is located in neighboring Fitchburg, allowing residents nearby access to the Fitchburg Commuter Rail Line and North Station in Boston. Service along the Fitchburg line to North Station includes the Wachusett Commuter Rail Station in West Fitchburg at the intersection of Route 2 & 31. The Station has seventeen (17) inbound trips and seventeen (17) outbound trips. Weekday departures from Wachusett Station to Boston begins at 4:50 a.m. and end at 10:35 p.m. Weekday Outbound trains from Boston to Wachusett begin at 6:35 a.m. and end at 12:10 a.m. Weekend service from this station includes seven (7) inbound trips to Boston and seven (7) outbound trips.

The Regional Transit Authority also provides a Wachusett shuttle service connecting neighboring Gardner with seven (7) inbound trains and six (6) outbound trains, the service starting at 5:15 a.m. and

ending at 7:40 p.m. on weekdays only. The Wachusett shuttle schedule is available online at MART's website at www.mrta.us.

10. Other Transportation Systems

Freight Railroads

Freight rail service in Hubbardston is provided by Providence and Worcester Railroad (PW), which is one of New England's largest regional railroad systems. Providence and Worcester entered the rail business as two separate state-chartered rail companies in 1844 in Rhode Island and Massachusetts. They merged less than two years later in 1845 as Providence and Worcester Railroad Company, acquiring much of the Blackstone Canal and lands immediately surrounding it, building a main line to connect its two namesake cities. In 1892 the New York, New Haven and Hartford Railroad (NH) leased the P&W for 99 years.

In 1969, The New Haven merged into Penn Central, and in 1970 PW announced its intention to separate from the merger, which it did in 1972. Since then they have taken over many other lines from the former Penn Central in addition to several from the Boston and Maine Railroad. Present day, PW's 566 miles of routes stretch from New York City, New York to Gardner, Massachusetts. As a Class II railroad, Providence and Worcester Railroad operates at a regional level as a freight hauler. Primary commodities handled include iron, cement, steel, food products, lumber, construction debris, limestone, chemicals and plastics, scrap metal, finished automobiles and aggregates. Within the region it runs north/south from Hubbardston to Gardner by way of the Freight Main Line. This rail line runs generally parallel to Route 68.

Aviation

Within the Montachusett Region, there are three general aviation municipal airports, the Fitchburg Municipal Airport located in Fitchburg on the Leominster City line; the Gardner Airport in Templeton near the Gardner City Line; and the Sterling Airport in Sterling. Each of these is classified as a general aviation airport. Outside of the Montachusett Region is the Orange Municipal Airport, in Orange, Massachusetts. It is a public airport owned by Town of Orange that has two runways, averages 137 flights per day, and has approximately 52 aircraft based on its field. Flight training and parachuting services are available.

The former Shirley Airport is no longer a public use facility. According to the Massachusetts Aeronautics Commission website (www.massaeronautics.org), "The owner/operator of Shirley Airport has decided to change the airport's status from Privately-Owned/Public-use airport to Private Restricted Landing Area, which means that effective immediately, the airport is closed to public use. Pilots must receive prior permission from the owner/operator to use the airport." This location, located both in Shirley and Lancaster, has recently been turned into a solar farm where the electricity generated is supplied to the Town of Billerica, Ma.

The largest of the municipal airports, by far, is the Fitchburg Municipal Airport. Approximately 515 flights per day are handled on its two-runway system. The airport handles the general aviation needs for the greater Fitchburg area and provides facilities for personal, corporate and air taxi services. Access to the Fitchburg Municipal Airport is through Falulah Road, which provides indirect access to Route 2 (via Hamilton Street and Routes 12 and 13), and downtown Fitchburg (via Bemis Road, Route 12 and Summer Street). Improvements to the existing highway network would benefit the airport. In addition, commuter rail service is available at the North Leominster Train Station on Route 13 approximately one mile from the airport.

11. Bicycles and Pedestrians

Bicycle Travel

There has been a noticeable increase in the number of bicycles around population centers and on the highways. Bicycles have found a place on the highway network by default, as have pedestrians. Bicycles mixed with motor vehicle traffic can be dangerous and create traffic delays. Safety problems have increased as evidenced by the number of bicycle-automobile accidents. It was reported in the MassDOT crash files for the 10-year period of 2006-2016 that 266 bicycle-related crashes occurred in the Montachusett Region resulting in 204 injuries and no fatalities. These 266 crashes involved one or more pedalcyclists (bicycle, tricycle, unicycle, pedal car). It was reported in the MassDOT crash files for the 10-year period of 2006-2016 that 807 crashes involving a non-motorist occurred in the Montachusett Region resulting in 655 injuries and 22 fatalities.

There is a strong support from the regional communities for designated bikeways for recreational and commuting traffic. Individual bikeway projects are being implemented in some towns within the region. Construction of bikeways will encourage cycle commuting by providing a direct, separate, and safe route between communities. Also, increasing concern for air quality and energy conservation is leading to renewed interest in development of adequate facilities for bicycles throughout the Montachusett region.

Bikeways are special routes and/or facilities established to facilitate the movement of bicycles as an energy efficient transportation and/or recreation mode of travel. There are three types of bikeways: bike paths, bike lanes, and bike routes. These have been categorized as Class I, II and III bikeways respectively. Class I bike paths are routes totally separated from automobile or pedestrian traffic. Class II bike lanes are lanes at the edge of streets marked for exclusive use of bicyclists. Class III bike routes are roadways that bikes share with cars.

Legally, a bicycle has been recognized as a vehicle in Massachusetts since 1973; subject to basically all the rights and responsibilities of an automobile. Bikeways are public rights-of-way, maintained by a responsible state or local agency, just as a municipality's streets are owned and maintained. Where the land for a proposed bike path is privately owned, an easement to permit public passage may be obtained, or the right-of-way may be purchased outright. Bikeways which parallel roads may be located within the existing publicly owned right-of-way, extending beyond the roadway itself.

Pedestrian Access

Pedestrian activity via sidewalks is generally limited to small areas within town (i.e. schools, libraries, senior center, town hall, parks, etc.). Some residential streets abutting these areas do not currently have sidewalks. Sidewalks should be included in new roadway construction, roadway improvements, and residential and non-residential subdivision development. Along major arterial roadways, land should be secured for sidewalks or pathways as development occurs. Pedestrian actuated signals should be in place in densely populated areas where warranted to allow safer movement of pedestrians.

There is also pedestrian activity by walking trails within town. There is an abundance of nature trails that are mostly used for recreation as opposed to transportation. Creating sidewalk connections to these trailheads would be useful to have increased access to these vital recreation locations.

Safe Routes to School

In 2016 the Hubbardston Center School joined the Massachusetts Safe Routes to School program. This program is sponsored by the Massachusetts Department of Transportation and works to increase safe biking and walking among elementary and middle school students by using a collaborative, community-focused approach that bridges the gap between health and transportation. As of December 2019, the program serves 921 partner schools in 236 communities across the Commonwealth. This equates to 61% of all schools in Massachusetts. At the time of this report, the town of Hubbardston is not very active in this program but has recently expressed renewed interest.

Complete Streets Funding Program

A Complete Street is one that provides safe and accessible options for all travel modes including walking, biking, transit and vehicles for people of all ages and abilities. To participate in the state's Complete Streets Funding Program, a municipality must pass a Complete Streets Policy and then develop a Prioritization Plan (list of projects) that will ultimately be used to apply for funding from MassDOT to begin the construction of projects on the plan. In 2017, the town of Hubbardston had their Complete Streets Policy and Prioritization Plan approved. In February 2018, Hubbardston received a Complete Street grant to install a sidewalk on Gardner Road (Rt 68) from High Street to Curtis Recreational Field. However, in order to prioritize the RTE 68 North reconstruction, the project shifted to sidewalk improvements on Elm Street extending past Hubbardston Center School. This sidewalk work will begin in the fall of 2018. The sidewalk along Rt 68 to Curtis Recreational Field will be included in the Town Center Project.

12. Goals, Objectives, and Recommendations

GOAL:

- Construct and maintain a safe road system that is consistent with the desired Town's character.

OBJECTIVE:

- Maintain a roadway management plan to achieve maintenance-oriented roadway network condition and provide a basis for establishing priorities and budget allocation.

PROPOSALS AND RECOMMENDATIONS:

1. **Continue Proactive Town Participation with MRPC.** Decisions related to project development, prioritization, funding and scheduling are made through the metropolitan planning process and the MRPC serves as staff to the Metropolitan Planning Organization (MPO). Through continued and active involvement in the planning process via the MRPC, the Montachusett Joint Transportation Committee (MJTC) and the Montachusett MPO, issues and projects important to the town can be discussed, heard and acted upon with the town's input and knowledge. Therefore, Hubbardston should remain actively engaged in MRPC activities.

Responsible Entity: Hubbardston Board of Selectmen and Board of Planning and Community Development are each responsible for designating a MJTC Hubbardston Representative who should make every effort to continue to attend monthly MJTC meetings and communicate with MRPC transportation staff.

2. **Schedule Traffic Counts with MRPC.** Each year the regional planning agency, MRPC, solicits from each community up to 4 traffic count locations per calendar year. Hubbardston has taken advantage of this program in the past. The Town should continue to work with the MRPC to establish key traffic count locations to go along with those locations that are part of the MRPC's regional traffic count program. It can be seen in Section 5 (Average Daily Traffic) that traffic throughout Hubbardston has generally been increasing since 2008 in many locations and the purpose of traffic counts is to monitor traffic patterns over time in order to anticipate the need for future improvements. Traffic counts are conducted by MRPC at no cost to the community.

Responsible Entity: Board of Selectmen is the responsible entity for forwarding traffic count requests to the MRPC. The BOS should solicit up to five potential locations for traffic counts from Town Boards and Departments (Department of Public Works, Police Department, Board of Planning and Community Development, etc.) on an annual basis.

3. **Sidewalks.** Make the neighborhoods more pedestrian - friendly through the construction and rehabilitation of sidewalks and perhaps bikelanes. Current design standards for ADA

compliance should be incorporated. This effort could, at least in part, be incorporated into a Comprehensive Circulation Study/Plan (See Recommendation #6). Financing for needed roadway and sidewalk repair for Hubbardston's existing local roads include Enhancement funds, public/private partnership projects, and Community Development Block Grant funds (in moderate-income neighborhoods) for potentially eligible areas. The Town of Hubbardston should continue its efforts to work with the Commonwealth's Complete Streets Program to bring additional state funds for transportation improvements to Hubbardston and enhance public safety.

Safe Routes to School (SRTS) program should also be examined as a potential source of funding for infrastructure improvements. Hubbardston is a SRTS partner and as such is likely eligible to apply for projects. SRTS projects are 100% financed by the program and include design funding.

Responsible Entity: Hubbardston Board of Selectmen with significant input from the Department of Public Works, Police Department, and Board of Planning and Community Development/Planning and Development Department.

4. **Regional Trail Network.** Work with neighboring communities and align the Town with regional trails groups i.e. Montachusett Regional Trail Coalition (MRTC) and North Quabbin Trails Association. These efforts would help to establish a regional trail network that would ultimately link Hubbardston to various recreational opportunities outside of the town. Currently there are limited bike and pedestrian trails within the community. The town may wish to identify, prioritize and implement additional trail opportunities and should consider creating a community trail plan to assist with trail priority development and additional funding opportunities.

Responsible Entity: Hubbardston Board of Selectmen with significant input from the Department of Public Works, Conservation Commission, Open Space and Recreation Commission, and Board of Planning and Community Development/Planning and Development Department.

5. **Comprehensive Circulation Study/Plan.** The town may seek to establish a Comprehensive Circulation Study/Plan of non-motorized users that could identify major travel routes, crosswalks, sidewalks, appropriate pavement markings and signage, etc. This plan should include major areas of concern for the town (ie. library, post office, schools, recreation facilities, etc.). In addition, this plan could identify links to the overall trail/bike network.

The Town could communicate with MRPC Transportation Staff to investigate the possibility of conducting such a study under MRPC's Unified Planning Work Program (UPWP) at no cost to the community. The UPWP for the Montachusett Metropolitan Planning Organization (MPO) is a financial programming tool developed annually as part of the federally certified transportation planning process. This document contains task

descriptions of the transportation planning program of the MPO, with associated budget information and funding sources for the program year. The purpose of the UPWP is to ensure a comprehensive, cooperative, and continuing (3C) transportation planning process in the Leominster-Fitchburg Urbanized Area and the Montachusett Region. Other funding options to supplement a project like this might include the Safe Routes to School Program - for more information, contact MassRIDES (www.commute.com). It should be noted that in 2016 the Hubbardston Community Elementary School and the Hubbardston-Royalston Middle School both joined the Massachusetts Safe Routes to School program but at the date of this report, the Town of Hubbardston is not very active in this program; it is recommended that the Town consider more active participation.

Responsible Entity: Hubbardston Board of Selectmen in cooperation with the Board of Planning and Community Development/Planning and Development Department, Department of Public Works, and Police Department.

6. **Bridges.** As previously indicated under Section 8 of this report, Hubbardston has three structurally deficient bridges that are owned by the Town. They are all scheduled or in the process of being rebuilt and brought up to code.

Responsible Entity: Hubbardston Board of Selectmen should initiate discussion with the Massachusetts Department of Transportation (MassDOT) District 3 office and encourage involvement from the Hubbardston Department of Public Works. Programming of bridge projects is the responsibility of MassDOT so close coordination and communication should continue.

7. **Culverts.** Failed culverts can impact roads, residences, businesses, etc. The Town should conduct and maintain an inventory of culverts within the community and seek to identify a mechanism to clean, repair and update the structures as needed.

Responsible Entity: Hubbardston Department of Public Works.

8. **Maintain Communication and an Open Dialogue with Montachusett Area Regional Transit.** The Hubbardston Board of Selectmen have been communicating with Montachusett Area Regional Transit (MART) to mitigate the impact of declining service due to less federal funding and work to maintain bus routes at strategic locations throughout the area. The Hubbardston Board of Selectmen should continue an open dialogue with MART to provide the maximum benefit to Hubbardston residents in need of this important service.

Responsible Entity: Hubbardston Board of Selectmen would be the appropriate board to continue communication with MART.

9. **Analyze Traffic Crash Data.** Analyze traffic crash data for crashes on major roads and intersections to determine the patterns and causes. Seek potential projects to address identified issues at major crash locations. Where appropriate, state and federal funding

assistance should be utilized. Consider working with your local regional planning agency (MRPC) as well as the Massachusetts Department of Transportation (MassDOT) Highway Division office on projects and funding opportunities. In Hubbardston, there are two locations recommended for further study; the Old Boston Turnpike at Worcester Road Intersection Crash Cluster with its nine (9) total crashes that includes two (2) Injury Crashes, and the Gardner Road (Route 68) Crash Corridor with its 23 total crashes and five (5) Injury Crashes.

Responsible Entity: Hubbardston MJTC Representatives working with the Department of Public Works, Police Department, and reporting to the Hubbardston Board of Selectmen.

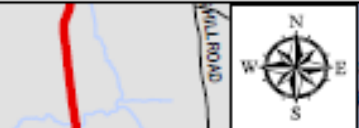
10. **Pavement Management System.** The Town needs to protect its investment in roads and other public facilities commensurate with its level of assets. Lack of routine maintenance investment results in needless deterioration and replacement resulting in reduced utility of the facility and greater long-term replacement costs. The Town should consider the merits of applying the principals of Pavement Management when going forward with future maintenance schedules and the costs and benefits of utilizing a Pavement Management System in Hubbardston should be weighed and discussed with the appropriate decision makers.

Where appropriate, the town should seek local and federal funding assistance on eligible roads. Consider working with your local regional planning agency (MRPC) as well as the Massachusetts Department of Transportation (MassDOT) Highway Division office on projects and funding opportunities.

Responsible Entity: Hubbardston MJTC Representatives working with the Department of Public Works, Police Department, and reporting to the Hubbardston Board of Selectmen.

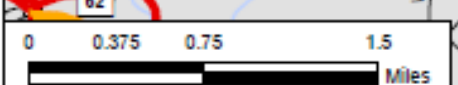
ATTACHMENT 1A – Federal Aid Eligible Roadways

Hubbardston, MA: Fed-Aid Eligible Roadways

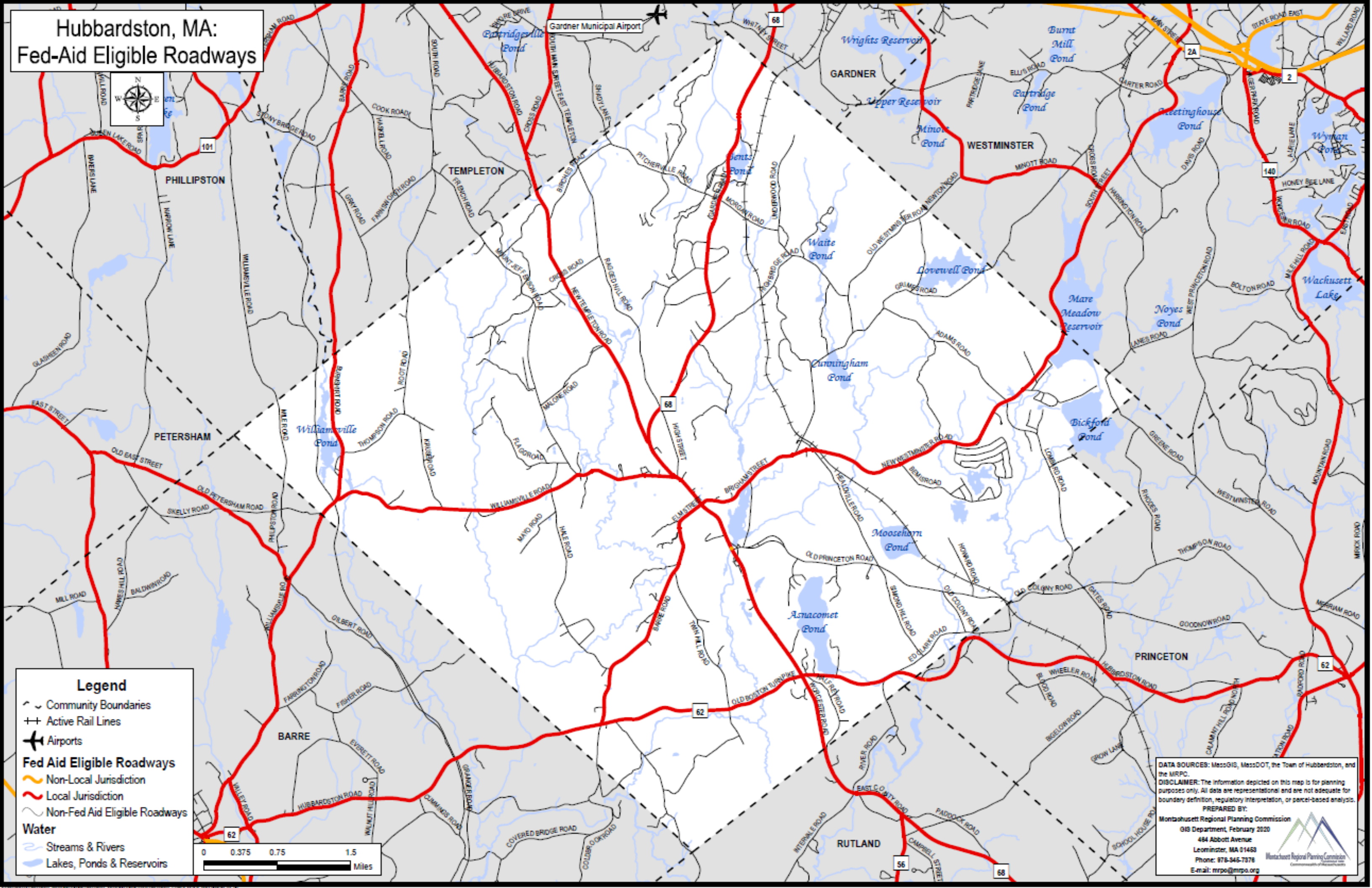


Legend

- Community Boundaries
- Active Rail Lines
- Airports
- Fed Aid Eligible Roadways**
 - Non-Local Jurisdiction
 - Local Jurisdiction
 - Non-Fed Aid Eligible Roadways
- Water**
 - Streams & Rivers
 - Lakes, Ponds & Reservoirs



DATA SOURCES: MassGIS, MassDOT, the Town of Hubbardston, and the MRPC.
DISCLAIMER: The information depicted on this map is for planning purposes only. All data are representational and are not adequate for boundary definition, regulatory interpretation, or parcel-based analysis.
PREPARED BY:
Montachusett Regional Planning Commission
GIS Department, February 2020
484 Abbott Avenue
Leominster, MA 01468
Phone: 978-845-7378
E-mail: mrpc@mrpc.org



ATTACHMENT 1B – Pavement Conditions on Surveyed Roads

Hubbardston, MA: Pavement Conditions on Surveyed Roads



Legend

Community Boundaries

Active Rail Lines

Airports

Pavement Conditions

Poor

Fair

Good

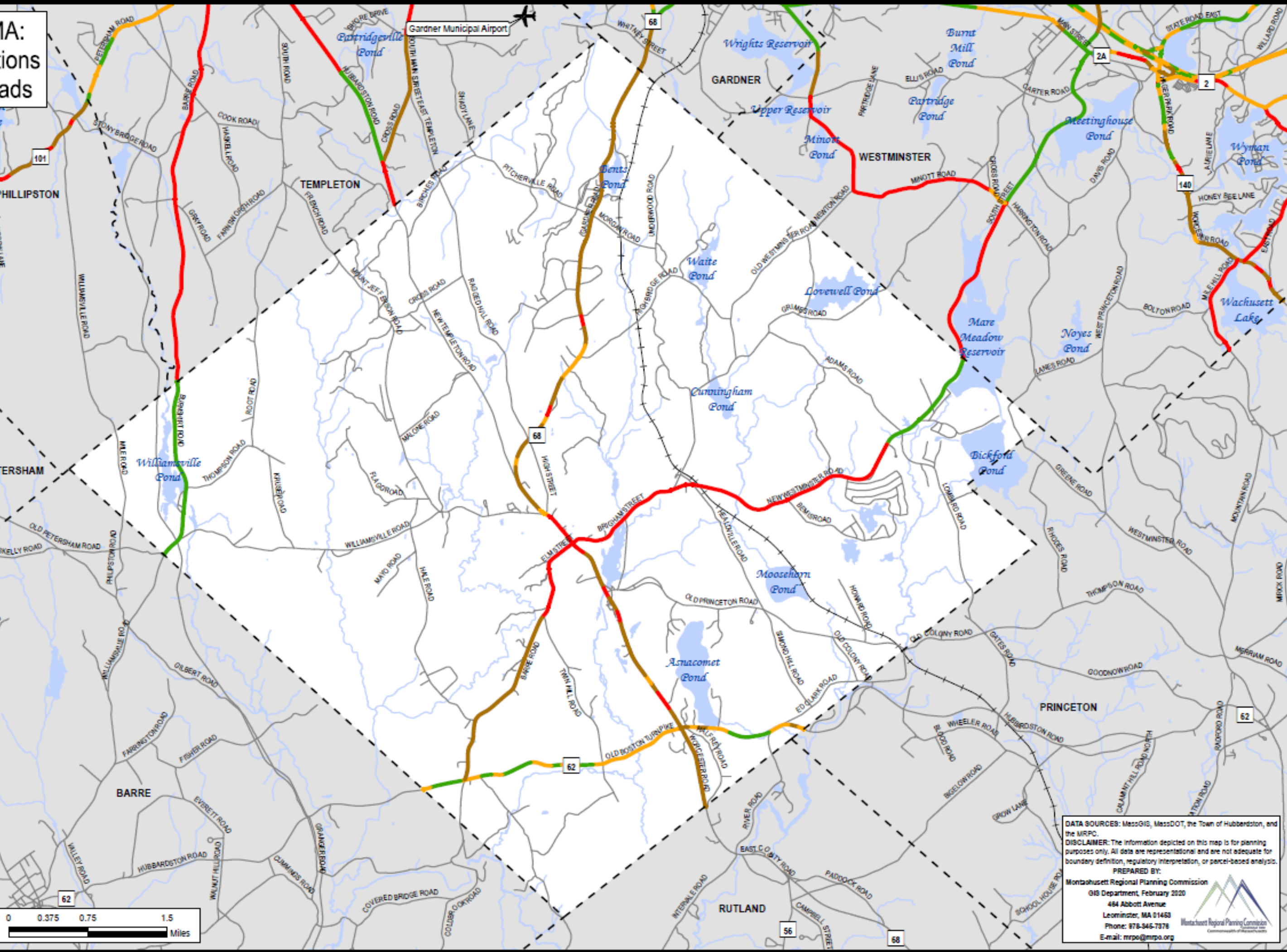
Excellent

Non-Surveyed Roadways

Water

Streams & Rivers

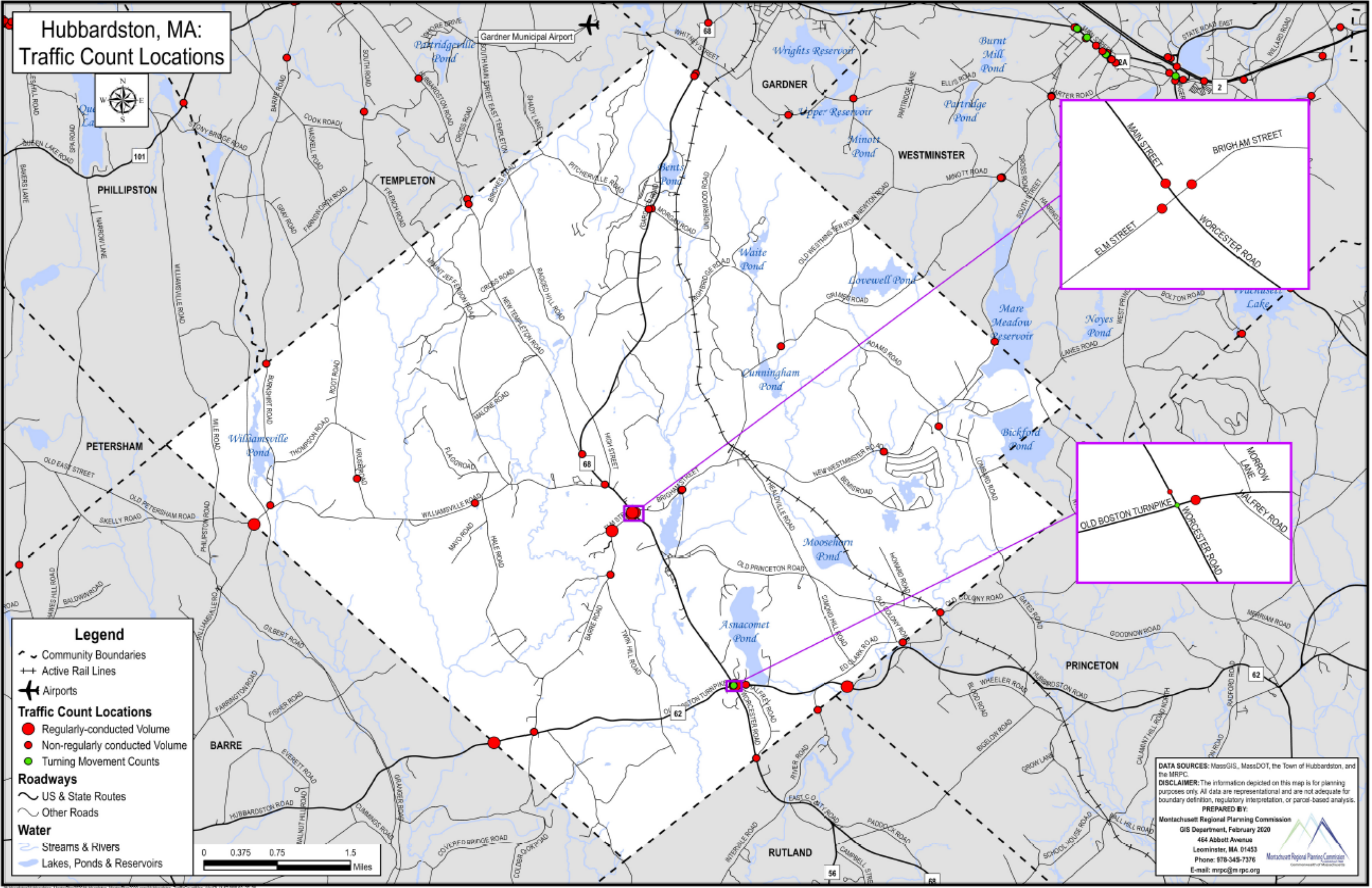
Lakes, Ponds & Reservoirs



DATA SOURCES: MassGIS, MassDOT, the Town of Hubbardston, and the MRPC.
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ATTACHMENT 2 – Traffic Count Locations

Hubbardston, MA: Traffic Count Locations



Legend

Community Boundaries

Active Rail Lines

Airports

Traffic Count Locations

Regularly-conducted Volume

Non-regularly conducted Volume

Turning Movement Counts

Roadways

US & State Routes

Other Roads

Water

Streams & Rivers

Lakes, Ponds & Reservoirs

DATA SOURCES: MassGIS, MassDOT, the Town of Hubbardston, and the MRPC.

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ATTACHMENT 3 – Crash Map

Hubbardston, MA: Crash Map



Legend

Community Boundaries

Active Rail Lines

Airports

Crashes by Corridor

Barre Road (from Elm St to Route 62)

Brigham St / New Westminster Rd

Gardner Road Route 68

Main St (Williams Rd to just south of Elm St)

New Templeton Road

Old Princeton Rd (from Evergreen Rd to Howard Rd)

Worcester Rd (.89 M north of Rt 62 to Rutland TL)

Crash not on Crash Corridor

Crashes by Severity

Fatal injury

Non-fatal injury

Property damage only (none injured)

Not Reported

Roadways

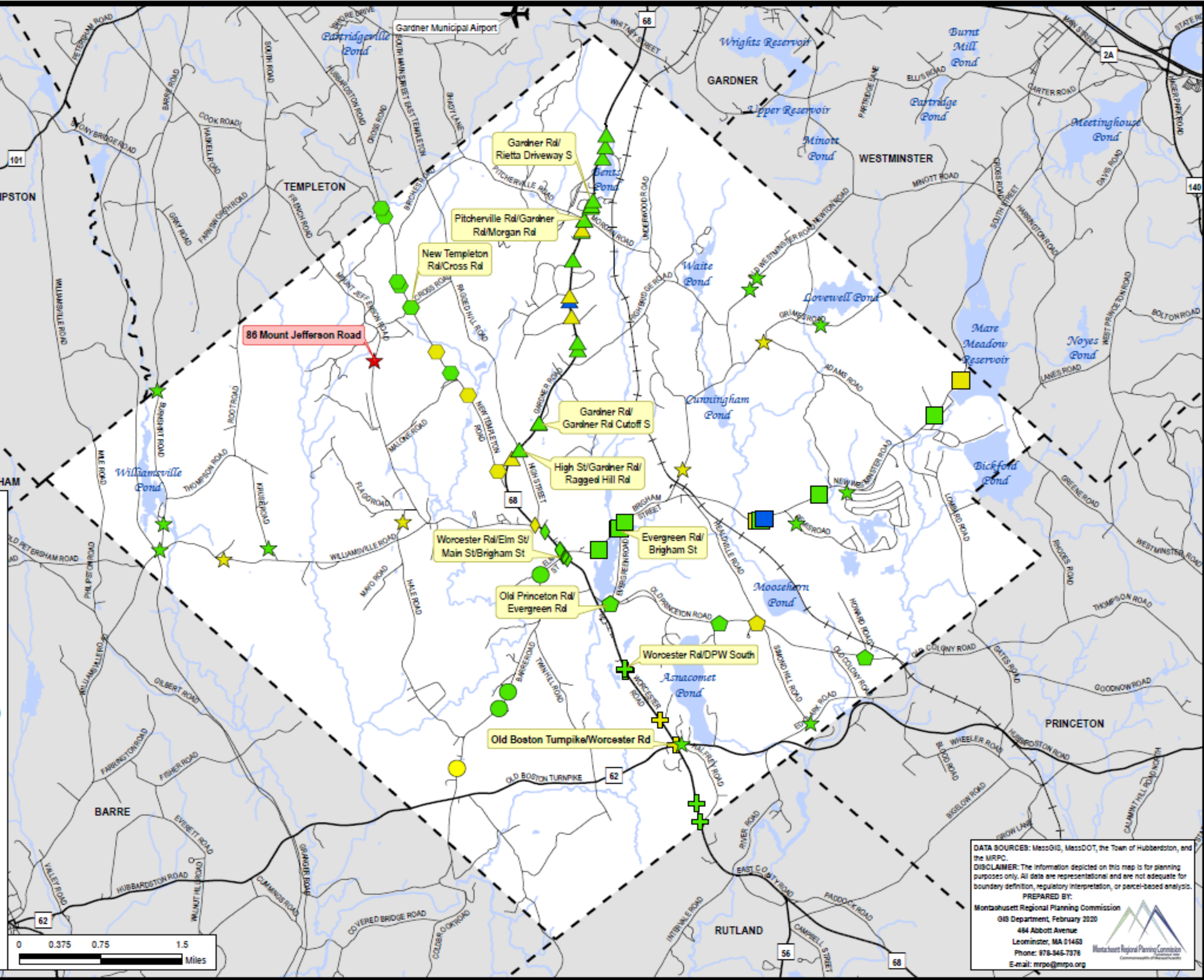
US & State Routes

Other Roads

Water

Streams & Rivers

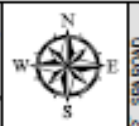
Lakes, Ponds & Reservoirs



DATA SOURCES: MassGIS, MassDOT, the Town of Hubbardston, and the MRPC.
DISCLAIMER: The information depicted on this map is for planning purposes only. All data are representational and are not adequate for boundary definition, regulatory interpretation, or parcel-based analysis.
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ATTACHMENT 4 – National Bridge Inventory Structurally Deficient & Functionally Obsolete Bridges

Hubbardston, MA: Structurally Deficient Bridges



Legend

- Community Boundaries
- Active Rail Lines
- Airports

Structurally Deficient Bridges

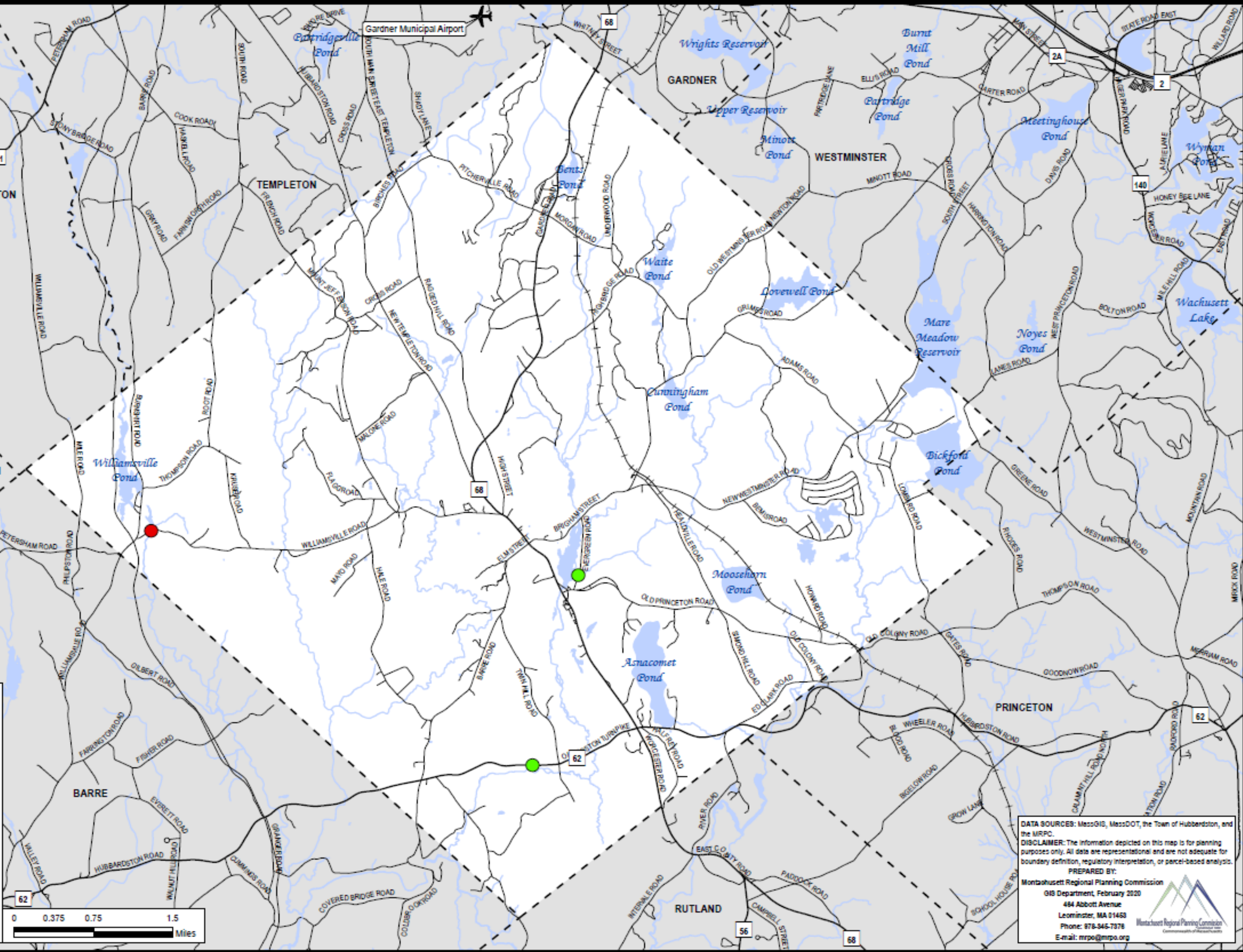
- Being Replaced in Winter 2019-2020
- Planned to be Replaced in 2023

Roadways

- US & State Routes
- Other Roads

Water

- Streams & Rivers
- Lakes, Ponds & Reservoirs



DATA SOURCES: MassGIS, MassDOT, the Town of Hubbardston, and the MRPC.

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