# Transportation and Mobility

## 1. Introduction

### Chapter Overview

The Transportation and Mobility Chapter assesses the community's existing infrastructure and transportation services and identifies goals and strategies that address challenges and community needs. The assessment includes measurements of traffic data and input from residents regarding their needs and desired vision for the future. While local budgets often drive opportunities, access to outside funding and external programs plays a significant role. Planning for transportation also includes coordination with local zoning, permitting, and related infrastructure improvements to create opportunities for local businesses and maintain the community's valued rural environment.

### Connecting Themes

Major themes that emerged from community engagement in the spring and summer of 2023 included:

- Preserve the quality of life and enhance the community's economic vitality through healthy, sustainable transportation choices.
- Ensure that Hatfield's transportation infrastructure is resilient and prepared to respond to future challenges.
- Continue improving and adapting transportation infrastructure and services to support an aging population while appealing to a diverse, younger demographic.

## 2. Existing Conditions

This section provides a technical evaluation of the transportation components throughout the study area. It includes a presentation of the data collected, an analysis of traffic operations, and a series of short-term recommendations to improve overall performance and safety.

Hatfield has been efficient in managing the Town's roadway infrastructure. By leveraging allocations of Chapter 90 funds ($238,386 in 2024), municipal budgets, federal highway funds, and state grant programs, the Town continues to maintain the roadway network and has also been resourceful in improving pedestrian crossing and upgrades to sidewalks.

### Data Collection

The Comprehensive Plan Working Group provided recommendations for data collection. The data was used to identify opportunities and provide a reference for future traffic studies.

Daily Vehicle Volume

PVPC staff used vehicle volume data to measure the travel demands on an average weekday. The Average Daily Traffic (ADT) volumes include a weekday 48-hour period at various mid-block locations using Automatic Traffic Recorders (ATRs). The average weekend traffic volumes are the actual traffic volumes counted during October and early November 2023. The 2023 average weekday and weekend traffic counts collected by PVPC staff are included in Table 1. The highest volume roads include West Street south of Linseed Rd. (6,296) and Elm Street east of the I-91 ramps (5,723).

**Table 1: Average Daily Traffic Volume**

| | | Average Weekday | | |
|---|---|---|---|---|
| Roadway | Location | NB/EB | SB/WB | Total |
| Bridge Street | W/O Gore Ave. | 336 | 361 | 697 |
| Chestnut St. | W/O BROSCO | 562 | 645 | 1207 |
| Depot Road | W/O Straits Rd. | 642 | 676 | 1318 |
| Elm St. | E/O I-91 NB Off Ramp | 2935 | 2788 | 5723 |
| Main St. | N/O Depot Rd. | 749 | 731 | 1480 |
| Main St. | S/O Day Ave. | 1159 | 1154 | 2313 |
| Maple Street | W/O Valley St. | 1033 | 983 | 2016 |
| North Hatfield Rd. | S/O Hatfield Beef | 424 | 408 | 832 |
| Prospect St. | S/O Prospect CT | 732 | 619 | 1351 |
| West St. | @ Whatley T.L. | 2750 | 2485 | 5235 |
| West St. | S/O Linseed Rd. | 3129 | 3167 | 6296 |
| West St. | S/O Plain St. | 3222 | 2978 | 6200 |

Vehicle Classification

Vehicle classification data identifies the percentage of heavy vehicles and passenger cars on the roadway. Heavy vehicles include trucks, recreational vehicles, and buses. The percentage of heavy vehicles in the traffic flow calculates the serviceability of a corridor or intersection. Trucks impact traffic flow because they occupy more roadway space than passenger cars and have poorer operating capabilities concerning acceleration, deceleration, and maneuverability.

PVPC collected vehicle classification information at every traffic count location. Vehicles are classified based on the number of axles and the distance between each axle. Two axles, six-tire vehicles, and vehicles with three or more axles are classified as "trucks" or heavy vehicles. The percentage of heavy vehicle traffic on a roadway is important as large vehicles have different operating characteristics than normal passenger vehicles. This information is also a key factor in the pavement design of a roadway. Table 2 shows the highest percentage of heavy vehicles on West Street south of Plain Road (8.1%) and Bridge Street west of Gore (5.2%). Note that trucks as a percentage of total volume do not necessarily correlate with the highest total volume of trucks for a given roadway. See Table 3 below for total number of trucks.

**Table 2: Vehicle Classification Data (percent)**

| Roadway/Location | | Motor-cycles | Cars & Trailers | 2 Axle Long | Buses | 2 Axle 6 Tire | 3 Axle Single | >3 Axle | Heavy Vehicle |
|---|---|---|---|---|---|---|---|---|---|
| Bridge St. | EB | 0.0% | 55.3% | 34.2% | 0.0% | 5.3% | 0.0% | 5.2% | 5.2% |
| W/O Gore Ave. | WB | 0.8% | 68.0% | 23.1% | 0.3% | 5.8% | 0.6% | 1.2% | 1.8% |
| Chestnut St. | EB | 0.2% | 63.1% | 23.4% | 0.6% | 8.3% | 0.3% | 3.9% | 4.2% |
| W/O BROSCO | WB | 0.0% | 68.9% | 20.7% | 1.0% | 4.9% | 0.4% | 3.9% | 4.3% |
| Depot Rd. | EB | 0.1% | 67.0% | 22.9% | 0.7% | 6.4% | 1.0% | 1.9% | 2.9% |
| W/O Straits | WB | 0.1% | 53.5% | 20.7% | 1.2% | 20.9% | 0.7% | 3.0% | 3.7% |
| Elm St. | EB | 0.8% | 70.1% | 19.0% | 1.3% | 5.5% | 0.9% | 2.3% | 3.2% |
| E/O I-91 NB Off Ramp | WB | 0.7% | 66.7% | 19.5% | 1.2% | 8.0% | 0.8% | 2.8% | 3.6% |
| Main St. | NB | 0.7% | 62.1% | 18.8% | 1.2% | 13.4% | 1.3% | 2.1% | 3.4% |
| N/O Depot Rd. | SB | 0.7% | 60.1% | 19.7% | 2.0% | 14.3% | 0.7% | 2.5% | 3.2% |
| Main | NB | 0.6% | 71.0% | 22.0% | 0.8% | 3.8% | 0.6% | 1.1% | 1.7% |
| S/O Day Ave. | SB | 0.9% | 53.2% | 25.0% | 1.2% | 16.9% | 0.8% | 1.7% | 2.5% |
| Maple St. | EB | 0.4% | 69.8% | 21.8% | 0.9% | 5.3% | 0.4% | 1.3% | 1.7% |
| W/O Valley St. | WB | 0.3% | 67.2% | 19.5% | 0.8% | 10.2% | 0.4% | 1.4% | 1.8% |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| North Hatfield St. | NB | 0.2% | 55.8% | 26.0% | 2.0% | 12.1% | 0.6% | 1.9% | 2.5% |
| S/O Hatfield Beef | SB | 0.0% | 56.5% | 25.8% | 2.4% | 10.7% | 0.7% | 3.0% | 3.7% |
| Prospect St. | NB | 0.4% | 74.2% | 19.5% | 1.1% | 3.6% | 0.3% | 0.4% | 0.7% |
| S/O Prospect | SB | 0.3% | 61.7% | 21.3% | 1.4% | 13.5% | 0.3% | 1.1% | 1.4% |
| West St.- Route 5/10 | NB | 0.6% | 66.2% | 18.8% | 1.0% | 9.3% | 0.7% | 3.0% | 3.7% |
| @ Whatley T.L. | SB | 0.6% | 67.2% | 18.8% | 0.8% | 8.9% | 0.7% | 2.7% | 3.4% |
| West St.- Route 5/10 | NB | 0.8% | 62.0% | 18.4% | 1.0% | 14.7% | 0.7% | 2.0% | 2.7% |
| S/O Linseed Rd. | SB | 0.6% | 70.1% | 20.2% | 0.7% | 5.2% | 1.2% | 1.7% | 2.9% |
| West St.- Route 5/10 | NB | 1.3% | 61.6% | 15.1% | 1.2% | 12.2% | 1.0% | 7.1% | 8.1% |
| S/O Plain St. | SB | 1.5% | 68.6% | 16.2% | 1.2% | 4.5% | 1.1% | 6.4% | 7.5% |

**Table 3: Heavy Vehicles (By Volume)**

| Roadway/Location | | Delivery & Dump Trucks  | Tractor Trailers  | Total Trucks |
|---|---|---|---|---|
| Bridge St. | EB | 18 | 17 | 35 |
| W/O Gore Ave. | WB | 21 | 6 | 27 |
| Chestnut St. | EB | 47 | 24 | 70 |
| W/O BROSCO | WB | 32 | 28 | 59 |
| Depot Rd. | EB | 41 | 19 | 60 |
| W/O Straits | WB | 141 | 25 | 166 |
| Elm St. | EB | 161 | 94 | 255 |
| E/O I-91 NB Off Ramp | WB | 223 | 100 | 323 |
| Main St. | NB | 100 | 25 | 126 |
| N/O Depot Rd. | SB | 105 | 23 | 128 |
| Main | NB | 44 | 20 | 64 |
| S/O Day Ave. | SB | 195 | 29 | 224 |
| Maple St. | EB | 55 | 18 | 72 |
| W/O Valley St. | WB | 100 | 18 | 118 |

| | | | | |
|---|---|---|---|---|
| North Hatfield St. | NB | 51 | 11 | 62 |
| S/O Hatfield Beef | SB | 44 | 15 | 59 |
| Prospect St. | NB | 26 | 5 | 31 |
| S/O Prospect | SB | 84 | 9 | 92 |
| West St.- Route 5/10 | NB | 256 | 102 | 358 |
| @ Whatley T.L. | SB | 221 | 84 | 306 |
| West St.- Route 5/10 | NB | 460 | 84 | 544 |
| S/O Linseed Rd. | SB | 165 | 92 | 257 |
| West St.- Route 5/10 | NB | 393 | 261 | 654 |
| S/O Plain St. | SB | 134 | 223 | 357 |

Vehicle Travel Speeds

Travel Speed data was used to establish "bins" of data to summarize the ranges in which vehicles were measured to be traveling. The speed data also calculates the "85th Percentile" speed for each direction on the roadway. The 85th Percentile Speed is the speed where 85 percent of all traffic is traveling at or below. By comparing the 85th Percentile Speed to the posted speed limit a community can determine how well traffic is complying with the current posted speed limits and if increased enforcement of the posted speed limits is necessary. Speed data is summarized in Tables 4 and 5

Based on the speed data, most vehicles are driving slightly faster than the posted speed limits. The speed measurements on Elm Street near I-91 Exit 27 (previously Exit 21) may be slightly lower than actual conditions due to traffic exiting and entering the I-91 Ramps. Vehicles also exceeded the 35-mph speed limit in the town center. This could be a result of the higher posted travel speeds along approaching roadway segments. Figure 1 below shows four locations where there is a higher non-compliance with posted travel speeds.

**Table 4: Travel Speed Breakdown**

| | | 0-15 | 16-20 | 21-25 | 26-30 | 31-35 | 36-40 | 41-45 | 46-50 | 51-55 | 56-60 | 61-65 | >65 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bridge St. | EB | 0.9% | 1.5% | 2.8% | 9.1% | 27.2% | 33.5% | 18.8% | 4.8% | 1.0% | 0.3% | 0.0% | 0.0% |
| W/O Gore Ave. | WB | 0.7% | 1.6% | 3.6% | 10.4% | 27.6% | 35.0% | 16.3% | 4.0% | 0.5% | 0.1% | 0.0% | 0.0% |
| Chestnut St. | EB | 0.6% | 0.8% | 4.4% | 14.8% | 35.6% | 32.0% | 10.3% | 1.4% | 0.1% | 0.0% | 0.0% | 0.0% |
| W/O BROSCO | WB | 0.4% | 1.7% | 5.0% | 14.7% | 34.6% | 30.7% | 11.0% | 1.7% | 0.2% | 0.0% | 0.0% | 0.0% |
| Depot Rd. | EB | 0.2% | 0.6% | 1.3% | 13.0% | 43.0% | 34.4% | 6.8% | 0.7% | 0.0% | 0.0% | 0.0% | 0.0% |
| W/O Straits | WB | 0.3% | 0.6% | 1.3% | 6.2% | 23.8% | 37.7% | 23.0% | 6.1% | 0.8% | 0.1% | 0.0% | 0.0% |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Elm St. | EB | 0.2% | 0.1% | 0.4% | 2.1% | 13.8% | 46.5% | 31.0% | 5.3% | 0.6% | 0.0% | 0.0% | 0.0% |
| E/O I-91 NB Off Ramp | WB | 0.2% | 0.6% | 0.8% | 3.4% | 12.9% | 32.9% | 35.0% | 11.9% | 1.9% | 0.3% | 0.1% | 0.0% |
| Main St. | NB | 0.8% | 0.7% | 0.3% | 0.7% | 2.0% | 10.3% | 31.0% | 36.4% | 14.4% | 2.5% | 0.1% | 0.0% |
| N/O Depot | SB | 0.7% | 0.7% | 0.8% | 1.8% | 5.8% | 14.4% | 35.1% | 28.7% | 9.0% | 2.4% | 0.4% | 0.1% |
| Main | NB | 0.4% | 1.8% | 2.4% | 12.3% | 40.8% | 34.3% | 7.3% | 0.5% | 0.0% | 0.0% | 0.0% | 0.0% |
| S/O Day Ave. | SB | 0.3% | 1.7% | 2.3% | 6.5% | 23.3% | 40.1% | 20.0% | 5.1% | 1.0% | 0.1% | 0.0% | 0.0% |
| Maple St. | EB | 0.4% | 0.8% | 4.1% | 24.6% | 48.0% | 19.7% | 2.1% | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% |
| W/O Valley St. | WB | 0.5% | 1.0% | 6.0% | 28.2% | 47.3% | 15.4% | 1.5% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% |
| North Hatfield St. | NB | 3.1% | 1.0% | 0.7% | 5.4% | 20.3% | 39.4% | 23.2% | 5.6% | 1.2% | 0.1% | 0.1% | 0.0% |
| S/O Hatfield Beef | SB | 2.5% | 0.8% | 1.4% | 5.0% | 23.3% | 41.4% | 21.6% | 3.7% | 0.2% | 0.0% | 0.0% | 0.0% |
| Prospect St. | NB | 1.3% | 1.2% | 2.4% | 13.5% | 37.7% | 32.1% | 9.7% | 1.9% | 0.1% | 0.0% | 0.0% | 0.0% |
| S/O Prospect | SB | 1.8% | 0.8% | 3.4% | 18.3% | 39.0% | 28.2% | 7.4% | 0.9% | 0.1% | 0.0% | 0.0% | 0.0% |
| West St.- Route 5/10 | NB | 0.3% | 0.3% | 0.4% | 0.7% | 3.0% | 18.0% | 44.4% | 25.7% | 5.6% | 1.0% | 0.3% | 0.1% |
| @ Whatley T.L. | SB | 0.3% | 0.4% | 0.4% | 0.7% | 3.4% | 20.0% | 43.7% | 24.8% | 5.3% | 0.7% | 0.2% | 0.0% |
| West St.- Route 5/10 | NB | 0.4% | 0.5% | 1.2% | 2.7% | 8.8% | 25.1% | 35.6% | 20.4% | 4.5% | 0.6% | 0.1% | 0.1% |
| S/O Linseed Rd. | SB | 0.4% | 0.9% | 2.6% | 6.1% | 22.6% | 40.7% | 22.9% | 3.4% | 0.3% | 0.1% | 0.0% | 0.0% |
| West St.- Route 5/10 | NB | 0.6% | 1.1% | 2.7% | 4.1% | 8.3% | 17.9% | 30.4% | 26.0% | 7.6% | 1.0% | 0.2% | 0.2% |
| S/O Plain St. | SB | 0.6% | 1.1% | 4.6% | 2.5% | 5.6% | 23.3% | 43.3% | 16.2% | 2.5% | 0.2% | 0.1% | 0.0% |



## Vehicle 85th Percentile Speeds

Travel speeds were measured over 48 hours and the 85th percentile speed was calculated. Most roadways have speeds within a reasonable threshold. Table 5 shows the 85th percentile speed for vehicles at a particular location in comparison to the posted speed limit. Based on the data collected in the fall of 2023, vehicles that were most likely to exceed the posted speed limit included Elm Street westbound at the I-91 ramp, Prospect Street south of Prospect Court, Maple Street eastbound west of Valley Street, and North Hatfield Street northbound south of Hatfield Beef.

Several of these locations have been identified as locations for speed feedback signs.

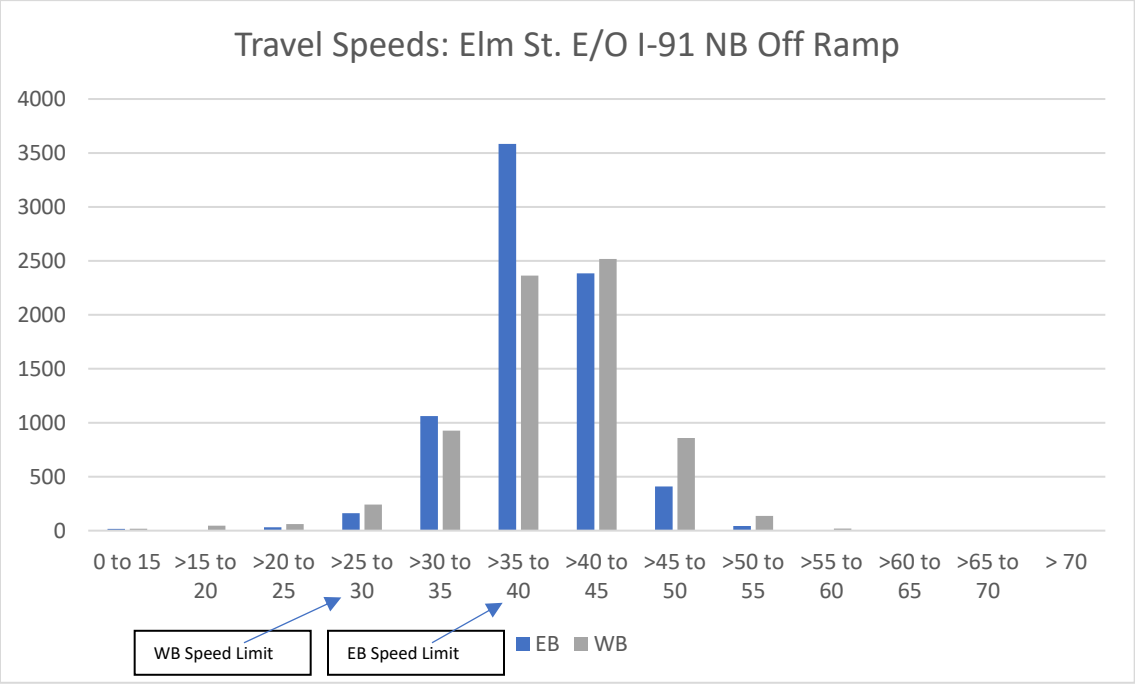

*Speed feedback sign at Prospect Street*

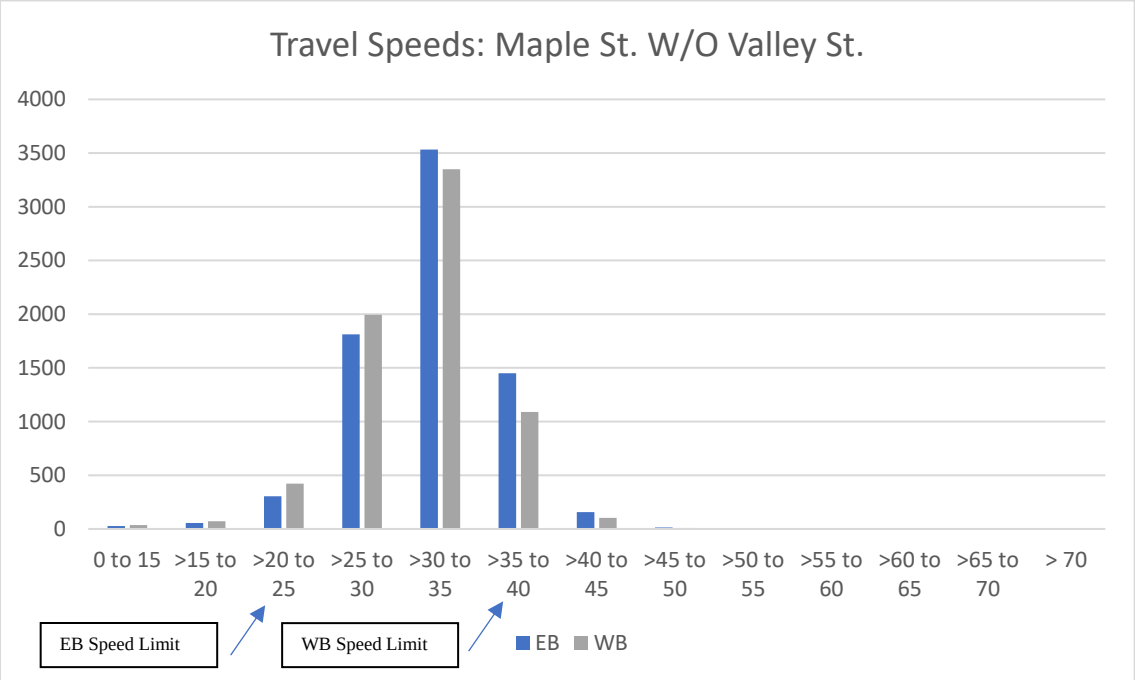
**Table 5: 85th Percentile Speed (in mph) for Vehicles at Given Locations**

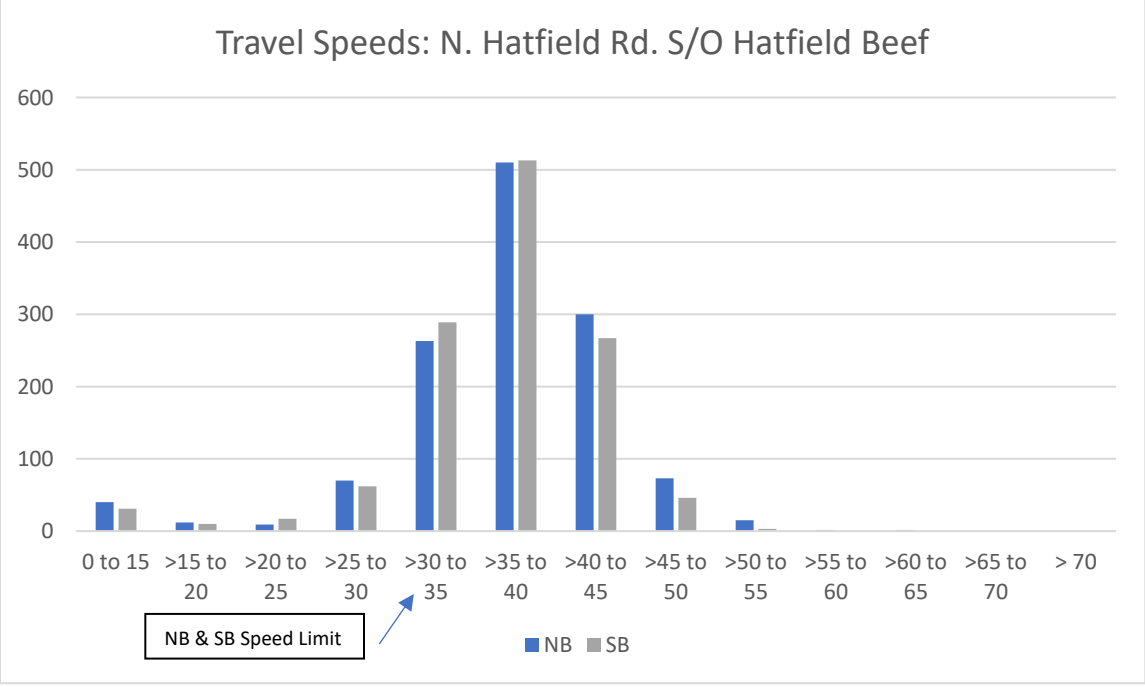
| Roadway/Location | | 85th percentile | Posted Speed | % Vehicles over 85th |
|---|---|---|---|---|
| Bridge St. | EB | 42 | 35 | 0.20 |
| W/O Gore Ave. | WB | 41 | 35 | 0.17 |
| Chestnut St. | EB | 39 | 30 | 0.30 |
| W/O BROSCO | WB | 39 | 30 | 0.30 |
| Depot Rd. | EB | 38 | 35 | 0.09 |
| W/O Straits | WB | 43 | 35 | 0.23 |
| Elm St. | EB | 43 | 40 | 0.08 |
| E/O I-91 NB Off Ramp | WB | 45 | 30 | 0.50 |
| Main St. | NB | 50 | 45 | 0.11 |
| N/O Depot | SB | 49 | 35 | 0.40 |
| Main | NB | 38 | 35 | 0.09 |

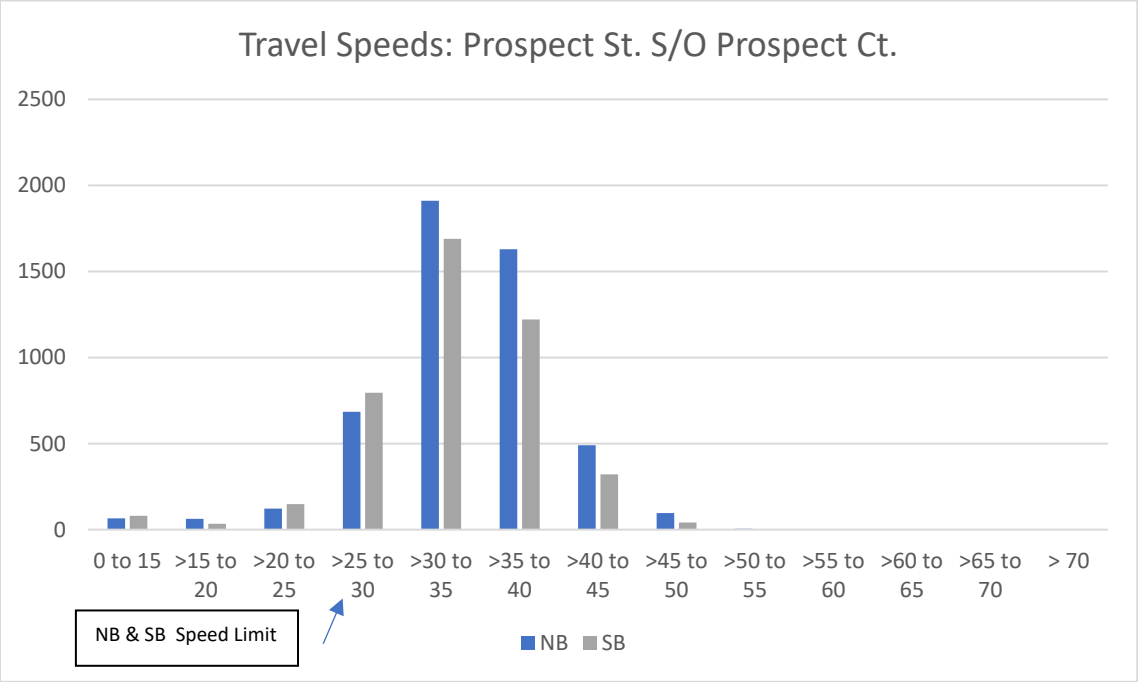
| | | | | |
|---|---|---|---|---|
| S/O Day Ave. | SB | 42 | 35 | 0.20 |
| Maple St. | EB | 36 | 25 | 0.44 |
| W/O Valley St. | WB | 35 | 40 | -0.13 |
| North Hatfield St. | NB | 43 | 30 | 0.43 |
| S/O Hatfield Beef | SB | 42 | 30 | 0.40 |
| Prospect St. | NB | 39 | 25 | 0.56 |
| S/O Prospect Court | SB | 38 | 25 | 0.52 |
| West St.- Route 5/10 | NB | 48 | 40 | 0.20 |
| @ Whately TL | SB | 47 | 45 | 0.04 |
| West St.- Route 5/10 | NB | 47 | 45 | 0.04 |
| S/O Linseed Rd. | SB | 42 | 45 | -0.07 |
| West St.- Route 5/10 | NB | 48 | 45 | 0.07 |
| S/O Plain St. | SB | 46 | 45 | 0.02 |

**Figure 1 – Travel Speeds at Four Locations with Higher Non-Compliance**




Travel Speeds: Maple St. W/O Valley St.
4000
3500
3000
2500
2000
1500
1000
500
0
0 to 15
>15 to 20
>20 to 25
>25 to 30
>30 to 35
>35 to 40
>40 to 45
>45 to 50
>50 to 55
>55 to 60
>60 to 65
>65 to 70
> 70
EB Speed Limit
WB Speed Limit
EB
WB


Travel Speeds: N. Hatfield Rd. S/O Hatfield Beef
600
500
400
300
200
100
0
0 to 15
>15 to 20
>20 to 25
>25 to 30
>30 to 35
>35 to 40
>40 to 45
>45 to 50
>50 to 55
>55 to 60
>60 to 65
>65 to 70
> 70
NB & SB Speed Limit
NB
SB




Public Transit

The Franklin Regional Transit Authority (FRTA) makes four daily trips from Greenfield to Northampton on Routes 5/10. The Route 5/10 FRTA bus, which makes requested stops at C&S and Brockway Smith, has currently suspended fares on all its fixed bus routes and ADA service through June 30, 2024.

FRTA's service is accessible to persons with disabilities. Buses and vans have wheelchair lifts or ramps that enable people in wheelchairs or people who cannot navigate steps to ride. Buses have priority seating for persons with disabilities. FRTA provides ADA Paratransit services for individuals who are unable to independently ride FRTA's accessible fixed route system.

Mobility Assistance for an Aging Population

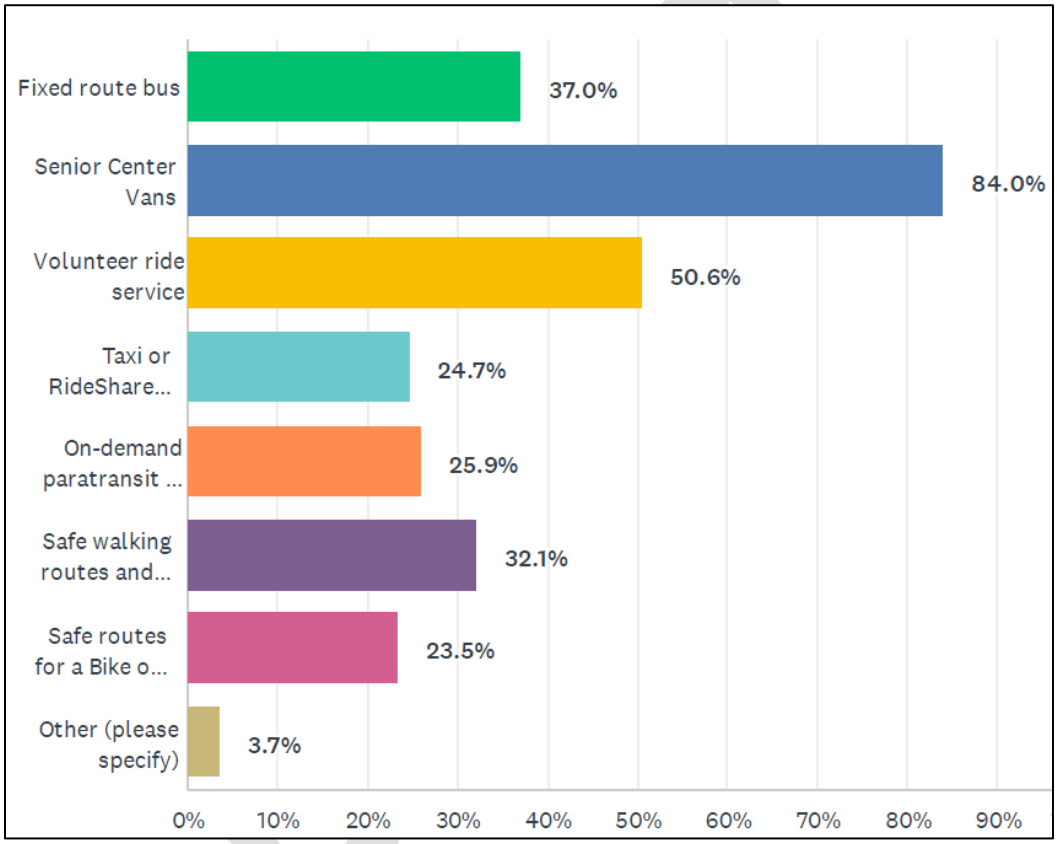
The Hatfield Council on Aging (COA) provides van transportation services for adults who are 60 years of age and older, including those who are wheelchair-bound. Wheelchair clients are required to have someone assist them to and from their appointments. Priority is given to those individuals without any means of transportation. Appointments can be made by calling the COA office in advance. The van service continues to be an asset. For many, this is the only reliable means of transportation to the daily lunch program, medical appointments, physical therapy, grocery shopping, and miscellaneous trips. Having transportation service helps to maintain their independence.

There are currently two vans, a 2015 Ford Eldorado-Aero eight-passenger van which was donated to the Hatfield Senior Center in 2020 with 100,000 miles. This van currently has

126,000 miles. The Senior Center received its new van, a 2023 Ford Econoline 8-passenger van in February of 2023. The current mileage on this van is 11,170 miles. Figure 2 below indicates people's preferences for van service when they can no longer drive.

Currently, the population of people over 60 is 1,255. Hatfield's aging demographics will change, with population numbers expanding and an increasing need for transportation. The demand for van use decreased significantly during COVID. Pre-COVID trips averaged approximately 2000 trips per year and ridership has gradually rebounded to 1,194 trips in 2023. It is anticipated that ridership for this popular service will continue to grow in the future and that meeting demand will require additional resources.

**Figure 2: When driving yourself is no longer an option, what transportation methods would you like to have in place? (check all that apply)**




*Source: 2023 Age-Friendly Pioneer Valley Community Survey*

There are potential alternatives to purchasing and operating the senior van. While none of these options will match the personalized and convenient service provided by the Council on Aging, the other options include:

1) The Franklin Regional Transit Authority provides paratransit service. The FRTA has established successful programs that operate efficiently in neighboring communities. This option would expand the current service to include residents under the age of sixty who qualify. The "local share" costs ($9,539) are paid through the state budget (2023).

2) The Mobility Assistance Program is a Massachusetts Commonwealth-administered program that provides grants to purchase vans for agencies and non-profit groups seeking to provide transportation for seniors, disabled, and other eligible clients. The grants typically require a 20% local match to purchase the vehicles.

3) MassHealth provides non-emergency transportation for many members living in the community who are going to medical appointments. This service, referred to as non-emergency medical transportation, is at no cost to eligible MassHealth members.

Pedestrian and Bicycle Accommodations

The Town Center has an extensive sidewalk network that provides convenient access for residents in and around the center of the Town. The sidewalk system is well-used by a large cross-section of the population including seniors, school-aged children, and adults. Destinations served by the sidewalk network include the Town Hall (including Council on Aging) and Public Safety Office, the Post Office, Smith Academy, Hatfield Elementary, the American Legion, the Public Library, local churches, and various businesses. The 6.3 miles of sidewalks are comprised of both asphalt and cement. During the winter months, the DPW provides for snow removal and treats for surfaces for ice. Sidewalks in some locations have recently been resurfaced as part of larger roadway reconstruction projects. Table 6 summarizes the sidewalk segment based on condition and length.

**Table 6: Hatfield Sidewalk Inventory**

| Ref # | Street Name | Side of Street | From Street | To Street | Length (miles) | Condition* |
|---|---|---|---|---|---|---|
| 1 | Elm St. | N | Prospect St. | Dwight St. | 1.6 | G to E |
| 2 | Maple St. | N | Prospect St. | Main St. | 0.4 | G to E |
| 3 | Main St | W | Maple St. | North St. | 0.8 | G to E |
| 4 | Main St | E | 14 Main St. | 18 Main St. | 0.1 | G to E |
| 5 | Main St. | E | 56 Main St. | Ferry Road | 0.7 | G to E |
| 6 | King St. | N | Main St. | 14 King St. | 0.1 | F to P |
| 7 | School St. | S | Main St. | Prospect St. | 0.8 | G to E |
| 8 | School St. | S | Prospect Ct. | Prospect St. | 0.1 | G to E |
| 9 | North Street | E | Main St. | 25 North St. | 0.2 | G to E |
| 10 | North Street | W | 26 North St. | 68 North St. | 0.3 | G to E |
| 11 | Chestnut St. | S | School St. | Prospect St. | 0.2 | G to E |
| 12 | Prospect St. | E | Maple St. | School St. | 0.7 | G to E |

| | | | | | | |
|---|---|---|---|---|---|---|
| 13 | Smith Academy Entrance | E | School St. | Main Entrance | 0.1 | G to E |
| 14 | Hatfield Elementary | n/a | Main St. | Main Entrance | 0.1 | F to P |

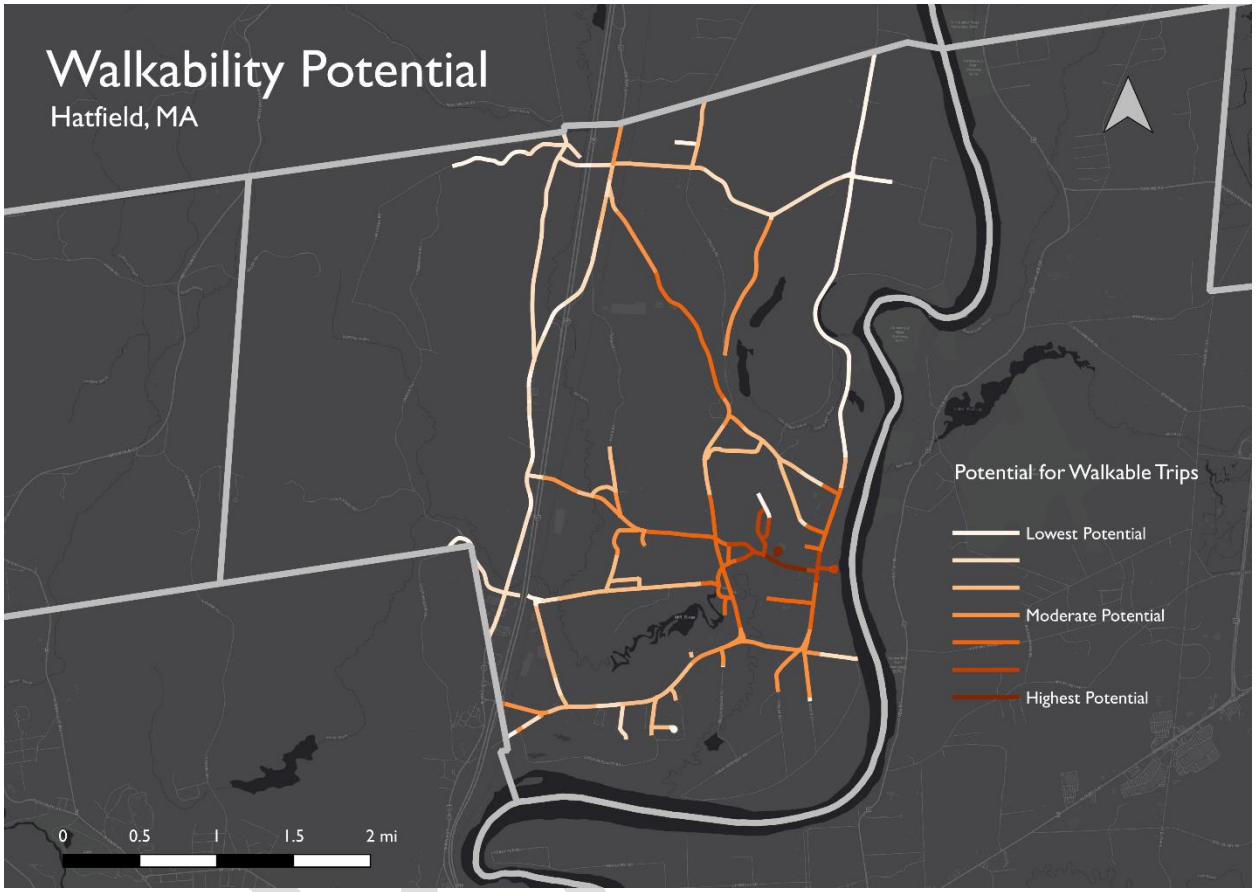
* The pavement condition of each segment was based on a visual inspection and the identification of broken pavement that would present a tripping hazard.

Crosswalks in Hatfield are well-delineated and repainted regularly. In 2022 and 2023 the Town installed Rectangular Rapid Flashing Beacons (RRFB) at marked crosswalks at four locations. RRFBs have been an effective safety initiative in school zones, near housing for older residents, and as part of streetscape projects, increasing rates at which vehicles yield at crosswalks by more than 90%. Recent sidewalk improvements have also included "pedestrian crossing" warning signs and ADA-compliant detectable warning panels on ramps. Many crossings in Town have street lighting that heightens visibility for pedestrians during low-light hours.


*Hatfield DPW installed Rectangular Rapid Flashing Beacons pedestrian actuated signals on the Main Street intersection with North Street in 2023.*

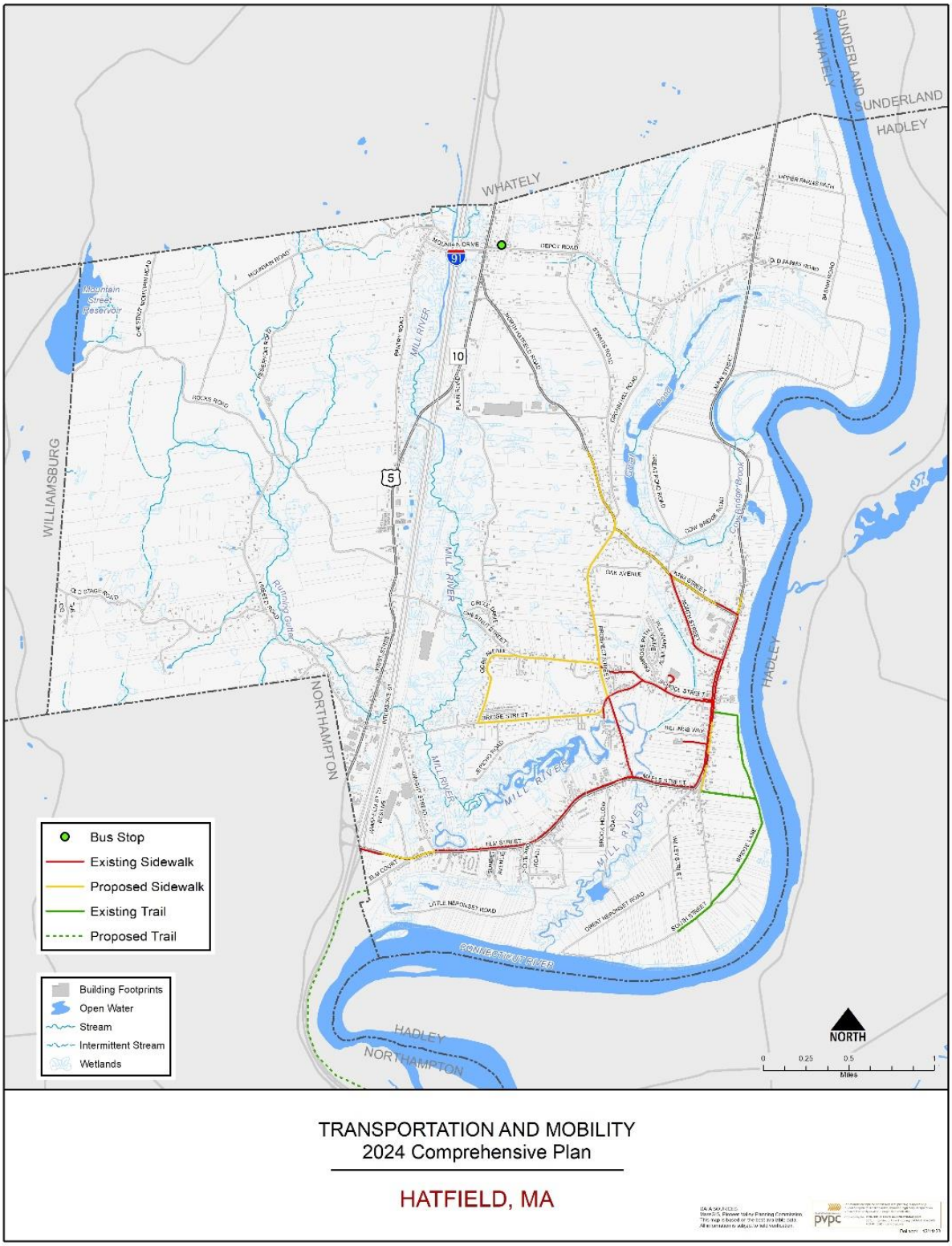
PVPC used the MassDOT demand model to identify sidewalk corridors that would have a higher likelihood of creating walking trips. Figure 3 below demonstrates where these trips might occur.

**Figure 3: Travel Model Forecasting Demand for Walking Trips**




Residents expressed a preference for extending the existing sidewalk network during Comprehensive Plan's public outreach events and through comments solicited. The highest-priority corridors for new sidewalks are shown in Figure 4.

**Figure 4: Map of Existing and Proposed Sidewalks**



## Bicycling

Hatfield residents and visitors choose to use a bicycle for daily trips, whether for getting to work or school, running errands, or for fitness or recreation. Based on feedback from residents, many more people would bicycle for short daily trips if only there were safer, more comfortable, and better-connected routes they could use. MassDOT developed the Resource Guide for municipal staff, elected officials, and community members, which introduces core concepts to enhance community bike-ability and provides additional resources.

Hatfield is a popular location for sponsored bicycle rides and charity fundraisers with many of these events starting at the Hatfield Lion's Club pavilion on Billings Way. Some of the regionally significant bicycle rides (Connecticut River Valley Century, Hatfield Lions Club Bike Tour, Will Bike 4 Food, Competitive Edge Racing Gravel Grinder, and Road Ride) attract hundreds of participants each year.

*Cyclists pass the Hatfield Community Garden on Billings Way*

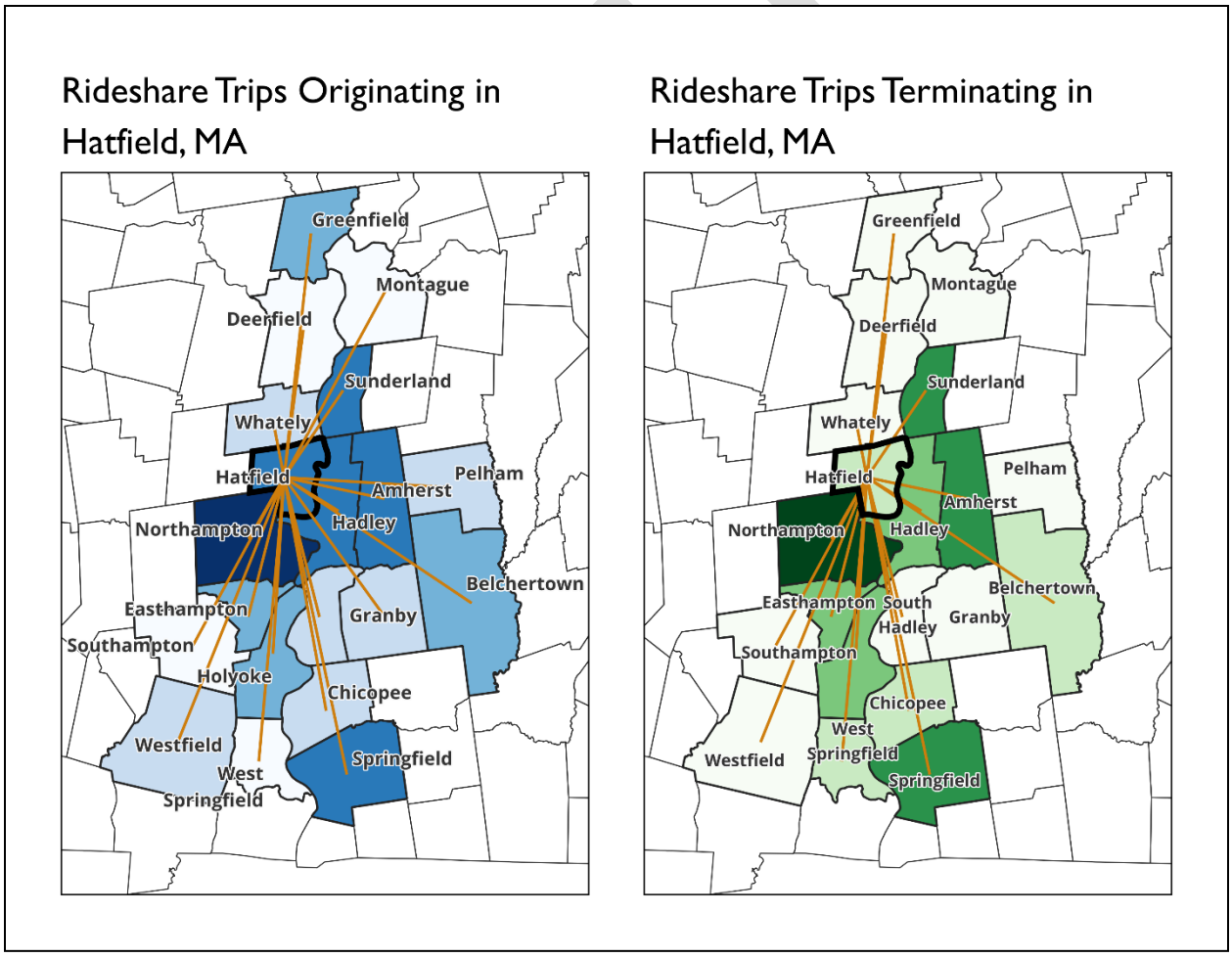
## Ridesharing and Commuting

Most Hatfield residents (96.4 %) do not work in town. The most popular workplace destinations include Springfield (10.4 %), Holyoke (6.3%), Northampton (6.1%), Chicopee (5.2 %) and Greenfield (4.8%).

While there are currently no ridesharing and park-and-ride lots identified in Hatfield, a joint effort with the surrounding communities along Route 5/10 to identify a preferred location for a park-and-ride lot should be considered. The MassHighway District 2 Office at exit 27 in Northampton may be a potential location. The park-and-ride lot would provide a measure of encouragement to area commuters traveling the I-91 corridor. The Town of Hatfield should consider requesting assistance from PVPC to study the feasibility of constructing and locating a park-and-ride lot.

The University of Massachusetts (a major employer) offers shared ride options for the campus community. Additional rideshare services are available through Lift and Uber. Figure 5 shows the most popular origins and destinations for ride-sharing trips.

**Figure 5: Hatfield Ridesharing Trips**




Student Transportation in the Hatfield School District

Municipalities are responsible for transporting students to and from home and public schools and to and from related public educational programs.

Safe and dependable transportation to and from school is a critical component of the student learning experience. With an enrollment of 357 (HES=218 SA=139), there were approximately 153 students in 2023 eligible for transportation by bus (HES=80 SA=73). On a typical day, approximately 75 students (HES=55, SA=20) use the school bus. The school bus service is paid for by the Town (no State assistance) and the contractor provides three full-size buses including two buses and two routes at Smith Academy and two buses and two routes at the elementary school (with either a sixty-five or seventy-two capacity). A third bus provides transportation to Smith Vocational High School in Northampton when requested. The bus contract includes a provision for transportation to special school activities and school sports. Periodically, the school administration will review bus routes and evaluate bus stop locations.

The School District also provides the “non-bus” school pupil transport vehicles or vans (“7D vehicles”) used to transport students with special needs. The vehicles are owned by the Town and frequently parked at Hatfield Elementary School when not in service.

School of choice students and families play a significant role in the quality of education and contribute to a healthy school culture. In 2023 there were approximately 100 school of choice students in the district. Some school-choice families will coordinate transportation needs and establish carpools.

Walking and biking also play a critical role in school transportation. As documented in the sidewalk assessment, the maintains a safe network of sidewalks that provide convenient access to the Elementary school and Smith Academy. The DPW plows sidewalks in the winter. Both schools provide bicycle parking, marked crosswalks, school zone signage, and on-street lighting. The Town currently does not have a designated school zone in front of Smith Academy. A school zone would lower the posted speed on School Street to 20 mph in the vicinity of the crosswalk.

**Figure 6: Hatfield School District Transportation Policy**

Hatfield School District Student Transportation Policy

Students are entitled to transportation to and from school at the expense of the public schools when such transportation conforms to applicable provisions of the Massachusetts General Laws. Reimbursement to the school system for transportation costs is given by the Commonwealth, **subject to appropriation**, only for (a) students living at least one and one-half miles from school, (b) students who live more than one mile from the nearest bus stop, and (c) students with special needs for whom transportation must be provided.

Additionally, the School Committee will provide transportation for students as follows:

- Kindergarten: All students, except those living in immediate proximity to the school, as determined by the Superintendent.
- Grades 1 - 6: Students living more than one (1) mile from school.
- Grades 7 - 12: Students living more than one (1) mile from school.

Exceptions to these guidelines may be made at the discretion of the Superintendent. This will apply particularly to any student who must travel in a hazardous area to and from school. These students will be transported regardless of the mileage limits listed.

A student, whose parents/guardians do not reside together but share parental time with the student, may be transported to and from either residence if such residence is one and one-half (1 ½) miles or more from their school or if such transportation falls into one of the additionally listed criteria above.

*Source: Hatfield District Policies*

Motor Vehicle Crash History

PVPC staff reviewed MassDOT crash data to identify safety trends on the number, type, and location of crashes. The total number of reported crashes has increased each year within the analysis period. A total of 103 crashes were recorded in Hatfield between 2015 and 2017. See Figure 7 below. Almost half of the total crashes (44%) occurred along Interstate I-91. Outside of the I-91 corridor, most collisions were single-vehicle crashes, which resulted in property damage only and no injuries.

**Figure 7: Crash Locations, 2015 - 2017**

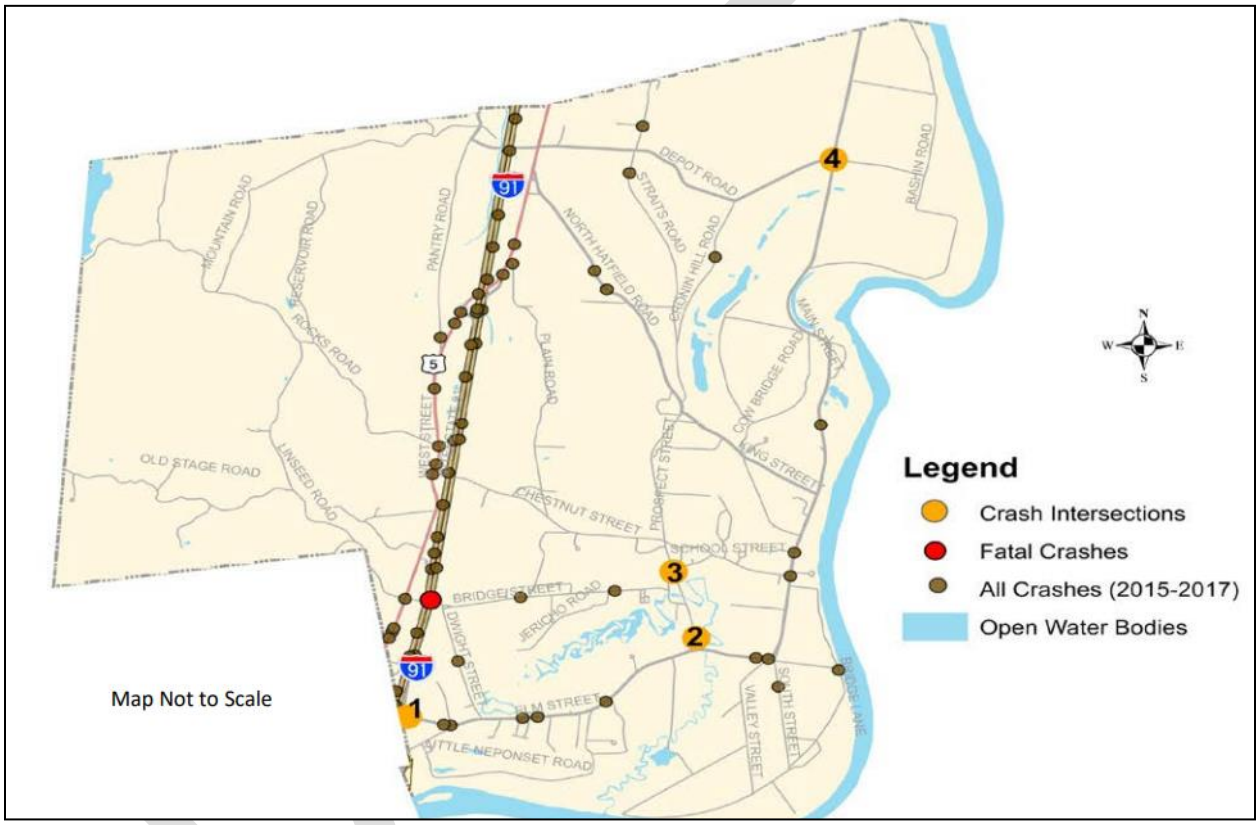


**Table 7: Crashes by Manner of Collision and Severity**

| Year | Total Crashes | Manner of Collision | | Severity | |
|---|---|---|---|---|---|
| **2017** | **32** | Angle | 4 | Non-fatal injury | 10 |
| | | Head-on | 1 | Not Reported | 1 |
| | | Not reported | 1 | Property damage only (none injured) | 21 |
| | | Rear-end | 4 | | 32 |
| | | Sideswipe, opposite direction | 1 | | |
| | | Sideswipe, same direction | 3 | | |
| | | Single vehicle crash | 18 | | |
| **2018** | **34** | Angle | 5 | Non-fatal injury | 5 |
| | | Head-on | 1 | Not Reported | 1 |
| | | Rear-end | 8 | Property damage only (none injured) | 27 |
| | | Rear-to-rear | 1 | Unknown | 1 |
| | | Sideswipe, opposite direction | 1 | | |
| | | Sideswipe, same direction | 1 | | |
| | | Single vehicle crash | 17 | | |
| **2019** | **25** | Angle | 2 | Non-fatal injury | 4 |
| | | Front to Rear | 1 | Property damage only (none injured) | 20 |
| | | Head-on | 1 | Unknown | 1 |
| | | Rear to Side | 1 | | |
| | | Rear-end | 2 | | |
| | | Rear-to-rear | 1 | | |
| | | Sideswipe, same direction | 5 | | |
| | | Single vehicle crash | 12 | | |
| **2020** | **19** | Angle | 3 | Non-fatal injury | 3 |
| | | Rear-end | 2 | Property damage only (none injured) | 15 |
| | | Sideswipe, opposite direction | 1 | Unknown | 1 |
| | | Sideswipe, same direction | 2 | | 19 |
| | | Single vehicle crash | 11 | | |
| **2021** | **17** | Angle | 1 | Fatal injury | 1 |
| | | Front to Front | 1 | Non-fatal injury | 4 |
| | | Rear to Side | 1 | Property damage only (none injured) | 12 |
| | | Rear-end | 2 | | 17 |
| | | Sideswipe, same direction | 1 | | |
| | | Single vehicle crash | 11 | | |

The Comprehensive Plan Committee requested that PVPC further examine data for highest crash locations. This included the intersection of Elm Street, Prospect Street, and Maple Street, Elm Street at the I-91 ramp, and finally Maple Street at Main Street. A summary of this data is presented in Table 8. The table highlights the significance of rear-end collisions and angled collisions at the Elm Street- I-91 ramp location.

**Table 8: High Crash Locations of Interest**

| Intersection | Year | Number of Crashes | Manner of Collision | |
|---|---|---|---|---|
| Elm Street / Prospect Street / Maple Street | 2016 | 1 | Angle | 2 |
| | 2018 | 2 | Single Vehicle | 3 |
| | 2019 | 2 | Sideswipe | 1 |
| | 2021 | 1 | | |
| | | 6 | | |
| | | | | |
| Elm Street / Interstate Ramps | 2013 | 1 | Angle | 8 |
| | 2014 | 1 | Single Vehicle | 1 |
| | 2015 | 2 | Rear End | 10 |
| | 2016 | 2 | | |
| | 2017 | 2 | | |
| | 2018 | 1 | | |
| | 2019 | 4 | | |
| | 2020 | 2 | | |
| | 2021 | 2 | | |
| | 2022 | 2 | | |
| | | 19 | | |
| | | | | |
| Maple Street / Main Street / Bridge Lane / South Street / Valley Street | 2016 | 1 | Angle | 1 |
| | 2018 | 1 | Head-on | 2 |
| | 2022 | 1 | | |
| | | 3 | | |



Vehicle Deer Collisions

Vehicle-deer collisions in Massachusetts are increasing each year. According to a recent AAA Northeast report that pulls data from the MassDOT Crash Portal, Hatfield deer collisions topped the list of Hampshire County towns in 2022 with a total of 22 vehicle-deer collisions. Deer collisions doubled from 2002 to 2010 and then doubled again from 2014 to 2022. Each

year the number of collisions spikes during the deer mating season in October and November when bucks are less cautious. The increasing deer population is a factor in the growing number of collisions. Drivers need to be especially cautious in the early evening between 5 and 7 pm.

Freight Transportation and the Movement of Goods

Freight is vital to the Hatfield economy. Trucks serve local businesses, the village center, farms, and other facilities as well as support essential infrastructure such as public schools. Trucks carry most of the freight in Hatfield. This dependence on trucks reflects a statewide average of 90% of the freight that travels to, from, or through Massachusetts. Significant regional transportation corridors such as I-91, Route 5/10, and Route 116 to the north carry trucks into and out of Hatfield. The highest intensity of weekday truck trips is on West Street (Route-5/10) in the vicinity of the C&S Wholesale Grocers warehouse. Recent traffic counts also suggest that truck traffic is destined for activity centers, village centers, and businesses off Chestnut Street, Elm Street, and Main Street.

Trucks also deliver electronic commerce (E-commerce) to businesses and residents. E-commerce has grown at an average annual rate of 15% over the past decade and this trend is expected to continue growing in response to demands from both businesses and residents. E-commerce is expected to continue and, by 2025, it is projected that the number of packages delivered will equal mail in overall volume. This will result in more trucks on the transportation network, increasing the potential for increased cut-through traffic on local roadways, increased air quality and noise impacts, and an increased risk for pedestrians and cyclists.

Given the projected increases in truck demand, this is an opportunity to rethink how trucks are managed as it relates to the transportation network. While freight is important to the local economy, truck traffic represents a significant concern in many neighborhoods. For example, North Hatfield Street and Plain Road have reported truck traffic through neighborhoods and residents have expressed concerns about the noise resulting from the use of engine compression brakes. The Town has worked to address these concerns in the past by providing effective wayfinding and signage and designing local streets to discourage cut-through traffic to mitigate the negative effects of this important transportation element.

Massachusetts suffers from a critical lack of truck parking and service facilities. Under the guidelines of the Federal Motor Carrier Safety Administration (FMCSA), a truck driver is limited to 11 hours of driving, followed by 10 hours of rest. When the time limit approaches, drivers must find a legal place to pull over, and it is not legal to park on the shoulder of a highway. While trucks can park at MassDOT-owned service areas and private truck stops, as well as in some private parking lots, these facilities are not always accessible for drivers making deliveries to Hatfield. When truck drivers run out of time and no parking is available, they face a conflict between Federal rest requirements and state safety regulations regarding truck parking. Therefore, trucks will park overnight near residential areas.

Other needs for truck drivers outlined in the MassDOT Freight Plan include:

- Truck repairs – Like any motor vehicle, trucks suffer flat tires, and they break down. Truck stops sometimes provide repair and maintenance facilities, and all provide an opportunity for drivers to perform repairs on their own.
- Food and Fuel – Both drivers and trucks must refuel during long trips. While a truck may be able to use any diesel pump at a local service station, truck stops offer many diesel pumps in purpose-built facilities.

Intercity Passenger Rail

The Valley Flyer travels through Hatfield between Greenfield and New Haven where it connects with Amtrak's Northeast Corridor service and Metro-North's New Haven Line service. There are three northbound and three southbound passenger trains during a typical weekday. This service is primarily for people in our region traveling south. For example, a day trip to New York City in the morning and returning by train during the evening.

There have been significant rail investments in the Valley Flier corridor in recent years. In 2010, MassDOT was awarded $70 million in HSIPR funding for design and construction, and in 2014 acquisition of the "Connecticut River Line," (including rail in Hatfield) was completed. Fifty miles of track have been purchased and rehabilitated and new stations have been built in Northampton (former Amtrak station location), Greenfield, and Holyoke. Union Station in Springfield was rehabilitated with state and federal investments of $94 million. While passenger service was originally introduced on a "trial basis" In 2022 MassDOT and Amtrak recently announced that the Valley Flyer is now a permanent service.

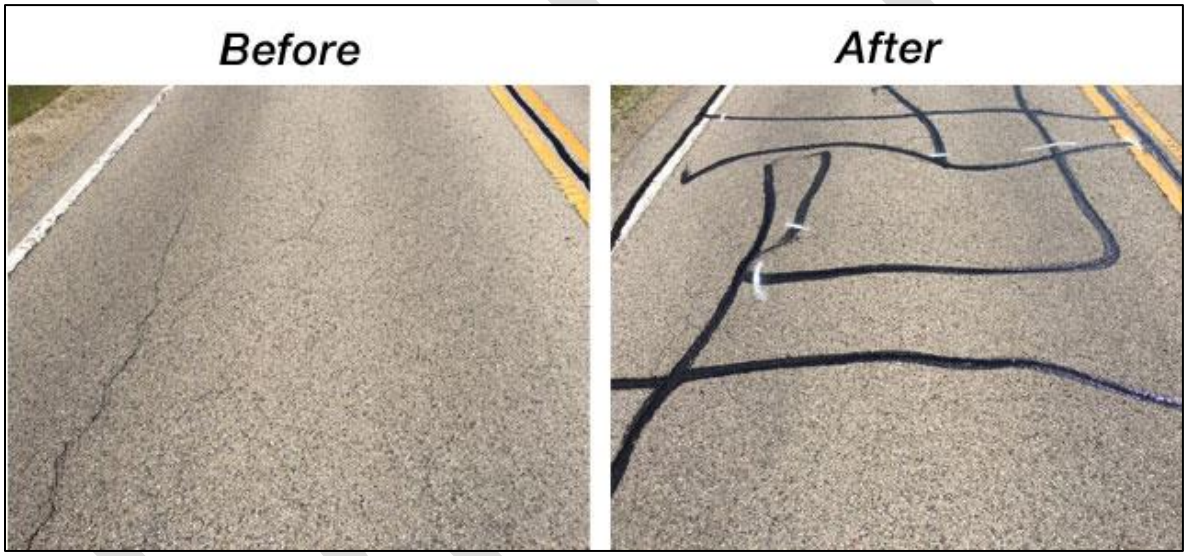
Roads and Pavement Management

The Pioneer Valley Planning Commission conducted a pavement management assessment for federal aid-eligible roads in Hatfield in 2023. The study assessed the town's pavement maintenance needs and determined schedules and cost-effective solutions to improve the conditions of roadways. Pavement management information also assists in allocating resources to maintain eligible roads. Pavement inventory and distress data were analyzed using the Cartograph OMS software. The data was used to calculate the Overall Condition Index (OCI) which measures the serviceability of the road on a scale from 0 – 100. The table below the OCI ranges based on roadway classification.

An "excellent" pavement condition indicates roadway segments where no improvements are warranted. "Good" pavement conditions only require preventive maintenance treatments such as crack sealing. A "fair" pavement condition is indicated that requires more substantial improvements such as resurfacing to improve the roadway. A "failed" pavement condition will require the complete reconstruction of the roadway. The overall condition indices for different segments of roadways are summarized in the graph below.

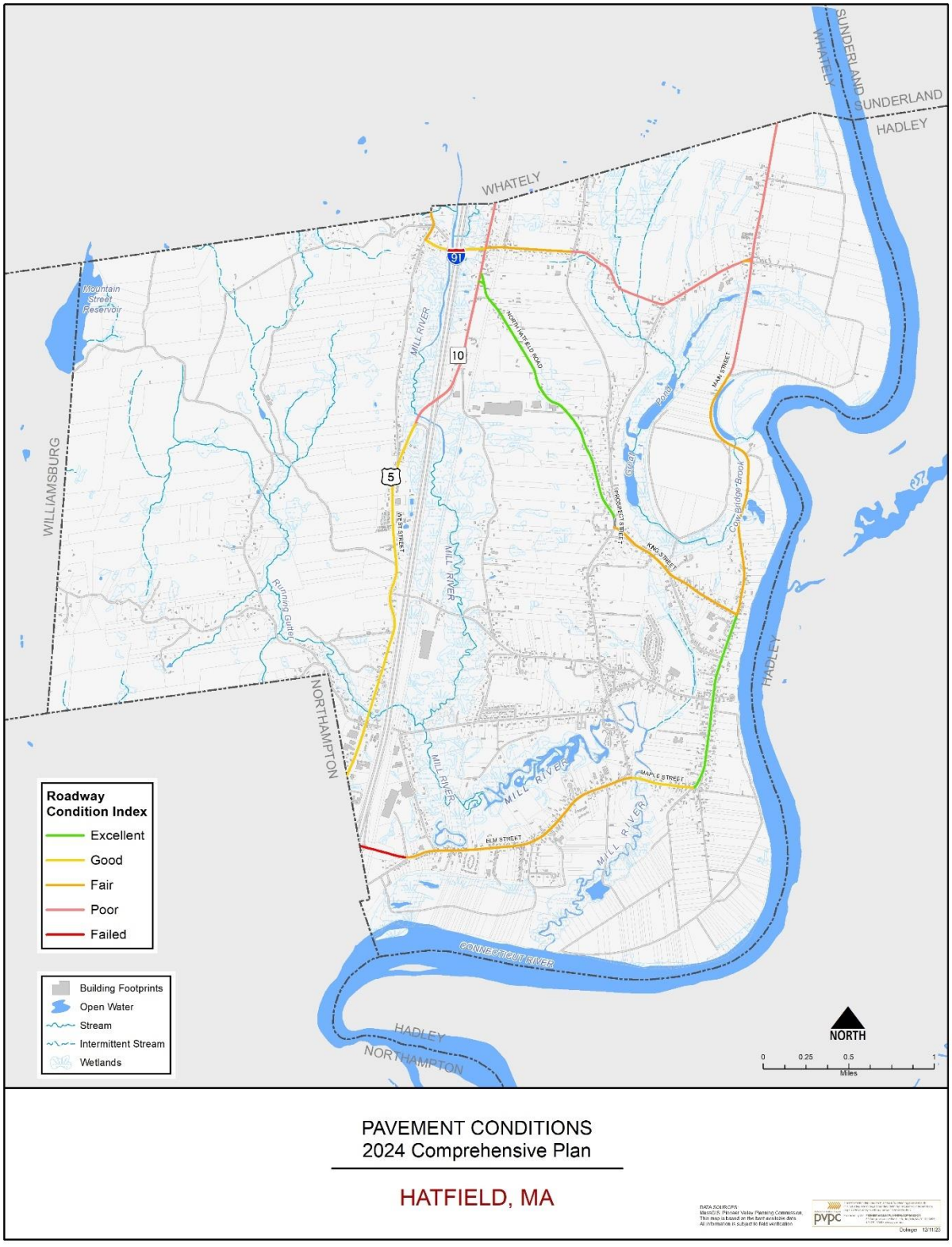
**Table 9: Roadway Condition Index Ratings**

| | Excellent | Good | Fair | Poor | Failed |
|---|---|---|---|---|---|
| Arterial | >89.5 | >69.5 and =<89.5 | >48.5 and =<69.5 | >26.5 and =<48.5 | <=26.5 |
| Collector | >88.5 | >68.5 and =<88.5 | >47.5 and =<68.5 | >24.5 and =<47.5 | <=24.5 |
| Residential Through | >87.5 | >67.5 and =<87.5 | >46.5 and =<67.5 | >23.5 and =<46.5 | <=23.5 |
| Residential Dead End | >84.5 | >64.5 and =<84.5 | >43.5 and =<64.5 | >20.5 and =<43.5 | <=20.5 |




*The effort and expense of crack-sealing roadway pavement is an important investment.*

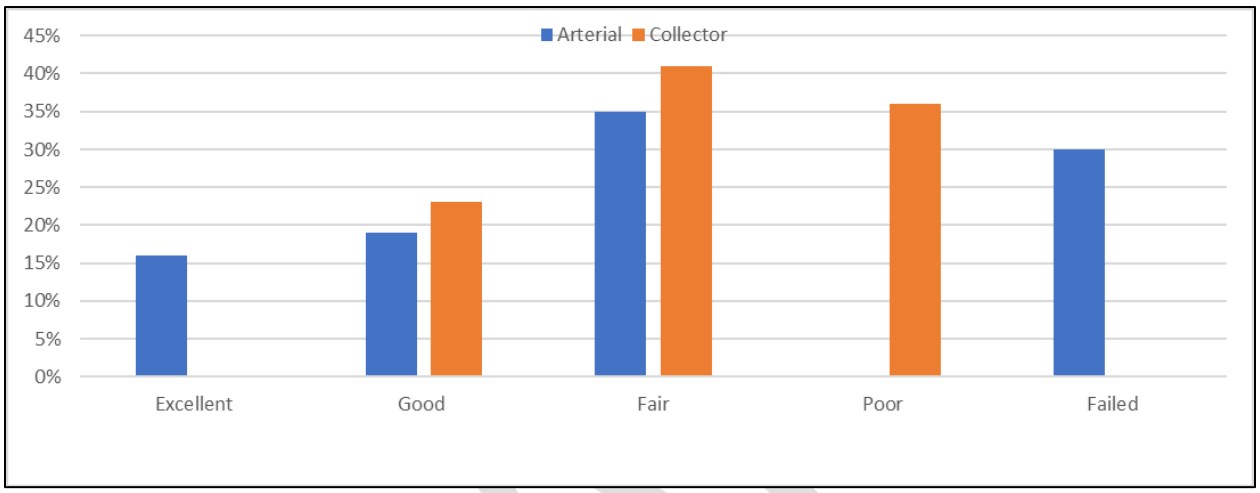
## Figure 8: Existing Pavement Condition Map



The pavement conditions assessment found that the 32 miles of federal-aid eligible roads in Hatfield—including King Street, North Hatfield Road, Elm Street, Main Street, and Routes 5/10—are all operating in fair or better condition. Twenty-two percent of the roadway segments are in excellent condition, while 78 percent are in fair condition.

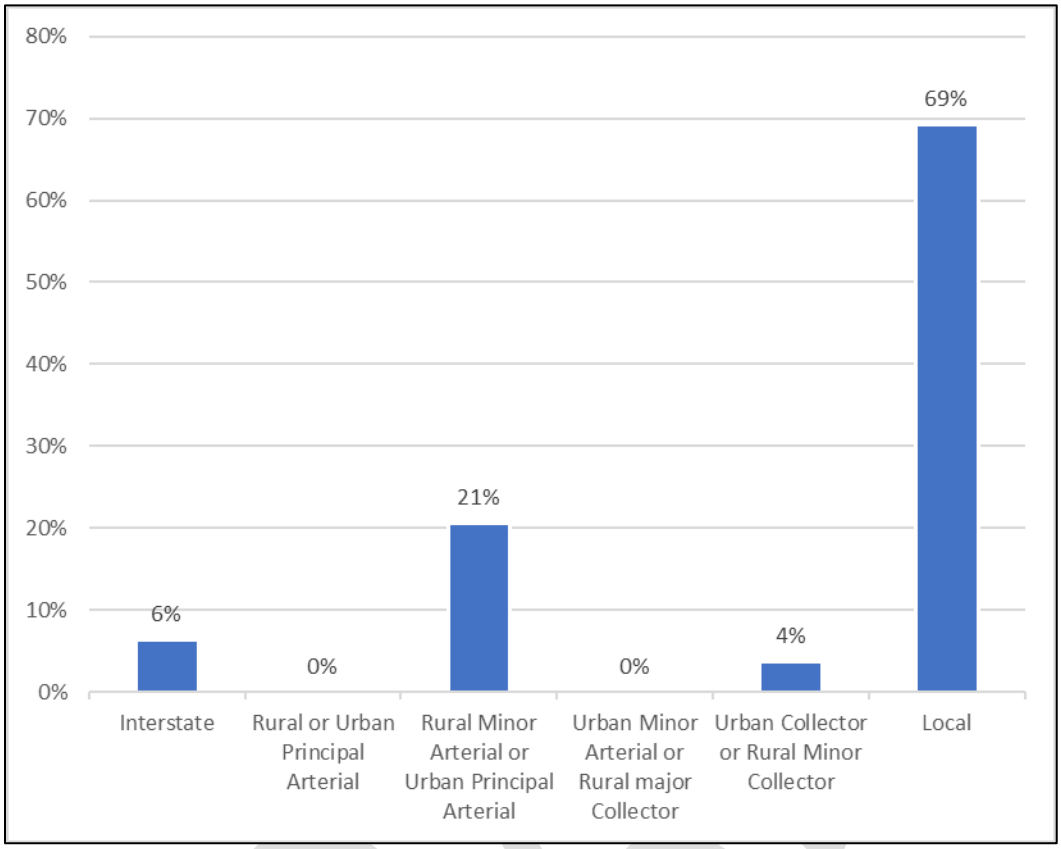
It should be noted that in 2023 the town completed resurfacing on Chestnut Street, Pantry Road, and Prospect Road in 2023. Other ongoing maintenance included re-grading unpaved roads, crack sealing, re-striping, sign replacement, and crosswalk improvements.

**Figure 9: Roadway Pavement Condition by Functional Classification**




As can be seen in Figure 9 above, the majority (70%) of the arterial roads are rated fair or better in Hatfield. That percentage drops to sixty-four for collector roadways. As can be seen in Figure 10 below, local roads make up 69% (41.34 miles) of all roads in Hatfield. The OCI for local roads falls below that of the federal aid system due to the high percentage of roadway miles and limited resources available for improvements on these roads.

**Figure 10: Roadway Classifications in Hatfield**




Bridges and Culverts

Bridges are a critical component of the roadway network. Maintaining the safety and functionality of bridges in Hatfield is a top priority. The majority of bridges

located on high-volume roadways such as Route 5 (West Street) fall under the domain of the State and are inspected by MassDOT. Previously the State utilized a generally accepted rating system developed by the American Association of State Highway and Transportation Officials (AASHTO) to ascertain the condition of the bridges. Beginning in 2018, that system was updated to a new 100-point scale system that measures the Bridge Health Index (BHI). BHI is a weighted average of the health indices of all bridge elements (e.g., trusses, decks, bridge rails, etc.) to provide a comprehensive overview of the condition of bridges. A value of zero indicates that all the bridge elements are in the worst condition, and a score of 85 or greater indicates that the bridge elements are in good condition. In the Pioneer Valley Region, approximately 9% of bridges were found to be structurally deficient. Structurally deficient bridges are not categorically unsafe for use. Posted weight limits may be necessary to ensure safety on some bridges.

In 2024, the only structurally deficient bridge in Hatfield is on Elm Street over the railroad. MassDOT is replacing the bridge with a structure meeting current design standard. This project will also evaluate, and address needed improvements for the intersection of Elm

Street with the Interstate 91 Northbound ramps. The project is in the preliminary design phase with an estimated cost of $21.3 million.

To assist municipalities with the repair or replacement of bridges that are not eligible for federal aid funding programs, Massachusetts implemented the Small Bridge Program in 2016. The program provides reimbursable assistance up to $500,000 per year for work on bridges with spans of 10 to 20 feet.

In addition to bridges, culverts are a crucial part of the transportation network. The Chestnut Street culvert was constructed in 1950 and is the responsibility of the town to maintain. The culvert may be eligible for funding through the Massachusetts Culvert Replacement Municipal Grant Program.  For this Comprehensive Plan, all known bridge and culverts were mapped.

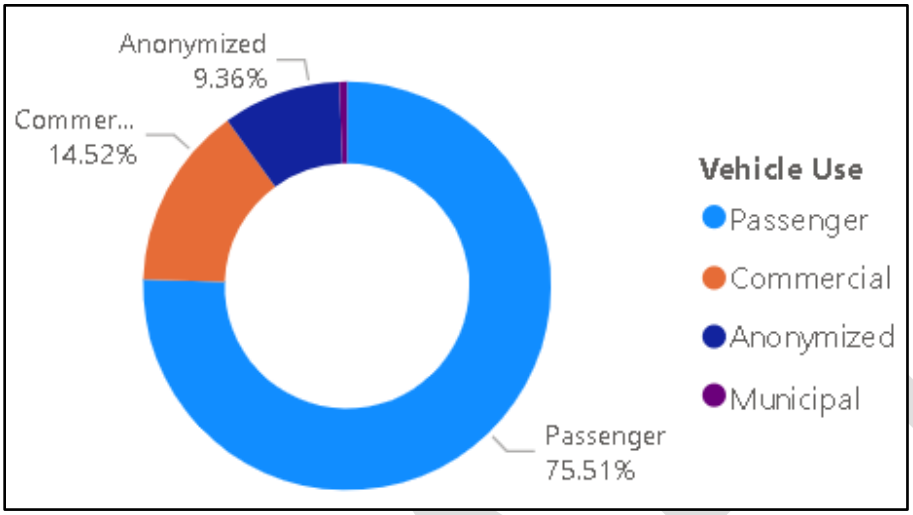
**Table 10: Bridges and Culverts**

| ID | Structure Category | Street | Length | Owner | Struct Def | Feature Intersected | Built/ Reconst | Deck Condition | Super-structure | Sub-structure | Culvert Cond | Health Index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H11026 | Bridge | ELM ST | 85 | DOT | NO | I 91 | 1963/87 | 7 | 6 | 6 | N | 0.86 |
| H11025 | Bridge | ELM ST | 77.2 | DOT | YES | RR BMRR | 1963 | 5 | 5 | 3 | N | 0.76 |
| H11023 | Bridge | MOUNTAIN | 77.6 | DOT | NO | I 91 | 1962 | 7 | 7 | 5 | N | 0.70 |
| H11028 | Bridge | CHESTNUT | 77.9 | DOT | NO | I 91 | 1963 | 6 | 6 | 5 | N | 0.70 |
| | Culvert | CHESTNUT | 0.9 | MUN | UNKN | BOG HOLE | 1950 | N | N | N | 6 | |
| | Shrt-Span | MAIN ST | 3.7 | MUN | NO | COW BRDG BRK | 1960 | N | N | N | 6 | |
| H11004 | Bridge | BRIDGE ST | 34.1 | MUN | NO | MILL RIVER | 1937 | 5 | 5 | 7 | N | 0.76 |
| H11024 | Bridge | MOUNTAIN | 27.1 | MUN | NO | MILL RIVER | 1959/62 | N | N | N | 7 | 0.97 |
| H11003 | Bridge | PROSPECT | 53.9 | MUN | NO | MILL RIVER | 1977 | 6 | 6 | 7 | N | 0.97 |
| H11005 | Bridge | CHESTNUT | 21.5 | MUN | NO | MILL RIVER | 1959 | 7 | 7 | 5 | N | 0.82 |
| | Shrt-Span | US 5/WEST | 5.8 | DOT | NO | RUNNG GUTR BRK | 1906/34 | 5 | 5 | 6 | N | |
| H11031 | Bridge | US 5/WEST | 22.9 | DOT | NO | MILL RIVER | 1963 | N | N | N | 7 | 1.00 |
| H11030 | Bridge | US 5/WEST | 110.7 | DOT | NO | I 91 | 1963 | 5 | 5 | 5 | N | 0.69 |
| H11002 | Bridge | MAPLE ST | 28.4 | MUN | NO | MILL RIVER | 1950 | 6 | 6 | 6 | N | 0.73 |

Registered Vehicles in Hatfield

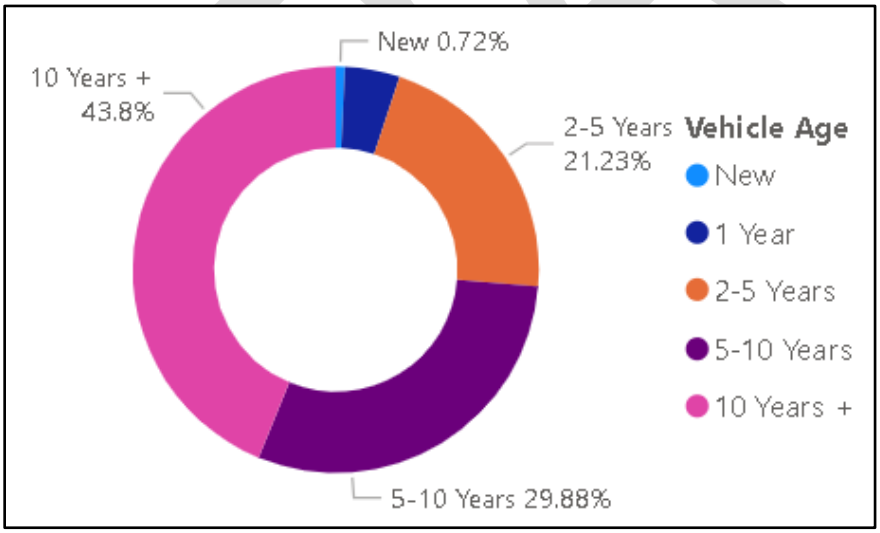
In 2022 the RMV reported 23 zero emission vehicles and 109 hybrid vehicles registered in Hatfield. Vehicles in Hatfield averaged 30.2 miles per day for a total daily mileage traveled of 108,506. Commercial vehicles account for 14.4% of vehicle miles traveled.

**Figure 11: Vehicle Miles Traveled (VMT) by Use**




*Note: "Anonymized" is data that is intentionally undisclosed to protect confidentiality.*

**Figure 12: Age of Vehicles in Hatfield**




Scenic Byways

The Western Massachusetts Scenic Byways program is a collection of seven state-designated scenic byways that are part of the U.S. Department of Transportation's National Scenic Byways Program. The National Scenic Byway Program aims to recognize, preserve, and enhance the archeological, cultural, historic, natural, recreational, and scenic resources of

these roadways. The byways offer a range of activities for visitors, including outdoor recreation, breathtaking views, world-class art, and American history. There are currently seven scenic byways in Western Massachusetts:

1. Mohawk Trail Scenic Byway
2. Jacob's Ladder Scenic Byway
3. Connecticut River Scenic Byway
4. Berkshire Lakes Scenic Byway
5. Ashuwillticook Rail Trail
6. Upper Housatonic Valley National Heritage Area
7. Rutland - Route 122 Scenic Byway

A 2016 Corridor Management Plan update for the Connecticut River Scenic Byway includes an evaluation of a possible extension of the Byway to the west side of the Connecticut River to include either River Road and/or Route 5/10. Unfortunately, the Federal Highway Administration discontinued scenic byway grant funding soon after completion of the plan update so next steps, including local authorization and the petitioning of the state legislature for scenic byway designation did not move forward.

## Golf Carts and Low-Speed Vehicles in Public Ways

Golf carts and low-speed vehicles can be seen in use on public roadways and occasionally on sidewalks. An LSV (Low-Speed Vehicle) and a golf cart are two distinct and different classifications. An LSV is described as an electric vehicle that has a top speed of greater than 20 MPH but less than 25 MPH. A golf cart, by contrast, is to have a top speed of under 20 MPH.

State and federal safety regulations dictate what requirements need to be met to be allowed to drive on public roads. Forty-seven states (including Massachusetts) have laws authorizing or allowing local governments to authorize LSV operation (Connecticut does not authorize LSVs however allows municipalities to permit the use of golf carts on local roads).

According to the Massachusetts RMV definition a "low-speed vehicle" is any 4-wheeled motor vehicle that:

- has been issued a certificate of origin.
- has a gross vehicle weight rating (GVWR) of less than 3,000 pounds.
- has a top speed greater than 20 mph but not greater than 25 mph.
- and is the National Highway Traffic Safety Administration (NHTSA)-certified as a "Low-Speed Vehicle," demonstrated by:
    - The certificate of origin, title, or out-of-state registration listing the body style or body type as "LSV" or "Low-Speed Vehicle."
    - The manufacturer's certification label is posted on the vehicle containing the VIN and indicating the type of vehicle as a "Low-Speed Vehicle."


*Low-speed, zero-emission vehicles were legalized by the Massachusetts Legislature in December 2008.*

## 3. Challenges and Opportunities

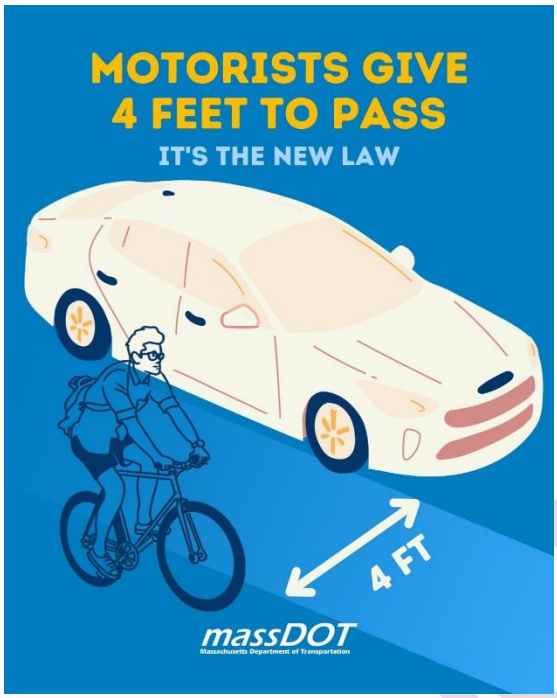
The Town of Hatfield has unique challenges and opportunities as a rural community given its proximity to nearby cities and with convenient access to an interstate highway. Development pressures along the Route 5/10 corridor will continue to grow and the push and pull tensions between the agricultural landscape and more urban types of development create both opportunities and challenges. These are outlined here.

**Improving Safety for Vulnerable Road Users**

The low rate of vehicle crashes are well documented in this plan, however, even with this continued trend some users remain at risk. These users include those using sidewalks and crosswalks to get to school, those transporting farm equipment, or those riding bicycles home from a sporting event. Protecting these more vulnerable users requires ongoing diligence and awareness from everyone in the community. In 2023 Massachusetts passed the "Vulnerable Road Users' Law" that requires drivers to provide a "safe passing distance" of at least four feet when passing vulnerable road users and motorists are allowed to cross a double-yellow line to pass "when it is safe to do so and adhering to the roadway speed limit." MassDOT has been collaborating with municipalities to install appropriate signs on local roads. Massachusetts defines a "vulnerable user" to include:

- People walking and biking.
- Roadside workers
- People using wheelchairs.
- People who use scooters, skateboards, and roller skates.

- People on horses or in a horse-drawn carriage
- People operating farm equipment on the roadway




**Improved Visibility at Intersections and Crosswalks**

Vehicles should not be parked within at least 20 feet of an intersection, and parking restrictions should consider adequate sightlines for motorists and pedestrians to be able to see and react to each other. The Federal Highway Administration defines the minimum setback as 20 feet in advance of the crosswalk where speeds are 25 mph or less, and 30 feet where speeds are between 26 and 35 mph.

**Safe Routes to School (SRTS)**

Many communities in the Pioneer Valley have begun to address pedestrian safety and health-related issues through the initiation of a "Safe Routes to School Program" (SRTS). SRTS is a free, federally funded program administered by the Massachusetts Department of Transportation that works to increase safe walking, biking, and rolling among public elementary, middle, and high school students. Participating schools use a collaborative, community-focused approach that bridges the gap between health and transportation.

SRTS provides infrastructure projects through its program. Infrastructure extends to within a quarter mile of a school. To be eligible, the community must apply along with a participating school. Applications to the infrastructure program can be completed online at the SRTS Infrastructure Project Funding Program website. A new SRTS Signs and Lines Program provides funding up to $6,000 for the construction and installation of signage and pavement markings. This is also available on the same website. Six schools in five communities (Agawam, Holyoke, Longmeadow, Northampton, and Southampton) have received Safe Routes to School infrastructure projects.


*Hatfield DPW installing sidewalks on Main Street.*

While Hatfield has not recently been involved in SRTS, the Massachusetts Program can be an effective way to increase safe biking and walking. Through a collaborative, community-focused approach the program bridges an important gap between health and transportation. SRTS utilizes the six E's to implement its program- Education, Encouragement, Enforcement, Evaluation, 45 Engineering, and Equity.

Through a partnership with the SRTS program, the Hatfield community could gain benefits for students, families, schools, and communities including:

- Increase safety for students walking and rolling in their community.
- Help students stay active and build independence.
- Boost attendance and reduce tardiness.
- Decrease traffic congestion and improve air quality.

By partnering with Massachusetts SRTS, Hatfield schools will help students walk and bike safely to and from school and have access to technical assistance in designing, implementing, marketing, and evaluating initiatives tailored to each school's needs and priorities. School Partners also receive free educational and promotional materials.

*Hatfield Elementary School participating in the national "Walk to School Day" sponsored through the MassDOT Safe Routes to School Program.*

**Opportunities and Challenges for Efficiencies in Student Transportation**

Most Massachusetts school systems (including the Hatfield School District) contract an outside vendor to bus students. Over the last decade, competition has plummeted for these contracts. In 2023 many schools and bus industry officials reported a bus driver shortage. According to the state's Registry of Motor Vehicles, 66 companies offer school bus services in Massachusetts and that total has dropped 20% in recent years. School districts now face fewer choices, procurement challenges, and steeper prices. The School District bus contract may not be large enough to attract competitive bids and further reducing the services required (cutting/consolidating routes) may create a less appealing opportunity for bus vendors.

**Establish a School Zone on School Street near Smith Academy**

There is not a delineated school zone in front of Smith Academy (grades 8-12) on School Street. While an RRFB has been installed recently at the crosswalk a defined school zone would lower the posted speed limit to 20 mph and reduce the risk of injury to vulnerable road users. MassDOT guides establishing school zones in the Procedures for Speed Zoning document (page 25, section 10.d). In 2022, the Bipartisan Transportation Bill extended school zones to include grades 1-12 (formally 1-8).

**Figure 13: School Zone Speed Limits**

### 10.d School Zone Speed Limits

School Zone speed limits are a statutory speed limit but may be marked with regulatory (black legend on white background) signage. Speed limits within a School Zone must be set at 20 mph, but the limit is only in effect during days of the week and hours of the day when children are accessing the school grounds. School Zone warrants, design, and operation are governed by the Massachusetts Amendments to the MUTCD. The following is a summary of these criteria, but the full document should be reviewed to ensure all standards are met:

- The school property abuts the public right of way within the limits of the proposed School Zone;
- School children have direct access to the street or roadway from the school property;
- There is a marked, ADA-compliant crosswalk within the School Zone; and
- The school includes one or more grades between Grade 1 and Grade 8, inclusive.


**Fig. 10-4: R2-1 Sign with S4-3P and S4-1P Plaques (Source: MUTCD)**

Cities and towns are responsible for modifying their Municipal Traffic Code to reflect the locations and days and times of operation for all School Zones prior to the posting any signage. The sign assembly that is used to identify the school zone speed limit for drivers should be similar to Fig. 10-4; the assembly may also contain sign plaques stating the days of the week and times of day (MUTCD code S4-6P) or "When Children Are Present" (S4-2P) or it may be supplemented with either a single yellow flashing beacon above the sign, or one yellow flashing beacon above and one below the sign that flash alternately, and a plaque stating "When Flashing" (S4-4P).

**Off-Road Shared-Used-Paths**

The Hatfield Open Space Committee has been working with the community and officials from both Hatfield and Northampton to advance a shared-use path along the Connecticut River, connecting south to a regional bikeway network. This project has been ongoing since the late 1990s and continues to see progress. Currently, the services of a design consultant have been retained under an agreement with the City of Northampton.

Shared-use paths also called trails, multi-use paths, greenways, or bike paths can bring many benefits to communities. By providing safe and accessible transportation and recreation opportunities separated from motor vehicle traffic, shared use paths benefit the individuals using them and can also contribute to economic development and sustainability goals of the community.

**Route 5/10 corridor potential**

The Route 5/10 corridor has convenient access to freight rail, the interstate highway, and a potential connection for pedestrians and bicyclists. While development along 5/10 has continued to evolve in fragmented stages, the extension of water and sewer combined with pressure for development creates opportunities to think creatively about transportation. A

"complete streets" approach would provide a safer corridor for all users while enhancing the value of any proposed development.

**Vision Zero**

The Town may find value in partnering with the Pioneer Valley Planning Commission in the region's recent adoption (2023) of a Vison Zero Policy. Vision Zero starts with the premise that traffic fatalities and serious injuries are preventable. Death and injury are not an acceptable price to pay for engaging on the roadways as a pedestrian, cyclist, or motorist.

Town officials could work with PVPC to review crash risks associated with PVPC's Safety Compass assessment. This Vision Zero approach towards public safety will not prevent injuries, but it will lessen the severity of injuries. The goal is to make Hatfield streets safer by implementing roadway designs and policies that reduce driver speeds, especially where there is a presence of vulnerable users.

Alongside the prevention of serious injuries and traffic fatalities, many communities like Hatfield are looking at ways to improve public health. Public health is a complex issue encompassing health issues such as obesity, exercise, pollution, asthma, and the current pandemic. Obesity and asthma are related to other chronic conditions causing higher mortality rates in later life. Public health outcomes can be linked with Vision Zero plans. The idea is that if it is safer to walk and bike in a community, people will exercise outdoors more often, reducing chronic illness.

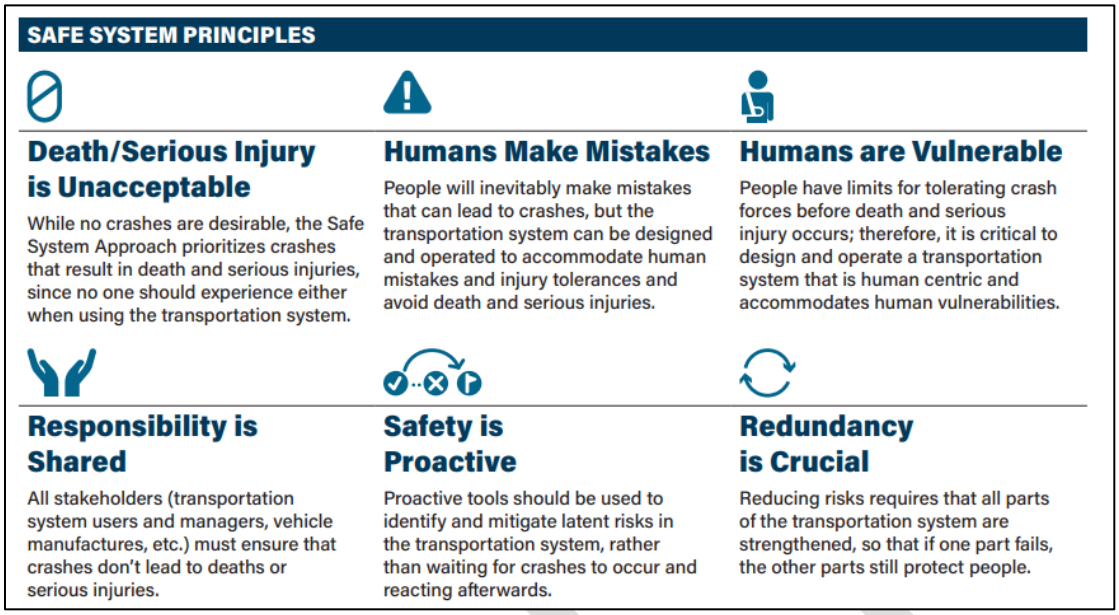
**Safe Systems Approach**

A safe systems approach emphasizes proactive and systemic measures to address safety rather than reactive measures that chase crash hot spots and focus on individual behaviors. A safe systems approach recognizes the fallibility of humans and seeks to reduce the consequences of inevitable mistakes (crashes) to promote survivability.

Improvements to vehicle design, roadway design, and emergency and response times all provide layers of redundancy that increase the likelihood of survivability. Self-reinforcing design is a tenet of a safe systems approach, which emphasizes a system-based (rather than individual-based, or blame-focused) approach to reducing safety risks on roadways. For example, a roadway can incorporate self-reinforcing roadway design elements so that drivers are far less likely to speed irrespective of enforcement presence.

The Safe System Approach aims to eliminate roadway fatalities and serious injuries by focusing on Safe Roads, Safe Road Users, Safe Vehicles, Effective Post-Crash Care, Safe Speeds, and changing safety culture. There are six principles that guide work in this are as described by Federal Highway Administration in Figure 14.

**Figure 14: Safe System Approach**




**Railroad Noise Abatement and Establishing Rail quiet Zone or Reduced Horn Crossings (Chestnut St, N. Hatfield, Depot Rd)**

Hatfield has eight to ten (8-10) trains passing through town each day. The impact of noise related to rail service can be mitigated to a degree. For lower population areas such as Hatfield, the more effective strategy is to modify windows with 3-inch air gaps and caulking and sealing gaps in houses (as opposed to installing sound barriers along the track).

The Federal Rail Authority (FRA) is committed to reducing the number of collisions at highway-rail grade crossings while establishing a consistent standard for communities that opt to preserve or enhance the quality of life for their residents by establishing quiet zones where routine use of train horns is prohibited.

Federal regulation requires that locomotive horns begin sounding 15–20 seconds before entering public highway-rail grade crossings, no more than one-quarter mile in advance. Trains use a standardized pattern of two long, one short, and one long blast. This pattern is repeated until the lead locomotive or lead cab car occupies the grade crossing. The rule does not stipulate the durations of long and short blasts. The maximum volume level for the train horn is 110 decibels, and the minimum sound level is ninety-six decibels.

A quiet zone or "reduced train horn area" is a section of a rail line at least one-half mile in length that contains one or more consecutive public highway-rail grade crossings at which locomotive horns are not routinely sounded when trains are approaching the crossings. Train horns will still be used in emergencies and a Quiet Zone does not eliminate the use of locomotive bells at crossings. Communities wishing to establish quiet zones must work with MassDOT.

Adoption of a quiet zone in Hatfield may require modifying the rail crossing from a two-quadrant gate to a four-quadrant gate. There are currently twenty-nine approved quiet zones

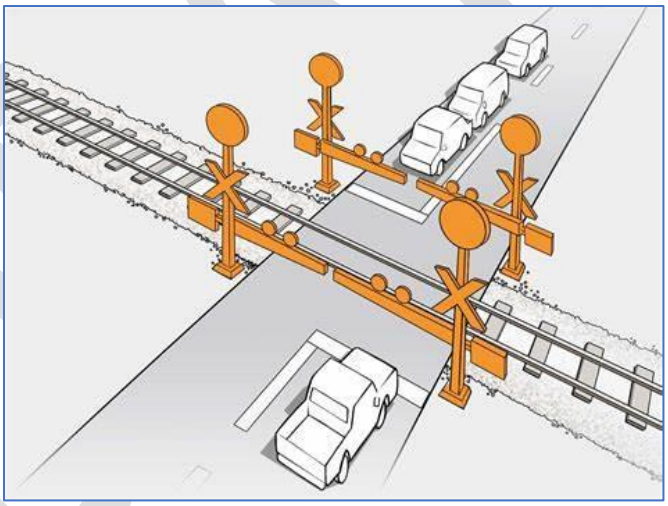
in Massachusetts (all located in the eastern part of the state). In 2022, the Town of Deerfield requested a "Quiet Zone."

Using the Federal Railroad Administration Quiet Zone Risk Calculator, and assuming all three primary crossings (North Hatfield Rd., Plain Rd., Chestnut St.) in Hatfield would be modified, a risk assessment is calculated as shown in Table 11.

**Table 11: Federal Railroad Administration Quiet Zone Risk Calculation with 4-Quadrant Gates**

| | |
|---|---|
| **Proposed Quiet Zone:** | Hatfield Quet Zone |
| **Type:** | New 24-hour QZ |
| **Scenario:** | HATFIELD Q_69339 |
| **Estimated Total Cost:** | $300,000.00 |
| **Nationwide Significant Risk Threshold:** | 15488 .00 |
| **Risk Index with Horns:** | 13990.77 |
| **Quiet Zone Risk Index:** | **4200.59** |

**Figure 15: Four-Quadrant Gate**



**Clean Energy Fleet Conversions**

The Town may want to include a discussion on "clean emission vehicles" with the Town's school bus vendor. There are incentives for "fleet conversion" through the Massachusetts Clean Cities program. The Massachusetts "Clean Air Initiative" has focused recently on tackling air pollution from diesel vehicles. Diesel exhaust can be carcinogenic and diesel engines are a source of fine particulate matter emissions, nitrogen oxides, sulfur dioxide, volatile organic compounds, and other contaminants that are hazardous pollutants under the Clean Air Act. Inhaling diesel exhaust can cause cancer, aggravated asthma, lung damage,

and other serious health problems and is especially harmful to children, whose lungs are not yet fully developed.

A recent effort has focused on idling vehicles (especially diesel buses). The Massachusetts Attorney General's Office created a public information campaign about potential health hazards associated with the idling of motor vehicles, particularly diesel-powered school buses, and includes an online tip form for residents to report incidents of illegal idling.

The Town of Hatfield may also want to consider electric power and charging options for other municipal vehicles including the School District's 7D pupil transport vehicles (vans), DPW service vehicles, and police vehicles. More recently Hatfield acquired a hybrid vehicle for the office of the Building Inspector.


*The Hatfield School District's fleet of 7D vehicles may be a potential candidate for electric conversion.*

## 4. Examples from other Communities

**Hampshire County Complete Streets Design Manual**

Hatfield has a strong supportive community that prioritizes a safe environment for all residents. The concept of "complete streets" is a good match for these values. This document provides a design guide and manual for local planners, engineers, and advocates to improve walking and biking on roadways within their communities and create safer streets for users of all ages and abilities.

Source: hampshire-county-complete-streets-design-manual_010517-final.pdf (healthyhampshire.org)

**American Planning Association (APA) Complete Streets: Best Policy and Implementation Practices**

Complete streets serve everyone—pedestrians, bicyclists, transit riders, and drivers—and they consider the needs of people with disabilities, older people, and children. The Complete Streets movement seeks to change the way transportation agencies and communities approach every street project and ensure safety, convenience, and accessibility for all. At the heart of the complete streets movement are important political, policy, and procedural changes. This best policy and implementation practices manual explores what communities across the country have learned when implementing their complete street visions.

Source : https://planning-org-uploaded-media.s3.amazonaws.com/publication/online/PAS-Report-559.pdf

**Implementing Complete Streets in Small Towns**

Successful implementation of Complete Streets requires much more than a one-size-fits-all approach. Rural and small towns often face distinct challenges from urban areas when it comes to improving the conditions for people walking and bicycling.

Source : https://smartgrowthamerica.org/implementing-complete-streets-small-towns-rural-communities/

**FHWA Complete Streets Guidance**

Most States and hundreds of communities have adopted Complete Streets policies that strive to build safe streets for all users. The Federal Highway Administration supports transportation efforts to accelerate the implementation of a safe, connected, and equitable transportation network for travelers of all ages and abilities. Building Complete Streets combines innovations from multiple transportation disciplines to achieve safe, connected, and equitable street networks.

Source: Complete Streets | FHWA (dot.gov)

**Pioneer Valley Coordinated Public Transit – Human Services Transportation Plan (Coordinated Plan)**

The Coordinated Plan was created to improve transportation services for persons with disabilities, older adults, and individuals with lower incomes in the Pioneer Valley Region through a better-coordinated transportation system. The plan provides a framework for the development of projects for municipalities, towns, counties, tribal governments, regional transit authorities (RTAs), and private taxi operators that will address the transportation needs of the target populations, by ensuring that public transportation and human service agencies coordinate transportation resources offered through multiple FTA programs.

Source : https://pvmpo.pvpc.org/wp-content/uploads/2022/05/CPT-HST-Plan-2019-PVMPO-Approved.pdf

**Flexible Transit Services**

Many small towns in Massachusetts (including Whately) are considering the value of adding flexible transit services to supplement and support Council on Ageing vans and other fixed route transit services currently available. Flexible van services differ from conventional fixed-route service by adapting routes or schedules to customer demand. Historically, most transit services have operated on preplanned routes, making stops at predefined locations according to a published schedule. This is a model that can work well in communities where there is sufficient demand to fill a transit vehicle, but in communities with low density of demand and dispersed origins and destinations, fixed routes are costly and inefficient. Demand-responsive paratransit service has been operated for decades with advanced reservations following the Americans with Disabilities Act of 1990 (ADA), and technologies like smartphones and global positioning systems now allow transit vehicles to respond to customer demands in real-time.

Source : https://www.mass.gov/doc/flexible-transit-service-final-report/download

## 5. Recommended Goals and Strategies

| Goals and Strategies | Primary | Others | Priority |
|---|---|---|---|
| Identify gaps in the sidewalk network and prioritize projects to fill gaps while updating the current network to meet ADA standards. Potential priority locations may include Main Street, Bridge Street, Gore Avenue, Prospect Street, King Street, Chestnut Street, and Elm Street | Hatfield Selectboard | PVPC, MassDOT, Open Space, DPW | H |
| Utilize the Pavement Management System to prioritize roadway improvements to ensure the roadway network is resilient. Continue to support investments in roadway maintenance including crack sealing and grading of unpaved municipal roadways. | Hatfield DPW | Hatfield Selectboard, PVPC | M |
| Work with the Franklin Regional Transit Authority to identify opportunities to expand fixed Route or add a Micro-transit option. | Hatfield Selectboard | PVTA, PVPC, FRTA | L |
| Partner with MassDOT's Safe Routes to School program to improve drop-off and dismissal protocols, encourage safe walking, and provide incentives for riding the bus. | Hatfield School District | Hatfield Police Department, Hatfield DPW, Hatfield Selectboard | H |
| Become a complete street community to access the benefits of the program | Hatfield Selectboard | PVPC, MassDOT | H |

| Goals and Strategies | Primary | Others | Priority |
|---|---|---|---|
| Perform regular traffic data collection on roads to assess existing travel speeds, vehicle volume truck volume, and crash history at key locations in the Town. Traffic data is useful to identify growth trends, assess the potential impact of new development, and ensuring the safe and efficient use of the community transportation network by all users. | Hatfield DPW | PVPC | M |
| Monitor the condition of the short-span bridges and culverts. Updated deficient structures to ensure they can withstand severe weather events | Hatfield DPW | MassDOT, PVPC | L |
| Identify opportunities to improve access to the regional shared-use-path network including bike-share | Hatfield Selectboard | PVPC, MassDOT, DCR, Open Space | H |
| Complete traffic studies at high crash locations including Elm Street at I-91 ramps, Maple Street at Valley Street, Depot at Main Street, and Bridge Street at Prospect Street. | Hatfield Selectboard | PVPC, MassDOT, DPW | M |
| Identify opportunities for improved signage including the Massachusetts Safe Passing sign at roadway locations where bicycle use is frequent. (Elm Street, Main Street, School Street) | Hatfield DPW | MassDOT, Selectboard | H |
| Monitor the performance of pedestrian crosswalks (including RRFB installations and consider additional locations based on performance. | Hatfield DPW | PVPC, MassDOT, DPW | M |
| Continue to support and prioritize access to the senior van service through the Hatfield Council on Aging. Explore outside funding opportunities and resources for expanding service if needed in the future. | Hatfield Council on Aging | Selectboard | M |
| Monitor traffic speeds on local roadways and consider adopting speed management strategies including lower posted speed limits in thickly settled areas such as Elm Street and Maple Street. Review MassDOT best practices for safe speed limits. | Hatfield Selectboard | PVPC, MassDOT, DPW | H |
| Identify rest areas for freight vehicles with overnight layovers. | Hatfield Selectboard | DPW, Hatfield Police Department | M |
| Identify and prioritize vehicle charging stations and incorporate electric vehicles into the municipal fleet. | Hatfield Selectboard | DPW | M |
| Identify opportunities to consolidate pedestrian crosswalk locations in the Town Center | Hatfield Selectboard | DPW, Hatfield Police Department | H |
| Install additional pedestrian crosswalk signs if needed (Main St. at King St, School St. at Prospect St., etc.) | Hatfield Selectboard | DPW | M |

| Goals and Strategies | Primary | Others | Priority |
|---|---|---|---|
| Install additional speed feedback signs | Hatfield Selectboard | DPW, Hatfield Police Department | H |
| Evaluate the location of vehicle passing lanes on Elm Street and identify crosswalk conflicts. | Hatfield Selectboard | DPW, Hatfield Police Department | H |
| Evaluate roadway sight lines and manage vegetation to improve visibility around blind corners in locations such as Main Street north of the municipal wastewater treatment facility. | Hatfield Selectboard | DPW, | L |
| Evaluate the long-term strategies for senior van service and fleet replacement. | Hatfield Selectboard | Hatfield Council on Aging | M |
| Assess the need for pedestrian scale lighting at crosswalk locations. | Hatfield Selectboard | DPW, Hatfield Police Department | L |
| "Daylight" crosswalks and intersections by identifying curbside parking that restricts visibility. | Hatfield Selectboard | DPW, Hatfield Police Department | H |
| Expand the EV fleet of municipal vehicles | Hatfield Selectboard | DPW, Hatfield Police Department, Hatfield School Committee | L |
| Install/replace ADA tactile warning panels at marked crosswalks. | Hatfield Selectboard | Hatfield DPW | M |
| Consider adding a school zone in front of Smith Academy | Hatfield Selectboard | DPW, Hatfield Police Department, Hatfield School Committee | M |