TRANSPORTATION ELEMENT
TECHNICAL PAPER

OVERVIEW

This Transportation chapter includes a brief review of the existing transportation network in the Town of East Longmeadow. All transportation components were reviewed in order to identify travel patterns throughout the Town. This chapter also provides an outlook of the existing safety concerns and takes into consideration public input provided during the master plan survey process, Visioning Session and Focus Groups to shape goals and strategies that can improve future transportation conditions.

INVENTORY AND EXISTING CONDITIONS

Existing Transportation System

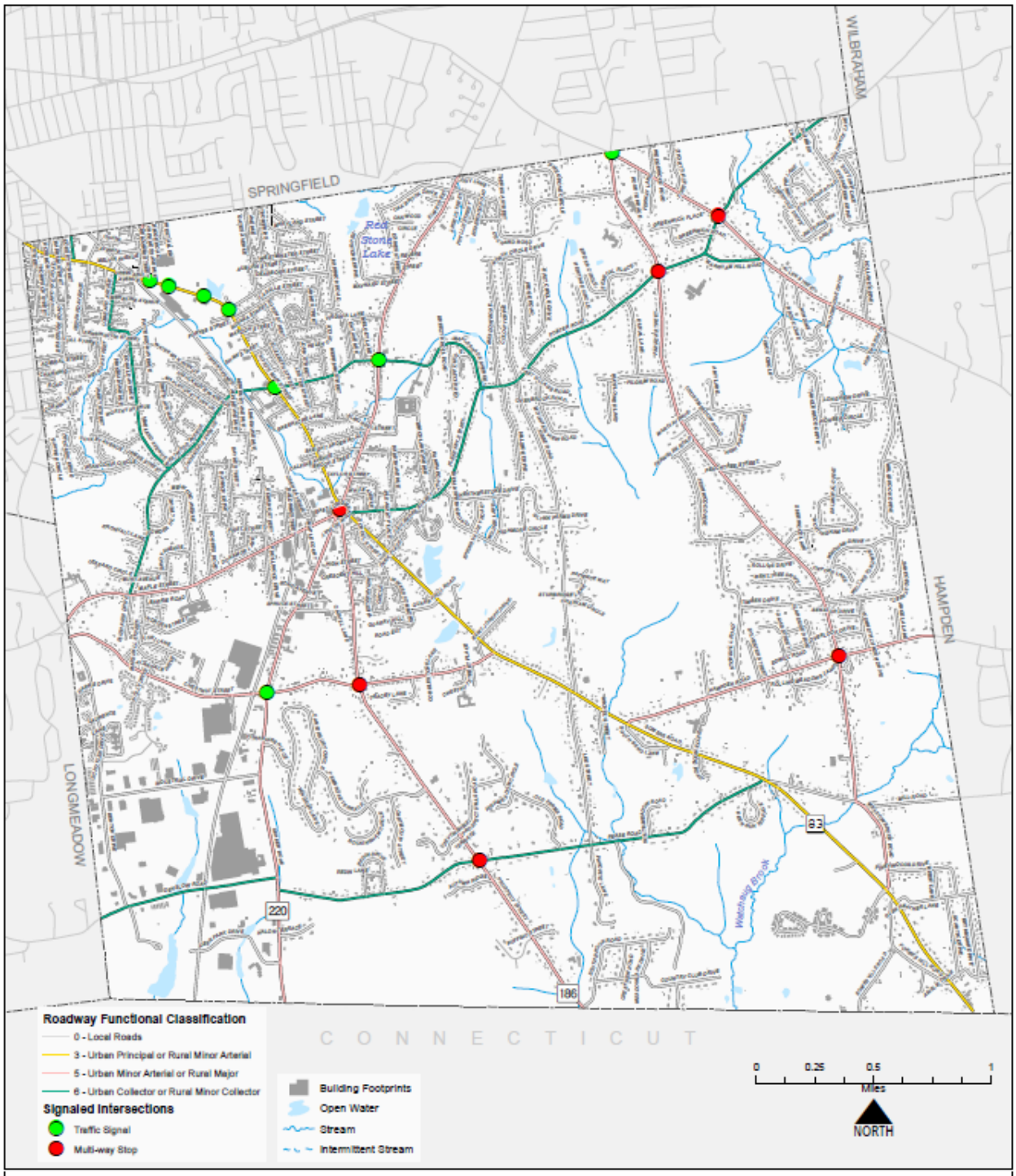
Roadway miles and ownership

East Longmeadow has a roadway network of 100.79 centerline miles based on information from the MassDOT 2018 Road Inventory Year End Report. All roadway miles are locally maintained by the East Longmeadow Department of Public Works. Approximately 30.8 miles of road are eligible for federal aid. The entire town is considered an urbanized area based on population density from the 2010 U.S. Census. Map 1 highlights the existing functionally classified transportation infrastructure in East Longmeadow.

Functional Classification is a system used to identify the intended level of service a roadway is expected to provide. There are seven distinct classes of Functional Class for roadways. Each class is assigned a number from 0-6. Four of these classes are present in East Longmeadow as follows:

- **Rural Minor Arterial/Urban Extension (Class 3)**- Those roads that provide service to cities, towns and other traffic generators not served by the arterial system; roads that link these places with the arterial system; and roads that serve the more important intracounty travel corridors. Route 83 is an example of this class of road in East Longmeadow.
- **Urban Major Collectors (Class 5)** - Roads that bring traffic from local roads to higher classified road. These roads provide service to within the community and link to local traffic generators. Route 186 is an example of this class of road in East Longmeadow.
- **Urban Minor Collectors (Class 6)** – Provide a similar service as an Urban Major Collector but typically carry lower volumes of traffic. Pease Road is an example of this class of road in East Longmeadow.
- **Local Roads (Class 0)** - Roads that provide access to adjacent land and that provide service to relatively short distance trips.

Map 1 – Functionally Classified Roads



Roadway Functional Classification
With Traffic Signals & Multi-way Stops
2021 Resilient Master Plan

EAST LONGMEADOW, MA

Non-motorist Infrastructure

Non-motorist infrastructure includes accommodations for pedestrians, bicyclists and transit riders. A summary of existing non-motorists infrastructure in East Longmeadow is shown on Map 2. In 2019 MassDOT released The Statewide Bicycle Plan and The Statewide Pedestrian Plan. These plans include guides introducing Cities and Towns to core concepts as well as provide additional resources to improve bicycle and pedestrian infrastructure. The objective of these plans is to improve safety, reduce fatalities, and increase the use of non-motorized modes of transportation for short trips.

Sidewalks

There is an existing network of sidewalks, primarily in the northern section of town that provides pedestrian connections from major clusters and activity centers to the center of town. Many lower volume roadways do not currently have sidewalks. Similarly, it is unclear if the entire existing sidewalk network meets current Americans with Disabilities Act (ADA) requirements.

The town has a Sidewalk Master Plan that identifies a number of proposed areas for the construction of new sidewalks. This plan is developed by the East Longmeadow Department of Public Works in consultation with key departments such as the School and Police Departments. Sidewalks are required in all new subdivisions.

Bike lanes

East Longmeadow does not have any designated on-road bicycle amenities. In general, many roads such as Benton Drive have unmarked paved shoulders that could be used by more advance cyclists. The 2020 Complete Streets Prioritization Plan for the town (discussed in greater detail later in this chapter) identifies a number of areas for providing bicycle accommodations on roadways that provide access to key areas.

Redstone Rail Trail

The Redstone Rail Trail is an off road shared use path for bicycles and pedestrians that follows the former Armory Branch of the New York, New Haven & Hartford Railroad. Completed in September of 2010, the rail trail runs in a general north/south direction from Maple Street to Denslow Road for a total length of 1.57 miles. Terrain along the trail is generally flat and is considered suitable for all ability levels.

The trail is accessible from Maple Street with parking available in the municipal parking lot adjacent to the East Longmeadow Library and Town Hall. The trail is also accessible to restaurants and retail establishments in the central business district and along Shaker Road including Family Bike. The Redstone Rail Trail is used frequently by workers from the industrial park including major employers such as Hilmor and Cartamundi. There are several commercial fitness centers that utilize the rail trail and the East Longmeadow High School athletic teams use the trail daily for training runs. The Chestnut Street crossing has push-button activated rectangular rapid flashing warning beacons to assist pedestrians and bicyclists in crossing the road. The trail currently terminates at the parking area on Denslow Road near Bay Path University. Expansion of the trail north of Maple Street to the Pleasantview Senior Center and Heritage Park is identified as the top priority in the 2019 Open Space Plan. Trail expansion also was highlighted as a future goal during the Visioning Session for the Master Plan and during the Transportation Focus Group.

Walking Clubs

The East Longmeadow Senior Center's Morning Glory Walkers have been organizing local walks three days a week since 1987. As one of 161 clubs across the state, the walking program gives people over 50 an opportunity to be active and social. Participants in the walking club are also engaged in raising awareness. Recently, organizers brought attention to unsafe sidewalks around the rotary and also identified a crossing signal issue at the intersection of North Main Street with Mapleshade Avenue that makes it difficult for those living with a disability to walk to and from the Senior Center to the center of town.

Safe Routes to School

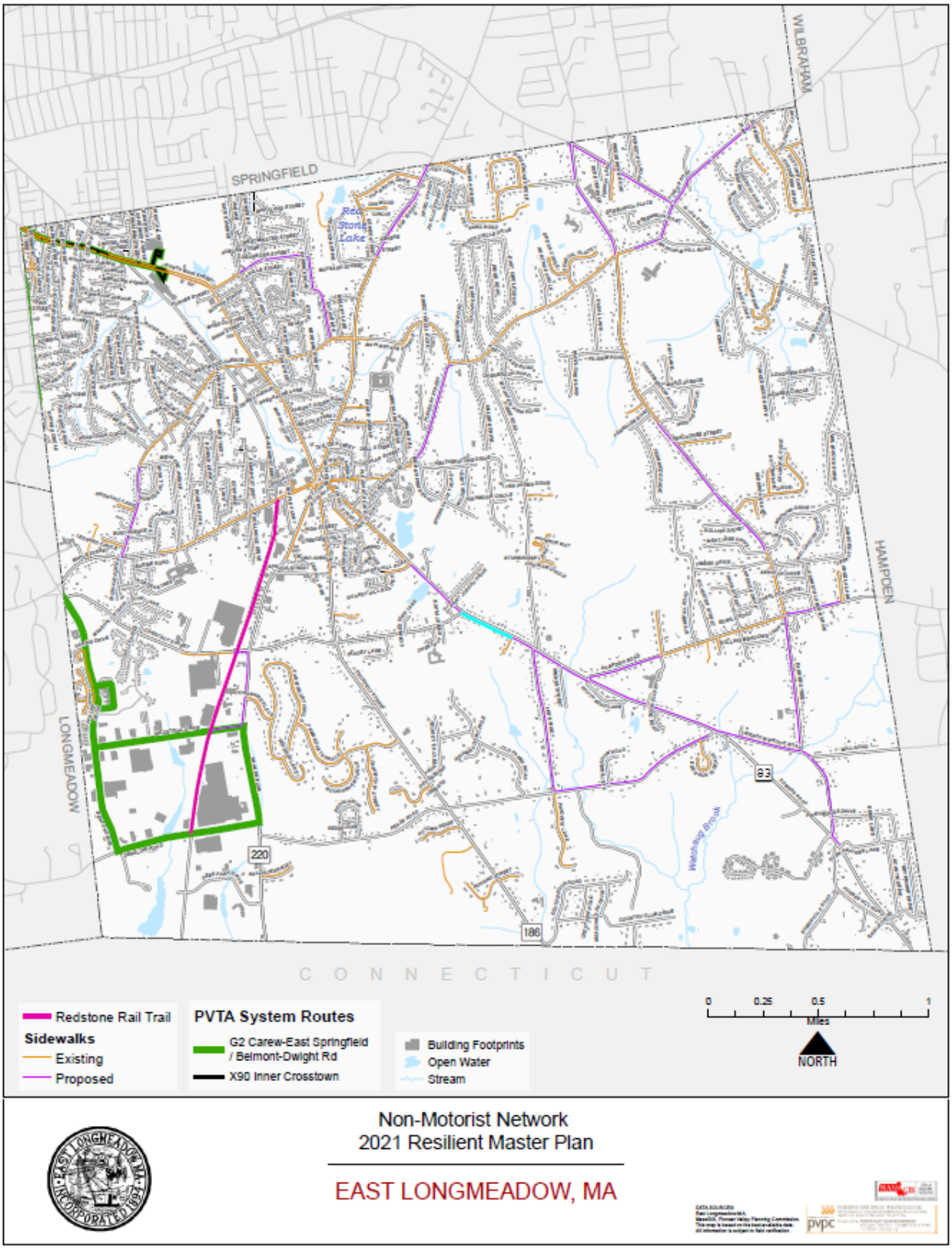
The Massachusetts Safe Routes to School (SRTS) Program works to increase safe biking and walking among elementary and middle school students by using a collaborative, community-focused approach that bridges the gap between health and transportation. Mountain View School in East Longmeadow received an award from the Massachusetts Safe Routes to School Program in 2017. Mapleshade Elementary is also a "SRTS" partner.

Shared Streets Program

East Longmeadow received $117,573.50 as part of the MassDOT Shared Streets and Spaces Program. This award was used to construct 180 feet of new asphalt trail from the northern terminus of the Redstone Rail Trail to Maple Court, install new traffic calming measures to create a shared street on Maple Court and establish outdoor dining areas. The project also includes public art to be designed and implemented by local business owners and other abutters. Fifty percent of the public art had been installed as of the Fall of 2020.

Traffic calming measures on Maple Court established a "shared street" where posted speeds were reduced to 10 mph and painted chicanes reduced the 2-way road to one shared lane for pedestrians, cars, and bicyclists.

Map 2 – Non-motorized Transportation Network



PVTA Transit Service

Existing Service:

PVTA operates two fixed-route bus lines in East Longmeadow, route G2 and route X90. Both routes are shown on Map 2. Route G2 operates two branches within East Longmeadow, with one operating on North Main Street between Heritage Plaza and the Springfield city line, and the other operating on Benton Drive between Redstone Nursing Home and the Longmeadow Town Line (select trips extend further south to Industrial Drive). Route X90 operates on North Main Street between Heritage Plaza and the Springfield city line.

Route G2 provides connections to downtown Springfield via Belmont Ave and Main Street, and beyond to East Springfield via Carew Street and Page Boulevard. Route X90 provides connections to Springfield Technical Community College (STCC) via White & Walnut Streets, and beyond to Springfield Plaza, Chicopee Falls, South Hadley, and Holyoke. During the 2019 fiscal year, G2 carried 699,134 passengers while X90 carried 274,094 passengers. Of these, 39,833 boarded at bus stops in East Longmeadow, with slightly more riders using the X90 than the G2 (64.3 average daily riders on the G2 vs 65.8 average daily riders on the X90).

Historic Ridership:

Prior to August 2014, service in East Longmeadow was provided by the G2 and B13, with the latter extending beyond Big Y to serve the town center and two apartment complexes (Brownstone Apartments and Quarry Hill Apartments). Service changes implemented in August 2014 replaced the B13 with the new route X90, curtailing service at Big Y. At first there was no negative impact on ridership, with an increase reported during 2015, but ridership has subsequently declined. A summary of ridership by stop (by calendar year, rather than fiscal year) is provided in the following table, with former B13 stops colored in red:

Noteworthy Trends:

- Ridership at the stops previously served by the B13 never exceeded 4% of the total ridership in East Longmeadow, however, this is partly attributable to the very infrequent service that these stops received at the time (most B13 trips terminated at Big Y, as the X90 does today).
- Big Y accounts for the clear majority of ridership in East Longmeadow, and reached an all-time high during 2019, despite a decline in overall ridership in East Longmeadow.
- Ridership at the industrial park declined considerably between 2014 and 2015, but never accounted for a large portion of ridership to begin with.
- Ridership during 2020 was severely impacted by the COVID-19 pandemic.

Figure 1 – Historic Transit Ridership Data

Name	2013	2014	2015	2016	2017	2018	2019	2020
Big Y - East Longmeadow	24813	23,342	23,886	24,016	21,132	24,444	26,971	17,842
Stop And Shop Drive (East Longmeadow)	9207	9,849	13,365	11,176	10,715	8,005	4,103	2,893
Redstone Nursing Home	4367	4,127	3,398	2,718	2,622	3,094	3,332	2,405
N. Main/Rosemont	1288	1,734	2,327	2,365	2,260	2,407	1,443	764
Main/Lombard(opposite)	1155	3,024	1,821	1,042	1,085	1,175	1,075	538
N. Main St. E. Longmeadow	364	535	1,434	1,306	742	664	674	261
Main/Van Dyke	290	389	311	448	312	467	399	280
Main / Dorset	391	336	314	240	282	417	348	126
Main/Gerrard	46	191	172	185	246	290	145	67
Main / Lombard	51	68	64	287	155	191	111	83
East Village Place	113	89	101	89	93	102	74	28
East Longmeadow Industrial Park (Flag Stop)	113	160	39	39	53	0	26	26
N Main / Mapleshade	87	36	0	0	0	0	0	0
N Main / Frankwyn	22	10	0	0	0	0	0	0
N Main / Elm	256	89	0	0	0	0	0	0
N Main / Dorset	94	52	0	0	0	0	0	0
N Main / Shaw	10	7	0	0	0	0	0	0
N Main / Shaw (IB)	3	12	0	0	0	0	0	0
Brownstone Apts	123	29	0	0	0	0	0	0
Somers / Unnamed	12	9	0	0	0	0	0	0
Quarry Hill Apts	681	502	0	0	0	0	0	0
N Main / Dearborn	5	4	0	0	0	0	0	0
N Main / Brook	336	212	0	0	0	0	0	0
Somers / Park	114	24	0	0	0	0	0	0
Percentage of ridership from discontinued stops:	3.97%	2.20%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Potential Future Changes:

PVTA is investigating the potential of additional crosstown service: these are routes which bypass the Union Station bus terminal, connecting the "spokes" of PVTA's network. One such corridor is a connection from East Longmeadow center to Ludlow Big Y, via Elm, Cooley, and Parker Streets. For this route to be most effective, PVTA would also need to extend either the G2 or X90 service beyond its current terminal to connect to East Longmeadow center. With that said, PVTA's current budget would not allow such service changes without making cuts elsewhere in the system, so these remain at the conceptual stage for the time being. Should an appropriate grant or other funding source become available, PVTA will consider a pilot program for such service, depending on feedback from East Longmeadow and PVTA riders.

PVTA Paratransit Service

Paratransit is demand response door-to-door van service that is scheduled by the rider. PVTA's fleet of vans are equipped with wheelchair lifts and other special equipment to insure the safety of disabled riders. PVTA provides paratransit service as follows:

- Americans with Disabilities Act (ADA) Service -- Federal law requires that public transit providers offer paratransit service that is comparable to their fixed route bus service to disabled customers who are unable to use regular buses. Customers must be eligible to use the service, and an application and approval process is required. Trips must be scheduled at least one day in advance. ADA paratransit service is available only within three-quarters of a mile of a fixed bus route, and the trip must start and be completed during the same hours that the nearest regular bus route operates. The fare ranges from $3.00 - $5.00 per ride, depending on pickup and drop off locations.

- Senior Dial-A-Ride Service -- PVTA also provides van service to people age 60 and over in its 24 member communities. This service is operated on a space-available basis Monday through Friday from 8:00 AM to 4:30 PM. The fare ranges from $3.00 - $5.00 per ride, depending on pickup and drop off locations. Tickets are available from local senior centers and the PVTA Information Center.

PVTA also offers Travel Training for seniors and people with mobility impairments who would like to learn how to safely and independently use the fixed route system. Training is provided free-of-charge except for the required bus fare while training is taking place. For more information visit: http://www.pvta.com/traveltraining.php

Senior Van Service

The East Longmeadow Council on Aging, located at the Pleasant View Senior Center provides transportation via the Tri-Town Trolley. This weekday service runs from 9:00 AM to 3:00 PM for the towns of East Longmeadow, Hampden and Longmeadow. The trolley provides transportation for residents to appointments in East Longmeadow, Hampden, Longmeadow, Ludlow, Springfield and West Springfield based on availability. A 48 – 72 hour notification is required to schedule a trip. The cost is $1 each way for in-town transportation and $2 each way for out-of-town transportation.

Traffic Volume

Traffic volumes can be used to evaluate the current performance characteristics of existing roadways, identify the need for additional transportation facilities to reduce existing congestion, and as a gage of the effectiveness of new businesses that rely on pass by traffic (i.e. convenience stores, gas stations, and retail establishments). While traffic volumes are not always an indication of the level of congestion or safety along a given roadway, they do provide important information on the use of the road such as direction of travel and peak travel periods. Historic traffic data also provides valuable information on the level of growth experienced over time.

Average Annual Daily Traffic (AADT)

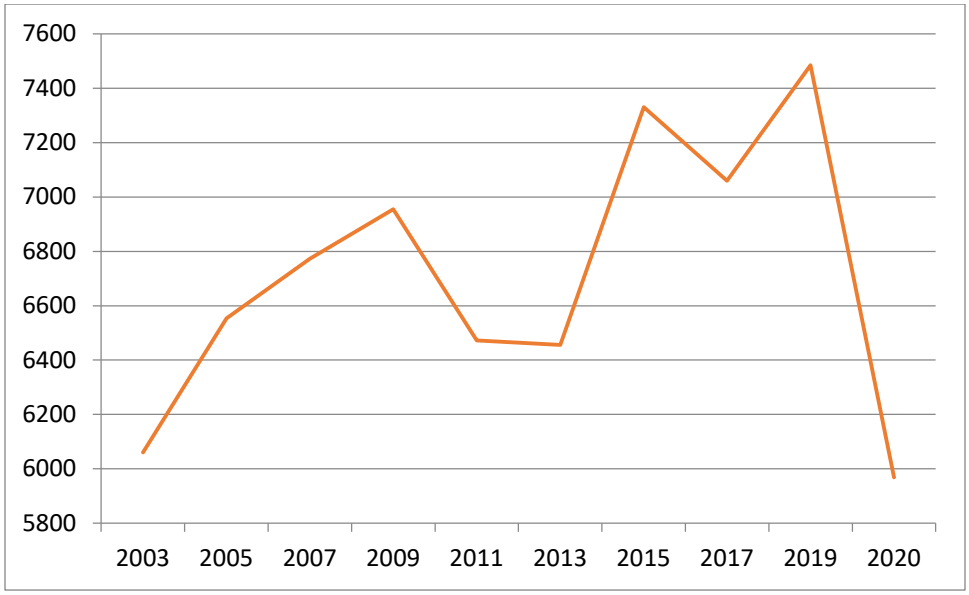
AADT is the calculated traffic volume that represents the average for a typical day of the year. A limited amount of historic data is available for the Town of East Longmeadow. Unfortunately, new traffic volume data was not collected as part of this Master Plan as a result of lower traffic volumes and different travel patterns experienced during the COVID 19 Pandemic. Table 2 shows the historic count data available for the Town. This data represents a 24-hour volume for both directions of travel on an average weekday. PVPC did perform traffic counts in 2020 at two locations as part of an ongoing program to monitor regional travel patterns during the pandemic and through the recovery period.

Figure 2 – Historic Average Daily Traffic Volumes

Location	2003	2004	2005	2007	2008	2009	2010	2011	2013	2015	2017	2019	2020
Chestnut St. between Prospect and Shaker							6,486						
Chestnut St. east of Benton Dr.							6,803						
Hampden Rd. west of Parker St.							5,356						
Maple St. east of Savoy St.										11,173			
Maple St. west of Westwood Ave.							13,552						
N. Main St. north of Mapleshade Ave.							17,127						
N. Main St. south of Brook St.	11,796												
N. Main St. west of Harkness St.													15,684
Porter Rd. east of Allen St.							9,340						
Porter Rd. west of Allen St.	6,061		6,553	6,772		6,955		6,472	6,456	7,330	7,059	7,484	5,969
Prospect St. at the CT State Line		2,424			2,461								
Shaker Rd. north of Chestnut St.	10,752						12,710						
Shaker Rd. at the CT State Line		9,889			9,464								
Somers Rd. at the CT State Line		3,236			3,283								
Somers Rd. south of Callender Ave.	7,303						8,194						

Traffic volume data is collected on a regular basis for MassDOT on Porter Road west of Allen Street. This information is used as part of the Federal Highway Performance Monitoring System (HPMS). HPMS data is the official Federal government source on the extent, condition, performance, use, and operating characteristics of the nation's highways. It is used to assess and report on highway system performance. Historic data on Porter Road west of Allen Street from 2003 – 2020 is shown in Figure 3. Traffic volumes increased by 23.5% from 2003 to 2019. In 2020 traffic volumes in this area were over 20% lower than 2019 volumes.

Figure 3 – Historic Traffic Growth on Porter Road west of Allen Street



Truck Volumes

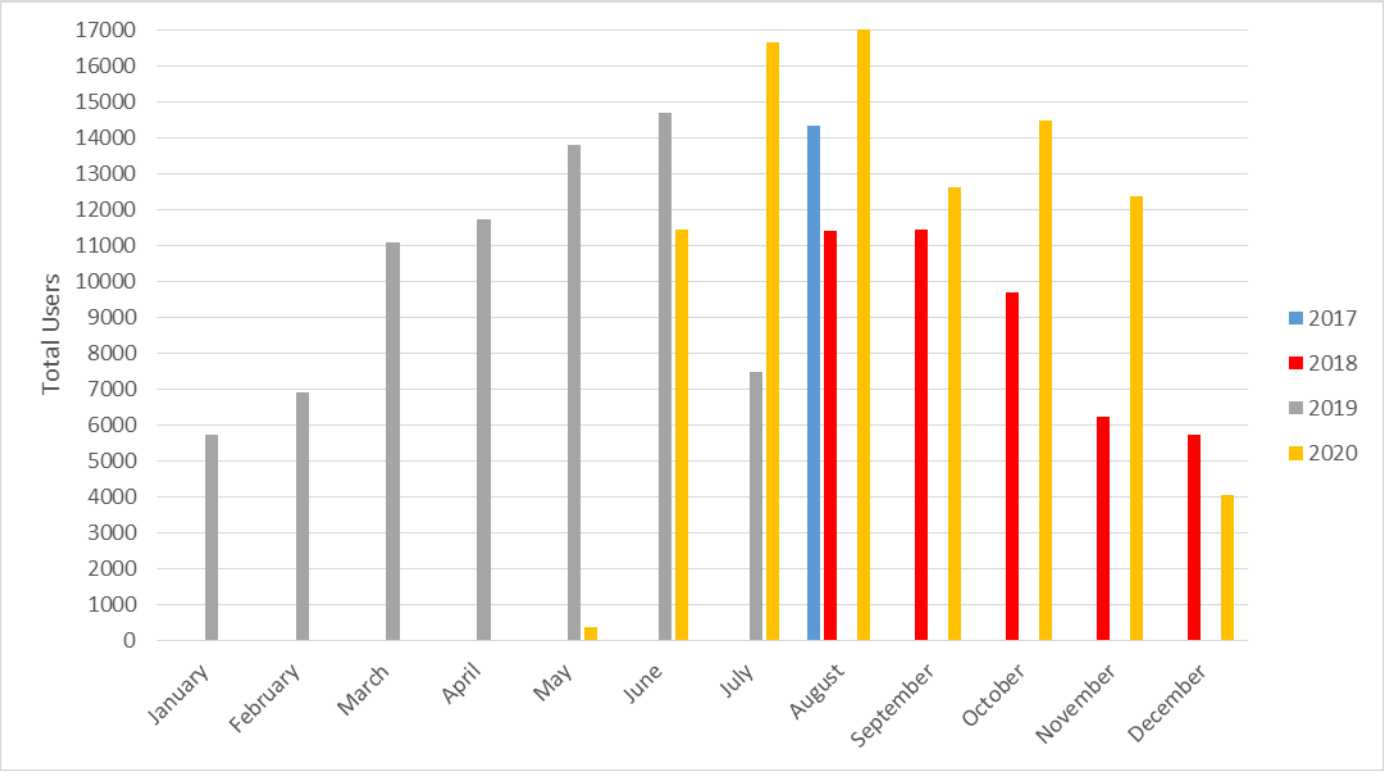
Trucks have much different operating characteristics than a traditional passenger vehicle, they require a wider turning radius and a longer distance to come to a complete stop. An assessment of the volume of truck traffic is useful for identifying the major corridor of freight travel as well as for future planning and design of roadways and intersections. Understanding the needs of the major freight generators can also help to reduce the desire for trucks to utilize residential areas to bypass freight bottlenecks and areas of congestion.

Vehicle classification data was reviewed for recent traffic counts on North Main Street and Porter Road. The 2020 traffic count on North Main Street west of Harkness Avenue revealed that less than 1% of all traffic was comprised of vehicles with three or more axles. This count was conducted over a 48 hour period in July of 2020. Truck volumes were also compared for the 2019 and 2020 counts performed on Porter Road west of Allen Street. Again, less than 1% of all traffic was comprised of vehicles with three or more axles. The percentage of truck traffic was observed to increase slightly from 2019 to 2020 on Porter Road although this is likely a result of the lower volumes of passenger vehicle traffic during the COVID-19 pandemic.

Redstone Rail Trail Volumes

PVPC reviewed historic usage data collected at a central location on the Redstone Rail Trail. Data is collected with a passive infra-red signal detector with a data logger to record time and date information. This device is not able to provide directional information or a breakdown of the type or trail user i.e. bicyclist, pedestrian, rollerblader, etc. A summary of the monthly usage information is shown in Figure 4. Monthly data totals show a pattern of regular use that increases during warmer weather months. Trail use is significantly higher in 2020 than similar months in 2018.

Figure 4 – Monthly Usage on the Redstone Rail Trail



Safety

PVPC utilized crash data downloaded from the Impact Crash Data Portal (https://apps.impact.dot.state.ma.us/cdv/) developed by MassDOT. PVPC used the most recent three years of final data available (2015-2017) to identify the number of crashes that occurred in East Longmeadow. This information is summarized in Figures 5 and 6.

Crash data was ranked using the Equivalent Property Damage Only (EPDO) system. All fatal and injury crashes are weighted the same in this system as 21 while a property damage only crash is weighted as 1. This scoring places an emphasis on developing countermeasures to reduce the number of fatal and serious injury crashes. The sum of the EPDO for all crashes contained in an area was utilized to rank the top five locations in East Longmeadow. The East Longmeadow Rotary had the highest EPDO score of 580 with a total of 180 crashes over the three year period. The intersections of Shaker Road with Chestnut Street and North Main Street with Mapleshade Avenue and Westwood Avenue both operate under traffic signal control. The intersection of Allen Street with Porter Road operates under multi-way Stop sign control that is supplemented by an overhead flashing red warning beacon. Only 8 total crashes were reported at the intersection of Shaker Road with Pease Road from 2015 – 2017. The calculated EPDO, however, was 108 indicating a large percentage of the crashes resulted in an injury.

Figure 7 summarized the historic number of crashes with the fatal and injury crashes in East Longmeadow from 2002 – 2019. It should be noted that crash data from 2018 and 2019 had not yet been finalized by MassDOT and could still change. The total number of crashes in town have decreased over time. Crashes have fluctuated between 375 and 400 crashes from 2012 – 2017. The total crashes in 2018 and 2019 appear to be even lower.

Fatal and injury crashes have an average total of nearly 71/year from 2002 – 2019. This ranges from a high of 106 in 2003 to a low of 44 in 2018. The rate of fatal and injury crashes has decreased over the last ten years with an average total of nearly 61/year.

Tables 3 and 4 summarize the crash data for the East Longmeadow Rotary from 2015 – 2017. Angle crashes are the predominant crash type in the vicinity of the rotary. Just over 11 percent of all crashes at the rotary resulted in an injury. The total number of crashes remained fairly consistent from 2015 to 2016 but increased in 2017. It will be important to monitor crash data in this area over time to determine if it continues to increase.

The intersections of Chestnut Street with Prospect Street and Mapleshade Avenue with Porter Road and Pleasant Street both were identified as areas of concern for safety during the Transportation Focus Group. Chestnut Street intersects with Porter Street to form a four way intersection. Three of the four approaches operate under Stop sign control. Eastbound traffic on Chestnut Street has the right of way. There is a steep grade on Chestnut Street that contributes to visibility issues at this intersection. An overhead flashing warning beacon and parabolic mirror are located at this intersection to assist drivers.

Safety concerns at the intersection of Mapleshade Avenue with Porter Road are due to the high travel speeds on Porter Road and difficulties pedestrians have when attempting to cross the street. An existing guardrail on the corner of this intersection often requires replacement after being struck by a vehicle.

Figure 5 – East Longmeadow Crash Data 2015 - 2017

Pioneer Valley SafetyCompass (2015-2017) — EAST LONGMEADOW

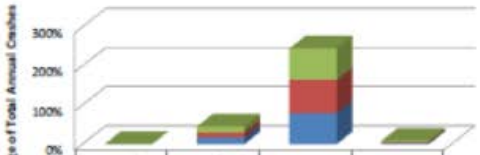
Zoom-in for best crash data point clarity

Map Not to Scale

Legend

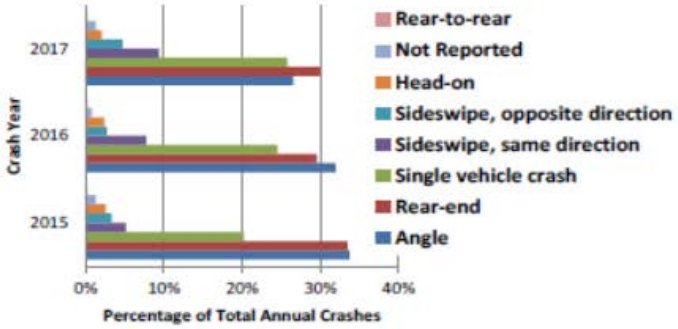
- Top Crash Intersections
- Fatal Crashes
- Non Motorist Crashes
- All Crashes (2015-2017)
- Open Water Bodies

Crash Severity



	Fatal injury	Non-fatal injury	Property damage only	Not Reported
2017	0.26%	15.36%	80.73%	3.65%
2016	0	13.07%	84.53%	2.40%
2015	0.26%	17.39%	79.54%	2.81%

Manner of Collision



ANNUAL CRASHES
2015 – 391
2016 – 375
2017 – 384

ANNUAL CRASHES PER 1000 POPULATION
(Census 2019) 23.67

TOTAL FATAL CRASHES - 2

TOTAL NON- MOTORIST CRASHES - 15

TOP CRASH INTERSECTIONS

1. Center Square Rotary: North Main Street(Route 83), Somers Road (Route 83), Shaker Road (Route 220), Prospect Street (Route 183), Elm Street, Maple Street, and Pleasant Street
(Crashes 180, EPDO* 580)

2. Allen Street and Porter Road
(Crashes 21, EPDO* 141)

3. Shaker Road (Route 220) and Chestnut Street
(Crashes 20, EPDO* 140)

4. Shaker Road (Route 220) and Pease Road
(Crashes 8, EPDO* 108)

5. North Main Street (Route 83), Mapleshade Avenue, and Westwood Avenue
(Crashes 29, EPDO* 89)

**EPDO – Equivalent Property Damage Only (Fatal and Injury Crashes = 21, Property Damage Crashes = 1)*

Figure 6 – Key Findings on East Longmeadow Crash Data

KEY FINDINGS

- A total of 15 non-motorist crashes were recorded in East Longmeadow between 2015 and 2017, one resulted in fatality of a pedestrian.
- The other fatal crash involved a speeding motor vehicle which collided with a tree.
- About one fourth of the total crashes occurred at three-way intersections in the Town.
- Almost seven percent of the total crashes involved collisions with parked motor vehicles.

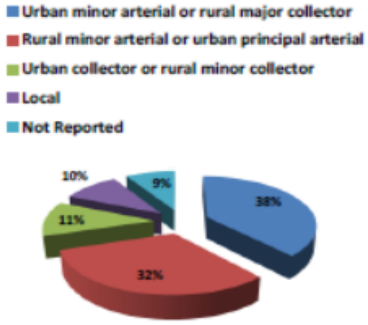
FIRST HARMFUL EVENT SUMMARY

Collision with motor vehicle in traffic	801
Collision with parked motor vehicle	70
Collision with animal	66
Collision with other utility pole or other support	59
Collision with utility pole	41
Collision with curb	34
Collision with tree	30
Collision with unknown fixed object	26
Collision with other	17
Collision with non-motorist	15
Collision with embankment	7
Collision with other movable object	7
Not Reported	6
Collision with guardrail	5
Overturn/rollover	3
Collision with ditch	2
Other non-collision	2

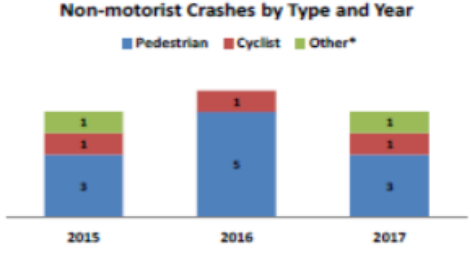
DRIVER CONTRIBUTION CODES FOR ALL DRIVERS

No improper driving	1303
Inattention or distracted	255
Failed to yield right of way	229
Not Reported	89
Followed too closely	83
Driving too fast for conditions or exceeded speed limit	81
Operating vehicle in erratic, careless, negligent or aggressive manner	49
Failure to keep in proper lane or running off road	41
Disregarded traffic signs, signals, road markings	25
Physical impairment, illness, emotional	24
Other improper action	23
Swerving or avoiding due to wind, slippery surface, vehicle, object, non-	23
Fatigued/asleep	17
Visibility obstructed	13
Made an improper turn	12
Over-correcting/over-steering	8
Glare	6
Operating defective equipment	3
Wrong side or wrong way	3

Roadway Classification



Non-motorist Crashes by Type and Year



*skater, wheelchair, unicycle, tricycle, pedal cycle etc.

Location of Crashes

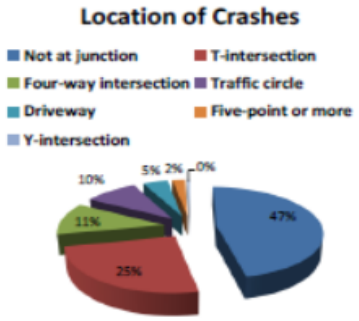


Figure 7 Total Crashes

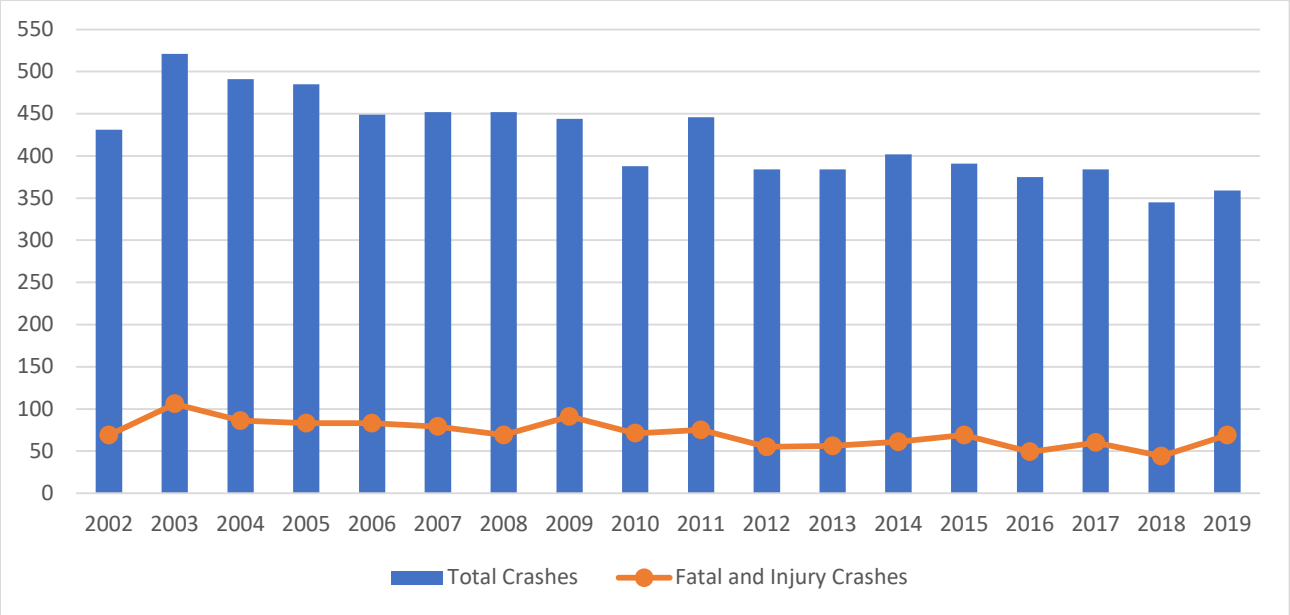


Figure 8 – Total Crashes by Year and Type at the East Longmeadow Rotary

Crash Type	2015	2016	2017	Grand Total
Angle	34	33	35	102
Head-on	1	1		2
Rear-end	14	6	8	28
Sideswipe, opposite direction		1	3	4
Sideswipe, same direction	6	12	13	31
Single vehicle crash	2	1	8	11
Unknown		1	1	2
Grand Total	57	55	68	180

Figure 9 – Crash Severity at the East Longmeadow Rotary

Crash Severity	2015	2016	2017	Grand Total
Non-fatal injury	6	6	8	20
Property damage only	51	49	60	160
Grand Total	57	55	68	180

Congestion

Understanding where and why traffic congestion is happening is an important step toward reducing it. The Pioneer Valley Congestion Management Process (CMP) works toward identifying the major traffic congested locations within the Pioneer Valley Region. This information is essential in advancing future transportation improvements that will reduce traffic congestion and improve the overall safety and efficiency of our transportation network.

PVPC ranks congestion based on the Level of Travel Time Reliability (LOTTR) for a roadway. LOTTR is based on the amount of time it takes to drive the length of a roadway segment. A roadway segment is defined as "reliable" or "unreliable" if the calculated LOTTR falls below a certain threshold (currently 1.5). The following roadway segments currently rank as "unreliable" based on 2019 travel time data for the PM peak hour:

- Shaker Road (Route 220) in the vicinity of the East Longmeadow Rotary
- Maple Street in the vicinity of the East Longmeadow Rotary

The regional CMP also identifies Congestion Bottlenecks. A Congestion Bottleneck is defined by the Federal Highway Administration (FHWA) as a localized constriction of traffic flow that experiences reduced speeds and inherent delays due to recurring operational influence or a nonrecurring impacting event. The PVPC has identified the East Longmeadow Rotary as one of the top Congestion Bottlenecks based on 2019 travel time data for the PM peak hour.

Porter Road, particularly when traveling northwest (towards the Town of Wilbraham) was identified during the public participation process as a location that can experience significant congestion. The intersections of Porter Road with Parker Street and Porter Road with Allen Street were also identified as locations of congestion that may require further study.

ISSUES AND OPPORTUNITIES

Transportation Resiliency

FHWA defines resiliency as the ability to anticipate, prepare for, and adapt to changing conditions and withstand, respond to, and recover rapidly from disruptions.[1] This consists of the identification of transportation features that need to be protected from manmade and natural disasters. PVPC identified safety, pavement condition, bridges, culverts, evacuation routes and signalized intersections as the biggest threats for transportation resiliency in the Town of East Longmeadow.

Vision Zero

The goal of Vision Zero is to eliminate all traffic fatalities and severe injuries. Vision Zero also promotes safe, healthy and equitable transportation options. In the Commonwealth of Massachusetts the cities of Boston, Cambridge and Somerville are Vision Zero communities. As shown in Figure 7, the town has averaged 61 fatal and injury crashes over the last ten years. Development of Vision Zero Goals and Strategies appropriate for the Town of East Longmeadow

[1] https://ops.fhwa.dot.gov/publications/fhwahop15025/index.htm

could assist in greater reductions in traffic fatalities and injuries. For more information, please visit: https://visionzeronetwork.org/

Bridges and Culverts

MassDOT maintains the majority of bridges in Massachusetts, including the 3 structures located in East Longmeadow. Massachusetts General Laws (MGL) recognize structures having a span greater than 10 feet as bridges. Federal regulations define a bridge as a structure having a span greater than 20 feet. According to the MassDOT municipal data dashboard East Longmeadow has two bridges that are rated to be in "good" condition and one bridge rated to be in "fair" condition. While a bridge rated as fair is not considered to be in danger of failing, natural or other types of disasters could accelerate the rate of deterioration resulting in failure.

- North Main Street over the Pecousic Brook – Good Condition
- Somers Road between Michel Street and Hampden Road – Good Condition
- Meadowbrook Road over the Watchaug Brook – Fair Condition

Severe weather events can have negative impacts on structures such as culverts and bridges. In 2011, Tropical Storm Irene caused more than $25 million of roadway damage in the Pioneer Valley region, including many culvert wash outs. Culverts are usually built to carry a road, rail line or path over a small body of water. The PVPC mapped the location of all regional culverts as part of the update to the 2020 Regional Transportation Plan (RTP). The top 5% of culverts deemed most ecologically vulnerable or sensitive to extreme weather and heavy rain were prioritized in the RTP. A total of 45 culverts were identified in East Longmeadow as part of the RTP Update. No culverts in East Longmeadow were included as part of this vulnerability ranking. The East Longmeadow DPW identified three areas of potential concern for resiliency as part of the Transportation Focus Group:

- Pioneer Circle area - seasonal drainage issues.
- Porter Road Culvert – Project bid came in higher than expected and requires additional funding to advance to construction.
- Heritage Park Pond – requires redesign of the outfall.

Local Pavement Management

A Pavement Management System (PMS) is a systematic process that collects and analyzes roadway pavement information for use in selecting cost-effective strategies for providing and maintaining pavements in a serviceable condition. The principles of pavement management prioritize improvements to roadways in poor condition in combination with lower cost maintenance strategies for roadways in good condition. The Town of East Longmeadow hired a private consultant to assess all town roadways in 2017. PVPC reviews the condition of all federal aid eligible roadways in the region on a four year cycle. Pavement conditions in the Town of East Longmeadow were last reviewed in 2018. PVPC uses the Cartegraph software to assess the condition of paved roadways. This software calculates the Overall Condition Index (OCI) which measures the serviceability of a road on a scale from 0 – 100. OCI is summarized in Figure 10.

Map 3 – Vulnerable Transportation Infrastructure

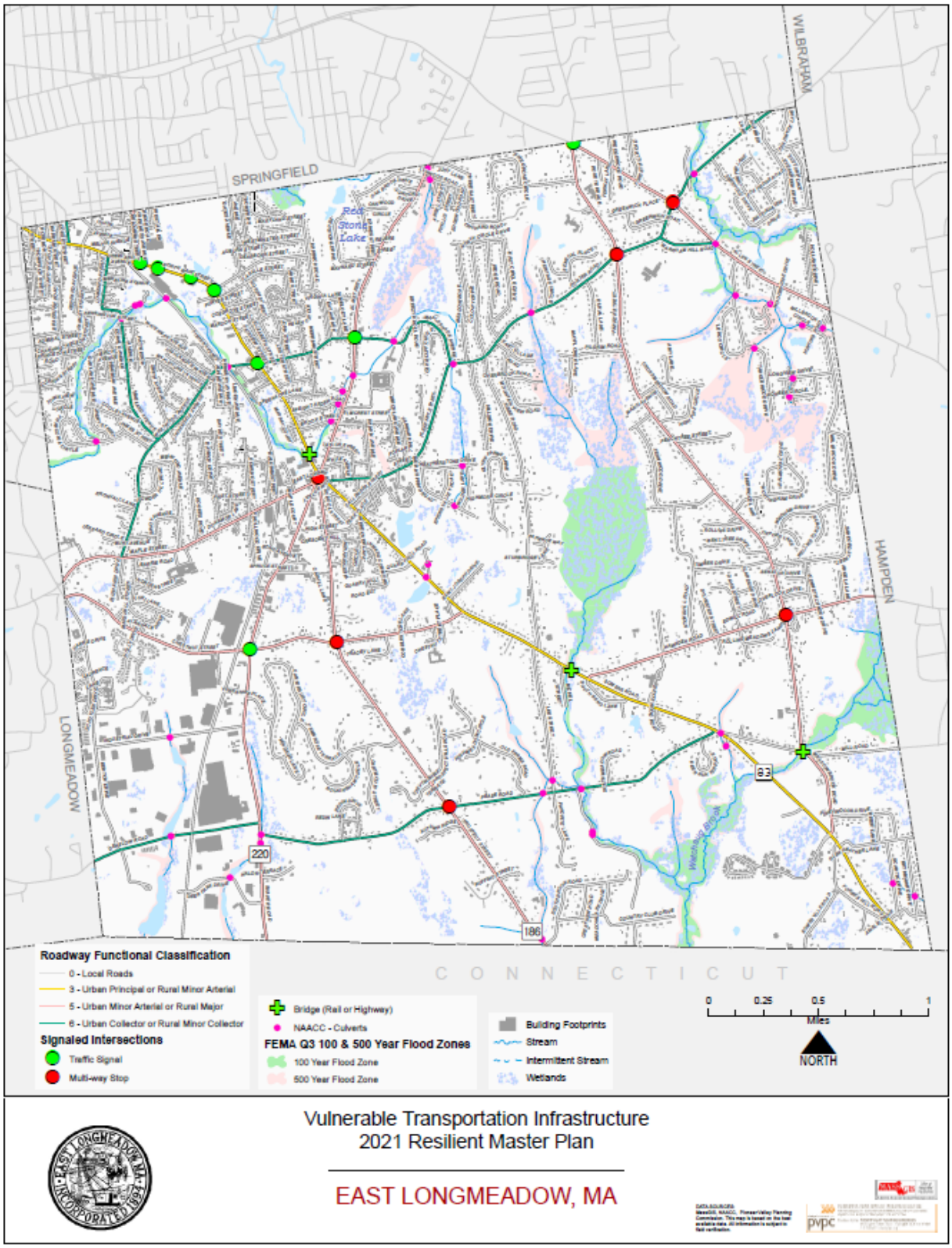


Figure 10 – Overall Condition Index (OCI)

OCI Value	Condition	Strategy
Greater than 89	Excellent	No improvements are warranted.
68 - 88	Good	May require preventive maintenance treatments such as crack sealing.
25 - 68	Fair	Requires more substantial improvements such as resurfacing to improve the roadway.
Below 25	Failure	Complete reconstruction of the roadway.

The average OCI for federal aid eligible roadways in East Longmeadow was 83 in 2018 indicating that most federal aid eligible roadways were estimated to be in good condition at this time. All total, nine roadway segments were found to be in Fair condition. These segments are shown in Figure 11. The lowest rated segment was on Shaker Road between Maple Street and Chestnut Street. No segments were reported to be in Poor condition at the time of the 2018 assessment.

Figure 11 – Federal Aid Eligible Roadway Segments with an OCI Under 68

Roadway	From	To	OCI*	Survey Date
Parker Street	Hampden Road	House #513	65	8/28/2018
Somers Road	Connecticut State Line	Meadowbrook Road	65	8/28/2018
Parker Street	Meadowbrook Road	Hampden Road	61	8/28/2018
Denslow Road	Shaker Road	Longmeadow Town Line	57	8/28/2018
Prospect Street	Chestnut Street	Connecticut State Line	57	6/28/2019
Shaker Road	Chestnut Street	Connecticut State Line	56	6/28/2019
Vineland Avenue	Westwood Avenue	Kensington Avenue	54	8/29/2018
Kensington Avenue	Lombard Avenue	Vineland Avenue	50	8/29/2018
Shaker Road	Maple Street	Chestnut Street	29	6/28/2019

* OCI = Overall Condition Index

Local Evacuation Routes

The Western Massachusetts Regional Evacuation Plan was completed in 2013 to provide emergency responders on the local, state, and federal levels with the resources necessary for conducting a regional evacuation in as efficient and effective a manner as possible. The plan provides maps and lists of evacuation routes, population centers, infrastructure, and other critical assets. Route 83 (North Main Street/Somers Road) is identified as the primary evacuation route for East Longmeadow. Other tertiary evacuation routes in town include Allen Street, Elm Street/Shaker Road and Maple Street. Tertiary routes are used to channel traffic towards secondary and primary evacuation routes that typically provide the most capacity and most direct route out of the region.

Traffic Control

There are several intersections that currently operate under a higher level of traffic control. All total there are eight intersections that operate under traffic signal control and six intersections that

operate under multi-way Stop sign control. Many of these multi-way Stop controlled intersections also have supplemental flashing warning beacons.

Figure 12 – Signalized and Multi-way Stop Controlled Intersections

Signalized Intersections	Multi-way Stop Sign Controlled Intersections
Allen Street at Parker Street	The East Longmeadow Rotary
Chestnut Street at Shaker Road	Chestnut Street at Prospect Street
Elm Street at Mapleshade Avenue	Parker Street at Hampden Road
North Main Street at Harkness Avenue	Porter Road at Allen Street
North Main Street at the Big Y	Porter Road at Parker Street
North Main Street at Stop & Shop	Prospect Street at Pease Road
North Main Street at Dearborn Street	
North Main Street at Mapleshade Avenue and Westwood Avenue	

Planned Transportation Improvements
This section outlines all planned or recommended transportation improvement projects in the Town of East Longmeadow. PVPC identified this information based on a review of previous studies and through discussions with the Department of Public Works.

Proposed Roadway Improvements
The Transportation Improvement Program for the Pioneer Valley (TIP) is a five-year schedule of priority highway, bridge, transit, and multimodal projects. The Town of East Longmeadow does not currently have any projects included as part of the current TIP or to be considered for funding as part of a future TIP. For more information on the Regional TIP Process please visit: http://www.pvpc.org/projects/transportation-improvement-program

The Town received a grant from MassDOT in 2019 for $240,000 to make improvements to the Porter Road Culvert. Unfortunately bids received for this project exceeded this total. The East Longmeadow DPW is currently working to identify additional funding for this project. The DPW has developed a list of paving projects for 2021 as well as candidates for paving in 2022 and 2023. This information is shown in Figure 13.

Figure 13 – Potential East Longmeadow Paving Projects

2021 Paving Projects	2022/2023 Candidate Paving Projects
Denslow Road	Shaker Road (State Line to Chestnut)
Shaker Road (from Pease to Denslow)	North Main Street (Rotary to Harkness)
Maple Street	Marci Avenue
Dearborn Street	High Pine Circle
Gates Avenue (portion north of Dearborn)	Melwood Avenue
Westminster Street	Marshall Street
Somerset Street	
Shawmut Street	
Hedgerow Lane	
Maryland Street	
Auburn Street	
Thompkins Avenue	
Quarry Hill	
Woodbridge Drive	
Winding Brook Lane	
Sturbridge Lane	
Chatham Circle	
Patience Way	

Sidewalk Plan

The East Longmeadow Sidewalk Plan identifies a number of proposed new sidewalks as well as locations for the maintenance of existing sidewalks. Sidewalk improvements are funded via the Town General Fund. Recommended sidewalk improvements are shown in red on Map 2.

Complete Streets Prioritization Plan

East Longmeadow completed a Complete Street Prioritization Plan in March, 2020. This plan is a requirement of the Massachusetts Complete Street Program. As part of this program, a community can apply for up to $400,000 in funding to implement projects included as part of an approved Prioritization Plan. The plan identifies a number of pedestrian improvements, bicycle improvements, safety improvements and transit improvements. It also includes a methodology to evaluate, score and rank each project included in the Plan. All total, 55 projects have been included in the Plan.

Figure 14 – Top 20 Projects from the East Longmeadow Complete Streets Prioritization Plan

Rank	Project Description
1	Maple Street corridor Phase I with new striping, bicycle lanes and signage, etc. from the Redstone Trailway to the entrance of the East Longmeadow High School
2	Maple Street corridor Phase II with new striping, bicycle lanes and signage, etc. from entrance of the East Longmeadow High School to the East Longmeadow town line
3	Street Lighting Mountain View Elementary School
4	Chestnut Street Corridor Phase I with new striping, bike lanes, sharrows* and signage, etc. from Shaker Road to Holly Drive
5	Parker Street Corridor with new striping, sharrows* and signage, etc. from Hampden Road to Porter Road
6	Street Lighting Birchland Middle School
7	Sidewalk Improvements Somers Road Phase I
8	Street Lighting Meadow Brook Elementary School
9	Denslow Road corridor with new striping, bicycle lanes and signage, etc. from East Longmeadow / Longmeadow town line to Shaker Road
10	Repaint Crosswalks – Various Locations
11	Wayfinding / Signage Improvements at the East Longmeadow Rotary
12	Shared Lane Markings Chestnut Street Phase II from Holly Drive to Benton Drive;
13	Rectangular Rapid Flashing Beacon/ RRFB and crosswalk enhancements at Maple Street
14	Replace Flashing Beacon - Porter Road at Allen Street
15	North Main Street corridor with new striping, new bicycle lanes and signage from Westwood Avenue to Center Square
16	Sidewalk Improvements Somers Road Phase II
17	Intersection Improvements - Hanward Hill and Birchland Avenue
18	Intersection Improvements at Park Place and Somers Road
19	Rectangular Rapid Flashing Beacon/ RRFB and crosswalk enhancements at Industrial Drive
20	Industrial Drive corridor with new striping, new bicycle lanes and signage from Shaker Road to Benton Drive

* Sharrows are pavement markings consisting of two inverted "V" shapes above a bicycle symbol indicating the recommended area where a bicyclist should ride and to alert drivers of the need to share the road with bicyclists.