

# 1. Transportation and Circulation

## Introduction

The Transportation Chapter identifies and describes the existing transportation system in the Town of Hingham and how it connects with the regional transportation network. This chapter also identifies transportation-related issues, opportunities, and challenges raised by Town officials and residents that will be addressed in the recommendations of the Master Plan. This chapter begins with an introduction and background, followed by an inventory of the existing transportation conditions organized as follows:

- Travel Characteristics
- Public Transportation
- Rideshare
- Roadways
- Traffic Volumes
- Roadway Safety
- Pedestrian and Bicycle Accommodations
- Parking
- Maintenance of Infrastructure

The local transportation system should provide safe and efficient mobility for all transportation modes and connections to regional facilities. The availability and quality of the transportation system are important to residents, businesses, students, visitors, and emergency services. The maintenance and enhancement of the transportation system can be used to attract development and expand the tax base. In addition, the transportation system has impacts on resources, community character, and the quality of life.

## Travel Characteristics

### DEMOGRAPHICS

**Table 1** summarizes total population estimates based on data from the U.S. Census Bureau for the years 2010 and 2017 at local, county, and state levels.

<b>Table 1: Demographic Data</b>							
	<b>Total estimated population</b>						
	<b>2000</b>	<b>2010</b>	<b>2017</b>	<b>Net change 2000-2017</b>		<b>Net change 2010-2017</b>	
				<b>Total</b>	<b>Yearly</b>	<b>Total</b>	<b>Yearly</b>
Hingham, Massachusetts	19,882	21,731	23,047	15.9%	0.9%	6.1%	0.9%
Plymouth County, Massachusetts	472,822	490,784	509,114	7.7%	0.5%	3.7%	0.5%
Massachusetts Statewide	6,349,097	6,477,096	6,789,319	6.9%	0.4%	4.8%	0.7%

Source: U.S. Census American Community Five Year Estimates 2013-2017

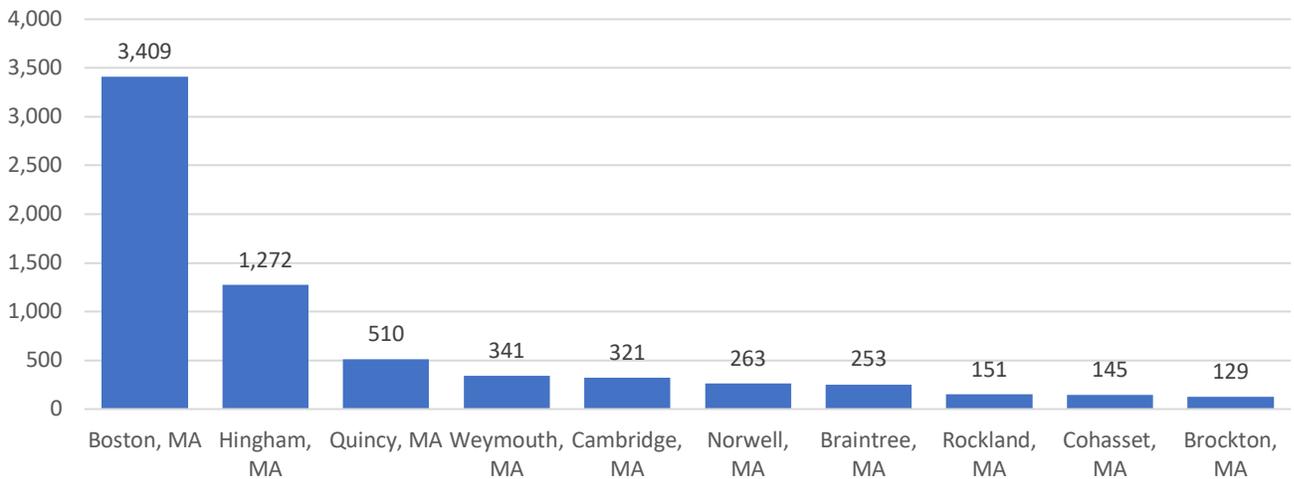
The Town of Hingham’s population reached an estimated 23,047 persons in 2017, an increase of +6.1% since 2010 (21,731 estimated population). Plymouth County has experienced a lower increase, +3.7% from 2010 to 2017, and Massachusetts has experienced an increase of +4.8% in the same time frame.

### JOURNEY-TO-WORK DATA

**Figure 1** shows the most popular work destinations for Hingham residents based on U.S. Census OnTheMap data from 2017. As shown in the figure, 1,272 Hingham residents (approximately 12% of workers) work in Hingham. Due to Hingham’s proximity to Boston, 3,409 residents (33% of workers) are employed in Boston. Many Hingham residents also work within nearby communities such as Quincy (510) and Weymouth (341).

**Figure 1: Workplace Locations of Hingham Residents**

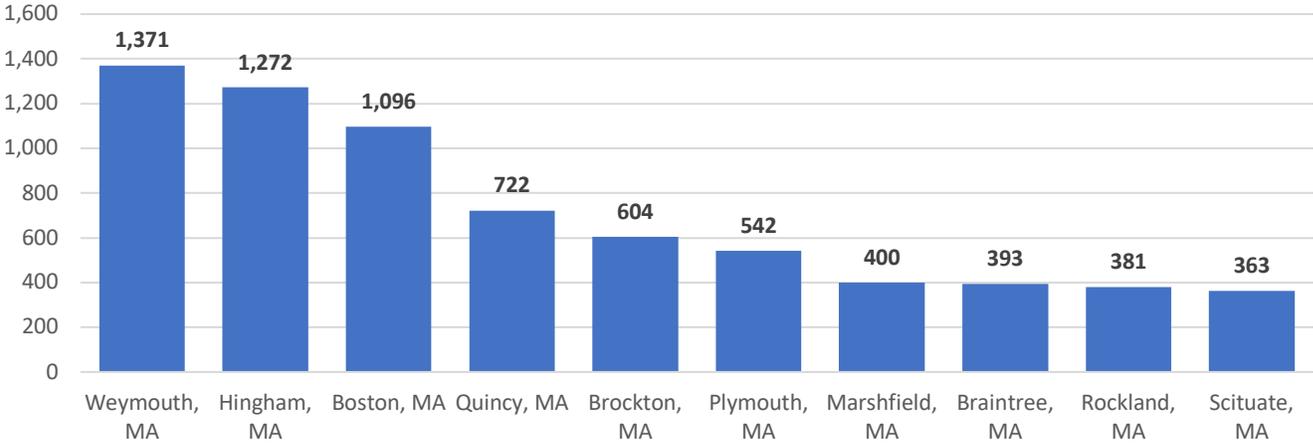
Source: U.S. Census Bureau, OnTheMap, 2017



**Figure 2** shows the major residence locations for people working in Hingham based on U.S. Census OnTheMap data from 2017. Approximately 1,272 of the 15,477 people who work in Hingham also live in Hingham (8.2%). Statewide, approximately 26% of residents work in their town of residence. A total of 1,371 Weymouth residents (5%) work in Hingham. Approximately 1,100 Boston residents reverse commute to Hingham. Residents of Hull and Cohasset who work in Boston cut through Hingham to travel to work. In 2017, 1,422 Hull residents and 1,178 Cohasset residents worked in Boston.

**Figure 2: Residence Locations of People Working in Hingham**

Source: U.S. Census Bureau, OnTheMap, 2019

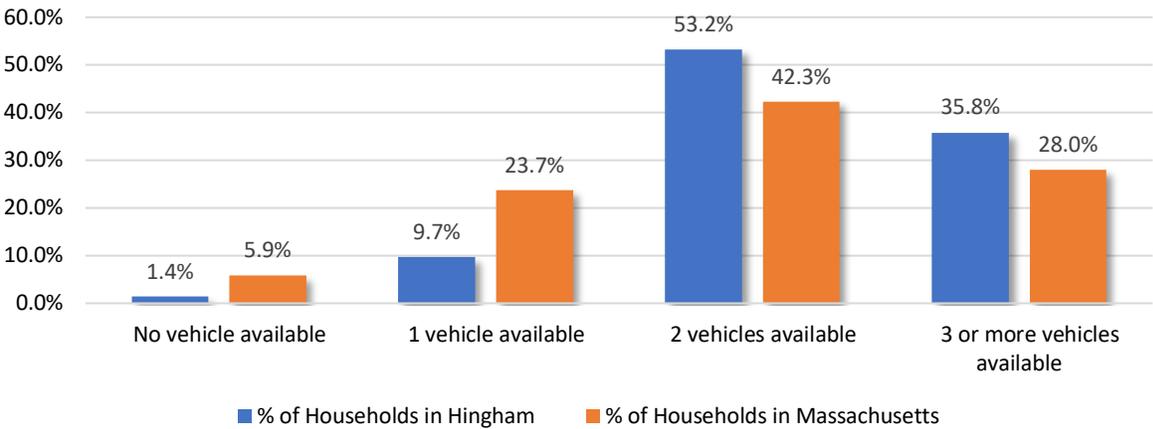


**VEHICLES AVAILABLE**

**Figure 3** shows the number of vehicles available per household for both the Town of Hingham and the State of Massachusetts based on the U.S. Census American Community Survey. As shown, 10% of households in Hingham have one vehicle. The percentage of households in Hingham with two or more vehicles is 89%, which is greater than the percentage of households in the state with two or more vehicles (70%). According to the survey, 36% of households in Hingham have 3 or more vehicles, while 28% of households in the state have 3 or more vehicles. There are approximately 75 electric cars in Hingham.

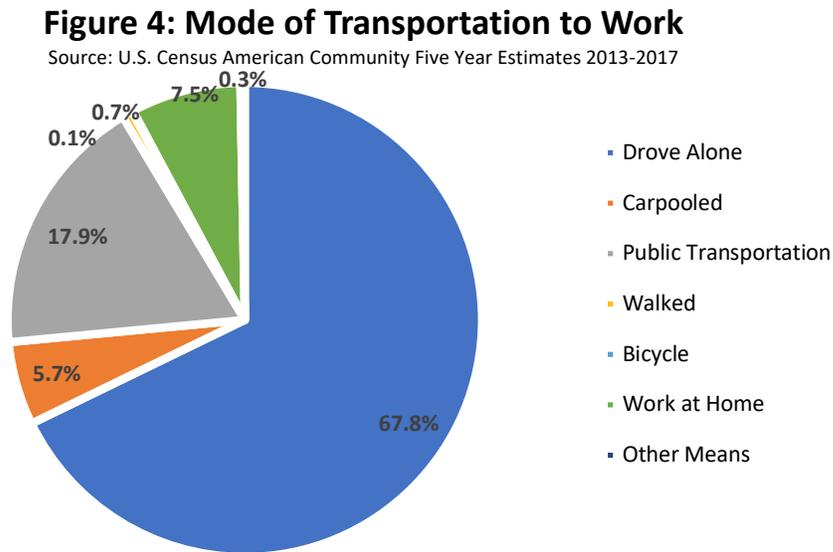
**Figure 3: Vehicles Available per Household**

Source: U.S. Census American Community Five Year Estimates 2013-2017

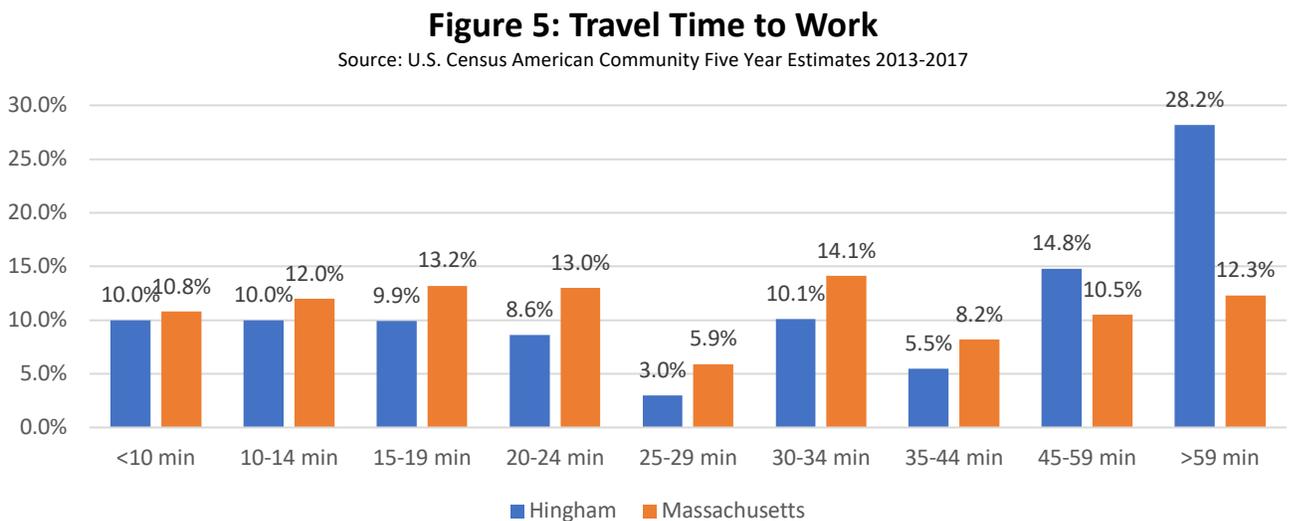


MODE SHARE AND COMMUTE TIME

**Figure 4** shows the modes of transportation to work of Hingham residents. As shown, 67.8% of residents drive alone, 17.9% use public transportation, and 5.7% carpool. Just 0.8% walk or bike to work, and 7.5% work from home. The percentage (17.9%) of Hingham residents commuting to work via public transit is higher than the statewide average of 10.2% and the Plymouth County average of 5.7% due to the ferry terminal and two commuter rail stations located in Hingham.



**Figure 5** shows the reported travel times to work for Hingham residents. Approximately 42% of Hingham residents have an average commute of less than 30 minutes, 30% have a commute of 30-60 minutes, and 28% have a commute of an hour or more. The mean travel time to work for Hingham residents is 36.9 minutes, which is longer than the Plymouth county average of 33.0 minutes and the Massachusetts average of 29.3 minutes.



## Public Transportation

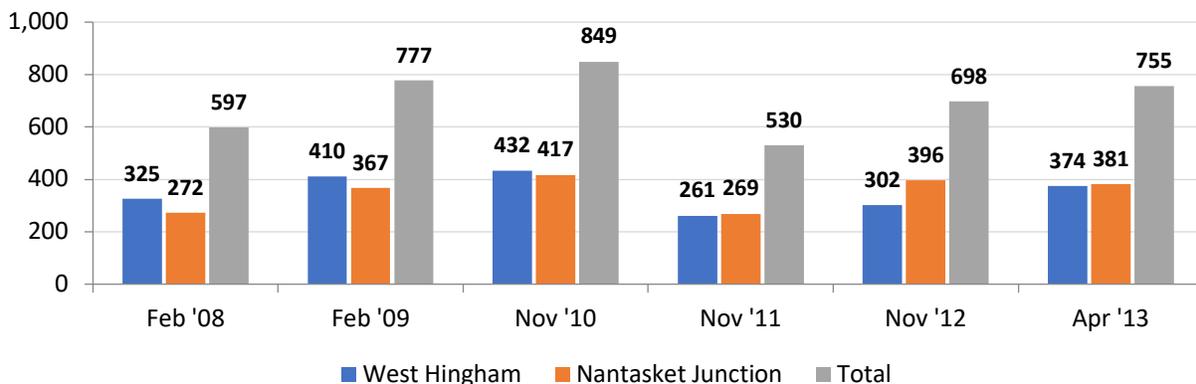
Hingham is fortunate to have two MBTA commuter rail stops, an MBTA commuter ferry terminal, and MBTA bus service within its limits. **Figure 6** shows the locations of public transportation infrastructure in Hingham (*note: see map at end of this draft*).

### Commuter Rail

Hingham has two MBTA commuter rail stations, West Hingham Station located on Fort Hill Street, and Nantasket Junction located on Summer Street. Both stations are on the Greenbush line, which runs from Scituate to Boston. **Figure 7** shows the average daily inbound boardings at each station reported by the MBTA from the years of 2008 to 2013. The 2019 daily fare for West Hingham, in MBTA commuter rail Zone 3 is \$8.00 one-way to or from Boston and \$261.00 for a monthly pass. The daily fare for Nantasket Junction, in MBTA commuter rail Zone 4 is \$8.75 one-way to or from Boston and \$281.00 for a monthly pass. The surface parking lot at West Hingham Station has a total of 231 parking spaces, including 7 accessible spaces. The surface parking lot at Nantasket Junction has a total of 490 spaces, including 9 accessible spaces. Both commuter rail parking lots nearly reach capacity on weekdays.

**Figure 7: Hingham MBTA Ridership, Typical Weekday Inbound Boardings 2008-2013**

Source: MBTA Ridership and Service Statistics, Fourteenth Edition 2014

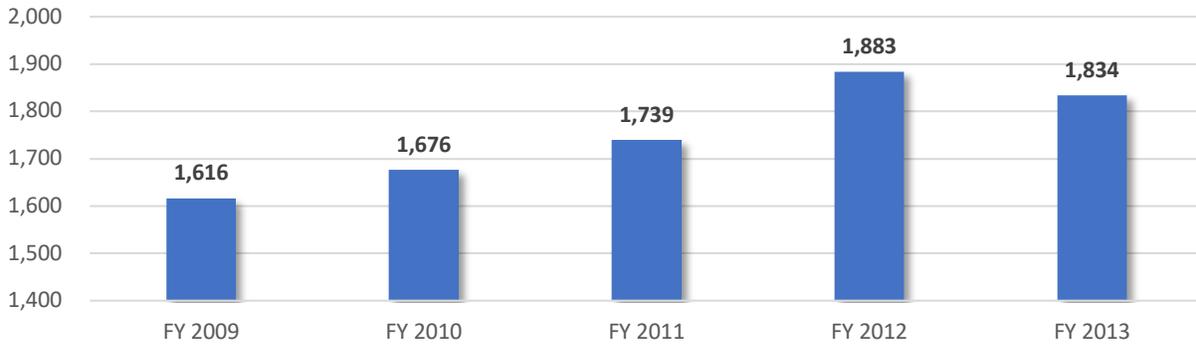


### Ferry

The MBTA operates a commuter ferry service from Hingham Shipyard. One ferry route runs directly between the Shipyard and Rowe's Wharf in Boston. Another route runs between the Shipyard and Long Wharf in Boston, with stops at Pemberton Point in Hull and Logan Airport in Boston. It also makes seasonal stops at George's Island in Boston Harbor from Memorial Day weekend through Columbus Day weekend. The 2019 daily fare is \$9.75 one-way to and from the Hingham Shipyard and \$329.00 for a monthly pass. **Figures 8 and 9** show the average daily ridership from 2009 to 2013 on a yearly and monthly basis for the Hingham to Rowe's Wharf ferry. Ridership is generally slightly higher in the summer as compared with the rest of the year. Ridership rose steadily from 2009 to 2012 and decreased from 2012 to 2013. The surface parking lot at the Shipyard has a total of 1,726 spaces, including 29 accessible spaces.

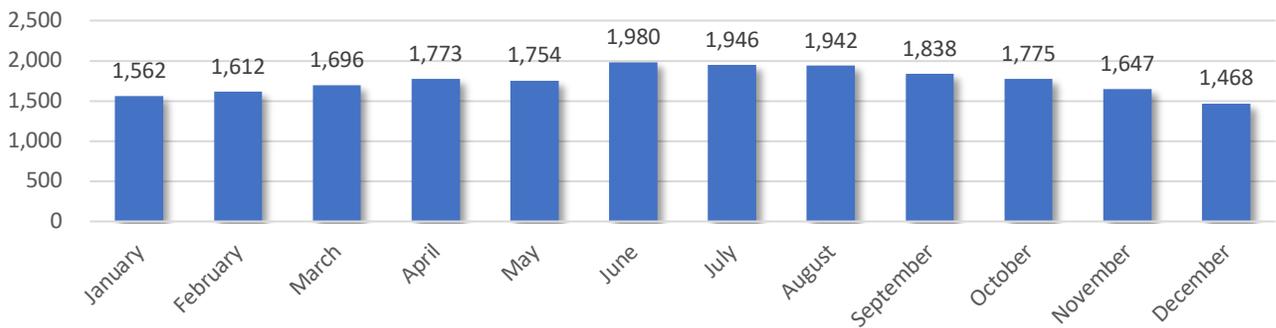
**Figure 8: Hingham-Boston Commuter Ferry  
Average Daily Ridership per year 2009-2013  
Hingham Shipyard - Rowes Wharf**

Source: MBTA Ridership and Service Statistics, Fourteenth Edition 2014



**Figure 9: Hingham-Boston Commuter Ferry  
Average Daily Ridership per month 2009-2013  
Hingham Shipyard - Rowes Wharf**

Source: MBTA Ridership and Service Statistics, Fourteenth Edition 2014



Source: MBTA Ridership and Service Statistics, Fourteenth Edition 2014

**Bus**

Hingham is serviced by two MBTA bus routes. Route 220 provides service between Hingham Depot and Quincy Center, with stops in downtown Hingham and along Lincoln Street. It stops near Hingham Shipyard, but does not go into it. According to the most recently available data released by MBTA, Route 220 experienced 868 weekday daily inbound boardings and 851 weekday daily outbound boardings in 2014. Route 222 provides service from western Hingham to Quincy Center, stopping in Weymouth. Route 714 provides service between Hingham Depot and Pemberton Point in Hull. Passengers are able to board or exit the bus at any safe point along the fixed route. The service is operated by Joseph's Transportation under contract to the MBTA. In 2014, approximately 120 passengers per day used Route 714.

**Shuttle Service**

The Town of Hingham operates a shuttle service for seniors. This includes service to and from medical appointments as well as on-call service for other errands. It also includes transportation to and from programs and lunch at the Senior Center. The shuttle service operates Monday through Friday. This service currently experiences capacity challenges and is unable to meet all needs of the senior population. Hingham Elder Services is currently performing a transportation needs analysis as part of their “Age-Friendly Communities” initiative.

**Rideshare**

Transportation network companies (TNCs) such as Uber and Lyft continue to grow in popularity, especially in communities in close proximity to Boston. In 2017, 46,795 TNC trips originated in Hingham. In 2018, that number grew to 71,492, a 53% increase in trips.

**Table 2** shows the most popular destinations of TNC trips originating in Hingham in 2018 and **Table 3** shows the most popular origins of rideshare trips ending in Hingham in 2018.

**Table 2: Destinations of Rideshare Trips Originating in Hingham in 2018**

Destination	Number of Trips	Percent of Total Trips
Hingham	19,949	27.90%
Boston	14,749	20.63%
Weymouth	10,043	14.05%
Quincy	6,347	8.88%
Hull	3,494	4.89%
Braintree	3,221	4.51%

*Source: Rideshare in Massachusetts (2018 Data Report)*

**Table 3: Origins of Rideshare Trips Ending in Hingham in 2018**

Destination	Number of Trips	Percent of Total Trips
Boston	25,114	28.39%
Hingham	19,949	22.55%
Weymouth	11,722	13.25%
Quincy	9,417	10.65%
Braintree	4,331	4.90%
Hull	2,840	3.21%

*Source: Rideshare in Massachusetts (2018 Data Report)*

**Table 2** shows that the most popular destinations for trips originating in Hingham were other locations in Hingham. **Table 3** shows that the most popular origin for trips ending in Hingham was Boston.

## Roadways

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Roadway classifications can be broken down into a hierarchy which ranges from interstates, providing high levels of mobility and low levels of access, to local roadways, providing low levels of mobility and high levels of access. **Figure 10** illustrates the roadway classification system in Hingham (see map at end of this draft) and **Table 4** shows the total length of each classification of roadway in Hingham.

Roadway Class	Centerline Miles	Lane Miles
<b>Interstate</b>	0.00	0.00
<b>Arterial</b>	28.60	71.43
<b>Collector</b>	21.73	43.17
<b>Local</b>	81.52	147.49
<b>Total</b>	131.86	262.10

*Source: MassDOT Road Inventory 2018*

### Arterials

Arterial roadways provide the second highest level of mobility and are not primarily intended to provide access to abutting properties. Hingham contains approximately 29 centerline miles and 71 lane miles of arterials making up 22% of its transportation network. Route and Route 3A are major arterials, while Summer Street, Lincoln Street, North Street east of Lincoln Street, South Street, Main Street, Water Street, Central Street, High Street, Derby Street, Whiting Street (Route 53), and Route 228 are minor arterials.

- **Route 3** (also known as Pilgrims Highway) is a north-south divided limited-access highway extending from the Cape Cod canal in Bourne to Interstate 93 in Braintree. It passes through the southwest corner of Hingham and can be accessed via the Derby Street interchange.
- **Route 3A** (also known as Lincoln Street, Broad Cove Road, Summer Street, and Chief Justice Cushing Highway) is a major east-west route through northern Hingham. It provides access to Hingham Shipyard, Whitney Wharf Park, Hingham Harbor Marina, Nantasket Junction station via Summer Street, and neighboring communities of Weymouth, Cohasset, and Hull.

### Collector Roads

Collector roads move traffic from local streets to arterials. They provide moderate amounts of mobility and access to adjacent properties. Hingham contains approximately 22 centerline miles and 43 lane miles of collector roadways, making up 16% of its roadway network. In Hingham, major collector roadways include Downer Avenue, Otis Street, Summer Street, Middle Street, Pleasant Street, Union Street, Thaxter Street, North Street west of Lincoln Street, and Beal Street.

### Local Roadways

Local roadways provide the highest level of access to adjacent properties with the lowest level of mobility. Approximately 62% of all roadways in Hingham fall under this classification. It is typical for communities such as Hingham to have most local roadways under town jurisdiction.

**Scenic Roadways**

The following streets in Hingham have been designated as Scenic Roads under the Scenic Roads Act:

- Free Street
- Lazell Street
- Leavitt Street
- Popes Lane
- Union Street
- Turkey Hill Lane
- South Pleasant Street
- Martins Lane

In accordance with Massachusetts General Law Chapter 40, Section 15C, the designation of these roadways as scenic prevents the removal of trees or other historic features to preserve their character.

**TRAFFIC VOLUMES**

Traffic congestion is one of the main concerns of Hingham residents. **Table 5** shows average daily traffic volumes on Hingham roadways from 2012-2019.

<b>Table 5: Classification of Roadways in Hingham</b>								
Location	2012	2013	2014	2015	2016	2017	2018	2019
Route 3 south of Derby Street	90,993	90,738	92,478	96,218	96,644	96,013	94,947	
Route 3A west of North Street				21,220			24,771	
Route 3A east of Kilby Street					14,613			
South Street west of Main Street		5,536			5,036			5,354
Lincoln Street north of Burditt Avenue	5,797			5,140			5,737	
Hull Street north of Canterbury Street		3,771			4,906			4,808
High Street west of Stanford Drive		6,610			8,006			7,803
Route 53 east of Weymouth Town Line		12,053		13,277	13,400	12,371		12,717
Derby Street at Weymouth Town Line			18,528			19,121		
Route 228 west of Route 53								32,684

Source: MassDOT Transportation Data Management System

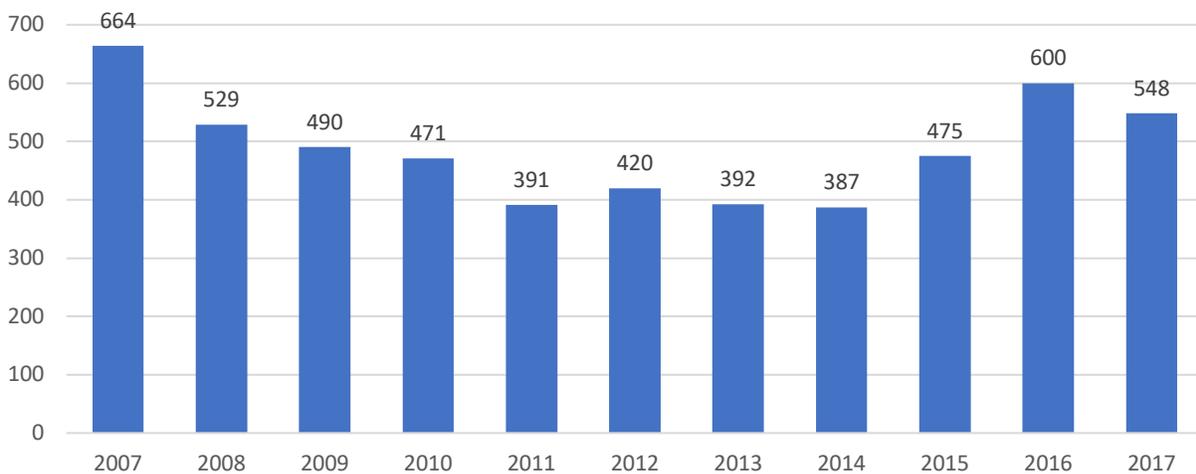
The data show that traffic volumes are heaviest on Route 3, Route 3A, Route 228, Route 53, and Derby Street. Traffic volumes on Route 3A west of North Street grew from an average daily traffic volume (ADT) of 21,220 in 2015 to 24,771 in 2018, indicating a compound annual growth rate of approximately 5% per year. Traffic volumes on Route 53 east of the Weymouth Town Line grew from an ADT of 12,053 in 2013 to 12,717 in 2019, indicating a compound annual growth rate of approximately 1% per year. Traffic volumes on Derby Street at the Weymouth Town Line grew from an ADT of 18,528 in 2014 to 19,121 in 2017, indicating a compound annual growth rate of approximately 1% per year. **Figure 11** shows average daily traffic volumes

### ROADWAY SAFETY

Crash data available from MassDOT indicate that 1,623 crashes, or an average of approximately 541 crashes per year, have occurred in Hingham from the years of 2015 to 2017. As shown in **Figure 12**, the total number of crashes each year has fluctuated since 2007, with a low of 387 in 2014 and a high of 664 in 2007. From 2016 to 2017, the total number of crashes decreased from 600 to 548. Of the 1,623 crashes from 2015 to 2017, 17 crashes involved pedestrians and 11 crashes involved bicyclists. During that same time frame, 296 crashes resulted in non-fatal injuries, and 4 crashes resulted in fatalities. One fatal crash occurred on Route 3A east of Beal Street, one occurred at the intersection of Route 3A and Kilby Street, one occurred on George Washington Boulevard, and the other occurred on Route 3.

**Figure 12: Total Reported Motor Vehicle Incidents**

Source: MassDOT Interactive Mapping Portal for Analysis and Crash Testing



MassDOT maintains a database of top crash locations in the state. This database includes locations identified under the Highway Safety Improvement Program (HSIP) in addition to a list of the top 200 crash locations in the state. The intersection of Kilby Street and Chief Justice Highway (Route 3A) was identified as an HSIP cluster for the years of 2014 to 2016, making it eligible for a Road Safety Audit.

For the years of 2013-2015, the following intersections in Hingham were identified as HSIP clusters:

- Route 53 (Whiting Street) at Derby Street
- Derby Street at Keith Way
- Route 3 at Derby Street on/ off-ramps
- Route 3 at Route 228 off-ramp

A Road Safety Audit (RSA) was performed for the segment of Derby Street between the Route 3 northbound and southbound ramps in December 2013. Many concerns were noted, including insufficient sight distance, inadequate traffic control, guide sign placement, pedestrian accommodations, and capacity deficiencies for left turn lanes. Potential short-term, mid-term, and long-term safety enhancements were identified to address these concerns. Suggested enhancements include reconfiguring lane geometry, clearing vegetation, improving warning and guide signs, installing ADA compliant wheelchair ramps, and constructing a full clover interchange. **Table 6** shows the total number of crashes at intersections experiencing high numbers of crashes for the three most recent years

available through the MassDOT Crash database (2015-2017). **Figure 13** shows these high crash locations (see map at end of this draft).

<b>Table 6: High Crash Locations 2015-2017</b>				
<b>Intersection</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>Total</b>
Derby Street at Gardner Street	14	20	13	47
Route 3A at HMS Essington Drive	7	14	17	38
Summer Street Rotary	11	10	14	35
Route 3A at Kilby Street	9	12	8	29
<i>Source: MassDOT Interactive Mapping Portal for Analysis and Crash Testing</i>				

**PLANNED PROJECTS**

The following transportation-related projects are currently planned in Hingham:

- **Route 3A Road Diet:** Hingham performed a temporary pilot of a road diet on Route 3A in the Summer of 2018. The roadway was reduced from four lanes to two lanes, with four lanes remaining at signalized intersections. The Town is interested in making this lane configuration permanent.
- **Route 53 Resurfacing:** Hingham currently has one project on MassDOT’s Transportation Improvement Program (TIP) for Fiscal Years 2019-2023, resurfacing and related work on Route 53. The project also includes sections of Route 53 in Weymouth and Braintree.
- **Derby Street Corridor Project:** The Route 3 ramps at Derby Street will be signalized to increase capacity and reduce delays at the intersections. Multi-modal accommodations will be provided along Derby Street.

**Pedestrian and Bicycle Accommodations**

A comprehensive sidewalk network is provided in downtown Hingham, with sidewalks extending along some streets outside of the downtown area. There are approximately 60 miles of sidewalks in Hingham. Residents have expressed concerns regarding the lack of sidewalks on residential streets, which necessitates driving short distances to destinations that could be accessed by walking if adequate pedestrian facilities were provided. Martins Lane, which leads to World’s End, a popular hiking and biking destination, lacks a sidewalk which prevents people from accessing it without a vehicle. There are currently no dedicated bicycle lanes in Hingham. “Sharrow” markings are present in shoulders along Central Street, but the shoulders are less than 4 feet wide, which is too narrow to safely and comfortably accommodate bicycles. **Figure 14** shows the sidewalks in Hingham (see map at end of this draft).

Several off-road trails exist for both biking and walking within the following recreational areas:

- World’s End
- Weir River Woods and Estuary Park
- Wompatuck State Park
- More-Brewer Park

- Brewer Reservation
- Bare Cove Park

In 2018 and 2019 the Metropolitan Area Planning Council (MAPC) has led bicycle rides from Boston to Hingham and Hull via the ferry.

### SAFE ROUTES TO SCHOOL

The Massachusetts Safe Routes to School Program aims to increase the safety of walking and bicycling infrastructure along travel paths to schools. East Elementary School, South Elementary School, and William L Foster Elementary School participate in the program and are therefore eligible for infrastructure improvement funding from the state.

### Parking

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On-street parking is provided in downtown Hingham, with a mix of 2-hour parking, 15-minute parking, and unrestricted parking. There are surface parking lots at each of the commuter rail stations as well as at the ferry terminal:

- West Hingham Station Parking Lot: 231 spaces, 7 accessible
- Nantasket Junction Station Parking Lot: 490 spaces, 9 accessible
- Hingham Ferry Terminal Parking Lot: 1726 spaces, 29 accessible

A parking utilization study of Merchant's Lot, located between South Street, Main Street, Elm Street, and Central Street, was conducted in November and December 2017.<sup>1</sup> The main findings from the report were as follows:

- Merchant's Lot provides 143 total parking spaces, including 2 handicapped-accessible spaces.
- 96% of parking spaces were occupied during the peak time period on a weekday.
- 79% of parking spaces were occupied during the peak time period on a Saturday.
- 27% of parking spaces were occupied during the peak time period on a Sunday.

A parking utilization Study of the Station Street parking lot was conducted in July 2017.<sup>2</sup> The main findings from the report were as follows:

- Station Street Lot provides 193 total parking spaces, including 4 handicapped-accessible spaces.
- 42% of parking spaces were occupied during the peak time period on a weekday.
- 51% of parking spaces were occupied during the peak time period on a Saturday.
- 30% of parking spaces were occupied during the peak time period on a Sunday.

A public parking lot is provided at Town Hall on Central Street. The parking lot often reaches capacity because it serves multiple uses including town offices, the police station, the regional dispatch center, and the senior center. There are currently six electric vehicle charging stations in Hingham.

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<sup>1</sup> Vanasse & Associates, Inc., Merchant's Parking Lot Parking Demand Observations, February 9, 2018.

<sup>2</sup> Vanasse & Associates, Inc., Station Street Parking Lot Parking Demand Observations, August 15, 2017.

## Maintenance of Infrastructure

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### PAVEMENT MANAGEMENT PROGRAM

The Town of Hingham implements a pavement management program to monitor the conditions of roadways and prioritize their repair. The GIS-based program collects and evaluates data about the condition of roadways in order to determine a Pavement Condition Index (PCI) and schedule of maintenance. The PCI is a numerical index between 0 and 100 which is used to indicate the general condition of pavement for a community's roadways. The higher the PCI score, the better overall pavement condition. **Figure 15** shows the PCIs for roadways in Hingham (see map at end of this draft).

### BRIDGES

According to the most recently available data in MassDOT's database, 14 bridges are located in Hingham. Of the 14 bridges, 1 is listed as structurally deficient (Route 228 over Weir River) and 6 are in unknown condition.

## Issues and Opportunities

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The following transportation-related issues and opportunities were identified:

- The percentage of households in Hingham with two or more vehicles is 89%, which is greater than the percentage of households in the state with two or more vehicles (70%).
- The mean travel time to work for Hingham residents is 36.9 minutes, which is longer than the Plymouth county average of 33.0 minutes and the Massachusetts average of 29.3 minutes.
- The parking lots at the commuter rail stations and Town Hall are near capacity on a regular basis.
- Route 3A, Route 228, Route 53, and Derby Street experience high traffic volumes.
- The intersection of Kilby Street and Chief Justice Highway (Route 3A) was identified as an HSIP cluster for the years of 2014 to 2016.
- Residents have expressed concerns regarding the lack of sidewalks on residential streets and connections to destinations in town.
- There are currently no dedicated bicycle lanes in the town.
- There is an opportunity to implement a town-wide shuttle between commuter rail stations and the ferry terminal to improve MBTA service.



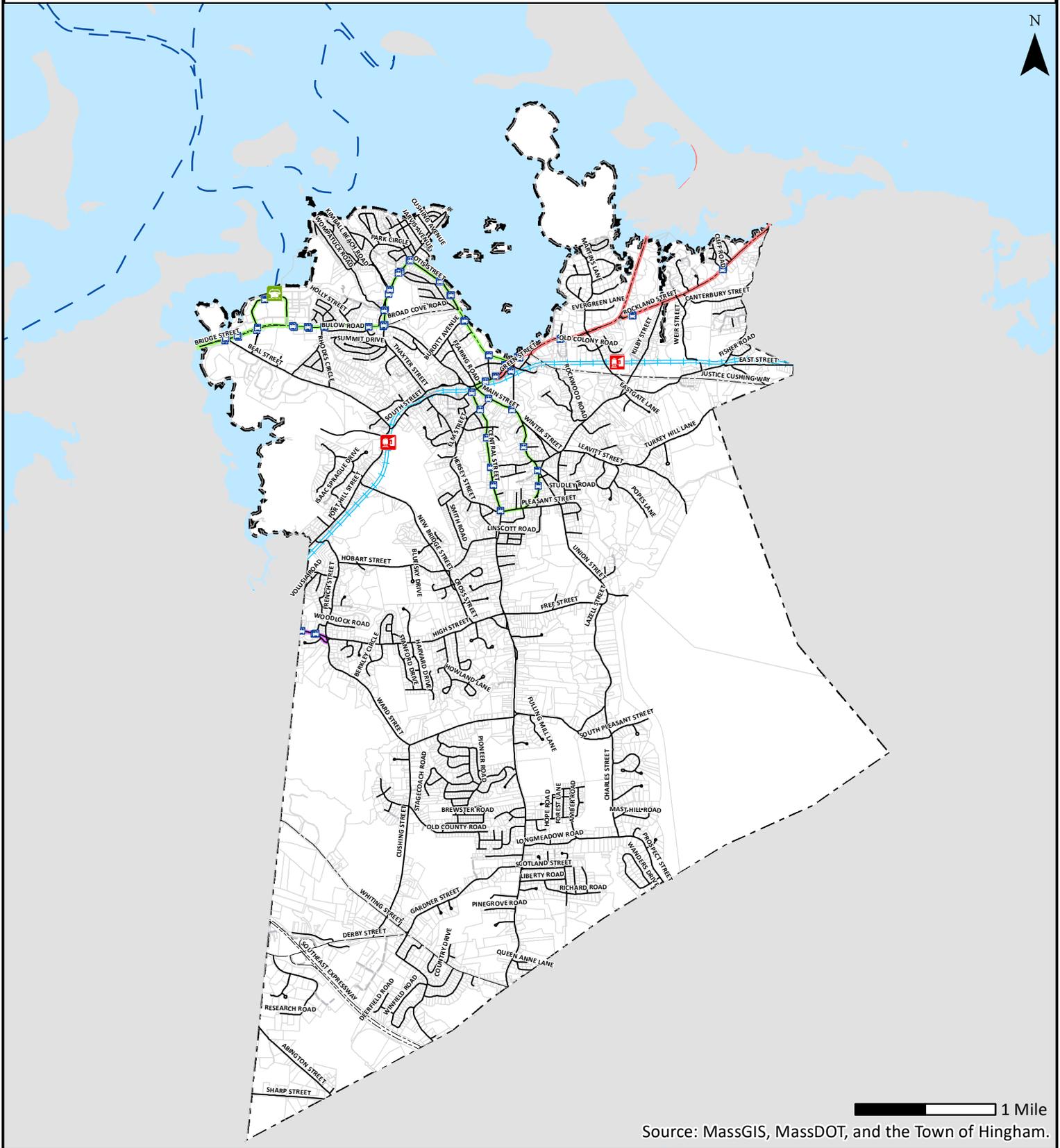
Figure 6: Transportation System

KEY

- Train Station
- Ferry
- Bus Stop
- Railroad
- Ferry Route
- Bus - 220
- Bus - 222
- Bus - 714



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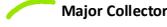




# Figure 10. Roadway Functional Classification

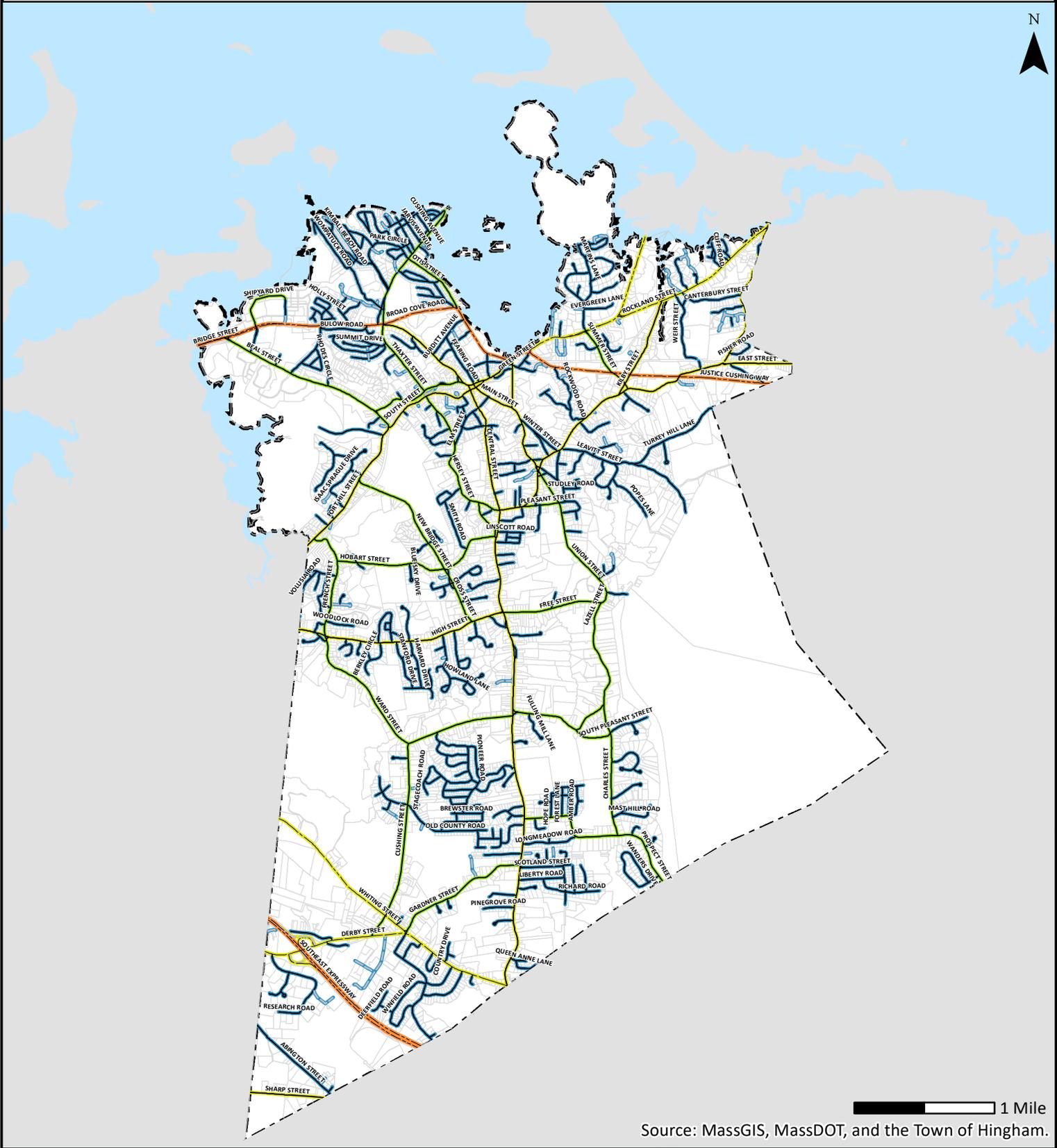
## KEY

### Roadway Functional Classification

-  Interstate
-  Principal Arterial
-  Minor Arterial
-  Major Collector
-  Local



Date Issued: March 20, 2020





# HINGHAM MASTER PLAN

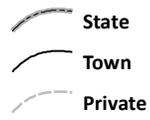
## Average Daily Traffic

### KEY

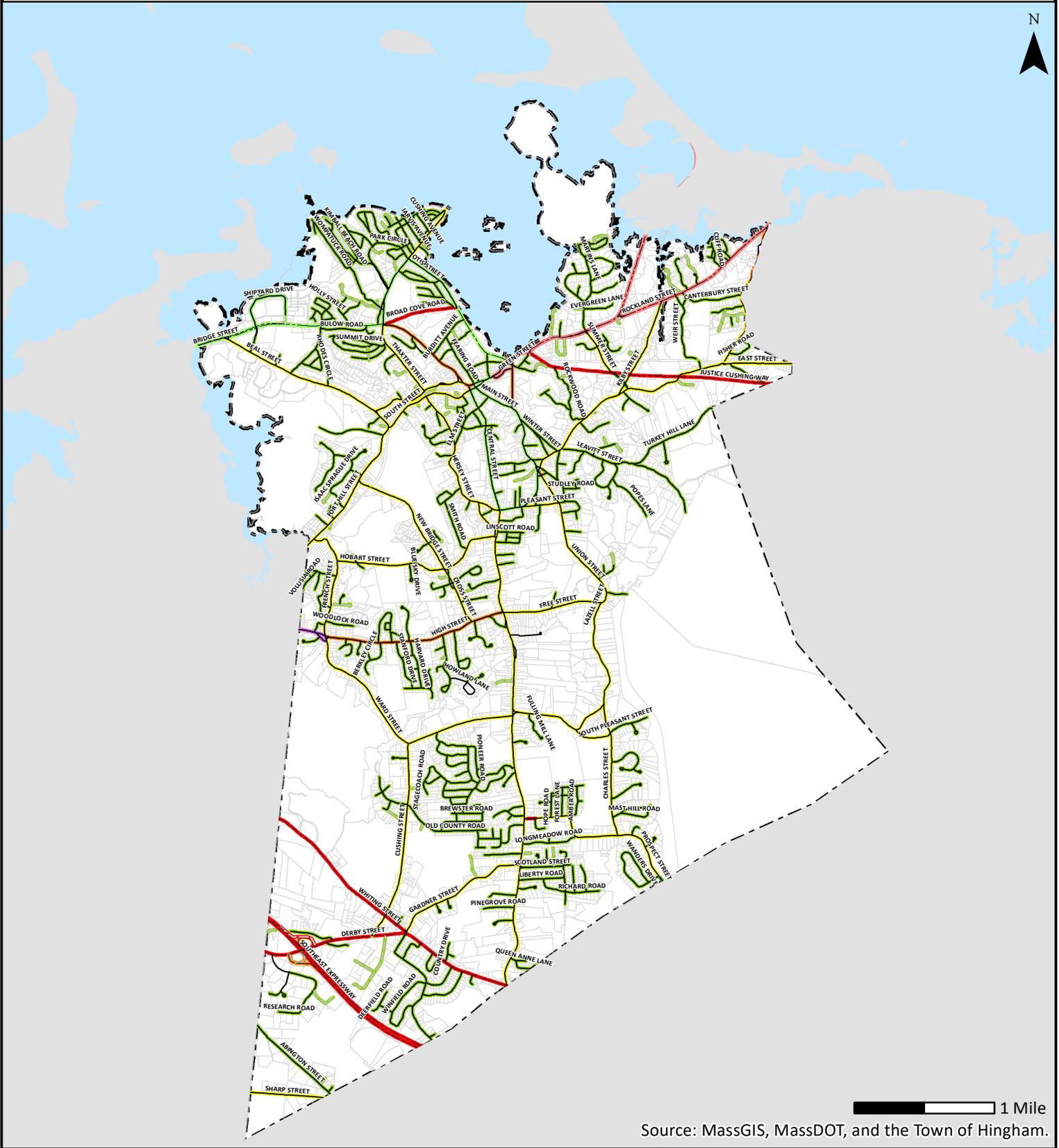
#### Average Daily Traffic



#### Jurisdiction



Date Issued: March 20, 2020





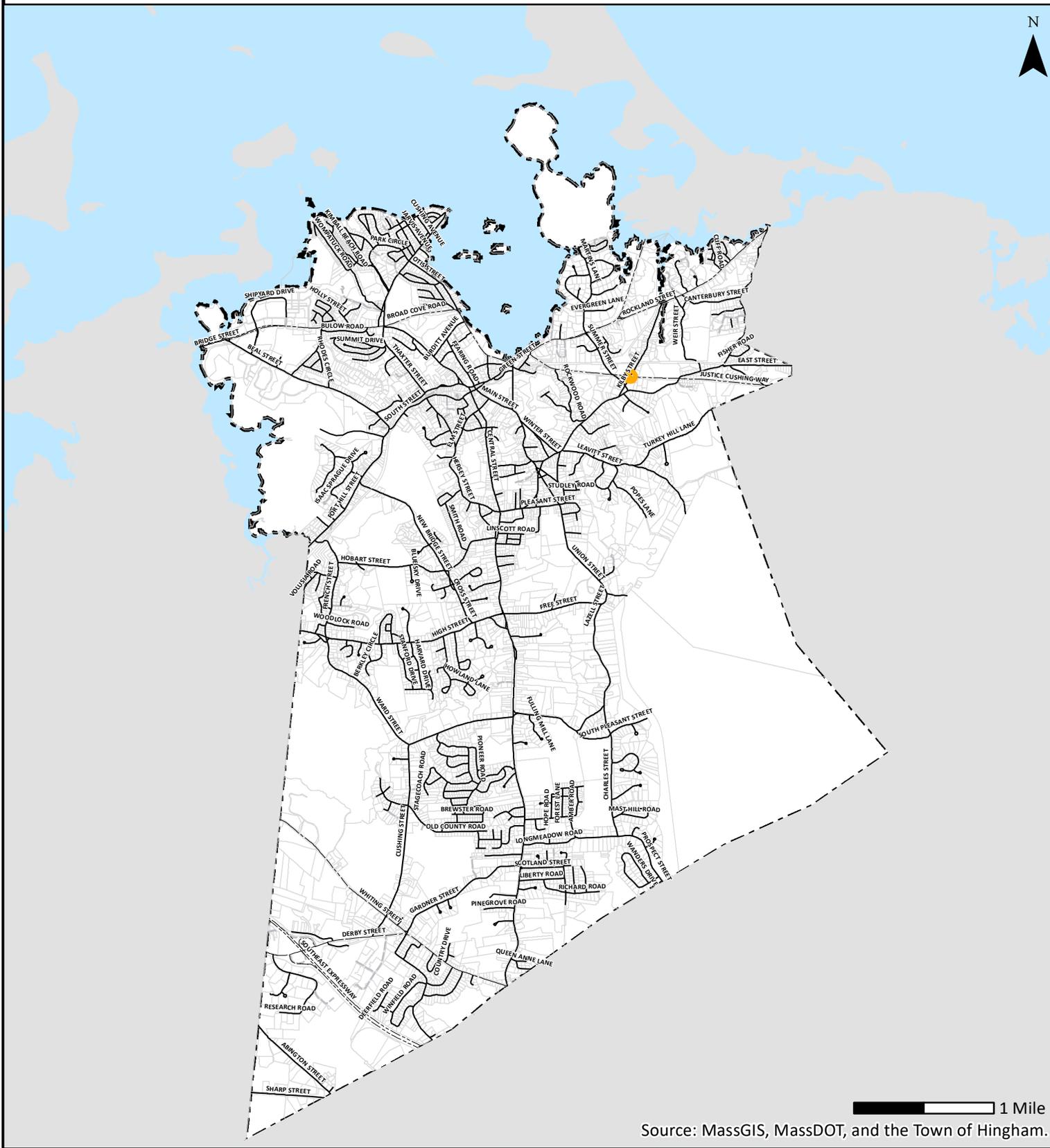
# High Crash Locations

KEY

 High-Crash Location - HSIP Cluster (1)



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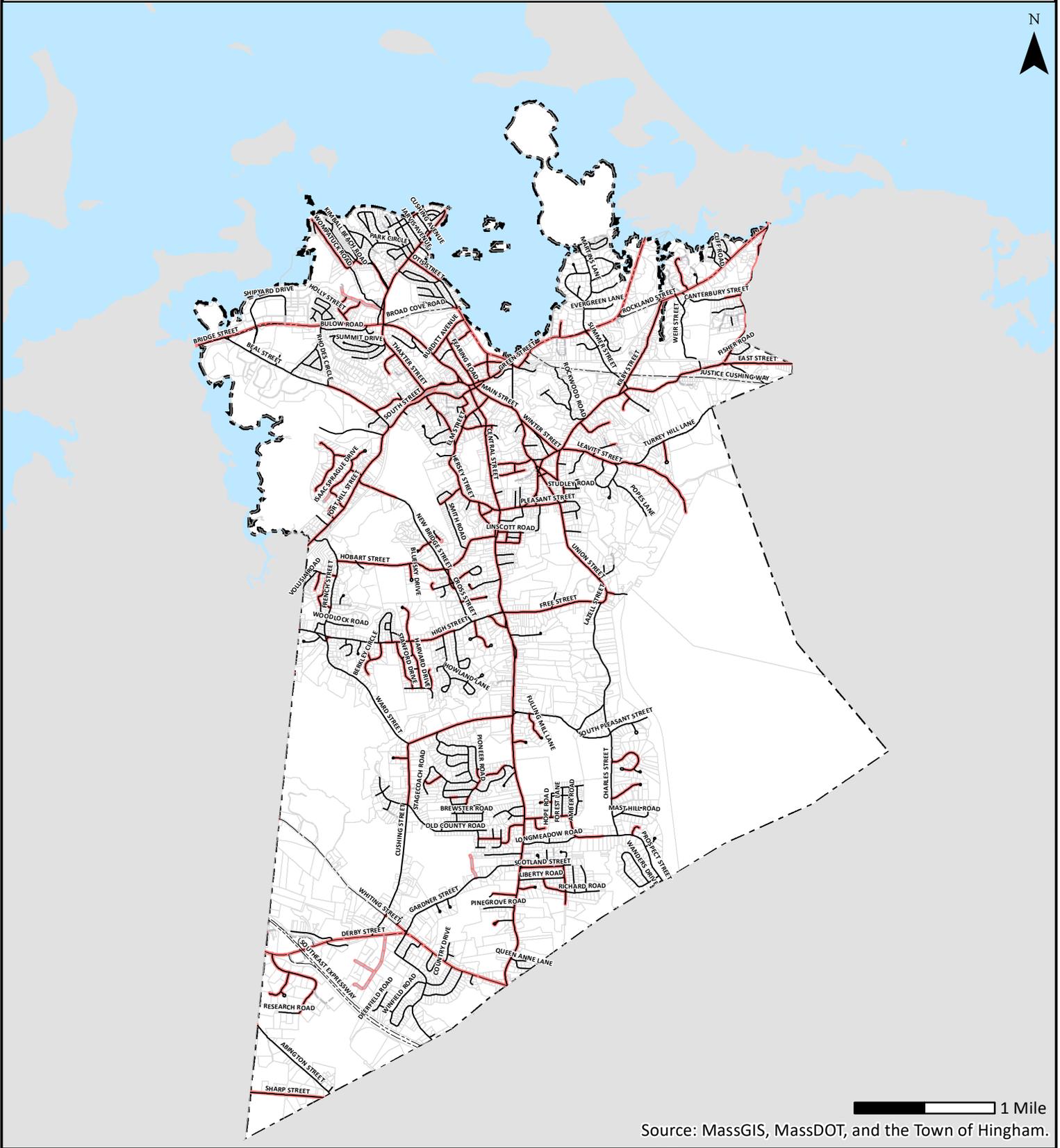
# Figure 14: Sidewalk Inventory

KEY

 Existing Sidewalk



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# Pavement Condition Index

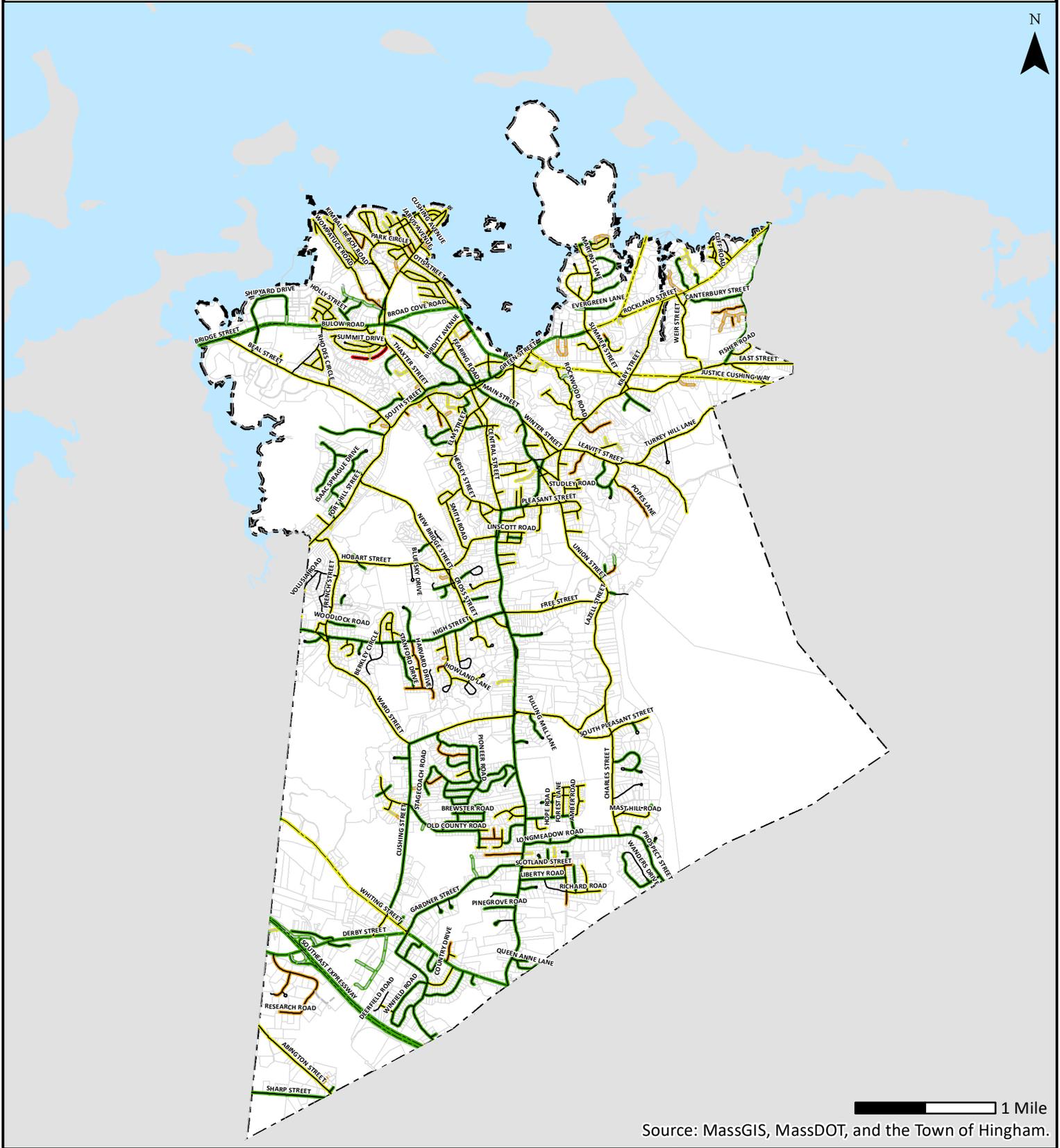
## KEY

### Structural Condition

- Good
- Fair
- Deficient
- Intolerable



Date Issued: March 20, 2020



1 Mile

Source: MassGIS, MassDOT, and the Town of Hingham.

