Transportation and Mobility

Transportation Overview

The Town of Marshfield is located in Plymouth County on the South Shore of Massachusetts. The South Shore region has a mix of cities, suburbs, and rural areas. The community is bordered by Scituate and Norwell to the north, Pembroke to the west, and Duxbury to the south. Marshfield (Town Hall) is approximately 30-miles southeast of Boston and offers direct access to the region via Route 3, Route 139 and Route 3A. The following provides a brief summary of these highways:

- **Route 3**: is a limited access 4 lane highway that touches the western corner of the town. Marshfield does not have a direct interchange onto Route 3. Access to Route 3 is provided in Pembroke at exit 12 and Duxbury at exit 11.

- **Route 3A**: is an arterial that bisects the Town providing north-south mobility and access to a significant number of the Town’s residential neighborhoods, as well as the Marshfield Fair Grounds. Route 3A is commonly referred to as Main Street for most of its length; however, the section south of Route 139 is also known as Moraine Street.

- **Route 139**: is a collector/arterial roadway that “loops” through Town in an east-west direction to/from Route 3 in Duxbury and Route 53 in Rockland. The roadway provides access to development along the Atlantic Ocean shoreline and (in Town) this roadway is also known as Careswell Street, Dyke Road, Ocean Street, and Plain Street. A significant amount of the Town’s retail/commercial uses are along Plain Street.
Figure 7-1 Transportation Network and Functional Classification

Transportation and Mobility
Figure 7-1 illustrates the Marshfield transportation network. Marshfield does not have direct access to the MBTA Commuter Rail. Marshfield residents have to drive ten to twenty-five minutes to the nearby towns of Scituate, Kingston, Halifax, and South Weymouth in order to gain access to commuter rail. Access to the Red line (Braintree) is a minimum thirty minute drive and often there is no parking spaces available in the MBTA garage after 7 AM.

Greater Attleboro Taunton Regional Transit Authority (GATRA) provides one route that runs along Route 139 in Marshfield with continuing service to Duxbury and Kingston. While this route provides peak hour stops at the Kingston commuter rail station, it takes a minimum of thirty minutes of additional travel time (due to traveling reverse direction) for Marshfield residents to gain access to public transportation to Boston.

Prior planning efforts locally and regionally identified a number of challenges for the community; which should be considered as a whole to ensure that the Master Plan strategies complement each other. One challenge for the community is the expansion of retail and commercial development; which comes with an increase in traffic, congestion, or new safety issues. Through outreach meetings and discussions with key stakeholders in Town, the following transportation themes were identified:

- Traffic congestion;
- Land development transportation impacts;
- Sidewalk connectivity;
- Bicycle accommodations; and
- Public transportation.

This Transportation and Mobility Element is part of the Marshfield Master Plan; which identifies the range of transportation issues, needs, and deficiencies over the near- and long-term and establishes goals and strategies for physical enhancements and policies worth implementing.

The following provides an overview of the transportation goals:

- Improve and enhance pedestrian connectivity through Town.
- Improve bicycle connections between destinations in Town.
- Protect the Town’s rural roadways and enhance major arterials and collector roadways through gateway enhancements.
▸ Provide new or enhance existing public transportation alternatives to improve access to rail transportation and improve service in Town.

▸ Reduce vehicle-conflicts along major corridors.

▸ Develop new local zoning bylaws that incorporate new transportation initiatives (such as complete streets, access management, traffic impact study guidelines).

▸ Identify sustainable transportation and infrastructure improvements that minimize the impact of new development or redevelopment.

▸ Perform corridor and/or intersection studies that identify specific improvements for areas with safety concerns and traffic congestion.

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### Regional Context

Regionally, Marshfield is positioned on the south shore of Massachusetts. The Town is approximately 30 miles southeast of Boston. Marshfield is on the border between two regional planning agencies Metropolitan Area Planning Commission (MAPC) to the north and Old Colony Planning Council (OCPC) to the south.

### Regional Planning

For the development of this Master Plan, it is important to acknowledge and understand past transportation planning and land use efforts in Town and the region to ensure that recommendations are consistent and complimentary. Regional planning agencies (RPAs) as overseers of a larger area, help ensure that master plans are complementary to each community. The Metropolitan Area Planning Commission (MAPC) is the RPA to which Marshfield currently belongs. The MAPC also provides support for the Boston Region Metropolitan Planning Organization (BRMPO). Plans that have been prepared include:

**BRMPO Regional Bicycle Plan (2007):** The Boston Regional MPO Bicycle Plan outlines a number of goals and strategies related to bicycle travel for the future of the region. This plan built off the *MAPC Regional Bicycle and Pedestrian Plan (1997)* and the Massachusetts *Statewide Bicycle Transportation Plan (1998)*. The following summarizes the regional goals that were identified:

- Encourage more trips by bicycle in all communities.

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[7-4 Transportation and Mobility](#)
• Make bicycling and bicycle accommodations a part of “standard operating procedure”.

• Improve the evaluation and prioritization of bicycle project proposals.

• Assist and encourage community initiatives.

• Work with state and federal agencies to simplify and coordinate funding programs.

• Increase regional knowledge about bicycling.

Path’s to a Sustainable Region BRMPO Long-Range Transportation Plan – Needs Assessment (2011): The BRMPO Long-Range Transportation Plan summarizes existing transportation conditions within the region as well as providing a needs assessment for the specific locations and the region as a whole. The following summarizes some of the regional visions that were identified:

• Envisions a highway system that is well maintained and has less congestion and fewer crashes (and less severe crashes). Route 3 from Braintree to Marshfield, and Route 139 between Pembroke and Marshfield were noted as critical bottleneck areas.

• Envisions a transit system that is safe and maintained. This system would increase ridership and reduce the dependency on the automobile and reduce vehicle emissions; which have been linked to cause climate change.

• Envisions a transportation system in which all freight modes operate efficiently.

• Envisions for linking bicycle, pedestrian and transit facilities in a network, increasing the use of sustainable modes and improving options and accessibility for all modes of transportation. The lack of roadways with on-road bicycle accommodations was noted as a concern.

• Envisions a transportation system that provides affordable transportation options and accessibility and does not inequitably burden any particular group.

Greenbush Commuter Rail Before-and-After Study (2010): This study conducted by the BRMPO, for the MBTA, provided information on the effects of the MBTA’s re-opening of the Greenbush commuter rail line. The Greenbush Station is located just east of the Route 3A/Route 123 roundabout in Scituate; which is approximately one mile over the
Marshfield town line. The plan discusses some of the impacts that the new rail line had on several of the adjacent communities, including Marshfield.

*Local Master Plans:* Several Towns within the region have developed Master Plans within the last ten years, including Scituate (2004) and Norwell (2005). While these plans focus on specific more local issues, each has the following underlying goals:

- Create a network of safe pedestrian and bicycle routes.
- Improve access to public transportation.
- Implement traffic calming strategies on high-traffic and cross-town roads.
- Take an active role in regional efforts to manage traffic.

**Local Planning**

For the development of a Master Plan, it is also important to acknowledge and reflect on previous plans developed by the Town. The Town of Marshfield has undertaken several planning efforts over the past ten years that should be reflected on. The following summarizes past efforts:

*The Townscape Plan (1998/2002):* This plan serves as the current Master Plan for the Town. Several transportation concerns were raised as part of this plan including the increase in congestion on north-south roadways and on Route 139, with Access Management being noted as a critical issue. Specific transportation goals included:

1. Provide a transportation system that allows for convenient automobile movement while encouraging the growth of non-automobile transportation modes that will reduce congestion, reduce negative environmental impacts, and provide convenient transportation options.

2. Protect the character of Marshfield’s rural roadways and enhance the visual appeal of non-rural roadways.

3. Plan for and accommodate local transportation strategies that will maximize the benefit that local residents will gain from the rail service improvements in the South Shore.
**Route 139 Corridor Improvement Plans:** The Town has been working with MassDOT since 2003 to develop a traffic mitigation plan along Route 139. This began with the Route 139 Corridor Study in 2003. One of the off-shoots of that study is the design and ongoing construction of roadway widening improvements along an approximately one mile stretch of Route 139 between School Street and Furnace Street. This project was funded through the Statewide Transportation Improvement Program (TIP). It is noted that Route 139 from Route 3A to Route 3 is under the jurisdiction of the MassDOT.

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**Statewide Transportation Improvement Program (TIP)**

The Transportation Improvement Program (TIP) and Air Quality Conformity Determination is an intermodal program of transportation improvements produced annually by BRMPO. The TIP serves as the implementation arm of the BRMPO’s Regional Transportation Plan by incrementally programming funding for improvements over the next four-year period. It programs federal-aid funds for transit projects and state and federal aid funds for roadway projects.

Table 7-1 summarizes Marshfield’s current list of projects on the TIP. As noted, one project has been targeted for funding in the 2014 to 2017 funding years. This project, which is the replacement of the Beach Street Bridge over the Cut River, is scheduled for the spring of 2017. Projects that are scheduled beyond 2017 are basically in the MPO’s queue of projects that are considered for future funding.

<table>
<thead>
<tr>
<th>MassDOT Project #</th>
<th>Description and Location</th>
<th>Project Type</th>
<th>Status</th>
<th>TIP Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>604655</td>
<td>Bridge Replacement, M-07-007, Beach Street over the Cut River</td>
<td>Bridge Replacement</td>
<td>Design</td>
<td>2018</td>
</tr>
<tr>
<td>605664</td>
<td>Marshfield-Scituate-Cohasset – Resurfacing &amp; Related Work on Route 3A</td>
<td>Resurfacing</td>
<td>Design</td>
<td>tbd</td>
</tr>
</tbody>
</table>

Source: MassDOT, 2013
Figure 7-2 Transportation Jurisdiction
Existing Conditions

Mobility in and around Marshfield is the central theme of the Transportation Element of the Master Plan. The sections below discuss the components that comprise the existing transportation network in Marshfield.

Roadway Jurisdiction/Functional Classification

The jurisdiction of roadways in Marshfield is depicted on Figure 7-2 and summarized on Table 7-2. The jurisdiction of a roadway indicates the ownership and responsibility for maintenance, enhancements, and repairs.

Table 7-2
Jurisdiction of Roadways in Marshfield

<table>
<thead>
<tr>
<th>Roadway Ownership</th>
<th>Length (miles)</th>
<th>Length (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Town-owned roads</td>
<td>156</td>
<td>93%</td>
</tr>
<tr>
<td>MassDOT roads</td>
<td>11</td>
<td>7%</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>167</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Source: Office of Geographic Information (MassGIS), Commonwealth of MA Information Technology Division

The majority of the roadway system falls under the jurisdiction of the Town of Marshfield (156 miles, or 93 percent). The state owned roadways include the segment of Route 3, Route 3A, and the segment of Route 139 between the Pembroke Town Line and Moraine Street (Route 3A south). MassDOT jurisdiction roadways total 11 miles or approximately seven percent of the roadway network.

The functional classification of roadways in Marshfield is depicted on Figure 7-1 and summarized in Table 7-3. A roadways functional classification indicates its design function to serve local demands with multiple driveways to maximize access; or to serve regional demands with limited access points to maximize mobility.
Table 7-3
Functional Classification of Roadways in Marshfield

<table>
<thead>
<tr>
<th>Functional Classification</th>
<th>Length (miles)</th>
<th>Length (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Roadways</td>
<td>126</td>
<td>75%</td>
</tr>
<tr>
<td>Arterial</td>
<td>24</td>
<td>14%</td>
</tr>
<tr>
<td>Collector</td>
<td>17</td>
<td>10%</td>
</tr>
<tr>
<td>Interstate</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Total</td>
<td>167</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: Office of Geographic Information (MassGIS), Commonwealth of MA Information Technology Division

The majority of the roadways in Marshfield are classified as local roadways totaling 126 miles, or 75 percent of the total roadway miles in Town, followed by arterial roadways that comprise 14 percent of the roadway network. Based on the hierarchy of roadway functional classifications, arterials and interstates typically provide mobility, whereas local and collector roadways typically provide more access to land developments. After reviewing the data in Table 7-3 above, the Town has more roadways that should promote access rather than mobility.

Roadway Network

Vehicular traffic in Marshfield is carried on several key roadways. The major north-south roadway in Marshfield is Route 3A, and the major east-west roadway is Route 139. These roadways provide access both within the Town and the region. Route 3, which travels in the north-south direction along the Pembroke-Marshfield Town Line, serves as a regional highway providing connections to Route 44 to the south and I-93 to the north.

Route 3A (Main Street/Moraine Street)

Route 3A provides the primary north to south access through the Town of Marshfield. Route 3A is also known as Main Street north of Route 139 and Moraine Street south of Route 139. The land use and roadway characteristics along this roadway are predominantly low-density residential. Other uses include the Marshfield Fair Grounds (north of Route 139) and the Marshfield Country Club (south of Route 138). Route 3A also provides access to several residential neighborhoods. The following provides a summary of other key statistics along the Route 3A corridor:
• The speed limit generally varies between 35 mph and 45 mph; however, the segment of Main Street adjacent to the Marshfield Fair Grounds is posted at 30 mph, and at the northerly segment of Moraine Street between Route 139 and Snow Road the speed limit is posted at 20 mph.

• The roadway generally consists of a single lane in each direction; however, turn lanes are present at major intersections. The corridor is under MassDOT jurisdiction/ownership.

• Narrow shoulders are present along the majority of the corridor.

• Sidewalks are generally absent along the corridor. A sidewalk is provided on the east side of the roadway along Main Street between Ferry Street and Route 139. A sidewalk is also provided on one side of the road along Moraine Street between Route 139 and the Tea Rock Gardens complex.

Route 139

Route 139, which is also known as Plain Street, Ocean Street, Dyke Road and Careswell Street, provides the primary east-west access throughout the Town. Route 139 forms a “loop” roadway extending from Route 3 in Pembroke (Exit 12), traveling east to the Atlantic Ocean shoreline, turning south and running parallel to the shore before turning west and returning to the Route 3 interchange in Duxbury (Exit 11). Land use and roadway characteristics along this roadway vary from retail and commercial, to high-density residential along the coast, to low-density residential along the southern segment.

Vehicular Traffic

To gain an understanding of existing travel patterns, historical traffic data and transportation mode choice data were obtained.

Traffic Volumes

Table 7-4 summarizes traffic volumes on various roadways throughout Marshfield using MassDOT\(^1\) historical traffic volume data and traffic volume data collected in the town for other transportation or land use.
development projects. The volumes presented below are in order from the highest to lowest traffic volumes.

**Table 7-4**

Traffic Volumes on Select Roadways in Marshfield

<table>
<thead>
<tr>
<th>Route</th>
<th>Source</th>
<th>Count Date</th>
<th>Average Daily Traffic Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Route 3 – South of Route 139</td>
<td>MassDOT</td>
<td>2012</td>
<td>53,500</td>
</tr>
<tr>
<td>Route 139 – At Pembroke Town Line</td>
<td>MassDOT</td>
<td>2005</td>
<td>27,800</td>
</tr>
<tr>
<td>Route 139 – West of Route 3A</td>
<td>MassDOT</td>
<td>2012</td>
<td>18,100</td>
</tr>
<tr>
<td>Route 139 – East of Webster St</td>
<td>MassDOT</td>
<td>2012</td>
<td>15,400</td>
</tr>
<tr>
<td>Route 3A – South of Route 139</td>
<td>MassDOT</td>
<td>2012</td>
<td>11,100</td>
</tr>
<tr>
<td>Route 139 – North of 9th Road</td>
<td>MassDOT</td>
<td>2012</td>
<td>7,900</td>
</tr>
<tr>
<td>Route 139 – South of Beach Street</td>
<td>MassDOT</td>
<td>2012</td>
<td>7,700</td>
</tr>
<tr>
<td>Route 139 – South of Hutchinson Rd</td>
<td>MassDOT</td>
<td>2009</td>
<td>6,000</td>
</tr>
</tbody>
</table>

Source: Historical MassDOT and traffic study traffic count data
1 Average daily traffic volumes expressed in vehicles per day (vpd).

Based on the traffic counts presented above, traffic volumes significantly increase along Route 139 as you travel to the west toward Route 3. The volumes are fairly consistent along Route 139 when traveling to/from Route 3A.

**Journey-to-Work**

A review of US Census American Community Survey journey-to-work data\(^2\) for Marshfield residents and employers reveals commuting trends; specifically work location and mode choice. Tables 7-5 and 7-6 summarize these data.
Table 7-5
Census Journey-to-Work Data for Marshfield Residents

<table>
<thead>
<tr>
<th>Location of Employment</th>
<th>Percent of Residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marshfield</td>
<td>19%</td>
</tr>
<tr>
<td>Boston</td>
<td>19%</td>
</tr>
<tr>
<td>Quincy</td>
<td>6%</td>
</tr>
<tr>
<td>Plymouth</td>
<td>4%</td>
</tr>
<tr>
<td>Hanover</td>
<td>4%</td>
</tr>
<tr>
<td>Hingham</td>
<td>3%</td>
</tr>
<tr>
<td>Norwell</td>
<td>3%</td>
</tr>
<tr>
<td>Weymouth</td>
<td>3%</td>
</tr>
<tr>
<td>Pembroke</td>
<td>3%</td>
</tr>
<tr>
<td>Braintree</td>
<td>3%</td>
</tr>
<tr>
<td>Rockland</td>
<td>2%</td>
</tr>
<tr>
<td>Scituate</td>
<td>2%</td>
</tr>
<tr>
<td>Brockton</td>
<td>2%</td>
</tr>
<tr>
<td>116 other communities (totaled)</td>
<td>27%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, 2000 Census Journey-to-Work Data
1. Other towns and cities not listed comprise one percent or less each of employment locations of Marshfield residents.

Approximately 19 percent of the 12,618 Marshfield residents surveyed were also employed in Marshfield. The top commute destination (by a large margin) outside Marshfield was Boston; which also accounted for 19 percent of residents surveyed. The remaining commute destinations represent a variety of Massachusetts cities and towns, the majority of which are located within 15 miles of Marshfield. The table above illustrates 11 other communities that have between two and six percent of residents working outside Marshfield. The balance of the residents, or approximately 27 percent, worked in a total of 116 other communities.

The journey-to-work census data was also reviewed to determine where people live who commute to Marshfield; Table 7-6 summarizes this data.
Table 7-6
Census Journey-to-Work Data for Marshfield Employees

<table>
<thead>
<tr>
<th>Location of Residence</th>
<th>Percent of Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marshfield</td>
<td>48%</td>
</tr>
<tr>
<td>Plymouth</td>
<td>7%</td>
</tr>
<tr>
<td>Pembroke</td>
<td>4%</td>
</tr>
<tr>
<td>Brockton</td>
<td>4%</td>
</tr>
<tr>
<td>Duxbury</td>
<td>4%</td>
</tr>
<tr>
<td>Rockland</td>
<td>3%</td>
</tr>
<tr>
<td>Scituate</td>
<td>3%</td>
</tr>
<tr>
<td>Weymouth</td>
<td>2%</td>
</tr>
<tr>
<td>Boston</td>
<td>2%</td>
</tr>
<tr>
<td>59 other communities (totaled)</td>
<td>23%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, 2000 Census Journey-to-Work Data
1. Other towns and cities not listed comprise one percent or less each of resident locations of Marshfield employees.

Approximately 48 percent of 5,093 Marshfield workers also live in Marshfield. Approximately seven percent of people employed in Marshfield reside in Plymouth. The majority of the remaining locations of residence for employees of Marshfield are within Plymouth County. The table above illustrates seven other communities that have between two and four percent of workers in Marshfield. The balance, or approximately 23 percent, traveled from 59 other communities.

Mode Choice

Similar to the journey-to-work evaluation, Table 7-7 summarizes the mode choice for Marshfield residents. Approximately 90 percent of Marshfield residents drive an automobile to work, either alone (84 percent) or with others / carpool (6 percent). Approximately three percent of Marshfield residents use public transportation.

The low transit mode share for Marshfield residents and workers seems to reflect the limited public transportation options in the Town.
<table>
<thead>
<tr>
<th>Mode</th>
<th>Percent of Employed Residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single-Occupant Automobile</td>
<td>84%</td>
</tr>
<tr>
<td>Multiple-Occupant Automobile</td>
<td>6%</td>
</tr>
<tr>
<td>Transit</td>
<td>3%</td>
</tr>
<tr>
<td>Walk</td>
<td>0%</td>
</tr>
<tr>
<td>Other Means</td>
<td>1%</td>
</tr>
<tr>
<td>Work at Home</td>
<td>6%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, 2007-2011, American Community Survey

### Safety

Potential transportation safety issues in the Town of Marshfield were identified through previous studies and through the MassDOT crash cluster database. The MassDOT database depicts locations in Town that could be considered eligible for safety funding under the Highway Safety Improvement Program (HSIP). The following provides a list of key areas in Town:

- **Old Stage Stop Village Road**: The area of Plain Street between Old Stage Stop Village Road and Fox Run are the only locations that could meet the 2010 HSIP eligibility requirements.

- **Route 3A/Furnace Street**: The intersection of Route 3A and Furnace Street was listed as eligible as recently as 2009, suggesting that it should be monitored in future years.

- **Pembroke**: Interchange 12 (Route 3 and Route 139) and the intersection of Route 139 and Old Oak Street both could meet the 2010 HSIP eligibility requirements. While these locations are both in Pembroke, they are critical locations used to access Marshfield.

In 2007, MassDOT began a Road Safety Audit (RSA) program to study roadways in which fatal and incapacitating injury cross median crashes had occurred. Today the RSA program has become an integral part of their HSIP program. MassDOT now requires that all HSIP locations have a RSA performed to determine if they are eligible for HSIP funding.
**Transit**

The Town of Marshfield receives bus service through the Greater Attleboro Taunton Regional Transit Authority (GATRA). The Massachusetts Bay Transit Authority (MBTA) provides commuter rail service to several nearby Towns. The availability of public transit provides greater mobility to populations that do not have access to a private automobile such as low income, young adults, and the elderly.

The closest MBTA commuter rail stop to Marshfield is the Greenbush station in Scituate; which is located approximately 1.5 miles north of the Marshfield/Scituate town line. The commuter rail runs twelve round-trips daily between the Greenbush Station and South Station in Boston with the last train arriving at Greenbush at 10:57 PM. A commuter rail stop is also provided in Kingston; which provides eleven round-trips daily to Boston.

Currently there is one fixed bus route operating within Marshfield that provides access to surrounding Towns. The current bus route runs between the Stop & Shop Plaza in Pembroke and the MBTA commuter rail station in Kingston. The route follows Route 139 through Marshfield and Route 3A in Duxbury and Kingston. This route also provides connections to the Plymouth Area Link to the south.

The northeasterly portion of the Town is not served by public transit.

**Bicycle Facilities**

Currently, there are no designated off-road bicycle facilities (rail trails, multi-use paths, etc.) within the Town. Bicycle accommodations are currently limited to wide shoulders on a number of streets, but there are no continuous routes through Town. Roadways with shoulders that are greater than five feet are typically acceptable widths for accommodating bicycles (a MassDOT standard). Marshfield has recently created a Recreation Trails committee.

**Pedestrian Facilities**

Pedestrian connections are limited in Marshfield. Sidewalks are provided along Route 139 and portions of Route 3A; but generally on one side of the roadway. The majority of residential side streets do not have sidewalks. Marked shoulders along Route 139 are approximately 7-16 feet.
four feet wide on both sides of the roadway, while shoulders on Route 3A are generally two feet or less.

Bridges

There are 18 bridges in Marshfield, of which 5 are under the jurisdiction of MassDOT and 13 are under the jurisdiction of the Town. Of these bridges, eight (8) are listed on the National Bridge Inventory (NBI) reflecting that they are eligible for federal funding.

Bridges listed on the NBI are routinely inspected using National Bridge Inspection Standards (NBIS). The primary purpose of the NBIS is to locate, evaluate, and act on existing bridge deficiencies to ensure that the bridges are safe for the traveling public. Each NBIS bridge is inspected at regular intervals of two years with certain types or groups of bridges requiring inspections at less than two-year cycles.

Of the 18 bridges within Town, nine (9) were rated as “requiring high priority of corrective action” based on NBIS structure evaluation standards. One of these bridges, Canal Street over the Cut River, is a Town-owned bridge listed on the NBI. The remaining bridges listed as needing corrective action are:

- Willow Street over South River (Town);
- Webster Street over Green Harbor River (Town);
- Dyke Road over Green Harbor River (Town);
- Summer Street culvert over Little Creek (Town);
- Old Ocean Street over South River (Town);
- Plain Street (Route 139) over South River (MassDOT);
- Plain Street (Route 139) over Waste Water Stream (MassDOT);
- Route 3 over Huldah Brook culvert (MassDOT); and
- Pedestrian walkway over South River (Town).

Future Conditions

The next step in the planning process is to identify growth trends in the Town. These trends are often identified based on previous traffic volume patterns (as described in Table 7-4), past and forecasted population growth, and major development projects.
**Planned Developments**

Since development tends to have a negative impact to transportation (increase in traffic and congestion), future development areas should be reviewed in a broader context (overall road network). Table 7-8 illustrates developments in Town that are currently planned or under review. The current 127 homes shown below would produce approximately 1,270 average daily trips onto the road network.

**Table 7-8**

Planned or Projects Currently Under Review

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Address</th>
<th>Project type</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Christmas Cove</td>
<td>Highland Street</td>
<td>Single-family subdivision - 12 lots</td>
<td>Under review</td>
</tr>
<tr>
<td>Adelaide Way</td>
<td>Webster Street</td>
<td>Single-family subdivision - 15 lots</td>
<td>Approved</td>
</tr>
<tr>
<td>Cranberry Cove</td>
<td>South River Street</td>
<td>Single-family subdivision - 13 lots</td>
<td>60% complete</td>
</tr>
<tr>
<td>John Sherman Way</td>
<td>Route 3A/Church Street</td>
<td>Single-family subdivision - 13 lots</td>
<td>Under construction</td>
</tr>
<tr>
<td>Marsh Hawk Way</td>
<td>Grove Street</td>
<td>Single-family subdivision - 13 lots</td>
<td>Completed</td>
</tr>
<tr>
<td>Horseshoe Farm</td>
<td>Spring Street</td>
<td>Single-family subdivision - 24 lots</td>
<td>Under construction</td>
</tr>
<tr>
<td>Chestnut Hill</td>
<td>South River Street</td>
<td>Single-family subdivision - 25 lots</td>
<td>50% complete</td>
</tr>
<tr>
<td>White Oak Farm</td>
<td>Ferry Street</td>
<td>Single-family subdivision - 12 lots</td>
<td>50% complete</td>
</tr>
</tbody>
</table>

Source: Town of Marshfield Planning Department

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**Strategies and Implementation Measures**

Marshfield transportation must meet the needs of its residents, commuters, and businesses through vehicular, public transportation, bicycle and pedestrian means. Transportation must be convenient, safe, aesthetically pleasing and environmentally friendly as it meets the complex needs of residents and travelers. A thorough transportation plan which both provides active and passive connectivity internally to neighborhoods within Marshfield (and to the greater region) is essential to ensure a sustainable system over the long-term. The goals and strategies described in this section are based upon this framework.

Marshfield’s transportation network must meet the needs of its residents, commuters, and businesses through vehicular, public transportation, bicycle and pedestrian means. Transportation must be convenient, safe, aesthetically pleasing and environmentally friendly as it meets the complex needs of residents and travelers. A thorough transportation plan which both provides active and passive connectivity internally to neighborhoods within Marshfield (and to the greater region) is essential to ensure a sustainable system over the long-term. The goals and strategies described in this section are based upon this framework.
greater region) is essential to ensure a sustainable system over the long-term.

Taking into account the existing and future issues, needs, and the goals of this transportation element, the following specific strategies have been developed.

**Pedestrians**

**Issue:** The need to provide a safe and walkable environment.

**Description:** Overall, there is a general need to enhance pedestrian accommodations throughout the Town. In addition, pedestrian accommodations need to be reviewed and enhanced along the portion of Ocean Street/Route 139 that follows the shore line.

**Implementation Measures:**
- Develop a sidewalk/pedestrian route plan.
- Provide sidewalks on both sides of roadway along major roadways including Route 139 and Route 3A.
- Work with landowners during development/redevelopment plans to provide pedestrian connectivity between parcels.
- Review ADA accommodations at key intersections or roadways that have pedestrian activity and develop an improvement plan to address issues or needs.

**Bicyclists**

**Issue:** The need to make areas within Town more bikeable, for both commuter and recreational purposes.

**Description:** Providing a safer means of travel for bicycling could help reduce the dependency of the automobile in Town. Improvements could include on-road bicycle accommodations or off-road trails.

**Implementation Measures:**
- Develop a bicycle master plan that identifies potential on- or off-road accommodations and incorporates Complete Streets initiatives.
- Provide wider shoulders on major corridors to accommodate bicycles (Route 3A).
Gateway Enhancements

Issue: The need to provide a welcoming feel to the Town, as well as, safe, efficient and attractive travel corridors.

Description: This strategy is aimed to seek opportunities to use streetscape, hardscape, and/or landscape enhancements to create a sense of place at key nodes throughout the community.

Implementation Measures:
- Develop a gateway enhancement plan that incorporates streetscape or hardscape improvements.

Expand Public Transportation Options

Issue: Too much dependency on the automobile.

Description: Transit planning is an important part of the complete streets focus area for the transportation system in any community.

Implementation Measures:
- Work with GATRA to provide bus service to the northern part of Town and a connection to the Greenbush Station in Scituate.
- Work with GATRA or a private transit company to create a fee based internal bus loop.

Access Management

Issue: Too many conflict points or driveways along a corridor can create safety issues and traffic congestion.

Description: Infrastructure or commercial redevelopment/development projects should consider the consolidation of commercial driveways to reduce vehicle-conflicts.

Implementation Measures:
- Develop an access management plan in coordination with MassDOT for Route 139.
- Incorporate access management guidelines into a traffic impact study requirements in the Zoning Bylaw.
Land Development Transportation Permitting

**Issue:** Land development in Town is reducing open space and increasing vehicle conflicts along major corridors.

**Description:** Strengthen access management and traffic impact study requirements. Require greater separation between driveways to improve safety and appearance. An access management approach could benefit Route 3A and the northerly segment of Route 139.

**Implementation Measures:**
- Promote complete streets on future local roadway resurfacing or improvements.
- Develop a transportation/parking/land use study for downtown.

Sustainable Transportation Practices

**Issue:** Infrastructure projects should consider all forms of transportation modes.

**Description:** The approach of creating a sustainable transportation network includes the incorporation of a multimodal design into roadway projects to ensure that streets are shared by all users and not just dominated by the automobile.

In addition, complete streets often look to place an emphasis on green design elements that promote an environmentally sensitive, sustainable use of the public right-of-way. Greener designs incorporate street trees, rain gardens, bio-swales, paving materials and permeable surfaces, with plants and soils collecting rain water to reduce flooding and pollution.

Lastly, smarter technology-assisted design elements incorporate intelligent signals, electric vehicle sharing, car and bicycle-sharing, wayfinding and social networks for greater system efficiencies and user convenience.

**Implementation Measures:**
- The Town should develop a sustainable transportation practices checklist that is appropriate for the community and includes the most appropriate practices, complete street, access management, traffic calming, Green DOT initiatives, etc. Elements should be respectful of the specialized needs and
environmental resources within the Town, but these should also be balanced with the overarching goal of providing for all modes of transportation.

**Intersection / Corridor Improvements**

**Issue:** Traffic congestion, vehicle queues, vehicle delay, and roadway safety.

**Description:** For intersections that are state-owned, or constructed with state or federal funding, any improvements would need to be vetted with MassDOT. Improvements could consist of implementation of lane additions, roadway realignments, or signal enhancements. This strategy should be pursued in close coordination with the Complete Streets strategy previously mentioned.

**Implementation Measures:**

- Develop an improvement matrix identifying issues and needs at key intersections and roadways. Prioritize projects and pursue projects on the State TIP. The following areas have been identified in the past as needing improvements.

- Work with MassDOT and the Town of Pembroke to develop an improvement plan for Route 3/ Route 139 or Interchange 12.