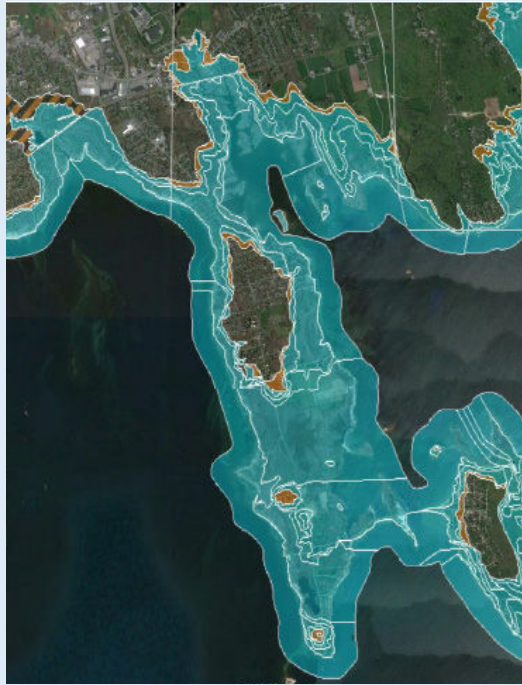
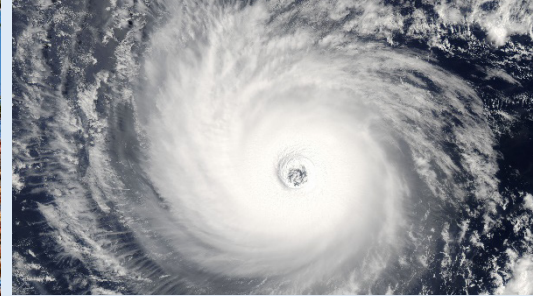


# TOWN OF FAIRHAVEN HAZARD MITIGATION PLAN



**FINAL**

February 2018

*Prepared by*



**PUNCHARD**  
CONSULTING



Town of Fairhaven, MA

# Hazard Mitigation Plan

February 2018

**Prepared for:**

Town of Fairhaven

Department of Planning and Economic Development

**Prepared by:**



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## SECTION 1. INTRODUCTION

This section provides a general introduction to the Town of Fairhaven's Hazard Mitigation Plan. It consists of the following subsections:

- 1.1. Background
- 1.2. Purpose
- 1.3. Scope and Authority
- 1.4. Plan Organization

### 1.1. BACKGROUND

Natural hazards, such as floods, hurricanes, earthquakes, and wildfires, are a part of the world around us. Their occurrence is often natural and inevitable and there is little we can do to control their force and intensity.

The town of Fairhaven is vulnerable to a wide range of hazards. These hazards threaten the life and safety of residents and visitors, and have the potential to damage or destroy both public and private property and disrupt the local economy and overall quality of life. While the threat from hazard events may never be fully eliminated, there is much we can do to lessen their potential impact upon our communities. By minimizing the damaging impacts of natural hazards upon our built environment, we can prevent such events from resulting in disasters. The concept and practice of reducing risks to people and property from known hazards is generally referred to as *hazard mitigation*.

Hazard mitigation techniques include structural measures and non-structural measures. Structural measures include activities such as strengthening or protecting buildings and infrastructure from the destructive forces of potential hazards, or in some cases, such as flood control, physically altering the natural course of the hazard itself. Non-structural measures include activities such as the adoption of sound land use or floodplain management policies and the creation of public awareness programs. It is widely accepted that the most effective mitigation measures are implemented at the local government level, where decisions on the regulation and control of development are ultimately made. A comprehensive mitigation approach addresses hazard vulnerabilities that exist today and in the foreseeable future. Therefore, it is essential that projected patterns of future development are evaluated and considered in terms of how that growth will increase or decrease a community's vulnerability to hazards over time.

#### **Hazard Mitigation**

*Any action taken to reduce or eliminate long-term risk to life and property from hazards.*

One of the most effective means that a community can use to implement a comprehensive approach to hazard mitigation is to develop, adopt, and update as needed, a local *hazard mitigation plan*. A mitigation plan establishes the broad local vision and guiding principles for reducing hazard risk, and further proposes specific mitigation actions to eliminate or reduce identified vulnerabilities.

The Town of Fairhaven's Hazard Mitigation Plan is an effective means to incorporate hazard mitigation principles and practices into routine government activities and functions. The plan recommends specific actions that are designed to protect people and community assets from losses to those hazards that pose the greatest risk. These mitigation actions go beyond simply recommending structural solutions to reduce existing vulnerability, such as retrofitting buildings or strengthening infrastructure. Local policies on community growth and development, incentives for natural resource protection, and public

awareness and outreach activities are examples of other actions considered to reduce the town's future vulnerability to identified hazards. The plan is designed to be a living document, with implementation and evaluation procedures included to help achieve meaningful objectives and successful outcomes over time.

### ***Disaster Mitigation Act of 2000***

To reduce the nation's mounting natural disaster losses, the U.S. Congress passed the Disaster Mitigation Act of 2000 (DMA 2000) to amend the Robert T. Stafford Disaster Relief and Emergency Assistance Act by invoking new and revitalized approaches to mitigation planning. Section 322 of the Act emphasized the need for state and local government entities to closely coordinate on mitigation planning activities, and makes the development of a hazard mitigation plan a specific eligibility requirement for any local government applying for federal mitigation grant funds. Communities with an adopted and federally-approved hazard mitigation plan thereby become pre-positioned and more apt to receive available mitigation funds before and after the next declared disaster.

To implement the new Stafford Act provisions, FEMA published requirements and procedures for local hazard mitigation plans in the Code of Federal Regulations (CFR) at Title 44, Chapter 1, Part 01.6. These regulations specify minimum standards for developing, updating, and submitting local hazard mitigation plans for FEMA review and approval at least once every five years.

This plan was prepared to ensure that it meets all applicable federal and state requirements. This includes conformance with FEMA's latest *Local Mitigation Planning Handbook* (released March 2013) and *Local Mitigation Plan Review Guide* (released October 2011). A *Regulation Checklist*, found in Appendix C, provides a summary of FEMA current minimum standards of acceptability and notes the location within the plan where each planning requirement is met.

## **1.2. PURPOSE**

As established and affirmed during the Town's first Hazard Mitigation Planning Committee meeting, the primary purpose of this plan is three-fold:

1. To help Fairhaven become better prepared and more resilient to potential emergencies and disasters;
2. To identify and assess the community's natural hazard risks and determine how to best minimize and manage those risks over time; and
3. To make Fairhaven eligible and better positioned to receive federal grant funding for mitigation projects and other types of non-emergency disaster assistance.

## **1.3. SCOPE AND AUTHORITY**

The Hazard Mitigation Plan will be updated and maintained to continually address those natural hazards determined to be of primary concern to the Town of Fairhaven as documented in the hazard analysis and risk assessment (Appendix A). This includes but is not limited to all hazards identified in the Massachusetts State Hazard Mitigation Plan. Other hazards that pose a low risk or are otherwise not included in this plan will continue to be evaluated during future updates but they may not be fully addressed until they are determined to be of primary concern to the Town. The geographic scope (i.e., the "planning area") for the plan includes all areas within Fairhaven's jurisdictional town limits.

This plan has been adopted by the Town of Fairhaven in accordance with the authority and police powers granted to local governments by the Commonwealth of Massachusetts. A copy of the resolution to adopt the plan is included in Appendix C. This plan was developed in accordance with current federal rules and regulations governing local hazard mitigation plans. The Plan shall be monitored and updated on a routine basis (as identified in Section 5) to maintain compliance with the following legislation:

- Section 322, Mitigation Planning, of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as enacted by Section 104 of the Disaster Mitigation Act of 2000 (Public Law 106-390) and by FEMA's Interim Final Rule published in the Federal Register on February 26, 2002, at 44 CFR Part 201.

## 1.4. PLAN ORGANIZATION

This plan is organized into five (5) sections that make up the main body of the plan along with three (3) appendices as described below.

### 1. Introduction

Section 1 serves as a general introduction to the Town of Fairhaven's Hazard Mitigation Plan, including some brief background on hazard mitigation and hazard mitigation planning, as well as the purpose, authority, scope, and organization of the plan document.

### 2. Planning Process

Section 2 provides a summary of the process used to develop the plan, including how it was prepared and who was involved. It also describes the public engagement strategy used to involve the public and other community stakeholders, and it summarizes the review and incorporation of existing plans, studies, reports, and technical information.

### 3. Community Profile

Section 3 provides some background and a general overview of the entire planning area, including information on Fairhaven's location and history; geography and climate; population, housing, and demographics; infrastructure and environment; employment and industry; and land use and development trends

### 4. Mitigation Strategy

Section 4 provides the blueprint for the Town of Fairhaven to follow to become less vulnerable to the negative effects of the hazards identified and addressed in this plan. It is based on the consensus of the Hazard Mitigation Planning Committee and the findings and conclusions of the Hazard Analysis & Risk Assessment and Capability Assessment, in addition to the input and feedback generated through the Town's public engagement efforts. It includes the identification of an overall mission statement for the plan along with a series of mitigation goal statements designed to establish what the Town wants to achieve with the plan. It also includes the identification, evaluation, and prioritization of specific mitigation actions that are intended to help Fairhaven achieve its mitigation goals over time.

### 5. Plan Maintenance

Section 5 describes the Town's formal plan maintenance process to ensure that the plan remains an active and relevant document that guides hazard mitigation actions over time. As conditions change, new information becomes available, or actions progress over the life of the plan, plan adjustments may be necessary to maintain its relevance. The plan maintenance

section identifies procedures for monitoring, evaluating, and updating the plan; for implementing the plan through existing planning mechanisms; and for continued public involvement.

**Appendix A: Hazard Analysis and Risk Assessment**

Appendix A provides an in-depth study of natural hazard risks for the Town of Fairhaven. It includes an overview of how the assessment was prepared along with detailed profiles for those hazards deemed to pose significant risk to the town. It also includes a geospatial-based exposure and risk assessment for those hazards with geographically-defined boundaries, and culminates in a hazard risk ranking based on the findings and conclusions about the location, probability, potential impact, warning time, and duration of each hazard. Although included as an appendix, the Hazard Analysis and Risk Assessment is a critical element to the plan that helped the Town focus its mitigation planning efforts on those hazards of greatest concern and those community assets facing the greatest potential risk.

**Appendix B: Capability Assessment**

Appendix B describes the overall capability of the Town of Fairhaven to implement hazard mitigation activities. The capability assessment also served as a critical part of the planning process, including the development of the mitigation strategy. Coupled with the Hazard Analysis and Risk Assessment (Appendix A), the Capability Assessment helped the Town identify and target meaningful mitigation actions as well as plan implementation and maintenance procedures. It not only helped establish the goals for the Town of Fairhaven to pursue under this Plan, but also ensures that those goals and the mitigation actions that follow are realistically achievable given current local conditions.

**Appendix C: Additional Documentation**

Appendix C provides additional documentation of the plan development and adoption process. This includes copies of meeting agendas, sign-in sheets, summary notes, and presentation slides for all Hazard Mitigation Planning Committee and Public Meetings. It also includes copies of meeting advertisements, notices, media articles, and other example documentation to demonstrate the Town of Fairhaven's efforts to promote public and stakeholder engagement in the planning process. Lastly, this section includes a copy of the Town's formal resolution to adopt the plan, and a completed FEMA Regulation Checklist to confirm that the plan meets all requirements of Title 44 Code of Regulations (CFR) 201.6.

**1.5. PLAN ADOPTION**

This plan was formally adopted by the Town of Fairhaven Board of Selectmen on [date to be inserted following adoption]. A copy of the adoption resolution is provided on the following page.

# **TOWN OF FAIRHAVEN**

## **BOARD OF SELECTMEN**

### **RESOLUTION ADOPTING THE**

#### **FAIRHAVEN HAZARD MITIGATION PLAN**

WHEREAS, the citizens, property, and natural resources within the Town of Fairhaven are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the community are particularly vulnerable to coastal erosion and sea level rise, coastal storms (including hurricanes, tropical storms and nor'easters), drought, earthquakes, extreme temperatures, fire, flood, severe weather (including high winds, thunderstorms, tornadoes) and severe winter storms (including snow, blizzards and ice storms) ; and

WHEREAS, the Town of Fairhaven desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000 states that local governments must develop a hazard mitigation plan in order to be eligible to receive federal Hazard Mitigation Assistance grant funds and other non-emergency disaster assistance funding, and that said plan must be updated and adopted within a five year cycle; and

WHEREAS, it is the intent of the Town of Fairhaven to fulfill this obligation to be eligible for various forms of federal pre-disaster and post-disaster financial assistance; and

WHEREAS, the Town of Fairhaven has performed a comprehensive review and evaluation of hazard risks, local capabilities, and available mitigation strategies as required under federal regulations at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency (FEMA); and

WHEREAS, the Town of Fairhaven has prepared a hazard mitigation plan and has fulfilled all the requirements for state and federal plan approval as established by the Massachusetts Emergency Management Agency (MEMA) and FEMA;

NOW, therefore, be it resolved that the Board of Selectmen of the Town Fairhaven hereby:

1. Adopts the Fairhaven Hazard Mitigation Plan; and
2. Vests the Town Administrator or the Town Administrator's designee with the responsibility, authority, and the means to oversee implementation of the Plan.
3. Appoints the Town Administrator or the Town Administrator's designee to assure that the Hazard Mitigation Plan is reviewed and maintained as specified in the plan to assure that the plan is in compliance with all State and Federal regulations and that any needed

revisions or amendments to the plan are developed and presented to the Fairhaven Board of Selectmen for consideration.

4. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

Adopted on this day [date]

By: [Signatures of Board of Selectmen]

Certified by: \_\_\_\_\_ SEAL : \_\_\_\_\_

Date: \_\_\_\_\_

## SECTION 2. PLANNING PROCESS

This section provides a summary of the process used to develop the plan, including how it was prepared and who was involved. It also describes the public engagement strategy used to involve the public and other community stakeholders, and it summarizes the review and incorporation of existing plans, studies, reports, and technical information. It consists of the following subsections:

- 2.1. Overview
- 2.2. Hazard Mitigation Planning Committee
- 2.3. Public and Stakeholder Engagement
- 2.4. Review of Existing Plans, Reports, and Other Relevant Information

### 2.1. OVERVIEW

The Town of Fairhaven developed this initial Hazard Mitigation Plan through the assistance of a federal planning grant awarded by the Massachusetts Emergency Management Agency (MEMA).<sup>1</sup> Grant funds were used to hire a consultant (Punchard Consulting LLC) to work closely with the Town's Planning and Economic Development Department in the preparation of a plan that is in full compliance with current FEMA planning requirements per the following rules, regulations and guidance:

- Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 93-288), as amended by the Disaster Mitigation Act of 2000
- Code of Federal Regulations – Title 44, Chapter 1, Part 201 (§201.6: Local Mitigation Plans)
- FEMA's *Local Mitigation Planning Handbook* (March 2013)
- FEMA's *Local Mitigation Plan Review Guide* (October 1, 2011)

In addition, this plan was prepared using a process specifically designed to integrate FEMA's Community Rating System (CRS) requirements for floodplain management planning in order to maximize potential future credits for the Town of Fairhaven, per Activity 510 of the 2013 *CRS Coordinator's Manual*.

The Town's planning process included the completion of six key steps over the course of approximately seven months in 2017 as illustrated in **Figure 2.1**. The completion of each key planning step (large blue circles) resulted in critical outcomes and products that collectively have been incorporated into the Hazard Mitigation Plan. These work elements are included as separate sections of the plan, each of which is introduced and further described in Section 1.4 (*Plan Organization*). More information on the specific tasks completed for each key step is available from the Town of Fairhaven upon request.



**Figure 2-1:** Hazard Mitigation Planning Process

<sup>1</sup> FEMA Hazard Mitigation Grant Program, Project #HMGP42140204  
Section 2: Planning Process

On November 30, 2016, prior to beginning the planning process, the Town held a project initiation meeting with its consultant to review the final scope and anticipated schedule, to discuss the creation of a local planning team and a Public Engagement Strategy, and to identify data resources or constraints that were relevant to plan development. This meeting also provided an early opportunity to discuss the Town's priority concerns as it relates to natural hazards and potential mitigation strategies.

As identified prior to initiating the project, the Town's plan development process was guided by the following four overarching planning objectives:

1. Successfully leverage past and concurrent planning efforts, public outreach and/or stakeholder engagement opportunities, and other related activities in Fairhaven;
2. Incorporate current information, best available data, and the latest innovative methods for building "whole community" resilience to natural hazards;
3. Integrate proposed mitigation measures with existing local policy, program and/or funding mechanisms to support actual implementation – and doing so in a way that streamlines procedures, minimizes local costs, maximizes co-benefits, and eliminates unnecessary duplication of effort for all participating partners; and
4. Maximize credit points for CRS Activity 510: Floodplain Management Planning by merging our project tasks with the 10-step CRS planning process.

On December 13, 2016, as a follow-on to the initial project initiation meeting, the Town's consultant also met with staff from the Massachusetts Emergency Management Agency (MEMA) to review and gain feedback on the proposed approach to the development of Fairhaven's first hazard mitigation plan, as well as to identify and discuss their recommendations for ensuring a smooth plan review and approval process with MEMA and FEMA.

## 2.2. HAZARD MITIGATION PLANNING COMMITTEE

One of the earliest tasks completed in support of the planning process was the creation of a Hazard Mitigation Planning Committee (HMPC)<sup>2</sup> to help guide and inform the plan throughout its development. While the Town's Director of Planning and Economic Development was assigned the responsibility to oversee and serve as the primary point of contact for the planning process, the HMPC was established to ensure proper representation from a variety of Town staff, the public, and other community stakeholders. Throughout the process HMPC members were asked to provide their input and expertise, including any information, ideas, or other resources that would contribute to the quality and effectiveness of the final plan.

The organization of the HMPC is a combination of two distinct but equal committees, with members from each treated as full HMPC members during meetings and in terms of receiving draft plan materials and/or providing input. The first is a **Steering Committee** consisting of the Director of Planning and Economic Development (Chair) and staff from other key Town departments that implement activities or have expertise in topics relevant to mitigation planning. The second is a **Stakeholder Committee** consisting of members of the public including but not limited to residents and property owners, local business representatives, civic and volunteer leaders, non-profit organizations, staff from other

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<sup>2</sup> Note: The HMPC was also referred to as the Local Planning Team (HMPC) during the plan development process, but subsequently renamed to eliminate any confusion with other local planning teams created for the Town.

governmental agencies (including neighboring jurisdictions), and other identified stakeholders with no formal attachment to Town government. A complete listing of all HMPC members is provided in **Table 2-1**.

In addition to helping shape and guide the development of the plan, the HMPC members were specifically invited and asked to provide support to the HMPC through the following key roles and responsibilities:

- Attend 5 HMPC meetings
- Support public outreach and engagement efforts
- Provide supporting data/information upon request
- Assist in the evaluation and prioritization of mitigation actions
- Review and comment on draft plan deliverables
- Approve final draft plan prior to submission to MEMA and FEMA

**Table 2-1: Town of Fairhaven Hazard Mitigation Planning Committee (HMPC)**

Name	Affiliation
<i>Steering Committee</i>	
Todd Correia	Town of Fairhaven, Fire Department (Deputy Chief)
Wayne Fostin	Town of Fairhaven, Building Commissioner / Conservation Agent
Timothy Francis	Town of Fairhaven, Fire Department (Chief)
Vincent Furtado	Town of Fairhaven, Public Works Department (Superintendent)
Roger Gautreau	Town of Fairhaven, Emergency Management Agency (Deputy Director)
Marc Jodoin	Town of Fairhaven, Emergency Management Agency (Director)
Gary Lavalette	Town of Fairhaven, Emergency Management Agency
William Roth (Chair)	Town of Fairhaven, Director of Planning and Economic Development
<i>Stakeholder Committee</i>	
Barbara Acksen	Fairhaven Improvement Association
Howe Allen	Howe Allen Realty
Robert Baldwin	School Department
John Beauregard	Sylvia Group - Town Insurance Company Rep
Brian Bowcock	Tree Warden
Constance Brawders	City of New Bedford – Planning
Timothy Cox	Harbormaster
Paul Downey	Business Owner(s) - Owns former AT&T Building
Joy Duperault	MA DCR (Flood Hazard Management)
Patricia	Board of Health
Michael Gagne	Town of Mattapoisett - Town Administrator

Name	Affiliation
Wayne Hayward	Planning Board Chair
Henry	Town of Acushnet - Planner (part-time)
Rick Kidder	New Bedford Area Chamber of Commerce
Eugene Kohls	Insurance Services Office, Inc.
Robert Konicki	West Island Improvement Association
Jeffrey Lucas	North Fairhaven Improvement Association
Vincent Marron	Green Fairhaven (Town Sustainability Committee)
Scott Martin	Major Employers (Brhamin Leather Co.)
Kevin McLaughlin	Fairhaven Shipyard Company
Cathy Melanson	Fairhaven Business Association
Terrence Meredith	West Island Representative
Sue Morris	East Fairhaven Improvement Association
Geoffrey Morrison-Logan	VHB Representative (Master Plan Update Consultant)
Michael	Police Department
Bill Napolitano	SRPEDD
Jeffrey Osuch	Retired Town Executive
Mark Rasmussen	Buzzards Bay Coalition
Warren Rensehausen	Recreation Center
Krisanne Sheedy	Fairhaven Housing Authority
Anne Silvia	Senior Center
Jay Simmons	Conservation Com - Chair
Susan Sullivan	Citizen / Floodplain Resident
Charlie Tavares	Eversource Energy
Steve Urbon	SouthCoast Media Group
Dave Woodbury	MEMA Regional Representative

### **Hazard Mitigation Planning Committee Meetings**

The development of the plan required a series of meetings intended to facilitate discussion and capture information from the HMPC, including responses to specific data requests, sharing suggestions for planning enhancements, or reviewing and commenting on interim draft content for the plan. More importantly the meetings prompted routine coordination and communication between Town staff and other stakeholders throughout the drafting of the plan. While not all HMPC members were able to attend meetings, they were all provided copies of all meeting materials and kept informed throughout the plan development process, and each was provided multiple opportunities to provide input through multiple methods as further described under Section 2.3.

As indicated above, the HMPC convened for five key meetings throughout the planning process as briefly described below. In some cases, additional meetings were held to accomplish specific planning tasks, such as reviewing and updating information in support of the hazard analysis and risk assessment or the review of possible department-specific mitigation actions for inclusion in the plan. More information and documentation for each HMPC meeting including agendas, sign-in sheets, summary notes, and presentation slides is provided in Appendix C.

**First HMPC Meeting – January 12, 2017**

Assembled the HMPC for an introduction and overview of the plan development process, including descriptions of individual roles and responsibilities of committee members. Facilitated initial hazard identification, needs assessments, and other data collection efforts to capture early input and ideas on all aspects of the plan development process. Most discussion surrounded local issues, concerns, and ideas as it relates to the greatest risk and resilience challenges facing the town. The meeting also provided the opportunity for the Steering Committee to solicit input on the draft Public Engagement Strategy designed to generate public interest, solicit citizen input, and engage additional partners in the plan development process.

**Second HMPC Meeting – March 16, 2017**

Presented an overview of project progress and discussed public outreach and data collection and analysis efforts completed to date. Reviewed and confirmed the current inventory of best available data and information to support the hazard analysis and risk assessment and shared initial hazard identification findings to date. This included some additional discussion on critical facilities and other community assets to be included in the GIS-based exposure analysis completed as part of the risk assessment. Provided a summary of the Public Opinion Survey and sought additional ideas for the next Open Public Meeting, including possible locations, dates/times, and ways to promote and encourage higher attendance. Presented and discussed the detailed, draft outline for the plan document. Presented a high-level summary of each hazard identified as significant risk for Fairhaven, including preliminary hazard maps and statistics on historical events and impacts. Final hazard identification and screening determinations were made upon completion of an interactive Hazard ID exercise with all HMPC members. Shared and affirmed Priority Risk Index (PRI) methodology via consensus from all HMPC members. Began to solicit input from applicable Steering Committee members on the capability assessment, including confirmation of existing relevant plans, regulations, studies, and other technical reports. Discussed next steps, including the completion of the risk and capability assessments and the beginning of mitigation strategy development, as well as future HMPC and Open Public Meetings.



All HMPC meetings were held at Fairhaven's Town Hall and open to the public. They provided in-person opportunities for municipal staff, invited stakeholders, and other community members to actively participate in the development of the plan at various stages throughout the process.

**Third HMPC Meeting – June 7, 2017**

Reviewed and discussed final hazard analysis and risk assessment results, including hazard profiles, map figures, and vulnerability analyses. Shared results of the capability assessment and captured additional input and feedback to help finalize the evaluation. Shared results of the Public Opinion Survey (174 responses). Began to review and discuss specific hazard mitigation actions for the Town to consider as part of its overall mitigation strategy, based on the results of the risk and capability assessments and the public input received to date.

The third HMPC meeting was organized to accomplish three distinct objectives over two and a half hours, including (1) a detailed discussion on the final assessment of all identified natural hazards as presented and documented in draft plan deliverables; (2) a follow-up discussion and evaluation of specific hazard problems that are unique to Fairhaven; and (3) the initiation of more detailed team discussions on plan goals and the range of available mitigation strategies to consider for incorporation into the hazard mitigation plan. Although many HMPC member were unable to attend due to schedule conflicts, each was provided a copy of the meeting materials including a copy of all handouts, slides, and draft plan deliverables. Each was also subsequently provided with a copy of a Mitigation Action Worksheet with instructions for submitting their own ideas and proposed actions for consideration in the drafting of the Town's Mitigation Action Plan.

**Fourth HMPC Meeting – October 24, 2017**

Reviewed options and finalized a draft Mission Statement for the plan, in addition to the six (6) specific goal statements to help establish the framework for the Mitigation Strategy. Reviewed and discussed a comprehensive range of possible mitigation activities as described in Section 4.3, including local plans and regulations, structure and infrastructure projects, natural systems protection, and education and awareness programs. The HMPC also reviewed and discussed the *Mitigation Action Menu*, which included an initial listing of 40 possible mitigation actions to consider for the plan. The listing was based on previous input provided by the HMPC and through public and stakeholder engagement activities, and it was designed to ensure that specific hazard vulnerabilities or other hazard-related problems identified in the risk assessment were addressed, along with opportunities to strengthen local capabilities as identified in the capability assessment. Began drafting the mitigation action plan to align with established goal statements, and began discussing specific implementation procedures that addressed prioritizing, scheduling, and assigning resources and responsibilities for carrying each identified action out. Solicited initial input from the HMPC on plan maintenance procedures.

Although many HMPC member were unable to attend due to schedule conflicts, each was provided a copy of the meeting materials including a copy of the Mitigation Action Menu. Each was also provided with a copy of a *Mitigation Action Worksheet* with instructions for submitting their own ideas and proposed actions for consideration in the drafting of the Town's Mitigation Action Plan.

**Fifth HMPC Meeting – January 11, 2018**

Presented and discussed the final draft plan document. Reviewed and made final updates or revisions as required for HMPC approval and submission of final plan to MEMA and FEMA for their review. Most of the meeting was spent on reviewing and finalizing the Town's Mitigation Action Plan in Section 4, including the specific language for action descriptions in addition to updating the implementation details such as the lead departments, timelines, and priority levels assigned to each action. In addition, the HMPC discussed and agreed on specific plan maintenance procedures to be included in Section 5 of the final draft plan. Prior to adjourning the meeting, it was determined that in addition to the final draft plan document already shared, a copy of the Mitigation Action Tracker (MS Excel version of the

Mitigation Action Plan) would be distributed to each HMPC Steering Committee member to review, validate or update any content as required, especially for any actions that are assigned to their respective department or agency. This information and any other comments or requested revisions to the draft plan were requested by all HMPC members by January 31, 2018.

### 2.3. PUBLIC AND STAKEHOLDER ENGAGEMENT

One of the earliest tasks completed during the planning process was the development of a Public Engagement Strategy designed to generate public interest, solicit citizen input, and engage additional partners in the plan development process. The strategy identified specific opportunities and methods for citizens and targeted stakeholders to participate at various points in the planning process, including but not limited to in-person meetings, a project website, web-based surveys, and the use of social media.

The purpose of public outreach and stakeholder involvement was to:

- Generate public interest in mitigation planning
- Accommodate special populations identified in the Town
- Solicit public input
- Engage local stakeholders
- Create opportunities for the public and local stakeholders to be actively involved in the mitigation planning process

Several opportunities were offered throughout the planning process for the public to participate in the creation of the Town's first hazard mitigation plan. These included:

- Participate in the *Public Opinion Survey* (see below for more information)
- Attend *Public Meetings* at Town Hall
- Visit the *Project Website*
- Review and comment on draft plan deliverables (posted to the Project Website)

#### Public Opinion Survey

The Public Opinion Survey was an integral part of the stakeholder engagement strategy. It gave the public an opportunity to comment on their level of interest, knowledge, and readiness toward hazards in the town. The Public Opinion Survey also informed several aspects of the hazard mitigation plan, particularly as it relates to the hazard analysis and risk assessment, and the mitigation strategy.

One hundred seventy-four (174) surveys were completed. All the survey respondents live in Fairhaven and 55 percent say they have lived in Fairhaven for 20 years or more. A copy of the survey and the results are provided in Appendix C. Surveys were distributed in hard copy to HMPC members and the Fairhaven Housing Authority, and at all meetings taking place at the Town Hall related to the hazard mitigation plan. In addition, hard copies were available in the Town Hall throughout the planning process. The survey was developed and maintained in SurveyMonkey and most respondents participated via the SurveyMonkey website. A link to an online version of the survey (<https://www.surveymonkey.com/r/FairhavenMA>) was provided on the Fairhaven Town website and the Project Website. In addition, a press release and Facebook posting was distributed announcing the survey, and the Town also included an announcement on postcards that went to all Town Meeting members (more than 400 residents) shortly after it was launched. Examples of this and other outreach materials are provided in Appendix C.

The following list is a summary of the most compelling results from the survey:

- Eighty-three percent (83%) of respondents listed hurricane, tropical storm, nor'easter or other major coastal storm as the type of hazard they have experienced. Sixty-six percent (66%) responded they are very concerned about these same hazards.
- The most effective way for respondents to receive information is email/electronic newsletter, followed by mail.
- Following people, infrastructure – and specifically roads, bridges, utilities and schools – were listed as the most important community asset, followed by economic and environmental assets.
- Nearly fifty percent (50%) of respondents indicated they are adequately prepared for a natural hazard event.
- Only twenty percent (20%) of survey respondents have flood insurance, with those who do not have flood insurance listing they do not live in a floodplain. It should be noted that twenty-seven (27%) indicated that they do not have flood insurance because it is too expensive. These results relate directly to the fact that only nine percent (9%) of respondents live on West Island and five percent (5%) live on Sconticut Neck, where the majority of floodplain development is located.

### Public Meetings

The Public Meetings were scheduled to coincide on the same days as HMPC Meetings #1, #3, and #5. The meetings were used to educate the community about existing natural hazard risks, as well as potential hazard mitigation and climate adaptation strategies, and to gain public feedback that will be used during the drafting of the actual hazard mitigation plan. Each of these meetings was advertised via social media, press releases, flyer distribution, and email announcements. Copies of these outreach materials are in Appendix C.

The first Public Meeting was held at Town Hall on January 12, 2017. The press release used to help promote this meeting led to an article in *South Coast Today* on December 28, 2016. The article, included in Appendix C, describes the purpose of hazard mitigation planning and invites residents to attend the meeting. Nine (9) people attended this first public meeting, including several people from the HMPC Steering Committee and Stakeholder Committee. The meeting included a PowerPoint presentation reviewing the project process and opened the floor for discussion regarding hazard identification, stakeholder engagement and mitigation actions. Discussion in this meeting focused on including residents from West Island and Sconticut Neck, outreach to the elderly, and stories regarding past disaster impacts. This meeting was also recorded and rebroadcast on local Public Access Television with scrolling images of the PowerPoint presentation.

The second public meeting was held at Town Hall on June 7, 2017 and included nine (9) people. The focus of this meeting was sharing risk assessment results with participants and reviewing potential mitigation actions. Preliminary results from the Public Opinion Survey were shared and distribution of the survey was discussed in detail. It was determined that hard copies of the survey would be shared with the Fairhaven Housing Authority for distribution to residents. To help promote attendance at the meeting, advertisements noted that participants would have the opportunity to win the book “*Great*



Public meetings provided an opportunity for community members to learn more about the planning process and provide their input directly through in-person discussions with HMPC members.

*Hurricane: 1938*” by Cherie Burns in a raffle. Two copies of the book were raffled off just prior to the end of the meeting.

The third public meeting was held at Town Hall on January 11, 2018 and included four (4) attendees. The purpose of this meeting was to present and review the final draft plan document prior to local approval and submission of a final plan to MEMA and FEMA for their review. Most of the meeting was spent on reviewing and finalizing the Town’s Mitigation Action Plan in Section 4 and answering questions regarding the Town’s next steps in the plan development and approval process. Some discussion was also spent on the status of the Town’s application process to join and begin participating in FEMA’s Community Rating System (CRS) as proposed in the draft Mitigation Action Plan.

### **Project Website**

The primary Project Website was located on the Jamie Caplan Consulting LLC website. Its direct link is <http://www.jamiecaplan.com/projects/fairhaven>, and a screenshot is shown in **Figure 2-2**. The website included a link to the Public Opinion Survey, a list of ways to participate in the project, project materials including a *Fact Sheet* (see below for more information) and draft plan deliverables, links to articles in the media related to the project, and contact information for how to get in touch with the chair of the HMPC to learn more about the project.

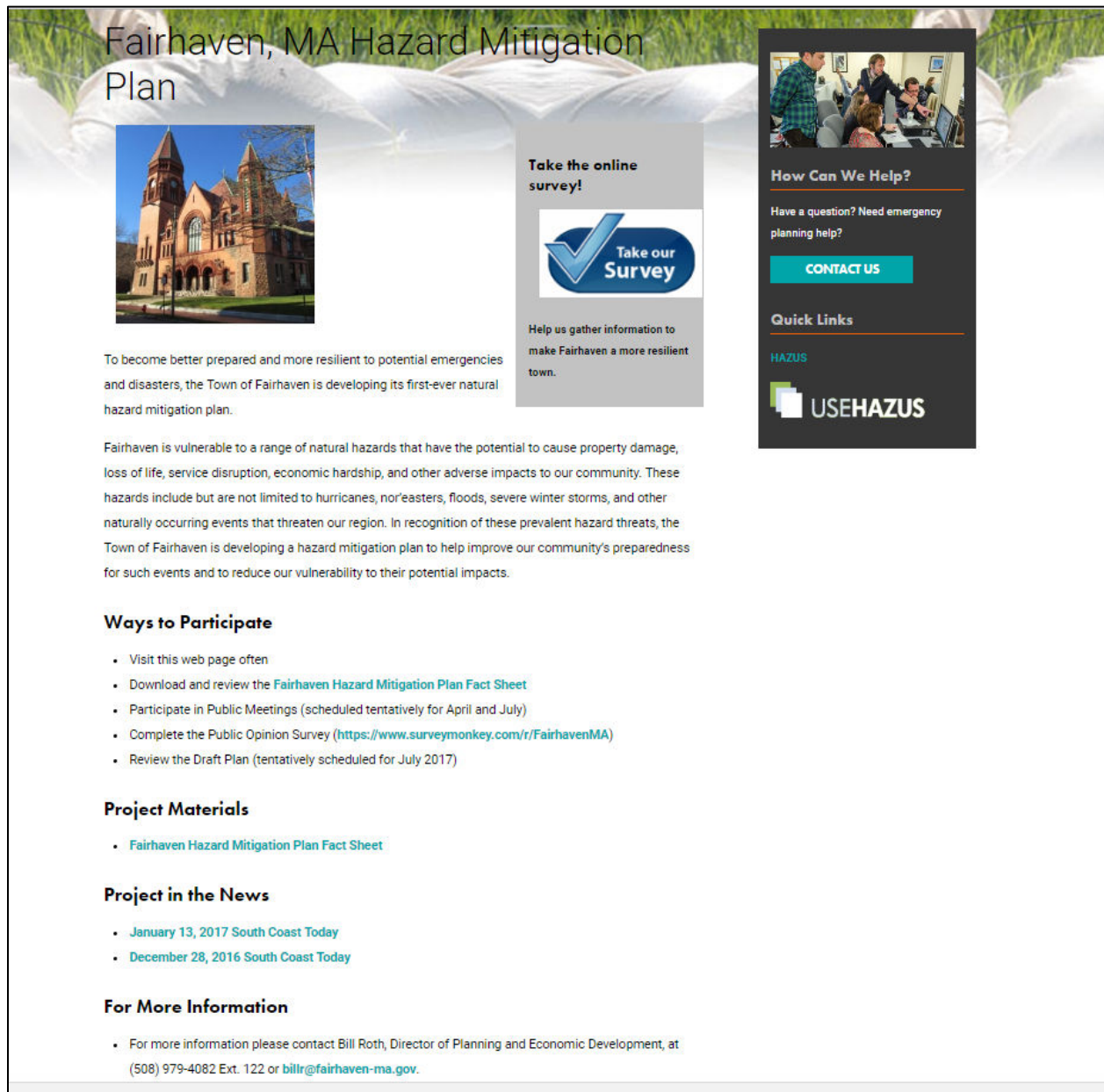
The Town of Fairhaven’s municipal website also included a Hazard Mitigation Planning page with links to the Project Website, draft plan deliverables, the Public Opinion Survey, and a virtual suggestion box. It also included information regarding the plan through the Fact Sheet. The direct link to that page is [http://fairhaven-ma.gov/Pages/FairhavenMA\\_Hazard/S02538466-02571F1B](http://fairhaven-ma.gov/Pages/FairhavenMA_Hazard/S02538466-02571F1B).

In addition to the project website, social media, specifically Facebook, was used to advertise public meetings and the Public Opinion Survey. Spikes in survey participation were a direct result of digital announcements on Facebook. Thirty-eight percent (38%) of survey respondents indicated that social media is the most efficient way for them to receive information about hazard mitigation.

### **Project Fact Sheet**

A double-sided, one-page project Fact Sheet was developed to describe the plan update process and to solicit participation in the planning process. The Fact Sheet was actively used to supplement and help promote the Project Website and Public Opinion Survey. It was made available in print and in digital form through either email attachments and hyperlinks so that others could download it from the Project Website. A copy of the Fact Sheet is provided in Appendix C.

Figure 2-2: Screenshot of Project Website, February 2017



## 2.4. REVIEW OF EXISTING PLANS, REPORTS, AND OTHER RELEVANT INFORMATION

As part of the development of this plan, many existing plans, studies, reports, and other technical information were reviewed and incorporated as appropriate. This review supported an overall evaluation of community needs and goals, past hazard-related studies or reports, disaster damage data, natural area plans, and other relevant documents that provided helpful information for plan development. This includes specific data and information used in the completion of the hazard analysis and risk assessment and capability assessment (as identified and cited throughout Appendices A and B, respectively), as well as the use of other information to support the development of the mitigation strategy (Section 4).

The following list includes some of the primary sources of information as identified by the HMPC and reviewed early in the planning process, including both local (internal) and external sources. More specific details on these and other sources are included in the applicable plans sections as needed.

**Primary Local Data Sources**

- *Master Plan for the Town of Fairhaven (2017 DRAFT)*
- *Master Plan for the Town of Fairhaven (1996)*
- *Open Space and Recreation Plan (1996)*
- *Open Space and Recreation Survey (2016)*
- *Hurricane Plan (2016)*
- *Harbor Plan (2010)*
- *Town of Fairhaven Capital Improvement Plan, FY-18-22 (2017)*
- *Town Administrator Recommended Budget (2016)*
- *Fairhaven Housing Needs Assessment (2009)*
- *Fairhaven Affordable Housing Action Plan (2010)*
- *Town of Fairhaven Business Study (2010).*
- *Town of Fairhaven Tourism Study (2010)*
- *Town of Fairhaven Resident Survey (2008)*
- *South Coast Rail Corridor Plan, Five-Year Update of Community Priority Areas (2013)*
- *Strategy for Fairhaven's Economic Future (1996)*
- *Wastewater Management Plan (2013)*
- *Water System Capital Efficiency Plan (2011)*
- *Town of Fairhaven Tax Assessor Records*
- *Town of Fairhaven GIS Data (including but not limited to geospatial information on the Town's tax parcels, building footprints, critical facilities, and other community assets)*

**Primary External Data Sources**

- *Massachusetts State Hazard Mitigation Plan.* MEMA. 2013.
- *National Centers for Environmental Information (NCEI) Storm Events Database.* NOAA. 2017.
- *2016 Regional Transportation Plan.* SRPEDD. 2016.
- *Transportation Improvement Program, 2017-2021.* SRPEDD. 2016.
- *Natural Hazard Pre-Disaster Regional Mitigation Plan.* SRPEDD. 2014.
- *Final Report: Results from a VCAPS Planning Workshop for Extreme Weather and Climate Change in New Bedford and Fairhaven, Massachusetts.* Social and Environmental Research Institute. December 2012.
- *Climate Change Vulnerability Assessment and Adaptation Planning Study for Water Quality Infrastructure in New Bedford, Fairhaven and Acushnet.* Buzzards Bay National Estuary Program. 2014.
- *Projected Expansion of the Floodplain with Sea Level Rise in Fairhaven, Massachusetts.* Buzzards Bay National Estuary Program and Massachusetts Office of Coastal Zone Management. Technical Report SLR12-1. 2012.
- *Local Mitigation Planning Handbook.* FEMA. 2013.
- *Demonstrating Good Practices Within Local Hazard Mitigation Plans.* FEMA Region 1. 2017.
- *CRS Coordinator's Manual.* FEMA. 2017.
- *Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards.* FEMA. 2013.

## SECTION 3. COMMUNITY PROFILE

This section provides some background and a general overview of the entire planning area. It consists of the following subsections:

- 3.1. Location and History
- 3.2. Geography and Climate
- 3.3. Population, Housing, and Demographics
- 3.4. Infrastructure and Environment
- 3.5. Employment and Industry
- 3.6. Land Use and Development Trends

### 3.1. LOCATION AND HISTORY

The Town of Fairhaven is a seaside community on the shore of Buzzards Bay, directly across the harbor from the famed whaling port of New Bedford. It is located approximately 50 miles south of Boston, Massachusetts and 35 miles east of Providence, Rhode Island. It is bordered by the towns of Acushnet on the north, Mattapoisett on the east, Buzzards Bay on the south, and New Bedford Harbor and the City of New Bedford on the west.



Fairhaven has a rich history dating back to the days of the Pilgrims, with settlement beginning in the 1650s. The first naval battle of the American Revolution was fought by Fairhaven militiamen aboard the sloop *Success* in May of 1775. The town suffered both material damage and loss of life during the raids and battles of King Philip's War and significant settlement took place only after the war. Until the middle of the 18th century the town's economy was agricultural, and beyond that point there was a shift toward maritime activities such as shipbuilding, whaling, and foreign trade focusing on the town's wharves.

The Town of Fairhaven was incorporated on February 22, 1812, separating from New Bedford over political differences concerning the War of 1812. By 1838, Fairhaven was the second busiest whaling port in the country and at its peak the town boasted 46 ships and 1,324 men engaged in bringing back over \$600,000 worth of whale products annually. Discovery of oil in Pennsylvania coming on the heels of a national depression ended whaling and the town turned to such industries as fishing, boat building and repair, and tack making. In 1903, the American Tack Company's new plant was said to be the largest and best tack mill in the world.

Prominent Fairhaven resident Henry Huttleston Rogers went to Pennsylvania to learn about the oil industry. He became vice-president of Standard Oil Company and after making himself a millionaire, Rogers re-made his hometown. Between 1885 and 1906 he gifted funds that led to the design and construction of the town hall, library, Unitarian church, grammar school and high school, in addition to streets and the town's public water system. The buildings make up some of the State's finest collection of National Registered Historic public buildings, almost all designed by Boston architect Charles Brigham.

The community began taking on the character of a suburban town in the mid 1870's when the New Bedford and Fairhaven Street Railway Company connected Fairhaven to New Bedford. At the same time Fairhaven began to develop as a summer resort area with nearly 30 miles of pristine shoreline with significant rural areas still the site of working farms. During the 20<sup>th</sup> Century, the Atlas Tack Company

was the town's largest employer. The factory closed in 1985 and many of its structures were subsequently demolished, though the Environmental Protection Agency required and supervised remediation of its many contaminated areas through 2007.

### ***Fairhaven Today***

As further described in Section 3.6, Fairhaven today is predominately a rural residential community with large tracks of open space and agricultural areas. Single family residential use takes up a third of total land area throughout all neighborhoods of the town. Route 6 and Main Street respectively act as the east-west and north-south spines of the Town that connects numerous smaller scale neighborhood commercial cores and higher residential areas with the town's primary commercial and industrial clusters located at Main Street/Waterfront and the Route 6/Route 240/Alden Road area.

Fairhaven has a diversity of neighborhoods. North Fairhaven, located north of I-95, is densely populated with older two-family homes and includes a struggling commercial center. The infrastructure surrounding the Cushman Park area around Route 6 and Green Street has been completely rebuilt with new stormwater infrastructure and roadways. The Center of town is the most affluent, and East Fairhaven is primarily a rural farming community. Sconticut Neck (locally referred to as "the Neck") and West Island is made up of summer homes and cottages, many of which have been converted to yearly residences.

Today the local economy is comprised of healthcare and social services, retail trade, marine repair and construction, the fishing industry, winches and fishing machinery, the hospitality industry, and agriculture. The current commercially developed area makes up only approximately 4 percent of total land use, and one of the Town's recent increasing concerns is the high number of vacancies along Route 6, the established commercial corridor.

Open space and natural resources are abundant in Fairhaven including biking and walking paths, swimming and boating amenities, wildlife viewing areas, and historical sites. The West Island State Reservation eastern half of West Island is owned by the Commonwealth of Massachusetts and is under control of the Department of Conservation and Recreation. Most of the agricultural land is in East Fairhaven and on the Neck. In total, the town has 1,888 acres of land permanently protected for conservation, agriculture, recreation and water resource protection. This translates to about 66 percent of land that is classified as forest/orchard, farm/open, or wetland/salt marsh.<sup>3</sup>

The Town of Fairhaven is currently managed by a Board of Selectmen, an Executive Secretary and a Representative Town Meeting. The Regional Planning Agency that includes Fairhaven is the Southeastern Regional Planning and Economic Development District (SRPEDD) and the town is included in the New Bedford Metropolitan Statistical Area.



Many homes located along Fairhaven's coastal areas have been elevated and converted to year-round residences. *Courtesy of Punchard Consulting LLC.*

## **3.2. GEOGRAPHY AND CLIMATE**

Per the US Census Bureau, Fairhaven includes a total area of 14.1 square miles, 12.4 of which is land and 1.7 of which is water, and nearly 30 miles of shoreline that includes a series of coves, tidal flats, and

<sup>3</sup> *Open Space and Recreation Plan*. 2010.  
Section 3: Community Profile

large expanses of salt marsh. Most of the town's water area consists of its harbors, bays and coves, along with a portion of the Acushnet River, and Nasketucket and Scipping Creeks.

Fairhaven's picturesque 19th century Town center is clustered around the waterfront along the Acushnet River, with more suburban development and commercial corridors extending north and east from the center. The more inland and northeast areas consist of open fields and farms on slightly rolling terrain separated by numerous freshwater marshes and wooded swamps. Sconticut Neck, a 4.5-mile long peninsula stretching into Buzzards Bay, extends to the south with mostly low-density residential development interspersed with expanses of fields and salt marshes. Connected to the Neck by a causeway is West Island, a small, 535-acre island with a mostly residential development in addition to the Town Beach and the densely forested West Island State Reservation. The largest open beach in Fairhaven is located at the Fort Phoenix State Reservation, a south-facing beach at the mouth of the Acushnet River and to the east of the New Bedford Harbor Hurricane Barrier.

The climate in Fairhaven is typical for the southern coast of New England. It typically averages around 30 degrees in January, 74 degrees in July, and the annual precipitation is 47.3, according to the National Climatic Data Center.

### 3.3. POPULATION, DEMOGRAPHICS, AND HOUSING

According to the US Census Bureau, Fairhaven's population has fluctuated little since 1970 and currently stands at approximately 16,000 people (2015 estimate). Projections indicate that this trend of a generally static population count will continue, however, the age structure of the town's residents is changing significantly with a growing senior population. Demographic data indicates that people between the age of 55 and 64 increased by nearly 1,000 from 2000 to 2015, while the younger population between the age of 5 and 19 decreased by nearly 900 during the same time. Seniors over 65 years of age also increased slightly from 2000 to 2015, and this trend of an aging population is projected to continue through 2030. The median age of people currently living in Fairhaven is 47, and the average household size is 2.33. Household income is \$31,818 per capita and \$61,274 median per household, and an estimated 10 percent of the population lives below the poverty level. Approximately ninety-three percent of the population is white, followed by Asians (5 percent) and people who identify themselves with two or more races (1.4 percent).

Today there is an estimated 7,447 housing units in Fairhaven, with the vast majority (74 percent) classified as detached single-family structures. Of the 90 percent of occupied homes in Fairhaven, 66 percent are owner-occupied and 24 percent are renter-occupied. The town's housing stock is quite old with nearly 3,000 homes built before 1940. Per the Town's draft Master Plan, while overall household income is on the rise, affordability is still a challenge with nearly half of the town's rental households and a third of the owner-occupied households defined as being cost-burdened (spending greater than 30 percent of monthly income on housing). The draft plan also notes that greater housing diversity is needed, particularly for rental and condo units.

### 3.4. INFRASTRUCTURE AND ENVIRONMENT

Fairhaven has 29.4 miles of coast along Buzzards Bay, New Bedford Harbor, and the Acushnet River. The Sconticut Neck and West Island jut 4.5 miles from Fairhaven's mainland into Buzzards Bay. The land along the coast includes salt marsh, tidal flats, marine flats, estuarine flats and barrier beach. Due to the abundance of these low-lying coastal lands, flooding is a significant hazard risk for Fairhaven. The

hurricane barrier that stretches across the mouth of New Bedford Harbor provides protection from major coastal storms. The barrier was completed in May 1966 and is operated and maintained by the US Army Corps of Engineers, the City of New Bedford, and the Town of Fairhaven. The barrier consists of three separate structures: the main barrier, the Clarks Cove Dike, and the Fairhaven Dike. Fairhaven Dike is located across the tidal marshes at the head of Priests Cove and provides protection from coastal flooding to all but Sconticut Neck, West Island, and the northern shore of Nasketucket Bay. The barrier was accredited by FEMA in 2011 and is shown on the effective FIRM as providing protection from the 1-percent-annual-chance flood, but it has been assumed that the barrier would fail in a 0.2-percent-annual-chance flood event.

Transportation in Fairhaven includes approximately 100 miles of roadways, with the business districts well-served from higher order roadways and the harbor-based industrial districts well-served from local roadways. Two parallel east-west highways serve Fairhaven. The first is Interstate Route 95, a limited access highway that runs between Cape Cod and Providence, and has one exit in Fairhaven. The second is U.S. Route 6, an older major commercial route and traffic artery connecting Fairhaven with the communities to its east and west. Route 6 enters the town on a bridge between the mainland and Pope's Island, which is connected to the rest of New Bedford by the New Bedford–Fairhaven Bridge, a swing-span truss bridge that is over 100 years old. In addition, State Route 240 provides a short, one-mile divided highway, north-south connection between Route I-95 and Route 6 and Sconticut Neck Road. The town's retail center is located at this intersection, and includes several stores, markets, and restaurants, and is the main retail center for neighboring Acushnet and Mattapoisett as well. These major routes provide residents of Fairhaven with relatively easy access to employment and recreation opportunities to the east and west, and help to ease the movement of shoppers and visitors through and into the town while maintaining acceptable traffic loads on local streets.

Fairhaven's other infrastructure is well developed and continually improving. The Town has a wastewater treatment plant on Arsene Street that treats wastewater for Fairhaven and Mattapoisett and septic waste from Fairhaven, Mattapoisett, Rochester, Acushnet, Freetown and Marion. Fairhaven draws water from its five wells and purchases water from the City of New Bedford. An additional Town-owned well providing a potential drinking water source is in the Nasketucket River Watershed near two small ponds on the river located just north of U.S. Route 6. Having once provided all of Fairhaven's drinking water, this well was deactivated due to water quality and draw down problems. The Town owns and operates two water towers that maintain adequate residential use pressure in high service areas. A third water tower is planned for the East Fairhaven area in the next several years, to improve water pressures needed for fire-fighting purposes in that area. In addition, the Water Department has just recently approved a water system capital improvement plan. This plan will address system improvements needed to meet the existing and anticipated future water needs of the Town. Also, due to securing multiple Community Development Block Grants (CDBG) grants and other federal funding assistance, much of the stormwater management system in the town has recently been improved (further described in Appendix B, Capability Assessment).

The Town of Fairhaven has also recently joined together with the Towns of Mattapoisett, Marion and Rochester to form a Regional Water District, the Mattapoisett River Valley Water District (MRVWD). This is in response to improving and maintaining water quality and quantity to the above-mentioned townships. The District's goals are to minimize public health threats, improve overall water quality, respond to water supply deficits, provide for emergency interconnections, optimize corrosion control and provide upgrades to each of the Towns' pumping stations.

Solid wastes are collected in the town by contractors and disposed of at the Southeastern Massachusetts (SEMASS) Resource Recovery Facility in Rochester. Fairhaven does not operate a landfill but does have a recycling center for yard and garden waste, oil, batteries, and cardboard.

### 3.5. EMPLOYMENT AND INDUSTRY

As of 2016, there are 680 businesses and 8,839 employees working in Fairhaven. According to SRPEDD, the largest percentage of workers in Fairhaven are in the Health Care and Social Assistance field, followed by Retail Trade, and then Accommodation and Food Services. Health Care and Social Assistance fueled the most job growth in Fairhaven, as between 2010 and 2015, the town experienced nearly 200 percent growth in this industry sector (and 30 percent growth overall).

There are not any major industries in Fairhaven. Although home to some larger establishments, approximately 89 percent of the businesses in Fairhaven have fewer than 20 employees. There are several clusters of small businesses in Fairhaven, notably along the Route 6 corridor, along the working waterfront near the Town Center (further described below), and at the gateways to Fairhaven from New Bedford across the Acushnet River. The largest employer is the Acushnet Company, a golf equipment and clothing manufacturing company that includes well-known brands such as Titleist and Footjoy. The Southcoast Hospital Group, part of the Southcoast Health System, is another important employer in Fairhaven. Preliminary findings during the Master Plan update process found that a general concern exists in the community over the rising vacancy rate at “big box” shopping centers such as the former Sears and Shaw’s site. Additionally, Kmart closed its doors at their Fairhaven location in the spring of 2017.

Fairhaven has an important working waterfront along the Acushnet River. The industry is tied to the New Bedford region’s fishing industry and supports it by providing ship repair and outfitting services. Part of the waterfront belongs to the New Bedford-Fairhaven Designated Port Area (DPA), which is a state-designated area of concentrated industrial activities. Projects proposed in the DPA must be maritime industrial uses or supporting uses. The Fairhaven Shipyard Company is the largest business in the industry and employs more than 100 people. This is where the Steamship Authority services their fleet (the largest ferry service to the Islands of Martha’s Vineyard and Nantucket from Cape Cod).

The Northeast Maritime Institute, located in the Town Center, is a private college that offers training and education for careers in the maritime industry. Although the maritime businesses in Fairhaven represent a smaller industry cluster, it is an important aspect of the Town’s legacy and identity and it offers wages much higher than retail or service jobs.

### 3.6. LAND USE AND DEVELOPMENT TRENDS

Land use in Fairhaven is a mixed combination of developed properties (urban and rural), agricultural lands, and natural/undisturbed lands including forest, wetlands and other coastal ecosystems. As described in the Town’s Open Space and Recreation Plan, the community’s landscape includes the historic central area with magnificent nineteenth century public buildings to the working waterfront on New Bedford Harbor, the pastoral New England countryside in the northeast corner to the marshes of Little Bay and Priests Cove, to the beaches of Sciticut Neck and West Island to the dramatic vistas of the water from the farmlands along Shaw’s Road. It’s evident through this description that Fairhaven encompasses a wide range of land use types that provide a variety in urban, rural, natural, and cultural experiences.

**Figure 3-1** illustrates existing land use patterns in Fairhaven based on the Town's latest (2016) Assessor's database in combination with existing parcel data layers, as prepared in support of the Town's Master Plan Update. As can be seen in the figure and per the draft Master Plan document, most of Fairhaven's residential development is located within one mile of New Bedford Harbor in the western part of Town, and extends to the east along Route 6, to the south along Sconticut Neck Road on the northern portion of Sconticut Neck, and on the western one-third of West Island. The Town's commercial and industrial development is primarily located along U.S. Route 6, east of its intersection with State Route 240, or in Fairhaven Center along the waterfront. The rest of Fairhaven is dominated by an "open" and natural landscape of forests, farm and open lands, and wetlands or salt marshes.

Growth and development over the past few decades has been relatively slow but steady, with an overall 6.2 percent change from undeveloped land to developed land between 1985 and 2005 that was mostly clustered around traditional centers and along major routes. The most significant change occurred in agricultural land and open undeveloped land which decreased by nearly 7 percent and 3.1 percent, respectively. Commercial land grew by only 1.1 percent with most of the growth occurred along Alden Road expanding from the established Route 6 commercial corridor. Residential land increased by 3.1 percent with new developments mainly distributed along major roads in existing residential neighborhoods, particularly in the northwestern portion and along Route 6 in the eastern portion of town. Statistics also show a 2.6 percent increase in natural vegetated areas, which is likely due to succession of inactive agricultural and open undeveloped land and more detailed delineation of inland wetlands.

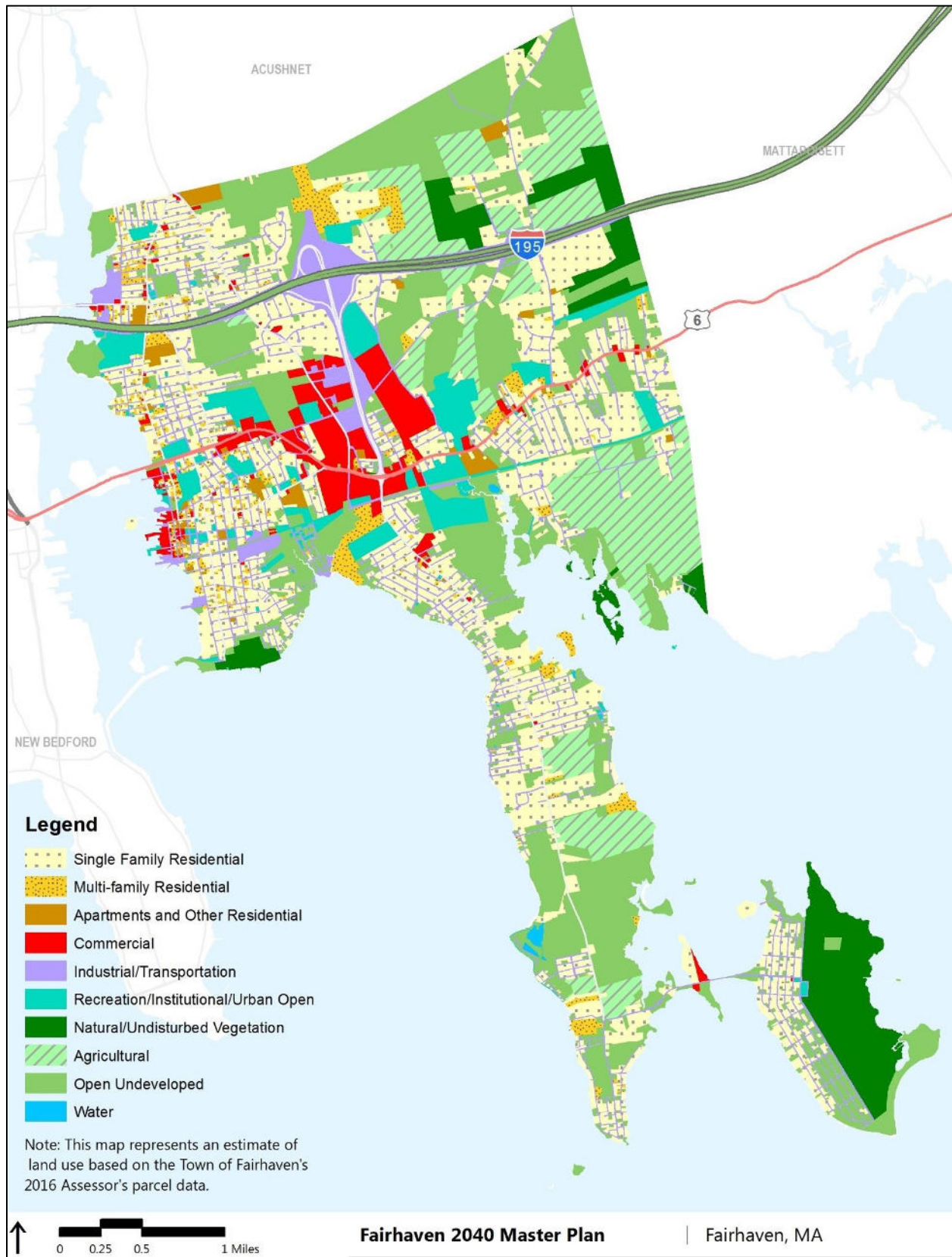
In terms of future growth and development, these patterns will be to a large extent determined by the Town's existing zoning ordinances, subdivision regulations, and other local development policies and priorities (further described in Appendix B, Capability Assessment). Fairhaven's current zoning bylaw was first adopted in 1966 and has since been through numerous amendments. **Figure 3-2** provides a copy of the Town's current zoning map. As can be seen in the figure, the zoning bylaws designate nearly half of the town for Rural Residence Districts, which is consistent with single-family homes dominating current land usage.

It is worth noting that at the time of this writing, the following three (3) goals were identified for Land Use in the Town's draft Master Plan:

*Goal 1: Balance growth and preservation.*

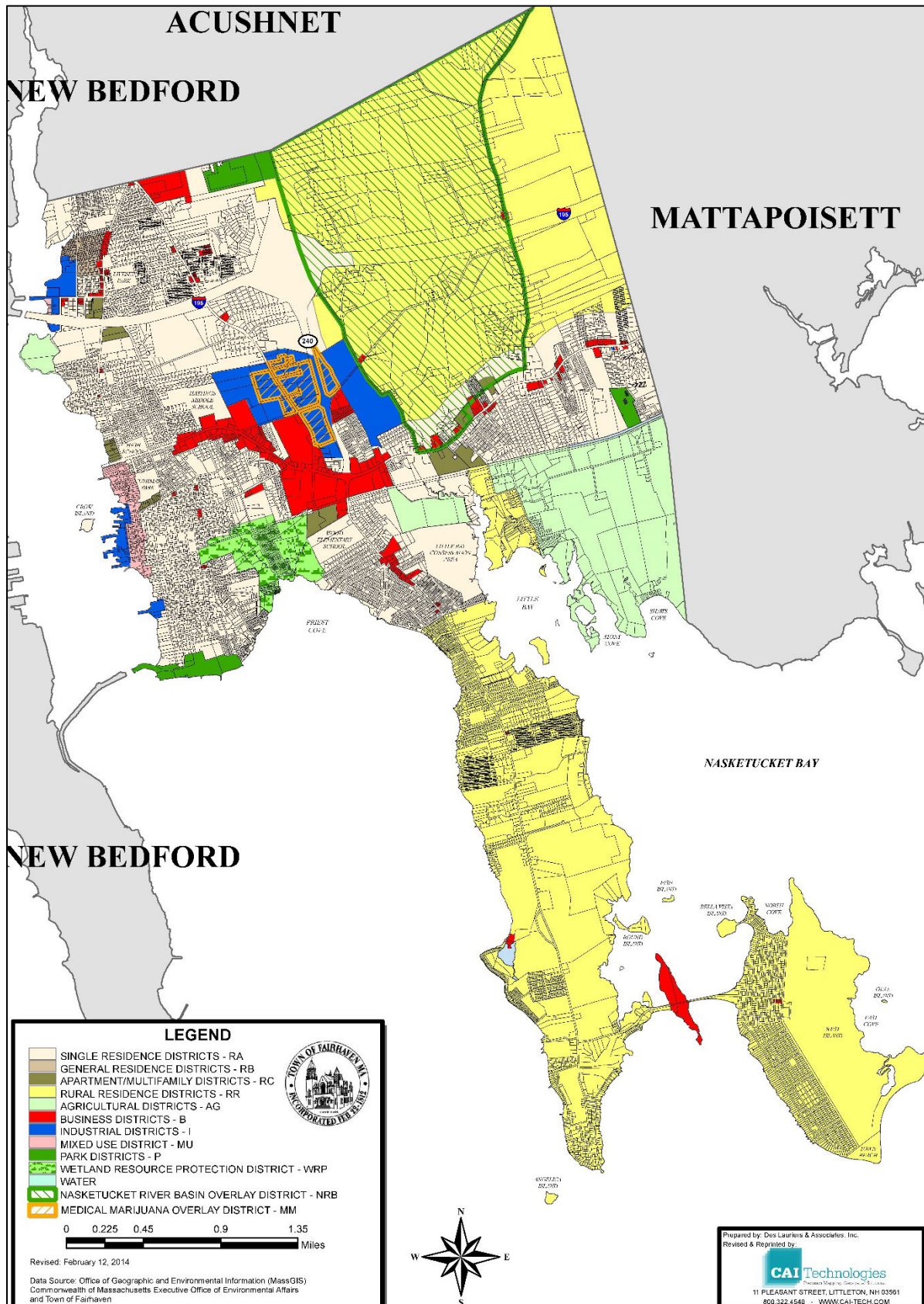
*Goal 2: Encourage strategic redevelopment in the Route 6 commercial area.*

*Goal 3: Promote neighborhood commercial nodes and small local businesses.*

**Figure 3-1: Existing Land Use Pattern, 2016**

Source: Town of Fairhaven Master Plan, 2017 Draft (prepared by VHB)

Figure 3-2: Town of Fairhaven Zoning Map



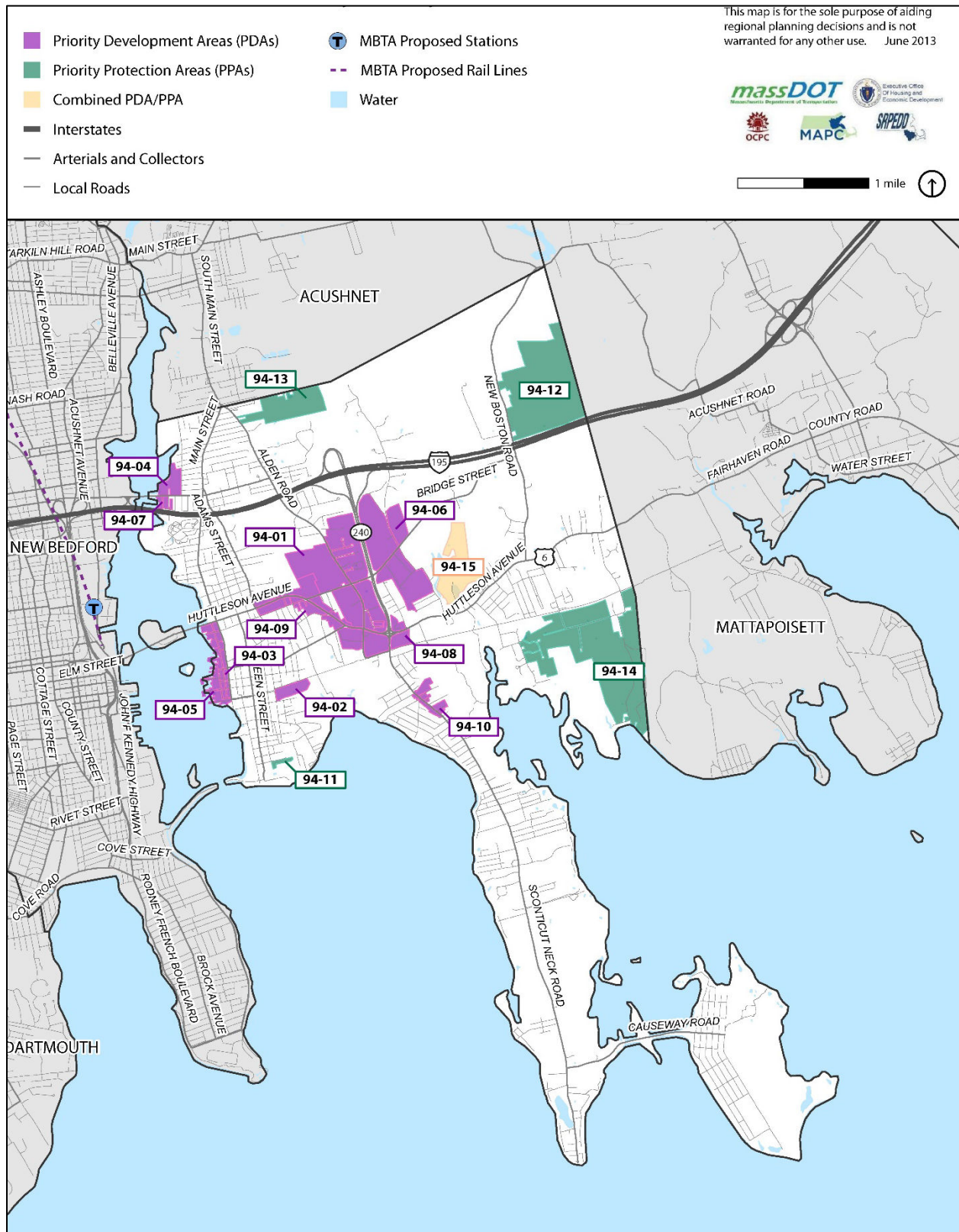
Future development patterns will also be influenced by the Town's designated Priority Development Areas, Priority Protection Areas, and Combined Priority Development and Priority Protection Areas as created through regional coordination with SRPEDD in 2008 and 2013. Brief descriptions of each area are provided below:<sup>4</sup>

- *Priority Development Areas (PDAs)* are areas that are appropriate for increased development or redevelopment due to several factors including good transportation access, available infrastructure (primarily water and sewer), an absence of environmental constraints, and local support. PDAs can range in size from a single parcel to many acres. Potential development ranges from small scale infill to large commercial, industrial, residential, or mixed-use projects. Town and village centers, Chapter 40R Districts, industrial parks, and proposed commuter rail station sites are typical examples of PDAs.
- *Priority Protection Areas (PPAs)* are areas that are important to protect due to the presence of significant natural or cultural resources, including endangered species habitats, areas critical to water supply, historic resources, scenic vistas, and farms. Like PDAs, the PPAs can vary greatly in size. Sites may be candidates for protection through acquisition or conservation restrictions.
- In Combined Priority Development and Priority Protection Areas (Combined Areas), communities welcome development; however, the development is expected to be sensitive to its site and the surrounding area. This may include development that complements the older structures within a historic district or low impact development that protects nearby water resources or biodiversity.

**Figure 3-3** shows the 2013 updated Community Priority Areas map for Fairhaven. It currently includes 10 PDAs, 4 PPAs, and 1 Combined Area. Four of the larger PDAs are centered around the intersections of Route 6, Route 240, and Alden Road which aim to primarily promote business and commercial expansions associated with existing commercial areas. Four other PDAs are on the waterfront areas north of I-195 and south of Route 6. These PDAs mainly focus on promoting waterfront industrial vitality and mixed-use development. More detailed information on these and other areas is available through the 2013 *South Coast Rail Corridor Plan, Five-Year Update of the Community Priority Areas in Fairhaven*.

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<sup>4</sup> *South Coast Rail Corridor Plan, Five-Year Update of the Community Priority Areas in Fairhaven*. 2013.  
Section 3: Community Profile

**Figure 3-3: Town of Fairhaven Community Priority Areas, 2013**

Source: South Coast Rail Corridor Plan, Five-Year Update of the Community Priority Areas in Fairhaven

## SECTION 4. MITIGATION STRATEGY

The Mitigation Strategy section provides the blueprint for the Town of Fairhaven to follow to become less vulnerable to the negative effects of the hazards identified and addressed in this plan. It is based on the consensus of the Hazard Mitigation Planning Committee (HMPC) and the findings and conclusions of the Hazard Analysis & Risk Assessment and Capability Assessment, in addition to the input and feedback generated through the Town's public engagement efforts. It consists of the following subsections:

- 4.1. Overview
- 4.2. Mitigation Goals
- 4.3. Identification and Analysis of Possible Mitigation Activities
- 4.4. Selection and Prioritization of Mitigation Actions
- 4.5. Mitigation Action Plan (MAP)

### 4.1. OVERVIEW

The intent of the Mitigation Strategy is to provide the Town of Fairhaven with a vision and overall goals that will serve as guiding principles for future mitigation policy and project administration, along with an analysis of the mitigation techniques available to meet those goals and reduce the impact of identified hazards. It is designed to be comprehensive, strategic, and functional in nature.

- In being *comprehensive*, the development of the Mitigation Strategy included a thorough review of all hazards and identifies mitigation measures intended to not only reduce the future impacts of high risk hazards, but also to help the Town of Fairhaven achieve compatible social, economic, and environmental goals.
- In being *strategic*, the development of the Mitigation Strategy ensures that all actions proposed for implementation are consistent with pre-identified and long-term planning goals.
- In being *functional*, each proposed mitigation action is linked to established priorities and assigned to specific departments or individuals responsible for their implementation with target completion deadlines. When necessary, funding sources are identified that can be used to assist in project implementation.

The first step in designing the Mitigation Strategy was to create an overall mission statement to be agreed upon by the HMPC to represent the overall intended outcome of the plan. The final mission statement as adopted by the Town of Fairhaven is as follows:

#### MISSION STATEMENT:

***Reduce the impact of natural hazards and a changing climate on Fairhaven's residents, businesses, facilities, and services through improved disaster preparedness and risk reduction strategies.***

The next step included the identification of mitigation goals. Mitigation goals represent broad statements that are achieved through the implementation of more specific mitigation actions. These actions include both hazard mitigation policies (such as the regulation of land in known hazard areas through a local ordinance), as well as hazard mitigation projects that seek to address specifically targeted hazard risks (such as the acquisition and relocation of a repetitive loss structure).

The third step included the identification, consideration, and analysis of available mitigation measures to help achieve the identified mitigation goals. This is a long-term, continuous process to be sustained through the development and maintenance of this plan. Alternative mitigation measures will continue to be considered as future mitigation opportunities are identified, as data and technology improve, as mitigation funding becomes available, and as the plan is maintained over time.

The fourth and final step in designing the Mitigation Strategy is the selection and prioritization of specific mitigation actions. The Mitigation Action Plan (MAP) reflects the specific needs, concerns, and problems identified during the planning process and represents a clear and functional plan for action. It is considered the most essential outcome of the mitigation planning process.

The MAP includes a prioritized listing of proposed hazard mitigation actions (policies and projects) for the Town of Fairhaven to implement. Each action has accompanying information, such as those departments or individuals assigned responsibility for implementation, potential funding sources, and an estimated target date for completion. The MAP provides the departments or individuals responsible for implementing mitigation actions with a clear roadmap that also serves as an important tool for monitoring success or progress over time. The cohesive collection of actions listed in the MAP can also serve as an easily understood menu of mitigation policies and projects for local decision makers who want to quickly review the recommendations and proposed actions of the Town's Hazard Mitigation Plan.

In preparing the Mitigation Action Plan, local Town staff considered the overall hazard risk and capability to mitigate the effects of hazards as recorded through the risk and capability assessment process, in addition to meeting the adopted mission statement and mitigation goals. Prioritization of the proposed mitigation actions was based on the factors outlined in subsection 4.4.

## 4.2. MITIGATION GOALS

The primary goal of all local governments is to promote the public health, safety, and welfare of its citizens. In keeping with this standard, the Town of Fairhaven developed six goal statements for local hazard mitigation planning. In developing these goals, careful consideration was given to the wide range of strategies, goals, and actions from other community plans to ensure consistency and cross-integration. These goals are presented in **Table 4-1**.

**Table 4-1: Mitigation Goals**

<b>Goal #1</b>	Invest in <b>improvements to critical facilities and infrastructure</b> that will protect the Town from the impacts of natural hazards and a changing climate.
<b>Goal #2</b>	Identify and implement <b>structural hazard mitigation and climate adaptation projects</b> with the support of state and federal grant funding.
<b>Goal #3</b>	Enact <b>non-structural planning and policy measures</b> to prevent or reduce the impacts of identified hazards, with special emphasis on promoting nature-based solutions.
<b>Goal #4</b>	Conduct <b>public education and outreach activities</b> to better inform people about hazard risks and the steps they can take to prepare for and reduce their impact.

<b>Goal #5</b>	Support Town staff participation in <b>training and exercise programs</b> to better prepare the Town to respond to, mitigate against, and recover from emergencies and disasters.
<b>Goal #6</b>	Develop additional resources to <b>build the Town's capacity</b> to routinely update and implement a comprehensive hazard risk reduction program.

These mitigation goals were developed, discussed, and finalized by the HMPC at the fourth and fifth HMPC meetings. Each goal, purposefully broad in nature, serves to establish the parameters that were used to review and update existing mitigation actions and to aid in formulating new ones. The consistent implementation of mitigation actions over time will ensure that these mitigation goals are achieved.

### 4.3. IDENTIFICATION AND ANALYSIS OF POSSIBLE MITIGATION ACTIVITIES

In formulating the *Mitigation Strategy*, a wide range of activities was considered to help achieve the established mitigation goals in addition to addressing specific hazard concerns. As described and more fully documented in Appendix C, these activities were reviewed and discussed during HMPC meetings and were also sought through public and stakeholder engagement efforts. This systematic review of a wide range of activities was completed to ensure that all possible mitigation measures were explored.

In general, all activities considered by the HMPC may be classified under one of the following four broad categories of mitigation techniques: local plans and regulations, structure and infrastructure projects, natural systems protection, and education and awareness programs. There is also a fifth common category of techniques which are described below as "Other Types of Actions." These techniques support hazard mitigation but typically fall into other phases of emergency management, such as preparedness or response. All five categories are briefly described with example types of actions below.

#### Local Plans and Regulations

Mitigation actions that fall under this category include government authorities, policies, or codes that influence the way land and buildings are developed and built. Examples of these types of actions include:

- Floodplain regulations
- Coastal setbacks/erosion regulations
- Master plans
- Land use ordinances
- Subdivision regulations
- Development review
- Building codes and enforcement
- NFIP Community Rating System
- Capital improvement programs
- Open space preservation
- Stormwater management regulations

#### Structure and Infrastructure Projects

Mitigation actions that fall under this category involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private

structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards. Many of these types of actions are projects eligible for funding through the FEMA Hazard Mitigation Assistance (HMA) program. Examples of these types of actions include:

- Acquisitions and elevations of structures in flood prone areas
- Utility undergrounding
- Structural retrofits and upgrades
- Seawalls, floodwalls, and retaining walls
- Detention and retention structures
- Storm drain improvements, culverts, and channel modifications
- Safe rooms

### **Natural Systems Protection**

Mitigation actions that fall under this category seek to use nature-based solutions to minimize damage and losses from hazards while providing the co-benefits that often come from preserving or restoring the functions of natural systems. Examples of these types of actions include:

- Dune and coastal barrier protection
- Sediment and erosion control
- Stream corridor restoration
- Forest management
- Conservation easements
- Wetland restoration and preservation
- Natural area and functions protection

### **Education and Awareness Programs**

Mitigation actions that fall under this category inform and educate citizens, government officials, and property owners about natural hazards and potential ways to mitigate their risk. Although this type of mitigation reduces risk less directly than structural projects or certain regulatory policies, it is an important foundation. A greater understanding and awareness of hazards and risk among the public and key targeted stakeholders is more likely to lead to direct actions. Examples of these types of mitigation actions include:

- Radio or television spots
- Library collections and websites with hazard maps and information
- Real estate disclosure
- Technical assistance on hazard mitigation
- Presentations to school groups or neighborhood organizations
- Mailings to residents in hazard-prone areas
- Participation in national risk awareness or emergency preparedness programs such as FEMA's *High Water Mark* initiative, the National Weather Service's *StormReady* program, and the National Fire Protection Association's *Firewise USA* program

### **Other Types of Actions**

The Town of Fairhaven may wish to include other types of actions in their Mitigation Action Plan that does not fit into one of the categories listed above. In some cases, these may not be viewed as pure examples of mitigation, but they may be related in ways that make sense from a local planning viewpoint. Further, some of the traditional "emergency response" activities are encouraged by FEMA

and the Insurance Services Office, Inc. to be included in local hazard mitigation plans in order to receive credit under the Community Rating System (CRS). Examples of these types of actions include:

- Hazard warning systems
- Disaster response operations (including evacuation, sheltering, etc.)
- Backup power generation and supply (e.g., generators)
- Post-disaster recovery and mitigation actions

#### 4.4. SELECTION AND PRIORITIZATION OF MITIGATION ACTIONS

All the above mitigation categories and actions, including their pros and cons and applicability for Fairhaven, were discussed with the HMPC. Prior to moving forward with action selection, an interactive exercise was held (during the third HMPC meeting) in which the mitigation categories were generally prioritized as follows:

1. Education and Awareness
2. Local Plans and Regulations
3. Structure and Infrastructure Projects
4. Natural Systems Protection

In addition, each of the above categories for mitigation actions were introduced and described as part of the Public Opinion Survey. While responses indicate that all categories are important for the Town of Fairhaven to consider, the results indicated the following priority rankings (slightly different from those prioritized by the HMPC as shown above):

1. Local Plans and Regulations
2. Natural Systems Protection
3. Structure and Infrastructure Projects
4. Education and Awareness

The identification, evaluation, and selection of specific mitigation actions for the Mitigation Action Plan were carefully considered and discussed through multiple means including multiple HMPC and open public meetings, the Public Opinion Survey, and individual discussions with and feedback from Town staff. They were also heavily based on the issues or problems identified through the findings and conclusions resulting from the Hazard Analysis & Risk Assessment and Capability Assessment.

In order to prioritize the mitigation actions selected for inclusion in the plan, the HMPC revisited the findings of the Hazard Analysis & Risk Assessment and Capability Assessment (in terms of overall hazard risk and capability to mitigate) in addition to the input and feedback generated through the Town's public engagement efforts. Prioritizing mitigation actions was based primarily on the following five factors: (1) the mitigation action's anticipated effect on overall risk to life and property; (2) its ease of implementation; (3) the degree of political and community support; (4) its general cost-effectiveness<sup>5</sup>; and (5) funding availability (if applicable).

Using the above criteria, the priority for each mitigation action was determined by classifying each action as high, moderate, or low priority. These priority levels can be generally described as follows:

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<sup>5</sup> A general economic cost/benefit review was conducted as part of selecting and prioritizing mitigation actions. Mitigation actions with "high" priority were determined to be the most cost effective and most compatible with the Town's unique needs. A more detailed cost/benefit analysis will be conducted as part of an application for funding, as appropriate.

- **High Priority:** The most immediate, cost-effective and appropriate actions preferably to be accomplished in the short to mid-term (1-2 year) planning horizon.
- **Moderate Priority:** Fairly urgent, cost-effective and appropriate actions but with some possible difficulties associated with implementation. Preferably accomplished in the mid to long-term (2-4 year) planning horizon.
- **Low Priority:** Not urgent, but an action to be considered for implementation at some point over the long-term (4+ years) when implementation is deemed most appropriate.

#### 4.5. MITIGATION ACTION PLAN

This Mitigation Action Plan (MAP) lists all mitigation actions proposed by the Town of Fairhaven for implementation during the 2018-2023 planning cycle. The MAP has been designed to address the established goals of this Hazard Mitigation Plan (Section 4.2), and they are focused on those hazards and vulnerabilities presenting the highest potential threats to the Town as determined through the Hazard Analysis and Risk Assessment (Appendix A). Mitigation actions are also based on the Town's existing local capability as described in the Capability Assessment (Appendix B). The MAP will be maintained on a regular basis according to the plan maintenance procedures established in Section 5.

The MAP is presented in tabular format with the following attribute information for each identified action:

- **Action #** – a unique identifier assigned to each action.
- **Action Title** – provides a brief summary of the proposed action.
- **Action Description** – describes the action in more detail, with some background on the issue or problem it will address.
- **Mitigation Goal** – identifies the specific mitigation goal(s) the action is intended to help achieve as established in Section 4.2.
- **Mitigation Category** – identifies the category for mitigation techniques the action falls under as established in Section 4.3.
- **Hazard(s) Addressed** – indicates the specific hazard(s) the action will attempt to mitigate.
- **Estimated Cost** – provides a general cost estimate, if applicable, or indicates other resources required for implementation (e.g., "Town staff time").
- **Potential Funding Source** – identifies potential funding sources, if applicable.
- **Lead Department** – Indicates the department or agency with primary responsibility to carry the action out.
- **Implementation Schedule** – Indicates the general schedule or anticipated date of completion.
- **Priority** – Classifies the action as a High, Moderate, or Low Priority based on the criteria established in Section 4.4.

An overall one-table summary of all proposed mitigation actions is provided in **Table 4-2** on page 73, which includes all the above attribute information with exception of the detailed action description.

**Mitigation Action #1 – Review and Amend Zoning Bylaws to Reduce Risk**

<b>Description</b>	Conduct review of existing zoning bylaws and identify specific opportunities to incorporate additional measures to reduce the long-term risk to life and property from natural hazard events. This includes but is not limited to the adoption of higher regulatory standards and/or incentives for development that considers projected changes in future climate and/or hazard conditions.
<b>Mitigation Goal</b>	3
<b>Mitigation Category</b>	Local Plans & Regulations
<b>Hazard(s) Addressed</b>	All Hazards
<b>Estimated Cost</b>	Staff time
<b>Potential Funding Source</b>	N/A
<b>Lead Department</b>	Planning and Economic Development + Planning Board
<b>Implementation Schedule</b>	June 2020
<b>Priority</b>	Moderate

**Mitigation Action #2 – CRS Participation**

<b>Description</b>	Develop and submit an application for participation in FEMA's Community Rating System (CRS).
<b>Mitigation Goal</b>	3, 6
<b>Mitigation Category</b>	Local Plans & Regulations
<b>Hazard(s) Addressed</b>	Flood
<b>Estimated Cost</b>	\$3,000
<b>Potential Funding Source</b>	Planning & Economic Development Dept. Budget
<b>Lead Department</b>	Planning and Economic Development
<b>Implementation Schedule</b>	October 2018
<b>Priority</b>	High

**Mitigation Action #3 – Post-Disaster Redevelopment Plan**

<b>Description</b>	Develop a scenario-based, post-disaster redevelopment plan (PDRP) for the Town that identifies the procedures and policies required to ensure that Fairhaven's long-term recovery and reconstruction following a major disaster event leads to a more sustainable and resilient community. The PDRP should be consistent with the goals and policies of the Town's Master Plan and be the mechanism to incorporate risk reduction strategies into any disaster redevelopment process. It should pre-identify the procedures for a local recovery management organization to manage the rebuilding process, as well as any advance Town policies or bylaws that should be in place and/or triggered by a major disaster event.
<b>Mitigation Goal</b>	3, 6
<b>Mitigation Category</b>	Local Plans & Regulations
<b>Hazard(s) Addressed</b>	Coastal Storm, Flood
<b>Estimated Cost</b>	\$35,000
<b>Potential Funding Source</b>	CZM Coastal Resilience Grant Program; FEMA Hazard Mitigation Assistance (HMA)
<b>Lead Department</b>	Planning and Economic Development
<b>Implementation Schedule</b>	January 2023
<b>Priority</b>	Low

**Mitigation Action #4 – Hazard Avoidance through Development Regulations**

<b>Description</b>	Minimize or eliminate the potential for future damage and loss through the incorporation of best practices for hazard mitigation and climate adaptation into existing development regulations under the Town's authority.
<b>Mitigation Goal</b>	3
<b>Mitigation Category</b>	Local Plans & Regulations
<b>Hazard(s) Addressed</b>	All Hazards
<b>Estimated Cost</b>	Staff time
<b>Potential Funding Source</b>	N/A
<b>Lead Department</b>	Planning and Economic Development
<b>Implementation Schedule</b>	June 2020
<b>Priority</b>	Moderate

**Mitigation Action #5 – Update Stormwater Regulations**

<b>Description</b>	Update the Town's stormwater regulations to emphasize low-impact development and green infrastructure, while considering projected precipitation/flooding conditions. This action is linked to the same recommendation included in the Town's Master Plan under Sustainability Goal #3.
<b>Mitigation Goal</b>	3
<b>Mitigation Category</b>	Local Plans & Regulations
<b>Hazard(s) Addressed</b>	Flood
<b>Estimated Cost</b>	\$20,000
<b>Potential Funding Source</b>	EPA / MA DEP Grant or Town Funds
<b>Lead Department</b>	Planning Board + Planning and Economic Development
<b>Implementation Schedule</b>	June 2020
<b>Priority</b>	Moderate

**Mitigation Action #6 – Incorporate Anticipated Future Conditions into Town Bylaws**

<b>Description</b>	Incorporate existing and projected future climate conditions into the Town's zoning bylaw to promote (re)development patterns that minimize exposure to known hazards. This action is linked to the same recommendation included in the Town's Master Plan under Sustainability Goal #3.
<b>Mitigation Goal</b>	3
<b>Mitigation Category</b>	Local Plans & Regulations
<b>Hazard(s) Addressed</b>	Coastal Erosion and Sea Level Rise, Coastal Storm, Extreme Temperatures, Flood
<b>Estimated Cost</b>	Staff time
<b>Potential Funding Source</b>	N/A
<b>Lead Department</b>	Planning and Economic Development
<b>Implementation Schedule</b>	June 2020
<b>Priority</b>	Moderate

**Mitigation Action #7 – First Responder Facility**

<b>Description</b>	Support the development of a new first responder facility for the Town's Police Department, Fire Department, and Emergency Management Agency. The facility should include a structurally hardened Emergency Operations Center (EOC) designed to resist extreme loading events and function properly during local emergency or disaster events.
<b>Mitigation Goal</b>	1
<b>Mitigation Category</b>	Structure & Infrastructure Projects
<b>Hazard(s) Addressed</b>	All Hazards
<b>Estimated Cost</b>	\$15 Million
<b>Potential Funding Source</b>	Town Funds (Bonds)
<b>Lead Department</b>	Capital Planning Committee and Board of Selectmen
<b>Implementation Schedule</b>	Facilities Plan will be complete in May 2018 and this will likely be a priority. Bonding vote debit override could come as early as April of 2020.
<b>Priority</b>	High

**Mitigation Action #8 – Vulnerability and Mitigation Assessment for FHA Properties**

<b>Description</b>	Complete a more detailed study on the vulnerability and recommended structural improvements/hardening needed for existing FHA properties to allow for potential sheltering in place (and/or to serve as back-up emergency shelters).
<b>Mitigation Goal</b>	1, 2
<b>Mitigation Category</b>	Structure & Infrastructure Projects
<b>Hazard(s) Addressed</b>	Coastal Storm, Severe Weather
<b>Estimated Cost</b>	\$10,000
<b>Potential Funding Source</b>	Fairhaven Housing Authority
<b>Lead Department</b>	Fairhaven Housing Authority
<b>Implementation Schedule</b>	December 2020
<b>Priority</b>	Moderate

**Mitigation Action #9 – Flood Mitigation for 260 Block of Huttleston Avenue**

<b>Description</b>	Identify and evaluate potential upgrades and alternatives to the existing culvert and flood control structures between 265 and 267 Huttleston Avenue (near G. Bourne Knowles property) to alleviate future flood hazard threats. Objective is to eliminate or reduce flooding across Route 6 (State-owned road) and further upstream at Bridge Street (Town-owned road).
<b>Mitigation Goal</b>	2
<b>Mitigation Category</b>	Structure & Infrastructure Projects
<b>Hazard(s) Addressed</b>	Flood
<b>Estimated Cost</b>	\$15,000
<b>Potential Funding Source</b>	Chapter 90 Highway Funds
<b>Lead Department</b>	Public Works
<b>Implementation Schedule</b>	June 2021
<b>Priority</b>	High

**Mitigation Action #10 – Flood Mitigation for Repetitive Loss and Other At-Risk Properties**

<b>Description</b>	Conduct more detailed studies on the vulnerability, potential mitigation measures, and level of interest among owners of flood-prone properties to implement mitigation measures. Identify those eligible for future hazard mitigation project funding through FEMA's Hazard Mitigation Assistance (HMA) programs and proceed with application development, as appropriate. This action should then be expanded upon through the Town's future activities under the CRS program.
<b>Mitigation Goal</b>	2
<b>Mitigation Category</b>	Structure & Infrastructure Projects
<b>Hazard(s) Addressed</b>	Flood
<b>Estimated Cost</b>	\$20,000
<b>Potential Funding Source</b>	FEMA Flood Mitigation Assistance (FMA) grant program
<b>Lead Department</b>	Conservation Commission
<b>Implementation Schedule</b>	December 2020
<b>Priority</b>	Moderate

**Mitigation Action #11 – Flood Mitigation and Resiliency for West Island Causeway**

<b>Description</b>	Research and develop available flood mitigation and response measures to be taken in advance of and after future storm events that may damage or destroy the West Island Causeway. The causeway has already been destroyed once (following Hurricane Bob in 1991), experiences frequent tidal and storm-induced flooding, and is among the Town's most vulnerable transportation assets at risk to coastal erosion, sea level rise, and recurrent flooding.
<b>Mitigation Goal</b>	1, 2
<b>Mitigation Category</b>	Structure & Infrastructure Projects
<b>Hazard(s) Addressed</b>	Coastal Erosion and Sea Level Rise, Coastal Storm, Flood
<b>Estimated Cost</b>	\$30,000
<b>Potential Funding Source</b>	Federal Highway Administration; Southeastern Massachusetts Metropolitan Planning Organization (SMMPO) – Transportation Improvement Program (TIP)
<b>Lead Department</b>	Public Works
<b>Implementation Schedule</b>	December 2020
<b>Priority</b>	Moderate

**Mitigation Action #12 – Retrofit Pump Stations**

<b>Description</b>	Conduct site-specific vulnerability assessments for the 10 specific pump stations considered at "high-risk" in the 2014 Technical Report, "Climate Change Vulnerability Assessment and Adaptation Planning Study for Water Quality Infrastructure in New Bedford, Fairhaven and Acushnet." These stations include the following locations: Causeway Road, Rocky Point Road, Camel Street, Manhattan Avenue, Bernese Street, Shore Drive, Abbey Street, Waybridge Road, Seaview Avenue, and Boulder Park. Confirm the risk determinations and appropriateness of the recommended flood mitigation projects for each station as identified in the report. Establish priority rankings for each station to be retrofitted and move forward with project development, funding (including through CIP and applications for HMA grants), and implementation.
<b>Mitigation Goal</b>	1, 2
<b>Mitigation Category</b>	Structure & Infrastructure Projects
<b>Hazard(s) Addressed</b>	Flood
<b>Estimated Cost</b>	\$50,000
<b>Potential Funding Source</b>	Sewer Enterprise Fund
<b>Lead Department</b>	Public Works
<b>Implementation Schedule</b>	June 2021
<b>Priority</b>	Moderate

**Mitigation Action #13 – Flood Mitigation for Public Infrastructure**

<b>Description</b>	The Town will partner with the Neighborhood Improvement Associations to identify, prioritize, and co-design targeted upgrades or improvements to public infrastructure facing high risk of flooding damage.
<b>Mitigation Goal</b>	1, 2
<b>Mitigation Category</b>	Structure & Infrastructure Projects
<b>Hazard(s) Addressed</b>	Flood
<b>Estimated Cost</b>	Staff time
<b>Potential Funding Source</b>	N/A
<b>Lead Department</b>	Public Works
<b>Implementation Schedule</b>	June 2023
<b>Priority</b>	Low

**Mitigation Action #14 – Resiliency for Historic Structures**

<b>Description</b>	Conduct a more detailed assessment of the current vulnerability of the Town's iconic and historic structures including Town Hall, Fairhaven High School, Millicent Library, and Unitarian Memorial Church, and identify any needed or recommended hazard mitigation or adaptation measures. While these facilities are not located in identified flood hazard zones, their susceptibility to damage from other hazards should be evaluated through site-specific assessments of their current structural integrity and ability to resist or withstand the forces of wind, water, fire, and other perils.
<b>Mitigation Goal</b>	2
<b>Mitigation Category</b>	Structure & Infrastructure Projects
<b>Hazard(s) Addressed</b>	All Hazards
<b>Estimated Cost</b>	\$40,000
<b>Potential Funding Source</b>	Massachusetts Historical Commission; in combination with local or other grant funds
<b>Lead Department</b>	Planning and Economic Development
<b>Implementation Schedule</b>	June 2021
<b>Priority</b>	Moderate

**Mitigation Action #15 – Fire Fuel Management**

<b>Description</b>	Identify and mitigate potential for large brushfires in areas of known hazard risk through reductions in fire fuel loads. This includes but is not limited to reduction/removal of cat tails and invasive phragmites on Town or public lands that are in relatively close proximity to flammable structures.
<b>Mitigation Goal</b>	2, 3
<b>Mitigation Category</b>	Natural Systems Protection
<b>Hazard(s) Addressed</b>	Fire
<b>Estimated Cost</b>	TBD – depending on further study
<b>Potential Funding Source</b>	Town Funds
<b>Lead Department</b>	Fire
<b>Implementation Schedule</b>	June 2023
<b>Priority</b>	Low

**Mitigation Action #16 – Invest in Green Infrastructure**

<b>Description</b>	The Town shall identify and prioritize investments in nature-based solutions to mitigate natural hazards and a changing climate, including the use of low impact development and green infrastructure (bioswales, rain gardens, permeable pavement, tree plantings, green/blue roofs, water squares, etc.) that provide multiple co-benefits for the community that go beyond risk reduction. These techniques should be applied to all future infrastructure improvements to help protect the Town from the impacts of sea level rise, storm surge, and other flooding events, as well as extreme heat.
<b>Mitigation Goal</b>	2, 3
<b>Mitigation Category</b>	Natural Systems Protection
<b>Hazard(s) Addressed</b>	Coastal Storm, Drought, Extreme Temperatures, Flood
<b>Estimated Cost</b>	Staff time
<b>Potential Funding Source</b>	N/A
<b>Lead Department</b>	Planning and Economic Development
<b>Implementation Schedule</b>	June 2023
<b>Priority</b>	High

**Mitigation Action #17 – Repair and Enhance Eroding Natural Shorelines**

<b>Description</b>	The Town shall investigate and pursue opportunities to repair and/or mitigate eroding shorelines that threaten the safety and/or sustainability of existing infrastructure or buildings. This particularly includes areas along SW Sconticut Neck and SW West Island where sand has been lost to recent coastal storms. Measures may include conducting more detailed studies and/or applying for grants through the Massachusetts Office of Coastal Management or other sources. Emphasis shall be placed on maintaining living shorelines through non-structural mitigation measures before considering structural armoring techniques.
<b>Mitigation Goal</b>	2, 3
<b>Mitigation Category</b>	Natural Systems Protection
<b>Hazard(s) Addressed</b>	Coastal Erosion and Sea Level Rise, Coastal Storm, Flood
<b>Estimated Cost</b>	TBD
<b>Potential Funding Source</b>	CZM Coastal Resilience Grant Program; NOAA Coastal Resilience Grants
<b>Lead Department</b>	Conservation Commission
<b>Implementation Schedule</b>	June 2023
<b>Priority</b>	High

**Mitigation Action #18 – Tree Preservation and Maintenance Plan**

<b>Description</b>	Develop a tree preservation and maintenance plan that addresses risk reduction through hazard tree management as well as the preservation and expansion of the tree canopy on Town-owned and other public lands. Healthy tree cover can help moderate the damaging effects of high winds and help to mitigate the impacts of extreme heat events.
<b>Mitigation Goal</b>	2, 3
<b>Mitigation Category</b>	Natural Systems Protection
<b>Hazard(s) Addressed</b>	Coastal Storm, Extreme Temperatures, Severe Weather, Severe Winter Storms
<b>Estimated Cost</b>	\$20,000
<b>Potential Funding Source</b>	USDA / MA DCR Grant or Town Funds
<b>Lead Department</b>	Tree Warden
<b>Implementation Schedule</b>	December 2020
<b>Priority</b>	Low

**Mitigation Action #19 – Enhance Open Space with Green Infrastructure**

<b>Description</b>	Enhance the Town’s open space and unused sites with green infrastructure (for example, rain gardens and permeable pavers) to improve the Town’s stormwater management capabilities and minimize its vulnerabilities to flooding. This action is linked to the same recommendation included in the Town's Master Plan under Sustainability Goal #3.
<b>Mitigation Goal</b>	2, 3
<b>Mitigation Category</b>	Natural Systems Protection
<b>Hazard(s) Addressed</b>	Flood
<b>Estimated Cost</b>	TBD – depending on further study
<b>Potential Funding Source</b>	HUD Community Development Block Grant funds
<b>Lead Department</b>	Planning and Economic Development
<b>Implementation Schedule</b>	June 2023
<b>Priority</b>	Moderate

### Mitigation Action #20 – Establish Collection of Necessary Public Outreach and Awareness Materials

<b>Description</b>	<p>Information on the following specific issues shall be shared via posting to the Town's website, placement in the Millicent Library, and through distribution at the annual Board of Supervisor's Hurricane Preparedness Meeting:</p> <ul style="list-style-type: none"> <li>- Public Service Announcements regarding electrical/generator safety for use by the Town immediately before and after major storm events that result in widespread power outages.</li> <li>- Informational brochures on hazard risks and emergency preparedness and response procedures for West Island with particular focus on evacuation, sheltering, re-entry, and post-disaster recovery operations and guidance.</li> <li>- Information to help increase general community awareness of projected climate change impacts and adaptation strategies for Fairhaven. This could also include specific/targeted messaging for those people or sectors most vulnerable to the projected impacts (for example, to coastal property owners as it relates to sea level rise or to the farming community, beekeepers, etc. as it relates to increasing temperatures).</li> </ul>
<b>Mitigation Goal</b>	4
<b>Mitigation Category</b>	Education & Awareness Programs
<b>Hazard(s) Addressed</b>	All Hazards
<b>Estimated Cost</b>	\$20,000
<b>Potential Funding Source</b>	Town Funds, with support from information providers
<b>Lead Department</b>	Emergency Management Agency
<b>Implementation Schedule</b>	December 2018
<b>Priority</b>	High

**Mitigation Action #21 – Promote HMA Funding Assistance**

<b>Description</b>	Upon plan approval, widely promote the Town's eligibility for future hazard mitigation project grants to assist owners of buildings that have experienced repetitive flood damages in reducing future risk. This may include structural elevation or property acquisition and/or relocation to areas outside of identified flood hazard areas.
<b>Mitigation Goal</b>	4
<b>Mitigation Category</b>	Education & Awareness Programs
<b>Hazard(s) Addressed</b>	Flood
<b>Estimated Cost</b>	Staff time
<b>Potential Funding Source</b>	N/A
<b>Lead Department</b>	Building Department + Conservation Commission
<b>Implementation Schedule</b>	December 2018
<b>Priority</b>	High

**Mitigation Action #22 – Public Education and Awareness of Mitigation Project Funding**

<b>Description</b>	On an annual basis, and upon the release of federal or state notices of funding availability (including but not limited to FEMA's Hazard Mitigation Assistance programs), the Town will advertise and promote the types of financial assistance available to assist property owners in reducing the risk of natural hazards. Notices shall describe the eligibility of the Town of Fairhaven to apply for grant funds on the behalf other individuals or organizations in order to acquire financial support in the completion of technically feasible and cost-effective hazard mitigation projects.
<b>Mitigation Goal</b>	4
<b>Mitigation Category</b>	Education & Awareness Programs
<b>Hazard(s) Addressed</b>	All Hazards
<b>Estimated Cost</b>	Staff time
<b>Potential Funding Source</b>	N/A
<b>Lead Department</b>	Planning and Economic Development
<b>Implementation Schedule</b>	Annual Activity, immediately following NOFA from MEMA or other sources
<b>Priority</b>	Moderate

**Mitigation Action #23 – Support Staff Training and Professional Development**

<b>Description</b>	Support additional training and professional development for staff as it relates to hazards management, including participation at FEMA's Emergency Management Institute and/or MEMA Headquarters, as well as future conferences or training/certification programs for local planners and floodplain managers (e.g., Certified Floodplain Manager). This includes having the Town's designated floodplain administrator periodically attend related training (for example, conferences, webinars, or workshops sponsored by the Association of State Floodplain Managers or similar organizations).
<b>Mitigation Goal</b>	5
<b>Mitigation Category</b>	Education & Awareness Programs
<b>Hazard(s) Addressed</b>	All Hazards
<b>Estimated Cost</b>	Staff time
<b>Potential Funding Source</b>	N/A
<b>Lead Department</b>	Town Administrator
<b>Implementation Schedule</b>	Beginning in 2018
<b>Priority</b>	Moderate

**Mitigation Action #24 – Promote Flood Risk Awareness and the Availability of Flood Insurance**

<b>Description</b>	Provide information on existing flood hazards and promote the availability of flood insurance on the Town's website and potentially through regularly scheduled mailings (e.g., annual property tax notices, utility bills, etc.).
<b>Mitigation Goal</b>	4
<b>Mitigation Category</b>	Education & Awareness Programs
<b>Hazard(s) Addressed</b>	Flood
<b>Estimated Cost</b>	Staff time
<b>Potential Funding Source</b>	N/A
<b>Lead Department</b>	Building Department + Conservation Commission
<b>Implementation Schedule</b>	Beginning in 2018
<b>Priority</b>	High

**Mitigation Action #25 – Improve Risk Awareness and Public Preparedness**

<b>Description</b>	Support the development and distribution of public education and awareness materials to better communicate the natural hazard and other climate-related risks Fairhaven faces in the future, as well as the individual preparedness and/or mitigation actions available to reduce those risks. This includes special emphasis on the low-probability/high consequence events such as major hurricanes and nor'easters, as well as recurring long-term threats associated with sea level rise including coastal flooding and erosion.
<b>Mitigation Goal</b>	4
<b>Mitigation Category</b>	Education & Awareness Programs
<b>Hazard(s) Addressed</b>	All Hazards
<b>Estimated Cost</b>	Staff time
<b>Potential Funding Source</b>	N/A
<b>Lead Department</b>	Emergency Management Agency
<b>Implementation Schedule</b>	Beginning in 2019
<b>Priority</b>	Moderate

**Mitigation Action #26 – Establish Neighborhood Resilience Hubs/Networks**

<b>Description</b>	Establish neighborhood networks of residents and businesses that are educated on sustainability and climate change resiliency and able to communicate effectively, especially to vulnerable citizens, during periods of emergency. This action is linked to the same recommendation included in the Town's Master Plan under Sustainability Goal #3.
<b>Mitigation Goal</b>	4
<b>Mitigation Category</b>	Education & Awareness Programs
<b>Hazard(s) Addressed</b>	All Hazards
<b>Estimated Cost</b>	Staff time
<b>Potential Funding Source</b>	N/A
<b>Lead Department</b>	Emergency Management Agency
<b>Implementation Schedule</b>	June 2023
<b>Priority</b>	Low

**Mitigation Action #27 – Generators and Transfer Switches for FHA Properties**

<b>Description</b>	Acquire three additional mobile generators for Fairhaven Housing Authority properties. Install generator transfer switches for two additional Fairhaven Housing Authority properties, including Dana Court and Anthony Haven.
<b>Mitigation Goal</b>	1, 2
<b>Mitigation Category</b>	Emergency Preparedness
<b>Hazard(s) Addressed</b>	Coastal Storm, Severe Weather, Severe Winter Storm
<b>Estimated Cost</b>	\$40,000
<b>Potential Funding Source</b>	FEMA Hazard Mitigation Assistance (HMA)
<b>Lead Department</b>	Fairhaven Housing Authority
<b>Implementation Schedule</b>	December 2021
<b>Priority</b>	High

**Mitigation Action #28 – Transfer Switches for Senior/Recreational Center**

<b>Description</b>	Install transfer switches for the Fairhaven Senior/Recreational Center, one of the Town's designated back-up emergency shelters.
<b>Mitigation Goal</b>	1, 2
<b>Mitigation Category</b>	Emergency Preparedness
<b>Hazard(s) Addressed</b>	Coastal Storm, Severe Weather, Severe Winter Storm
<b>Estimated Cost</b>	\$3,000
<b>Potential Funding Source</b>	General Fund
<b>Lead Department</b>	Town Administrator
<b>Implementation Schedule</b>	December 2021
<b>Priority</b>	High

**Mitigation Action #29 – Pet Friendly Shelters**

<b>Description</b>	Develop a plan and the operational procedures, capital improvements, certifications, and other capabilities or resources required for the Town's designated emergency shelters to accommodate people with household pets and service animals.
<b>Mitigation Goal</b>	1
<b>Mitigation Category</b>	Emergency Preparedness
<b>Hazard(s) Addressed</b>	Coastal Storm, Severe Weather, Severe Winter Storm
<b>Estimated Cost</b>	TBD – depending on further study
<b>Potential Funding Source</b>	Town Funds with support from potential external grants (TBD)
<b>Lead Department</b>	Emergency Management Agency
<b>Implementation Schedule</b>	December 2020
<b>Priority</b>	High

**Mitigation Action #30 – Eliminate Dangerous Snow Drifts**

<b>Description</b>	Develop inventory of the specific locations of recurring snow drifts (e.g., Deane Street) that create hazardous blind spots to motorists, and develop procedures to manage/remove during major snowstorm events. Potential responses may include improved signage, snow fencing, plowing priorities, etc.
<b>Mitigation Goal</b>	3
<b>Mitigation Category</b>	Emergency Preparedness
<b>Hazard(s) Addressed</b>	Severe Winter Storm
<b>Estimated Cost</b>	Staff time
<b>Potential Funding Source</b>	N/A
<b>Lead Department</b>	Public Works
<b>Implementation Schedule</b>	June 2019
<b>Priority</b>	High

**Mitigation Action #31 – Emergency Shelter Improvements**

<b>Description</b>	Identify and implement necessary improvements or enhancements to the Town's primary shelters that will increase their appeal to evacuees who are reluctant to stay there during emergency or disaster events.
<b>Mitigation Goal</b>	1
<b>Mitigation Category</b>	Emergency Preparedness
<b>Hazard(s) Addressed</b>	Coastal Storm, Severe Weather, Severe Winter Storm
<b>Estimated Cost</b>	TBD – depending on further study
<b>Potential Funding Source</b>	Town Funds with support from potential external grants (TBD)
<b>Lead Department</b>	Emergency Management Agency
<b>Implementation Schedule</b>	December 2019
<b>Priority</b>	High

**Mitigation Action #32 – Education/Awareness for Seniors**

<b>Description</b>	Educate and increase the awareness of seniors on the Town's emergency preparedness and response operations through public outreach and training/drills at senior housing facilities. This should also include promotional outreach and education on the safety and relative comfort of the Town's emergency shelters to help make seniors and other residents less reluctant to evacuate and go there during emergency or disaster events.
<b>Mitigation Goal</b>	4
<b>Mitigation Category</b>	Emergency Preparedness
<b>Hazard(s) Addressed</b>	All Hazards
<b>Estimated Cost</b>	Staff time
<b>Potential Funding Source</b>	N/A
<b>Lead Department</b>	Emergency Management Agency + Senior Center
<b>Implementation Schedule</b>	Beginning in 2019
<b>Priority</b>	High

**Mitigation Action #33 – Update and Improve Post-Storm Event Re-Entry Policies**

<b>Description</b>	Update and improve re-entry policies for Sconticut Neck and West Island following major coastal storm events to allow for more time to complete proper damage inspections, substantial damage determinations, etc. before property owners begin the repair and rebuilding process.
<b>Mitigation Goal</b>	3, 6
<b>Mitigation Category</b>	Emergency Preparedness
<b>Hazard(s) Addressed</b>	Coastal Storm
<b>Estimated Cost</b>	Staff time
<b>Potential Funding Source</b>	N/A
<b>Lead Department</b>	Emergency Management Agency
<b>Implementation Schedule</b>	June 2019
<b>Priority</b>	High

**Mitigation Action #34 – Improve Capacity for Post-Flood Inspections and Mitigation Measures**

<b>Description</b>	Maintain a list/map of problem areas that flood frequently (e.g., areas where repetitive loss properties are located) and prioritize those areas for inspection immediately after the next flood event. If outside FEMA special flood hazard areas, consider encouraging or requiring existing NFIP regulatory standards (compliance with existing ordinance) based upon observed flood elevations as recorded through high water marks, FEMA recovery flood map products, or other measures.
<b>Mitigation Goal</b>	3, 6
<b>Mitigation Category</b>	Emergency Preparedness
<b>Hazard(s) Addressed</b>	Flood
<b>Estimated Cost</b>	Staff time
<b>Potential Funding Source</b>	N/A
<b>Lead Department</b>	Building Department
<b>Implementation Schedule</b>	June 2019
<b>Priority</b>	High

**Mitigation Action #35 – Emergency Evacuation and Shelter Operations Plan**

<b>Description</b>	Prepare an emergency evacuation and shelter operations plan that identifies specific actions to be taken before, during, and after a large scale incident. The plan should include actions or improvements required to mitigate life/safety threats as well as the isolation and/or long-term displacement of Town residents, particularly in low-lying areas of Sconticut Neck, on West Island, and vulnerable locations seaward of the inland hurricane barrier. It should also ensure that the needs of individuals with household pets and service animals following a major disaster or emergency will be addressed, even if through pre-event agreements with non-profit organizations and private companies (NGOs). It should also aim to identify opportunities for local citizen volunteer groups to assist local fire and police in the event of a major disaster event that will tax the resources of these departments.
<b>Mitigation Goal</b>	3, 6
<b>Mitigation Category</b>	Emergency Preparedness
<b>Hazard(s) Addressed</b>	Coastal Storm
<b>Estimated Cost</b>	\$30,000
<b>Potential Funding Source</b>	Town Funds with support from potential external grants (TBD)
<b>Lead Department</b>	Emergency Management Agency
<b>Implementation Schedule</b>	June 2019
<b>Priority</b>	High

**Mitigation Action #36 – Improve Evacuation Routes**

<b>Description</b>	Address the SRPEDD-identified conflict points along the community's evacuation routes. This action is linked to the same recommendation included in the Town's Master Plan under Sustainability Goal #3.
<b>Mitigation Goal</b>	3
<b>Mitigation Category</b>	Emergency Preparedness
<b>Hazard(s) Addressed</b>	All Hazards
<b>Estimated Cost</b>	TBD – depending on further study
<b>Potential Funding Source</b>	Federal Highway Administration; Southeastern Massachusetts Metropolitan Planning Organization (SMMPO) – Transportation Improvement Program (TIP)
<b>Lead Department</b>	Emergency Management Agency
<b>Implementation Schedule</b>	June 2019
<b>Priority</b>	Moderate

**Mitigation Action #37 – Hire Town Sustainability Planner**

<b>Description</b>	The Town shall create a new full-time position of "Sustainability Planner" to assist with the coordination and implementation of duties relating to community sustainability, hazard mitigation, climate adaptation, coastal resilience, and others that are currently shared across multiple local departments.
<b>Mitigation Goal</b>	6
<b>Mitigation Category</b>	Local Plans & Regulations
<b>Hazard(s) Addressed</b>	All Hazards
<b>Estimated Cost</b>	Annual Salary TBD
<b>Potential Funding Source</b>	General Fund
<b>Lead Department</b>	Town Administrator
<b>Implementation Schedule</b>	January 2019
<b>Priority</b>	Moderate

**Mitigation Action #38 – Become a Certified MVP Community**

<b>Description</b>	Submit an application to participate and become a certified community in the Municipal Vulnerability Preparedness (MVP) program administered by the Massachusetts Executive Office of Energy and Environmental Affairs (EEA). Communities that complete the MVP program and become certified are eligible for follow-up grant funding and other opportunities to enhance their resilience to extreme weather and other natural or climate related hazards.
<b>Mitigation Goal</b>	2, 3, 6
<b>Mitigation Category</b>	Local Plans & Regulations
<b>Hazard(s) Addressed</b>	All Hazards
<b>Estimated Cost</b>	\$20,000
<b>Potential Funding Source</b>	MA EEA Grant
<b>Lead Department</b>	Planning and Economic Development
<b>Implementation Schedule</b>	June 2020
<b>Priority</b>	High

Table 4-2: Mitigation Action Plan (MAP) Summary

Action #	Action Title	Mitigation Goal	Mitigation Category	Hazard(s) Addressed	Estimated Cost	Potential Funding Source	Lead Department	Implementation Schedule	Priority
1	Review and Amend Zoning Bylaws to Reduce Risk	3	Local Plans & Regulations	All Hazards	Staff time	N/A	Planning and Economic Development + Planning Board	June 2020	Moderate
2	CRS Participation	3, 6	Local Plans & Regulations	Flood	\$3,000	Planning & Economic Development Dept. Budget	Planning and Economic Development	October 2018	High
3	Post-Disaster Redevelopment Plan	3, 6	Local Plans & Regulations	Coastal Storm, Flood	\$35,000	CZM Coastal Resilience Grant Program; FEMA Hazard Mitigation Assistance (HMA)	Planning and Economic Development	January 2023	Low
4	Hazard Avoidance through Development Regulations	3	Local Plans & Regulations	All Hazards	Staff time	N/A	Planning and Economic Development	June 2020	Moderate
5	Update Stormwater Regulations	3	Local Plans & Regulations	Flood	\$20,000	EPA / MA DEP Grant or Town Funds	Planning Board + Planning and Economic Development	June 2020	Moderate
6	Incorporate Anticipated Future Conditions into Town Bylaws	3	Local Plans & Regulations	Coastal Erosion and Sea Level Rise, Coastal Storm, Extreme Temperatures, Flood	Staff time	N/A	Planning and Economic Development	June 2020	Moderate
7	First Responder Facility	1	Structure & Infrastructure Projects	All Hazards	\$15 Million	Town Funds (Bonds)	Capital Planning Committee and Board of Selectmen	Facilities Plan will be complete in May 2018 and this will likely be a priority. Bonding vote debit override	High

Action #	Action Title	Mitigation Goal	Mitigation Category	Hazard(s) Addressed	Estimated Cost	Potential Funding Source	Lead Department	Implementation Schedule	Priority
								could come as early as April of 2020.	
8	Vulnerability and Mitigation Assessment for FHA Properties	1, 2	Structure & Infrastructure Projects	Coastal Storm, Severe Weather	\$10,000	Fairhaven Housing Authority	Fairhaven Housing Authority	December 2020	Moderate
9	Flood Mitigation for 260 Block of Huttleston Avenue	2	Structure & Infrastructure Projects	Flood	\$15,000	Chapter 90 Highway Funds	Public Works	June 2021	High
10	Flood Mitigation for Repetitive Loss and Other At-Risk Properties	2	Structure & Infrastructure Projects	Flood	\$20,000	FEMA Flood Mitigation Assistance (FMA) grant program	Conservation Commission	December 2020	Moderate
11	Flood Mitigation and Resiliency for West Island Causeway	1, 2	Structure & Infrastructure Projects	Coastal Erosion and Sea Level Rise, Coastal Storm, Flood	\$30,000	Federal Highway Administration; Southeastern Massachusetts Metropolitan Planning Organization (SMMPO) – Transportation Improvement Program (TIP)	Public Works	December 2020	Moderate
12	Retrofit Pump Stations	1, 2	Structure & Infrastructure Projects	Flood	\$50,000	Sewer Enterprise Fund	Public Works	June 2021	Moderate
13	Flood Mitigation for Public Infrastructure	1, 2	Structure & Infrastructure Projects	Flood	Staff time	N/A	Public Works	June 2023	Low
14	Resiliency for Historic Structures	2	Structure & Infrastructure Projects	All Hazards	\$40,000	Massachusetts Historical Commission; in combination	Planning and Economic Development	June 2021	Moderate

Action #	Action Title	Mitigation Goal	Mitigation Category	Hazard(s) Addressed	Estimated Cost	Potential Funding Source	Lead Department	Implementation Schedule	Priority
						with local or other grant funds			
15	Fire Fuel Management	2, 3	Natural Systems Protection	Fire	TBD – depending on further study	Town Funds	Fire	June 2023	Low
16	Invest in Green Infrastructure	2, 3	Natural Systems Protection	Coastal Storm, Drought, Extreme Temperatures, Flood	Staff time	N/A	Planning and Economic Development	June 2023	High
17	Repair and Enhance Eroding Natural Shorelines	2, 3	Natural Systems Protection	Coastal Erosion and Sea Level Rise, Coastal Storm, Flood	TBD – depending on further study	CZM Coastal Resilience Grant Program; NOAA Coastal Resilience Grants	Conservation Commission	June 2023	High
18	Tree Preservation and Maintenance Plan	2, 3	Natural Systems Protection	Coastal Storm, Extreme Temperatures, Severe Weather, Severe Winter Storms	\$20,000	USDA / MA DCR Grant or Town Funds	Tree Warden	December 2020	Low
19	Enhance Open Space with Green Infrastructure	2, 3	Natural Systems Protection	Flood	TBD – depending on further study	HUD Community Development Block Grant funds	Planning and Economic Development	June 2023	Moderate
20	Establish Collection of Necessary Public Outreach and Awareness Materials	4	Education & Awareness Programs	All Hazards	\$20,000	Town Funds, with support from information providers	Emergency Management Agency	December 2018	High
21	Promote HMA Funding Assistance	4	Education & Awareness Programs	Flood	Staff time	N/A	Building Department + Conservation Commission	December 2018	High
22	Public Education and Awareness of	4	Education & Awareness Programs	All Hazards	Staff time	N/A	Planning and Economic Development	Annual Activity, immediately following NOFA	Moderate

Action #	Action Title	Mitigation Goal	Mitigation Category	Hazard(s) Addressed	Estimated Cost	Potential Funding Source	Lead Department	Implementation Schedule	Priority
	Mitigation Project Funding							from MEMA or other sources	
23	Support Staff Training and Professional Development	5	Education & Awareness Programs	All Hazards	Staff time	N/A	Town Administrator	Beginning in 2018	Moderate
24	Promote Flood Risk Awareness and the Availability of Flood Insurance	4	Education & Awareness Programs	Flood	Staff time	N/A	Building Department + Conservation Commission	Beginning in 2018	High
25	Improve Risk Awareness and Public Preparedness	4	Education & Awareness Programs	All Hazards	Staff time	N/A	Emergency Management Agency	Beginning in 2019	Moderate
26	Establish Neighborhood Resilience Hubs/Networks	4	Education & Awareness Programs	All Hazards	Staff time	N/A	Emergency Management Agency	June 2023	Low
27	Generators and Transfer Switches for FHA Properties	1, 2	Emergency Preparedness	Coastal Storm, Severe Weather, Severe Winter Storm	\$40,000	FEMA Hazard Mitigation Assistance (HMA)	Fairhaven Housing Authority	December 2021	High
28	Transfer Switches for Senior/Recreational Center	1, 2	Emergency Preparedness	Coastal Storm, Severe Weather, Severe Winter Storm	\$3,000	General Fund	Town Administrator	December 2021	High
29	Pet Friendly Shelters	1	Emergency Preparedness	Coastal Storm, Severe Weather, Severe Winter Storm	TBD – depending on further study	Town Funds with support from potential external grants (TBD)	Emergency Management Agency	December 2020	High
30	Eliminate Dangerous Snow Drifts	3	Emergency Preparedness	Severe Winter Storm	Staff time	N/A	Public Works	June 2019	High
31	Emergency Shelter Improvements	1	Emergency Preparedness	Coastal Storm, Severe Weather, Severe Winter Storm	TBD – depending on further study	Town Funds with support from potential external grants (TBD)	Emergency Management Agency	December 2019	High

Action #	Action Title	Mitigation Goal	Mitigation Category	Hazard(s) Addressed	Estimated Cost	Potential Funding Source	Lead Department	Implementation Schedule	Priority
32	Education/Awareness for Seniors	4	Emergency Preparedness	All Hazards	Staff time	N/A	Emergency Management Agency + Senior Center	Beginning in 2019	High
33	Update and Improve Post-Storm Event Re-Entry Policies	3, 6	Emergency Preparedness	Coastal Storm	Staff time	N/A	Emergency Management Agency	June 2019	High
34	Improve Capacity for Post-Flood Inspections and Mitigation Measures	3, 6	Emergency Preparedness	Flood	Staff time	N/A	Building Department	June 2019	High
35	Emergency Evacuation and Shelter Operations Plan	3, 6	Emergency Preparedness	Coastal Storm	\$30,000	Town Funds with support from potential external grants (TBD)	Emergency Management Agency	June 2019	High
36	Improve Evacuation Routes	3	Emergency Preparedness	All Hazards	TBD – depending on further study	Federal Highway Administration; Southeastern Massachusetts Metropolitan Planning Organization (SMMPO) – Transportation Improvement Program (TIP)	Emergency Management Agency	June 2019	Moderate
37	Hire Town Sustainability Planner	6	Local Plans & Regulations	All Hazards	Annual Salary TBD	General Fund	Town Administrator	January 2019	Moderate
38	Become a Certified MVP Community	2, 3, 6	Local Plans & Regulations	All Hazards	\$20,000	MA EEA Grant	Planning and Economic Development	June 2020	High

## SECTION 5. PLAN MAINTENANCE

The Plan Maintenance section outlines how the plan will be implemented, monitored, evaluated, and enhanced over time. This section also discusses how the public will continue to be involved in the hazard mitigation planning process. It consists of the following three subsections:

- 5.1. Plan Implementation and Integration
- 5.2. Monitoring, Evaluation, and Enhancement
- 5.3. Continued Public Involvement

### 5.1. PLAN IMPLEMENTATION AND INTEGRATION

The Town of Fairhaven is responsible for implementing specific mitigation actions as identified in the Mitigation Action Plan in Section 4 (Mitigation Strategy). While the overall responsibility for plan implementation remains with the Planning and Economic Development Department, each proposed action has been assigned to a specific Town department with overall responsibility and accountability for carrying the action out. In addition, a proposed implementation schedule has been assigned to each mitigation action to help drive progress toward completion and to assess whether actions are being implemented in a timely fashion.

Plan implementation will be accomplished by adhering to the schedules identified for each action. In some cases, the completion of an action may be contingent on the Town obtaining outside funding or other resources, and when applicable, potential funding sources have also been identified. The Town's Planning and Economic Development Department, in coordination with representatives from applicable lead departments, will monitor funding opportunities that could be leveraged to implement some of the costlier actions. It will be the responsibility of each lead department to determine additional implementation measures beyond those listed within their Mitigation Action Plan. This includes integrating mitigation actions into other local planning documents, processes, or mechanisms as deemed appropriate and most effective.

The Hazard Mitigation Planning Committee (HMPC) will remain tasked with ensuring that the goals and strategies of new and updated local planning documents are consistent with the goals and actions of the hazard mitigation plan, and will not contribute to increased hazard vulnerability in Fairhaven.

Opportunities to integrate the requirements of this Plan into other local planning mechanisms shall continue to be identified through future meetings of the HMPC and through the five-year review process described in this section. Other local planning mechanisms include but are not limited to other Town plans, policies, procedures, projects, and other routine Town government activities such as capital improvement planning and the Town's annual budget process.

Although it is recognized that there are many possible benefits to integrating components of this plan into other local planning mechanisms, the development and maintenance of this stand-alone plan is currently considered by the Town to be the most effective and appropriate method to implement local hazard mitigation actions. However, it should also be noted that the Town has already successfully integrated this plan with its concurrent update to the Master Plan and vice versa. For example, the Town has embedded disaster risk reduction and climate change resilience as a common theme throughout the Master Plan, including the incorporation of natural hazards into the "existing conditions" narrative and into specific policy recommendations for the plan's Sustainability element. The draft

hazard mitigation plan helped to inform the vision, goals, and recommendations associated with the plan's other elements and it will continue to do so during future Master Plan updates.

## 5.2. MONITORING, EVALUATION, AND ENHANCEMENT

Monitoring, evaluating, and enhancing the Town's Hazard Mitigation Plan are important steps in maintaining an effective document. Periodic revisions and updates of the plan may be required to ensure that the goals of the plan are kept current, considering potential changes in hazard vulnerability and mitigation priorities. In addition, revisions may be necessary to ensure that the plan is in full compliance with applicable federal, state and local regulations. Periodic evaluation of the Plan will also ensure that specific mitigation actions are being reviewed and carried out according to the Mitigation Action Plan included in Section 4. As such, the Town adopts the following specific procedures to support routine plan maintenance and updates:

- The agency with the overall responsibility for monitoring the implementation and effectiveness of the plan is the Town of Fairhaven's Planning and Economic Development Department. To assist in this process, the Department will routinely update the status of each mitigation action by using the MS Excel-based **Mitigation Action Tracker** developed as part of this plan in coordination with other Town staff, and specifically those representatives from agencies identified as the lead department for mitigation actions. The Mitigation Action Tracker will help facilitate the routine submission, review, and discussion of status updates on each action on regular and recurring basis (twice per year at a minimum, but more frequently as needed).
- The HMPC will be the primary advisory body for plan implementation, and will reconvene at least once per year for an **annual plan review meeting**. The HMPC will also reconvene following any disaster events warranting a re-examination of the mitigation actions being implemented or proposed as new activities (further described under *Post-Disaster Plan Review and Update*). This will ensure that the plan is continuously updated to reflect changing conditions and needs within Fairhaven. The annual plan review meeting should take place in the fall of each year so that sufficient time is available to assess the status of any mitigation actions relevant to the upcoming year.
- If determined to be appropriate or as requested, an **annual progress report** on the plan will be developed and presented to the Board of Selectmen to report on the status and advancement of actions identified in the plan and to provide information on any updates to relevant legislative requirements. The report may also highlight any proposed additions, amendments, or improvements required for the plan to increase its overall effectiveness. The preparation of the annual progress report should be closely aligned with the annual plan review meeting, and should be coordinated in tandem with annual reporting requirements of the Community Rating System (CRS) once the Town is an active participant in the program.

As part of this monitoring, evaluation and enhancement process, Town staff will continue to attend any relevant meetings and/or training workshops sponsored by the Massachusetts Emergency Management Agency (MEMA) or others as appropriate to keep up to date with any changing guidance or requirements for hazard mitigation plans.

### ***Five-Year Plan Review and Update***

At a minimum, the plan will undergo a comprehensive review, update, and re-adoption every five years as required by federal regulations and per the current planning guidance from MEMA and FEMA. This

review and update process will be overseen by the HMPC to determine whether there have been any significant changes in Fairhaven that may, in turn, necessitate changes to plan content. This includes changes in local hazard risks, mitigation capabilities, or in the types of mitigation actions being implemented. New development in identified hazard areas, an increased exposure to hazards, the increase or decrease in capability to address hazards, and changes to federal or state legislation are examples of factors that may affect changes in the content of the current plan.

The plan review provides Town staff and other identified stakeholders with an opportunity to evaluate those actions that have been successful and to explore the possibility of documenting potential losses avoided due to the implementation of specific mitigation measures. The plan review also provides the opportunity to address mitigation actions that may not have been successfully implemented. The Town's Planning and Economic Development Department will be responsible for reconvening the HMPC and conducting the five-year plan review. This includes inquiring with MEMA on the availability of funding support to assist with the update process at least one year in advance of the process getting underway.

During the five-year plan review process, the following questions will be considered as criteria for assessing the effectiveness of the plan and potential improvements:

- *Do the current mitigation goals and actions address current and expected conditions?*
- *Has the nature or magnitude of hazard risks changed?*
- *Are current resources adequate to implement the plan?*
- *Has the implementation of identified mitigation actions resulted in expected outcomes?*
- *Are there any issues that have limited the current implementation schedule?*
- *Are there implementation problems, such as technical, political, legal, or coordination issues with other agencies?*

Following the five-year review, any revisions or updates will be summarized and implemented according to the reporting procedures outlined below. Upon completion of the review and update process, the updated plan will be submitted to MEMA and FEMA for review and approval as required per current plan update requirements.

### ***Reporting Procedures***

The results of the five-year plan review will be summarized by the HMPC in the relevant sections of the updated plan in accordance with the latest planning guidance from MEMA and FEMA. This includes the following: a comprehensive description of the plan update process including an evaluation of plan effectiveness (Section 2); any updates to the community profile (Section 3); any notable revisions or updates to the hazard analysis and risk assessment (Appendix A) or capability assessment (Appendix B); updated mitigation goals and consideration of mitigation action alternatives, along with status updates on previously adopted mitigation action plans and the identification of newly proposed mitigation actions (Section 4); and revisions or updates to plan maintenance procedures (Section 5).

As noted above, the Mitigation Action Tracker will also help the Town of Fairhaven assess and report on its previously adopted mitigation actions, and when necessary, adjust its actions to address current conditions or realities. One of the most important steps in updating the plan will be to revisit, revise, and/or reaffirm the Mitigation Strategy section, particularly considering experiences and insights gained from the implementation of the current plan. The Mitigation Action Tracker will help the HMPC to

address questions such as those listed below to provide information updated information on the current status of each mitigation action included in the plan.

- *If the action was completed, did it have the intended results? Did it achieve the goals outlined in the plan? What factors contributed to success?*
- *If the action was not completed, what were the barriers to implementation? For instance, was there a lack of political support, funding, staff availability, or another obstacle? Should the action be included in the mitigation strategy for the updated plan?*

#### **Post-Disaster Plan Review and Update**

Following a state or federal disaster declaration, the HMPC will reconvene and the plan will be revised as necessary to reflect lessons learned or to address specific circumstances arising from the event. In some circumstances it may be necessary for the HMPC to convene following localized emergencies and disasters to determine if changes in the plan are warranted. The Town will determine on a case-by-case basis which events necessitate convening a meeting to consider modifying the plan, including but not limited to the identification and prioritization of existing mitigation actions. It will be the responsibility of the Town's Planning and Economic Development Department to reconvene HMPC and ensure that the appropriate stakeholders are invited to participate in the plan revision and update process.

### **5.3. CONTINUED PUBLIC INVOLVEMENT**

Public participation is an integral component of the mitigation planning process and will continue to be essential as this plan evolves and is updated over time.

The most appropriate and meaningful opportunities for the public to be involved in the maintenance and implementation of the Town of Fairhaven's Hazard Mitigation Plan is during the five-year plan review process as described earlier in this section. Public engagement in the plan review and update process will be solicited through multiple means and as similarly done for the initial development of the plan (this includes a formal public meeting in addition to other potential engagement activities). As demonstrated in Section 2, the Town has been proactive and creative in seeking widespread public and stakeholder involvement during the plan development process through multiple methods. While the five-year plan review process represents the greatest opportunity for such involvement, other efforts to involve the public in the maintenance, evaluation, and enhancement process will continue to be made as necessary. These efforts may include but are not limited to the following:

- Advertising meetings of the HMPC in the local newspaper, public bulletin boards, social media outlets, Cable Access TV, and/or Town office buildings.
- Designating willing citizens and private sector representatives as official members of the HMPC.
- Working with children through existing school programs and other appropriate means to engage children, parents and other adults.
- Utilizing local media to update the public of any maintenance and/or periodic review activities taking place.
- Utilizing Town websites to advertise any maintenance and/or periodic review activities taking place.
- Maintaining copies of the plan in Town Hall, Millicent Library and/or other appropriate venues.
- Posting annual progress reports on the plan to the Town website.