

# New Bedford, MA

## *Multi-Hazard Mitigation Plan Update*

Public Workshop #1  
April 11, 2024      6:00 PM – 8:00 PM  
The Vault – 791 Purchase Street





**WELCOME!**

# Today's Agenda

- Hazard Mitigation Plan Overview
- Federal/State Guidance
- Mitigation Process
- Hazard Index
  - Technical Committee
  - Natural Hazards
  - Human-Caused/Technological Hazards
- 2016 Plan Report Card
- Community Outreach & Engagement
- Project Timeline



# New Bedford Multi-Hazard Mitigation Planning Teams

- Core Team
  - Municipal Officials/Day-to-Day Working Group
- Local Hazard Mitigation Committee
  - Municipal Officials/MEMA Representatives/Equity Partnership Representatives
  - Oversight on MHMP process/findings/plan development
- Technical Committee
  - Municipal Officials/Topic Experts
- Equity Partnership
  - Representatives participating on the LHMC/Outreach and Engagement support
- Consultant Team
  - Kim Lundgren Associates (KLA)
  - Horsley Witten Group, Inc. (HWG)
  - Institute for Diversity and Inclusion in Emergency Management (I-DIEM)

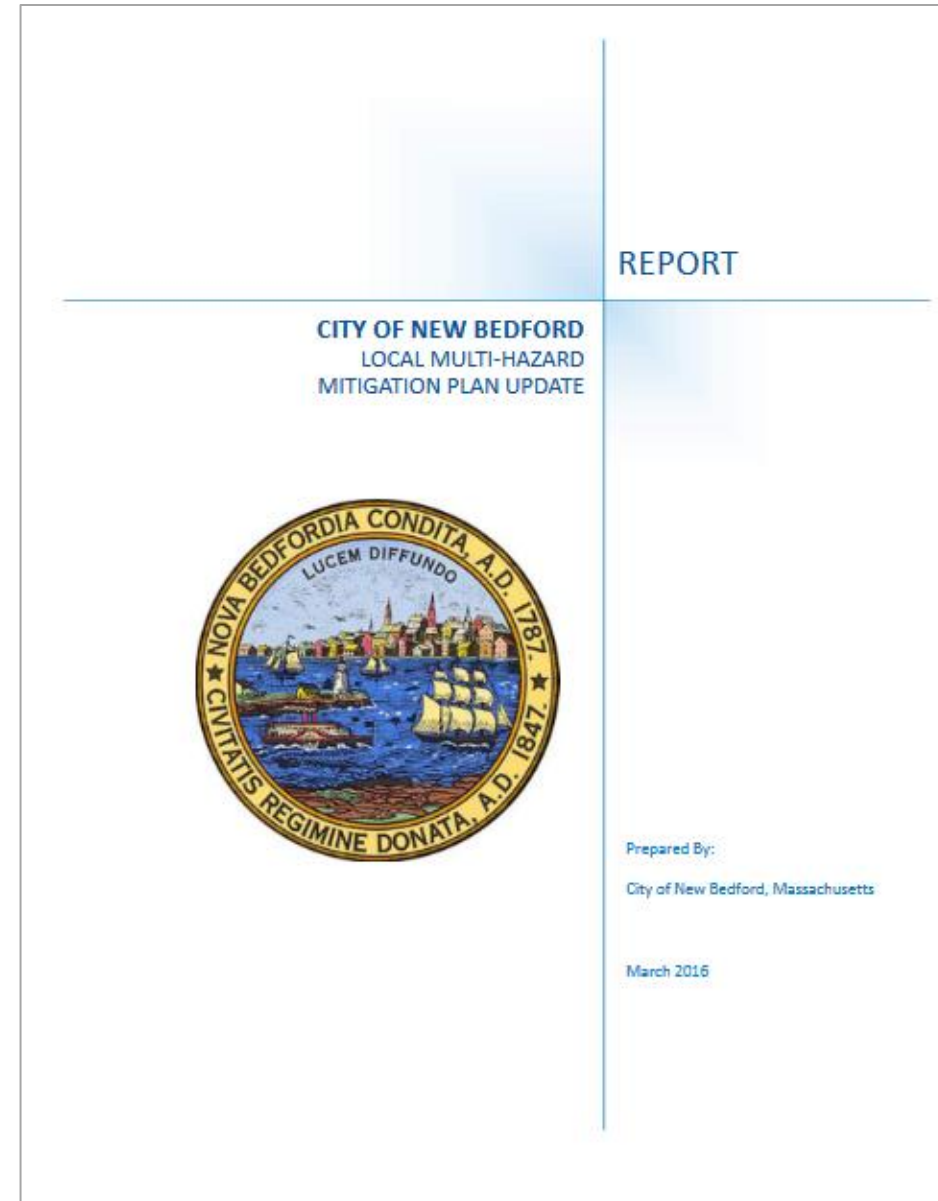


# Project Components

- **Multi-Hazard Mitigation Plan Update**
- Comprehensive Emergency Management Plan Update
- Evacuation Planning Support

What's new for this MHMP Update?

- Climate change impacts on...
- Equity Focus
- Human-Caused Hazards
- Technological Hazards



# Why Should New Bedford Plan for Hazards?

Disaster Mitigation Act of 2000, Interim Final Rule, 44 CFR Parts 201 and 206 states, "All communities must have an approved Multiple Hazards Mitigation Plan in order to qualify for future federal disaster mitigation grants."

## **Hazard Mitigation:**

*"Reduction or elimination of long-term risk to life, property, and the environment"*

## **Natural Hazard:**

*"Any event or physical condition that has the potential to cause fatalities, injuries, property damage, infrastructure damage, and agricultural loss, damage to the environment, interruption of business, or other types of harm and/or loss"*

## **Human-Caused Hazard:**

*"Any disastrous event caused directly and principally by one or more identifiably deliberate or negligent human action"*

## **Technological Hazard:**

*"Any hazard event originating from technological or industrial conditions, including accidents, dangerous procedures, or failures"*

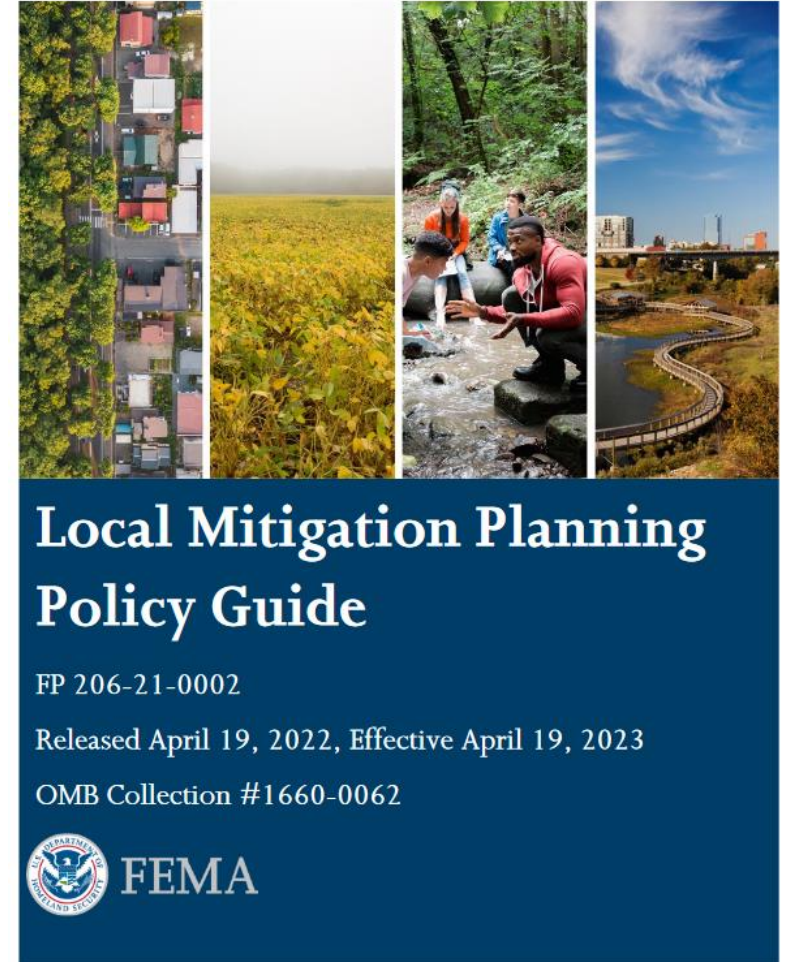
# Federal and State Guidance

## Federal

- FEMA's *Local Mitigation Planning Policy Guide* (April 19, 2023)

## State

- 2022 MA Climate Change Assessment, Volume I Executive Summary
- 2022 MA Climate Change Assessment, Volume II Statewide Report
- 2022 MA Climate Change Assessment, Volume III Regional Report
- ***ResilientMass Plan: 2023 MA State Hazard Mitigation and Climate Adaptation Plan***

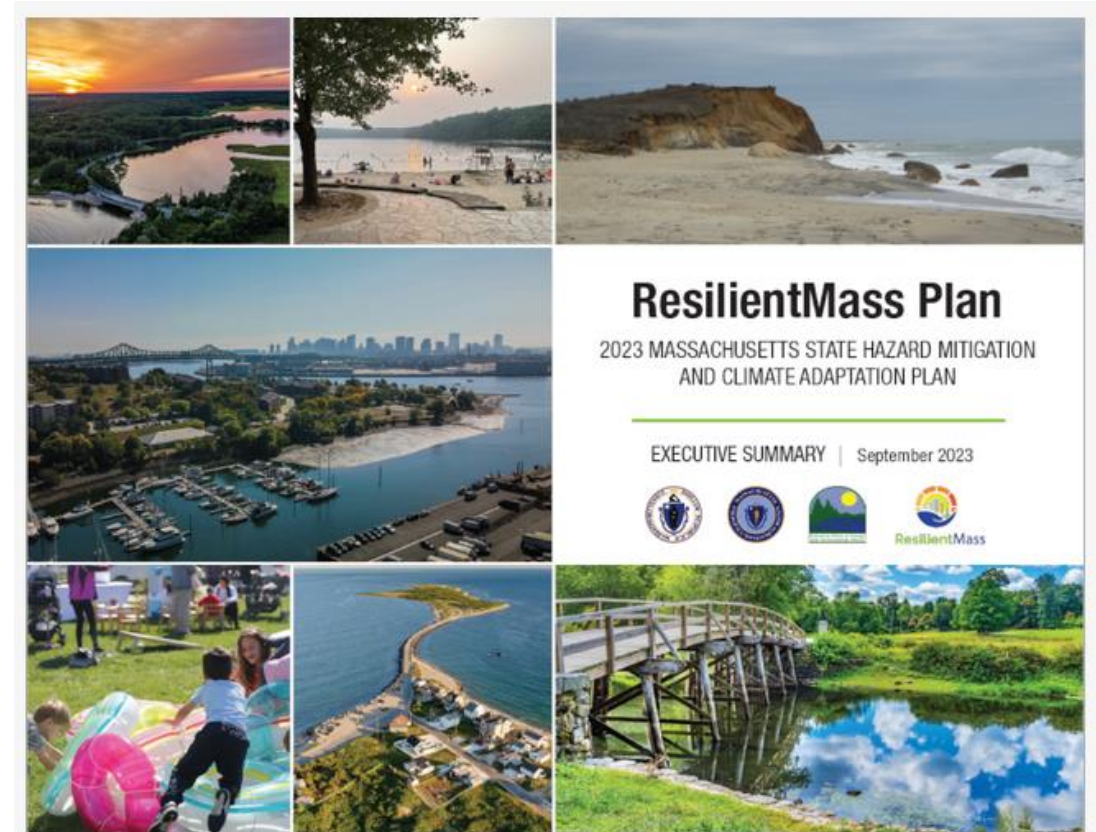


# State Guidance

## ***ResilientMass Plan: 2023 MA State Hazard Mitigation Plan and Climate Adaptation Plan***

Considers the exposure and vulnerability of state assets, human populations, lifelines, critical facilities, economic activity, natural resources, and other infrastructure/resources across five sectors:

- Human Sector
- Governance Sector
- Infrastructure Sector
- Natural Environment Sector
- Economy Sector





# State Guidance

## ***2022 MA Climate Change Assessment, Volume II Statewide Report***

Includes an analysis of the most significant impacts that climate change poses to the Commonwealth across the five sectors and based on three factors:

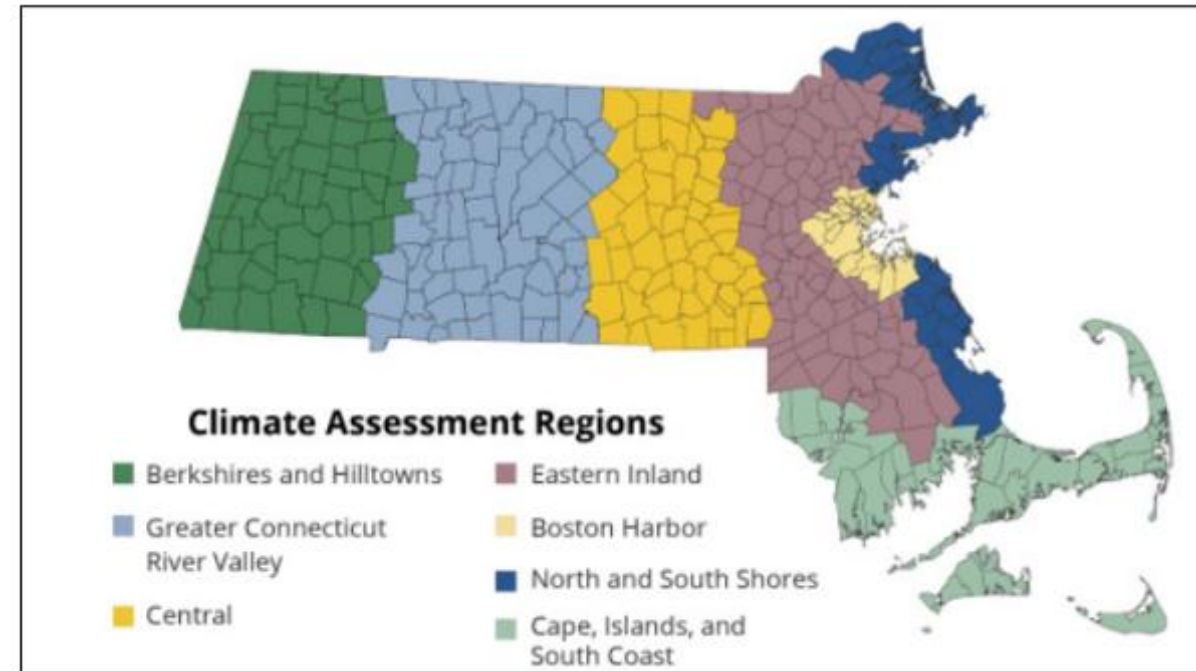
- Magnitude of consequence: How large of a climate effect is expected?
- Disproportionality of exposure: Will populations in environmental justice areas be disproportionately affected?
- Need for effective adaptation: is enough currently being done to adapt to this impact?

# State Guidance

## ***2022 MA Climate Change Assessment, Volume III Regional Report***

Subdivides the state into seven climate regions and summarizes the highest urgency climate impacts across the five sectors.

- New Bedford falls within the Cape, Islands, and South Coast Region
- Particularly vulnerable to climate stressor including:
  - Sea Level Rise
  - Storm Surge
  - Increasing Temperatures
  - Extreme Precipitation



# State Guidance

## ***2022 MA Climate Change Assessment, Volume III Regional Report***

### Human Sector

- Increase in Vector-Borne Diseases Incidence and Bacterial Infections
- Health and Cognitive Effects from Extreme Heat, Health Effects of Extreme Storms and Power Outages, Emergency Service Response Delays and Evacuation Disruptions, Reduction of Food Safety and Security, and Damage to Cultural Resources

### Infrastructure Sector

- Damage to Electric Transmission and Distribution Infrastructure
- Reduction in Clean Water Supply

### Natural Environment Sector

- Marine Water Ecosystem Degradation
- Coastal Wetland Degradation
- Coastal Erosion

# State Guidance

## *2022 MA Climate Change Assessment, Volume III Regional Report*

### Governance Sector

- Increase in Demand for State and Municipal Government Services
- Reduction in State and Municipal Revenues

### Economy Sector

- Reduction in the Availability of Affordably Priced Housing
- Decrease in Marine Fisheries and Aquaculture Productivity

2030	2050	2070	2090
<b>NEAR TERM</b> The summer mean temperature could increase by 3.6°F from the historical period (1950-2013), increasing tick activity and the risks of Lyme disease.	<b>MID-CENTURY</b> Sea surface temperatures increase by 3.1°F, reducing marine fish catch and increasing risks from harmful bacterial infections.	<b>MID-LATE CENTURY</b> The historical 10 percent annual chance daily rainfall event (2.4 to 4 inches) could occur five times more frequently.	<b>END OF CENTURY</b> Tropical cyclone frequency could increase by nearly 50 percent, leading to damage from storm surge, heavy rainfall, and high winds.

# Mitigation Process

- **Assess Risks**
- Establish Goals
- Identify Projects/Actions
- Update/Maintain Plan

# Natural Hazards Profiled

## Flood-Related Hazards

- Riverine/Flash Flooding: **Moderate/4**
- Inland/Urban Flooding, Heavy Rain: **High/7**
- Dam Failure: **Low/3**
- Coastal Flooding/Erosion: **Moderate/6**

## Winter-Related Hazards:

- Blizzards/Snow/Nor'easters: **High/7**
- Extreme Cold: **Moderate/6**

## Wind-Related Hazards:

- Hurricanes/Tropical Storms: **Moderate/6**
- High Winds: **Moderate/6**
- Tornadoes/Waterspouts: **Low/3**
- Lightning/Thunderstorms: **Moderate/5**
- Hail: **Low/2**

## Geologic-Related Hazards

- Earthquakes: **Low/2**
- Landslides: **Low/1**
- Tsunamis: **Low/1**

## Extreme Heat-Related Hazards:

- Extreme Heat: **High/8**

## Drought-Related Hazards:

- Drought: **Moderate/6**

# Natural Hazards Profiled

## Wildfire/Brushfire-Related Hazards

- Wildfire/Brushfire: **Low/3**

## Communicable (Infectious) Disease-Related Hazards:

- Epidemic/Pandemic: **High/9**

## Invasive Species-Related Hazards:

- Aquatic Plant Species: **Moderate/6**

## Vector-Borne-Related Hazards

- Multiple: **Moderate/5**

## Changes to Groundwater-Related Hazards

- Changes to Groundwater: **Moderate/4**

# Natural Hazard Index

Hazard	2023 Frequency (i.e. Unlikely, Possible, Likely, Highly Likely)	2023 Location (i.e. Small/Local, Medium/Regional, Large/Multiple communities)	2023 Severity (i.e. Negligible, Limited, Critical, Catastrophic)	2016 Hazard Index (i.e. ranked by combining frequency and severity; 10 - high, 1 - low)	2023 Hazard Index (i.e. ranked by combining frequency and severity; 10 - high, 1 - low)
<b>Flood-Related Hazards</b>					
- Riverine/Flash Flooding	2	1	1	4	4
- Inland/Urban Flooding, Heavy Rain <sup>1</sup>	3	2	2	N/A	7
- Dam Failure <sup>1</sup>	1	1	1	3	3
- Coastal Flooding/Erosion <sup>1</sup>	3	2	1	4	6
<b>Winter-Related Hazards</b>					
- Blizzards/Snow/Nor' easter <sup>1</sup>	3	3	1	5	7
- Extreme Cold	3	3	0	6	6
<b>Wind-Related Hazards</b>					
- Hurricanes/Tropical Storms	2	2	2	5	6
- High Winds <sup>1</sup>	3	2	1	N/A	6
- Tornadoes/Waterspouts	1	1	1	3	3
- Lightning/Thunderstorms <sup>1</sup>	3	1	1	4	5
- Hail	1	1	0	N/A	2
<b>Geologic-Related Hazards</b>					
- Earthquakes <sup>1</sup>	1	1	0	2	2
- Landslides <sup>1</sup>	0	1	0	2	1
- Tsunami <sup>1</sup>	0	1	0	3	1
<b>Extreme Heat-Related Hazards</b>					
- Extreme Heat <sup>1</sup>	3	3	2	6	8
<b>Drought-Related Hazards</b>					
- Drought <sup>1</sup>	2	3	1	4	6
<b>Wildfire/Brushfire-Related Hazards</b>					
- Wildfire/Brushfire <sup>1</sup>	2	1	0	3	3
<b>Communicable-Related Hazards</b>					
- Infectious Disease/Public Health Em. <sup>1</sup>	3	3	3	N/A	9
<b>Invasive Species-Related Hazards</b>					
- Multiple (aquatic plant species) <sup>1</sup>	3	2	1	N/A	6
<b>Vector-Borne-Related Hazards</b>					
- Multiple <sup>1</sup>	3	1	1	N/A	5
<b>Changes in Groundwater-Related</b>					
- Changes in Groundwater <sup>1</sup>	2	1	1	N/A	4

Notes:

1: Ranked by New Bedford Technical Committee (all others utilized NOAA Severe Events Database).



# Human-Caused Hazards Profiled

## Terrorism (Intentional) Hazards:

- Cybersecurity Incident: **Moderate/6.8**
- Terrorism/Explosive Incident: **Moderate/6**
- Urban Fire: **Moderate/6.2**
- Civil Disobedience/Unrest: **Low/5.4**
- Chemical/Biological/  
Radiological/Nuclear Incident: **Low/4.2**

## Other (Accidental) Hazards:

- Hazardous Materials  
Accident/Spill: **Moderate/6.4**
- Nuclear Power Plant Incident: **Low/3**
- Major Airplane Crash: **Low/4**

# Technological Hazards Profiled

## Technological Hazards:

- Infrastructure Failure
  - Communications: **Moderate/7.6**
  - Emergency Services: **Low/3**
  - Energy: **Moderate/7.6**
  - Information Technology: **Low/5.2**
  - Transportation Systems (includes the Port): **Low/4**
  - Water/Wastewater/Storm water Systems: **Moderate/6.6**
- ACOE Hurricane Barrier System Failure: **Low/4.8**

# Human-Caused/Technological Hazard Index

Table \_\_\_\_ Technological and Human-Caused Hazard Index New Bedford, Massachusetts 2024 update

Hazard	Probability (i.e. Unlikely, Potential, Likely, Highly Likely) 1 to 4	Location/Extent (i.e. Small, Medium, Large) 1 to 3	Cosequence Analysis 1 to 3					Consequence Analysis	2023 Hazard Index: High = 10 to 9 Moderate = 8 to 6 Low = 5 to 3	2009 Hazard Index: High = 10 to 9 Moderate = 8 to 6 Low = 5 to 3
			Populations	Government	Built Environment	Natural Resources/Environment	Economy			
<b>Technological Hazards</b>										
ACOE Hurricane Barrier Failure	2	1	1	1	3	1	3	1.8	4.8	Low
<b>Infrastructure Failure</b>										
- Communications	4	2	1	3	2	1	1	1.6	7.6	N/A
- Emergency Services	1	1	1	1	1	1	1	1	3	N/A
- Energy	4	2	2	2	1	1	2	1.6	7.6	Moderate
- Information Technology	3	1	1	2	1	1	1	1.2	5.2	N/A
- Transportation Systems	2	1	1	1	1	1	1	1	4	Low/Moderate
- Water/Wastewater/Stormwater Systems	2	3	2	1	1	2	2	1.6	6.6	Moderate
<b>Human-Caused (Deliberate) Hazards</b>										
Cyber Incident	3	2	1	3	2	1	2	1.8	6.8	Low
<b>Terrorism</b>										
- Improvised Explosive Devices	2	2	3	2	2	1	2	2	6	Low
- Vehicle-borne IEDs										
- Active Shooter										
- Vehicle into crowds										
- Drones										
Urban Fire	4	1	2	1	1	1	1	1.2	6.2	High
Civil Unrest/Disobedience	2	2	1	2	2	1	1	1.4	5.4	Low
Chemical, Biological, Radiological, Nuclear Agent (CBRN)	2	1	2	1	1	1	1	1.2	4.2	Low
<b>Human-Caused (Other/Accidental) Hazards</b>										
Hazardous Materials Accident/Spill	4	1	2	1	1	2	1	1.4	6.4	High
Nuclear Power Plant Incident	1	1	1	1	1	1	1	1	3	Low
Major Airplane Crash	2	1	1	1	1	1	1	1	4	Moderate

Notes:  
1: All Technological and Human-Caused hazards ranked by New Bedford Technical Committee.

# Assess Risks: Risk/Vulnerability Assessment - Assets

## **Economic Assets**

- Businesses/Large Employers
- Historic Assets

## **Social Assets**

- Vulnerable Populations
- Environmental Justice Areas
- Cultural Locations

## **Natural Resources**

- Lifeline and Utility Systems
- Wetlands
- Conservation/Recreation Sites

## **Essential Buildings/Critical Facilities**

- Municipal Buildings
- Hazardous Facilities
- Roadways/Bridges
- GIS Mapping/Overlay Analyses

# Mitigation Process

- Assess Risks
- **Establish Goals**
- Identify Projects/Actions
- Update/Maintain Plan

# Goals and Mission Statement

New Bedford LHMC will revisit goal statements from the 2016 Plan...

- Prevent and reduce the loss of life, property, infrastructure, and cultural resources resulting from natural hazards.
- Identify and seek funding mechanisms to address proposed mitigation actions.
- Integrate hazard mitigation planning into relevant municipal departments and boards planning efforts.
- Collaborate with surrounding communities, state, regional, and federal agencies to ensure cooperation for natural hazards that affect multiple communities.
- Ensure that future development is compliant with federal, state, and local regulations in order to reduce the impacts of natural hazards.

New Bedford LHMC will also develop a mission statement for the 2024 Update.

# Mitigation Process

- Assess Risks
- Establish Goals
- **Identify Projects/Actions**
- Update/Maintain Plan

# Identify Projects/Actions Mitigation Measures (Categories)

New Bedford LHMC will consider categorizing actions by topic:

- Planning and Prevention
- Property Protection
- Natural Resource Protection
- Structural Projects
- Emergency Services
- Public Education and Awareness



# Identify Projects/Actions

## Mitigation Actions

Mitigation actions will be developed based on:

- Review of existing plans, studies, and reports
- The City's identified risks and vulnerabilities
- Public input
- Municipal coordination

Mitigation actions will include:

- Brief description of the intended action
- Responsible party
- Proposed time frame for completion
- Potential funding mechanism

# Prioritization Actions – STAPLEE Method

Each mitigation action will be prioritized by:

- **Social:** is the action socially acceptable?
- **Technical:** is the action technically feasible and provide appropriate level of protection?
- **Administrative:** does the City have the capability to complete the action?
- **Political:** will the community support or oppose the action?
- **Legal:** does the City have the legal authority to complete the action?
- **Economic:** is the action cost-effective?
- **Environmental:** will the action affect the natural environment?

# Mitigation Process

- Assess Risks
- Establish Goals
- Identify Projects/Actions
- **Update/Maintain Plan**

# Implement/Update/Maintain the Plan

Implementation/Updating/Maintenance of the 2024 Update will include:

- City's capability
- Plan adoption
- Incorporation into other municipal documents
- Annual review/meeting
- Update after disaster event/5-year planning horizon

# 2016 Plan Report Card

## 5.3.1 Emergency Management Department

- 5.3.1.1 Purchase and Install Auxiliary Generators...**partially completed**
- 5.3.1.2 Improve Warning Capabilities...**completed, remains ongoing**
- 5.3.1.3 Special Needs Registry...**completed**
- 5.3.1.4 Community Preparedness Outreach/Messaging Efforts...**completed, remains ongoing**
- 5.3.1.5 Community Rating System Participation...**not completed, carry forward**
- 5.3.1.6 Debris Management Plan...**in progress**
- 5.3.1.7 Update Local Hazard Mitigation Plan...**in progress**

## 5.3.2 Police Department

- 5.3.2.1 New roof for Police Station #1...**not completed, station is closed**
- 5.3.2.2 New parking lot drainage system at Police Headquarters...**not completed, design in progress**
- 5.3.2.3 New Communications Systems...**in progress**

# 2016 Plan Report Card

## 5.3.3 Fire Department

5.3.3.1 Emergency generators for radio transmitters...**in progress**

5.3.3.2 Upgrade of Fire Alarm System...**in progress**

5.3.3.3 Replace/Renovate Existing Fire Stations...**in progress**

5.3.3.4 EMT Training for Fire Department members...**completed, remains ongoing**

5.3.3.5 Stockpile Supplies for Operations Crew and local population...**completed, remains ongoing**

## 5.3.4 Planning Department

5.3.4.1 Adopt Stormwater Ordinance...**completed**

5.3.4.2 Integrate Disaster Mitigation into Comprehensive Master Plan...**in progress**

# 2016 Plan Report Card

## 5.3.5 Harbor Development Commission

- 5.3.5.1 Installation of a wave attenuator at Pope's Island Marina...**not completed, carry forward**
- 5.3.5.2 Installation of a storm mooring system at Pope's Island...**not completed, carry forward**
- 5.3.5.3 Repair/Bolster/Expand commercial fishing piers...**in progress**
- 5.3.5.4 Dredge New Bedford Harbor...**not completed, carry forward**
- 5.3.5.5 Expansion of Pope's Island Marina...**not completed, carry forward**
- 5.3.5.6 Replacement of mooring anchors and gear...**partially completed**
- 5.3.5.7 Fund Unified Command Center for local/state/federal emergency response agencies...**completed**
- 5.3.5.8 Assess/Mitigate utility and infrastructure weaknesses on the waterfront...**completed**

## 5.3.6 Department of Public Infrastructure

- 5.3.6.1 Install new SCADA System at Sewer Pump Stations...**in progress**
- 5.3.6.2 Clarks Cove Pump Station/Hurricane Barrier flooding improvements...**in progress**
- 5.3.6.3 Flood-proof sewer pump stations within flood-prone areas...**completed**
- 5.3.6.4 Coggeshall St. area stormwater drainage improvements...**completed**
- 5.3.6.5 Maple/Chancery Streets stormwater drainage improvements...**not completed, carry forward**
- 5.3.6.6 Page St. stormwater drainage improvements at St. Luke's Hospital...**not completed, carry forward**

# 2016 Plan Report Card

## 5.3.6 Department of Public Infrastructure

- 5.3.6.7 Buttonwood Park Pond and Dam Improvements...**not completed, carry forward**
- 5.3.6.8 Pearl St. stormwater drainage improvements...**completed**
- 5.3.6.9 Brownell Ave./Hawthorn St. stormwater drainage improvements...**not completed, carry forward**
- 5.3.6.10 New Bedford Reservoir Dam/Turner's Pond Dam improvements...**partially completed**
- 5.3.6.11 Establish 'Micro-Grid' within City for auxiliary power...**not completed, remove/no longer relevant**
- 5.3.6.12 Route 18/Wamsutta St. stormwater drainage improvements...**not completed, carry forward**
- 5.3.6.13 Sheffield St./Stratford St. stormwater drainage improvements...**not completed, carry forward**
- 5.3.6.14 Mitigation of drainage issues Tarklin Hill Rd. to Nash Rd. Pond...**not completed, carry forward**
- 5.3.6.15 West End CSO separation contract phase IV...**not completed, carry forward**
- 5.3.6.16 West End CSO separation contract phase V...**not completed, carry forward**
- 5.3.6.17 Assawompsett Dam improvements...**not completed, remove/no longer relevant**
- 5.3.6.18 Improve the inter-municipal agreement with Taunton for Assawompsett Dam...**not completed, remove/no longer relevant**
- 5.3.6.19 Improve communications/data gathering for infrastructure systems...**completed**
- 5.3.6.20 Implement snow-plowing tracking system...**completed**
- 5.3.6.21 Incorporate disaster mitigation plan projects into City projects...**completed, remains ongoing**



# Community Outreach & Engagement

## Ward-Specific Public Meetings

- Ward 1: Pulaski School, November 6, 2023
- Ward 2: Wilks Library, September 25, 2023
- Ward 3: Keith Middle School, October 16, 2023
- Ward 4; McCoy Recreation Center, November 2, 2023
- Ward 5: Hathaway Elementary School, October 4, 2023
- Ward 6: Hazelwood Park Community Center, October 30, 2023

## Outreach/Engagement Reboot

- Listening Posts
  - Howland Green Branch Library
  - New Bedford Free Public Library
  - Lawler Branch Library
  - Wilkes Branch Library
  - Denison Memorial Community Center
  - Global Learning Charter Public School
  - Whaling Museum



# Community Outreach & Engagement

## Fact Sheet/Survey Link/QR Code

- Online Community Survey
  - 170 responses to date
  - Project business cards created for distribution
  - QR Code posted inside Southeastern Regional Transit Authority (SRTA) buses
- Fact Sheet/Survey distributed electronically to:
  - Coalition for Social Justice (December 2023)
  - Alma Del Mar Charter School (January 2024)
  - Global Learning Charter (December 2023 – English/Spanish/Portuguese)
- Boots-on-the-Ground
  - Staff canvassing SRTA bus routes/shelters

New Bedford, MA  
Multi-Hazard Mitigation Plan  
2024 Update



[www.newbedford-ma.gov/emergency-management/new-bedford-multi-hazard-mitigation-plan/](http://www.newbedford-ma.gov/emergency-management/new-bedford-multi-hazard-mitigation-plan/)



**Take the Community Survey**  
<https://www.surveymonkey.com/r/6KTNVMJ>  
Participate and be entered to win a \$50 gift Card

# Project Timeline MHMP

## ASSESS HAZARDS

The City will identify and evaluate all potential hazards posing a risk to New Bedford, define risks, and assess vulnerability of at-risk areas and facilities.

JAN '23 – MARCH '24

## COMMUNITY ENGAGEMENT

Stakeholders and community members will provide input on existing vulnerabilities, concerns, and a draft plan.

SEPT '23 – NOV '24

## ACTION PLANNING & FINAL UPDATE

Using the previous assessments and stakeholder feedback collected, the City will develop updated mitigation actions and launch an updated plan.

FEB '23 – OCT '24



# Online Survey

- Visit nbresilient.com
- Take the online Community Survey:  
<https://www.surveymonkey.com/r/6KTNVMJ>
- Share the link/QR Code with family, friends, coworkers
  
- **Participate and be entered to win a \$50 gift card!**



# Project Webpage

- Take Our Survey!
- What is Hazard Mitigation Planning?
- Prioritizing Equity
- Our Process
- Local Hazard Mitigation Committee
- Contact Us for More Information
- Additional Resources
- 2016 Plan Report Card



[www.newbedford-ma.gov/emergency-management/new-bedford-multi-hazard-mitigation-plan/](http://www.newbedford-ma.gov/emergency-management/new-bedford-multi-hazard-mitigation-plan/)



**Questions?**