



City of Providence Hazard Mitigation Plan 2013 Update



Public Workshop July 25, 2018 7:00 pm

Providence Emergency Management Agency
591 Charles St.
Providence, RI

Craig Pereira, CFM, Senior Planner
Horsley Witten Group, Inc.
July 25, 2018



Why Hazard Mitigation Planning?

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”.

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

City of Providence Local Hazard Mitigation Committee

Marisa Albanese - National Grid

Michael Bates - City of Providence, Fire Dept.

James Boyd - RI Coastal Resources Management Council

Manuel Cordero - Citizen of Providence

Clara Decerbo - City of Providence, PEMA

Jeffrey Emidy - RI Historical Preservation and Heritage Commission

Janet Freedman - RI Coastal Resources Management Council

Melinda Hopkins - RI Emergency Management Agency

Peter LePage - Providence Water Supply Board

Jeffrey Lykins - City of Providence, Inspections and Standards Dept.

Jared Rishel - Providence & Worcester Railroad

Jeffrey Varone - City of Providence, Fire Dept.

Leah Bamberger - City of Providence, Sustainability Dept.

Michael Borg - City of Providence, Public Works Dept.

Roger Choiniere - City of Providence, PEMA

Steve Curtis - Waterson Terminal Services, LLC

Margaret DeVos - Southside Community Land Trust

David Everett - City of Providence, Planning Dept.

Chris Harwood - Johnson & Wales University

Kevin Kugel - City of Providence, PEMA

Dawn Lewis - Hospital Association of RI

Stephen Morin - Brown University

Philip Stocking - American Red Cross

Dave Aucoin – Narragansett Bay Commission

Consultant Team

Craig Pereira - Horsley Witten Group, Inc.

Dorian Boardman - Boardman Ecological Services

Matt Shultz - Woods Hole Group, Inc.

Mitigation Process

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

Assess Risks...

Risks and Vulnerability Assessment

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”.

Hazards Affecting Providence (2013 Plan)

Natural Hazards

- Flood Related
 - Riverine Flooding
 - Flash Flooding
 - Heavy Rain, Inland/Urban Flooding
 - Coastal Flooding
 - Dam Inundation
 - Sea Level Rise
- Winter Related
 - Heavy Snow
 - Ice Storm
 - Extreme Cold

Hazards Affecting Providence (2013 Plan)

Natural Hazards

- Wind Related
 - Hurricane
 - Tornado
 - High Winds
 - Severe Thunderstorm
 - Lightning
 - Hail
- Fire Related
 - Wild Fire
 - Urban Fire

Hazards Affecting Providence (2013 Plan)

- Geologic Related
 - Earthquake
- Drought Related
 - Drought
 - Extreme Heat
- Communicable Disease Related
 - Epidemic

Natural Hazards

Hazards Affecting Providence (2013 Plan)

- Fire
- Mass Casualty Incident
- Hazardous Materials Release
- Terrorism – Nuclear
- Special/VIP Events
- Terrorism – Explosive
- Terrorism – Chemical
- Terrorism – Radiological
- Terrorism – Biological
- Terrorism – Cyber
- Civil Disobedience/Unrest

Man-Made Hazards

Hazards Affecting Providence (2013 Plan)

- Infrastructure Failure

Technological Hazards

The Local Hazard Mitigation Committee (LHMC) is currently evaluating each of the hazards affecting Providence to establish a **Hazard Index** – the hazards posing the most risk to the community, based on historical frequency and severity.

FEMA's Calculated Priority Risk Index

Assess Risks – Risk and Vulnerability Assessment

Identification of Assets

- **Economic Assets**

- Businesses/major employers
- Tourist destinations

- **Social Assets**

- Vulnerable populations
- Cultural locations

Assess Risks – Risk and Vulnerability Assessment

Identification of Assets

■ **Natural Resources**

- Lifeline and utility systems
- Wetlands
- Conservation and recreation lands

■ **Essential Buildings and Critical Facilities**

- Municipal buildings
- Hazardous facilities
- Roadways

Mitigation Process

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

Establish Goals – Mitigation Strategy

Review Existing Hazard Mitigation Activities:

- Coordination with State agencies
- Coordination with local business community
- Coordination with neighboring communities
- Comprehensive Emergency Management Plan
- Flood Hazard Development Permit/Standards
- Land Development & Subdivision Control Regulations

Establish Goals – Mitigation Goal (2013 Plan)

It is the goal of this plan to preserve and enhance the quality of life, property and resources for the citizens of Providence by:

- Identifying areas at risk from natural and human-caused hazards, and
- Implementing priority hazard mitigation actions in order to protect the City's built environment, people, historic, cultural, economic, and natural resources.

Establish Goals – Mitigation Measures

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

Mitigation Process

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

Identify Projects/Actions...

Identification of Mitigation Actions

Mitigation actions to be developed based on review of the City's identified risks and vulnerabilities to natural hazards.

Each action incorporates a brief description of the intended action, who the responsible parties are, a proposed time frame for completion and potential funding sources.

Identify Projects/Actions...

Prioritization of Actions

- **Social**
- **Technical**
- **Administrative**
- **Political**
- **Legal**
- **Economic**
- **Environmental**

Identify Projects/Actions...

Implementation

- City's Capability
- Plan Adoption/Incorporation into Existing Plans

Mitigation Process

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

Update/Maintain the Plan

- Maintain periodically, recommended annually
- Update every 5 years per DMA 2000

2013 Plan Report Card

Vulnerable Area One

Hurricane Barrier

During February 2010, the US Army Corps of Engineers officially took responsibility for the maintenance and operation of the Fox Point Hurricane Barrier. Most of the required maintenance, identified by the Providence Department of Public Works on August 6, 1998 has been addressed or is being addressed, by the US Army Corps of Engineers. The original Department of Public Works request routine maintenance items, routine electrical and mechanical maintenance, cleaning, painting & sealing, routine overhaul of pumps and dike maintenance.

Ongoing...

2013 Plan Report Card

Vulnerable Area Two

A-V Zone Properties

Action 3 – Apply for the Community Rating System (CRS).

Not Completed...Remove

Action 4 – Require property owners in A- and V-zones requesting building permits to comply with new flood plain standards. Consider a public outreach program to notify property owners in A- and V-zones of the requirements to comply with new flood plain standards.

Compliance Completed...Carry Forward Public Outreach

2013 Plan Report Card

Vulnerable Area Three

Woonasquatucket River, WaterPlace Park to the Hurricane Barrier, Port of Providence
Action 5 – Perform study of the area with US Corps of Engineers to identify up-grades necessary to limit damage due to flooding and earthquake.

Not Completed...Remove

Action 6 - Retrofit the ProvPort facility to protect against flood and earthquake damage.

Completed...

2013 Plan Report Card

Vulnerable Area Four

Local and Interstate Highway Bridges

Action 7 – Inspect, repair, replace and retrofit deteriorated bridge components. Below is a list of bridge sufficiency ratings for many bridges in Providence. For the 2009-2012 RI State Transportation Improvement Program (TIP) Providence has ten projects listed for funding for a total of over \$65 million dollars. Funding of these projects will be contingent upon available funding in the context of shrinking federal assistance.

Ongoing...Carry Forward

2013 Plan Report Card

Vulnerable Area Five

City Hall and Other Public Properties

Action 8 – Initiate study to determine the current storage situation of vital documents. For the most part, City Hall is protected from serious flooding by the Hurricane Barrier. In the unlikely event that the barrier should fail, the City's Department of Public Property must insure that vital documents are stored in upper stories or in flood-proof cabinets.

Study Completed...Carry Forward Implementation/Findings

2013 Plan Report Card

Vulnerable Area Six

Tree Trimming and Debris Management Program

Action 9 – Initiate tree trimming and debris management program. Form a partnership with National Grid to implement the program which will help to reduce loose limbs and remove diseased trees.

Completed...Carry Forward Coordination with National Grid

2013 Plan Report Card

Vulnerable Area Seven

Buildings with Archaic Structural Systems

Action 10 – Retrofit older buildings to comply with current code requirements. Like City Hall, Downtown Providence is protected from serious flooding by the Hurricane Barrier. Moreover, most new buildings are earthquake resistant. Some buildings both in and out of downtown would require some retrofitting. Buildings constructed after the end of the World War II would have been designed according to then accepted structural engineering practice, resembling current code requirements, to withstand hurricane force winds. Some pre-war buildings may not have utilized structural engineering criteria resembling current code requirements. Structural analysis should be provided by property owners to determine which buildings are structurally consistent with current code requirements and currently accepted engineering practice.

Not Completed...Carry Forward

2013 Plan Report Card

Vulnerable Area Eight

Public Buildings and Critical Infrastructure

Action 11 – The City’s Fire Engine 14 on Atwells Avenue at Valley Street is in a floodplain. Evaluate one of the following two options to determine which would be better in the long-term:

- 1) Relocation of the fire station
- 2) Build a retaining wall on the fire station side of the river to protect from possible flooding.

Not Completed...Carry Forward

2013 Plan Report Card

Vulnerable Area Nine

Narragansett Bay Commission Sewage Treatment Plant

Action 12 – Update the Narragansett Bay Commission Emergency Operations Plan. The Narragansett Bay Commission prepared its own emergency operations plan in 1988. The plan has been updated since then, but new efforts by Providence Emergency Management Agency, Providence Public Works Department, Army Corp of Engineers, and Narragansett Bay Commission to coordinate SOP's regarding the operation of the Fox Point Hurricane Barrier should prompt NBC to review and revise its Emergency Operation Plan.

Completed...

Project Schedule

Draft Update available for public comment – **December 2018**

Draft Update to RIEMA – **April 2019**

Contact Us...

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On-line Surveys available!
English Version:

<https://www.surveymonkey.com/r/ProvidenceHazardMitigationPlanUpdate>

Spanish Version:

https://www.surveymonkey.com/r/ProvidenceHazardMitigationPlanUpdate_SpanishVersion

Thank You!

Map Exercise

Provide your local knowledge...