




Resilient Rhody 2025

NBEP Habitat Strategy Kickoff Meeting

May 2026

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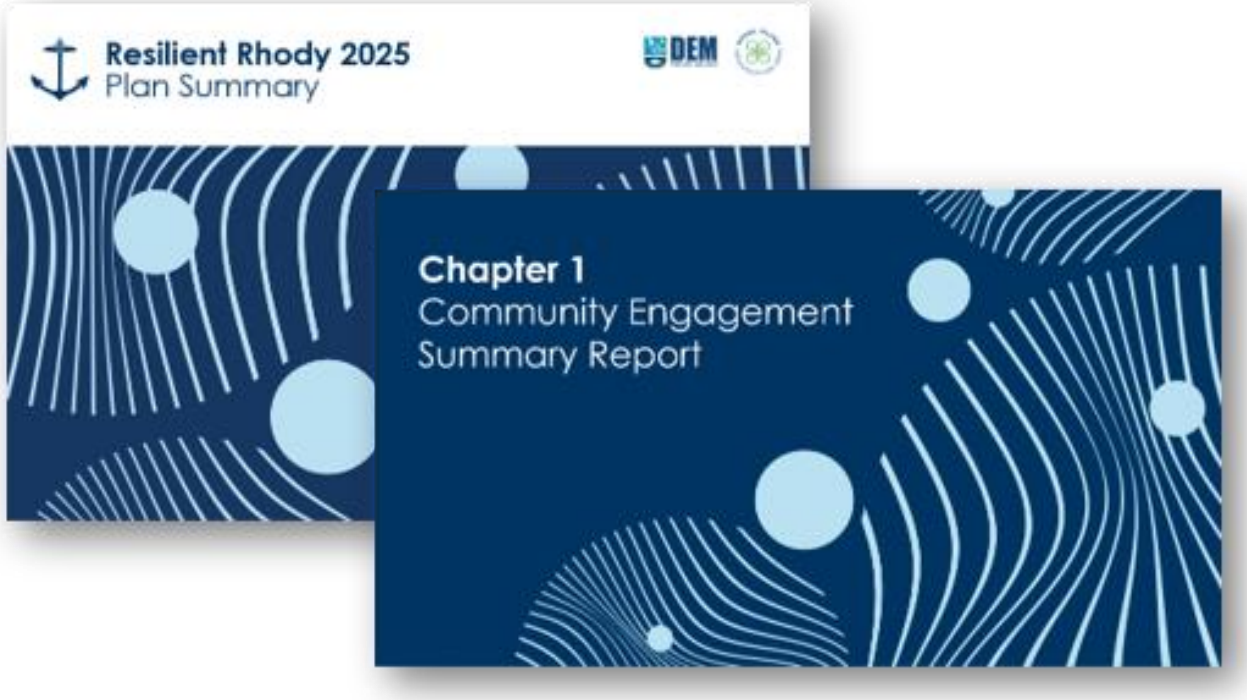
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Resilient Rhody 2025 Overview

Resilient Rhody 2025 is organized into a Plan Summary and nine supporting chapters.

The Plan Summary provides an accessible overview of key takeaways, while each chapter offers a more detailed explanation of the methodology, engagement approach, and findings.



Plan Summary

- Purpose
- Scope
- Executive Summary
- Engagement Process
- Statewide Climate Vulnerability Assessment
- Resilient Rhody 2025 Actions
- Climate Adaptation & Resilience Solutions
- Future Investment Strategy

Chapters

- **Chapter 1: Community Engagement Summary Report**
- **Chapter 2: Resilient Rhody 2025 Actions**
- **Chapter 3: Statewide Climate Vulnerability Assessment**
- **Chapter 4: Priority Assets List**
- **Chapter 5: Climate Adaptation & Resilience Solutions**
- **Chapter 6: Future Investment Strategy**
- **Chapter 7: Funding & Financing Mechanisms Inventory**
- **Chapter 8: Prioritization Framework**
- **Chapter 9: Resilience Best Practices**

Resilient Rhody 2025 Scope

State Resilience Action Development
Identifies and advances **79 high-impact actions** to protect Rhode Island's residents, economy, and natural resources.

Statewide Climate Vulnerability Assessment
Conducted the state's **first comprehensive evaluation of climate risks** across **21 asset types** and **over 130,000 assets** for **five major hazards** under multiple time horizons and greenhouse gas scenarios.

Community engagement serves as the throughline across all components, ensuring local voices shape priorities and outcomes.

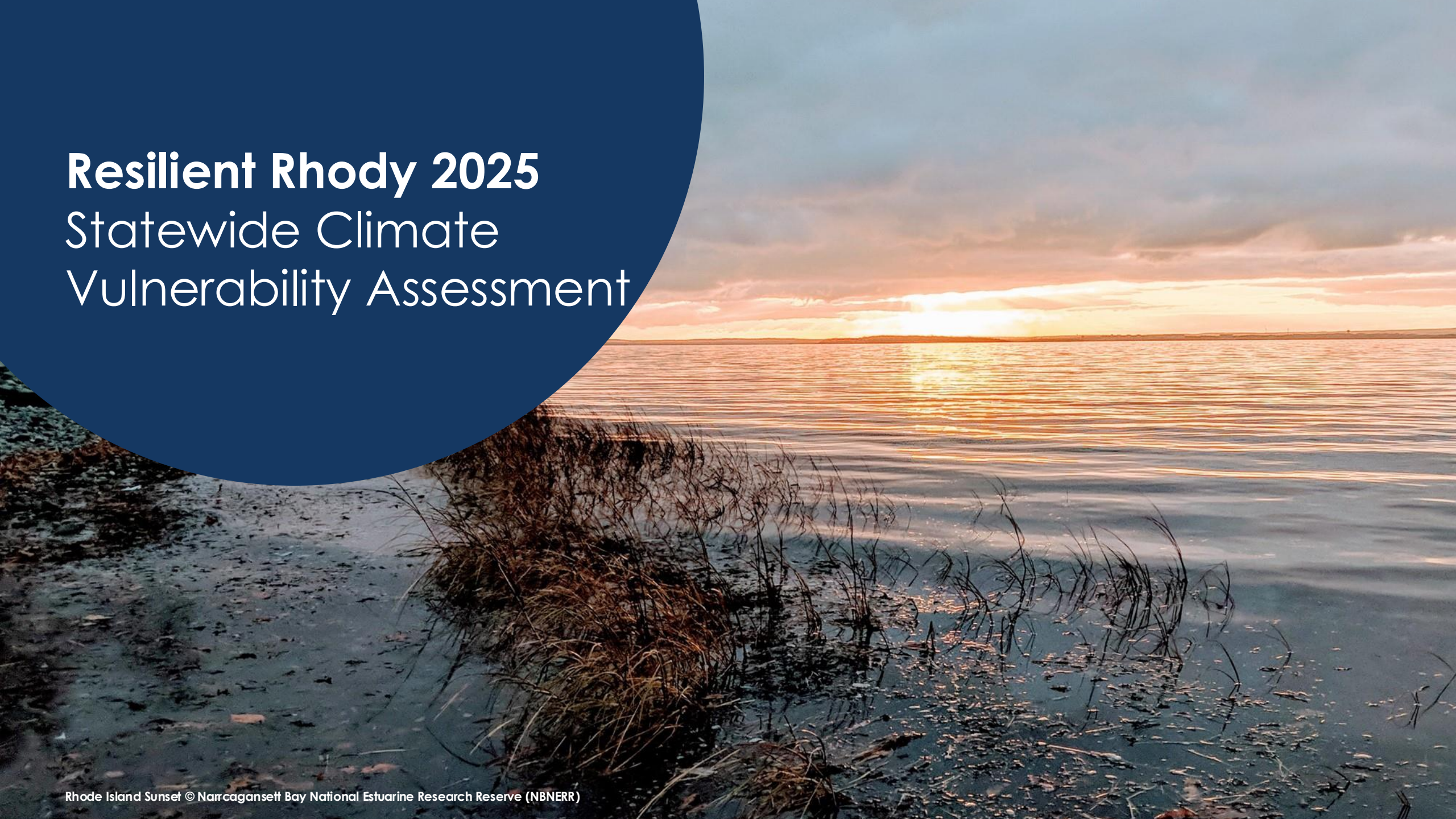
Resilient Rhody 2025 Scope

Climate Adaptation & Resilience Solutions
Outlines and costs **10 priority solutions** for critical assets, informed by vulnerability findings and community-driven prioritization.

Future Investment Analysis and Strategy
Outlines **funding pathways**, legislative needs, and strategies to implement actions and solutions effectively.

Community engagement serves as the throughline across all components, ensuring local voices shape priorities and outcomes.

Resilient Rhody 2025
Statewide Climate Vulnerability Assessment



Rhode Island Sunset © Narrcagansett Bay National Estuarine Research Reserve (NBNERR)

Resilient Rhody 2025 Vulnerability Assessment

Five climate hazards were evaluated: coastal flooding, stormwater flooding, riverine flooding, extreme heat, and extreme wind.

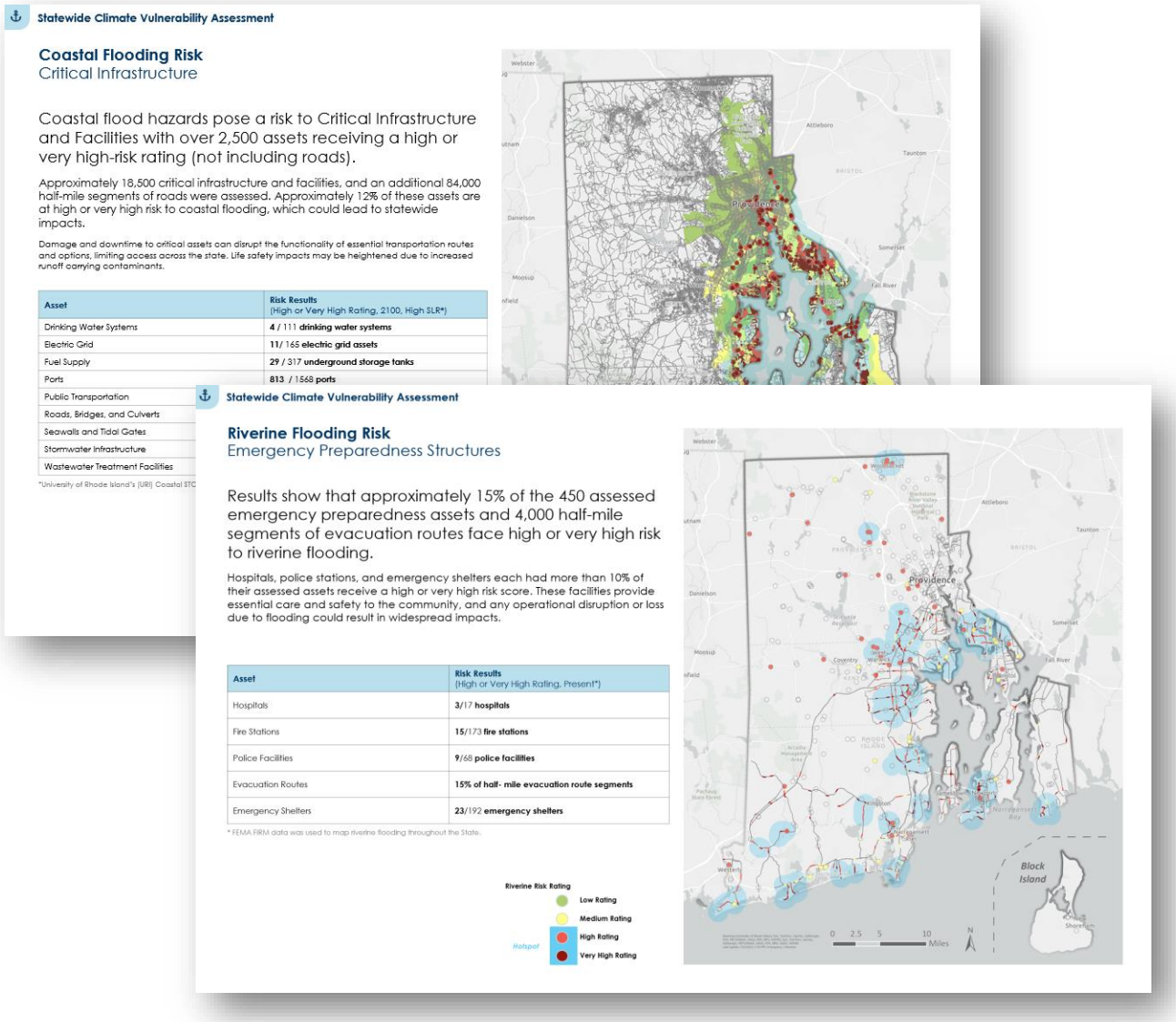
These hazards were assessed across **four time horizons** (current, 2035, 2050, and 2100), using **two greenhouse gas emission scenarios**—intermediate (SSP2-4.5) and very high (SSP5-8.5).

The analysis covered **21 asset types** grouped into four categories:

- Critical infrastructure and Facilities
- Natural Systems
- Community Resilience structures
- Emergency Preparedness Structures

A total of over **130,000 assets** were analyzed, including nearly 90,000 half-mile segments of roads and evacuation routes.

Approximately **10,000 assets were classified as high or very high at risk** (excluding roads and evacuation routes).



Resilient Rhody 2025 Key Findings

Coastal Flooding

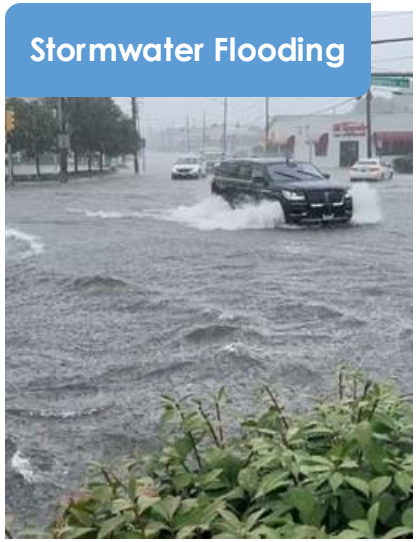


Approximately **18%** of the assets assessed for coastal flooding will have **high or very high risk by 2100**.

The percentage of assets at high or very high risk to coastal flooding is projected to **increase by 5% between present day and 2100.**

Data Sources: STORMTOOLS, FEMA

Stormwater Flooding

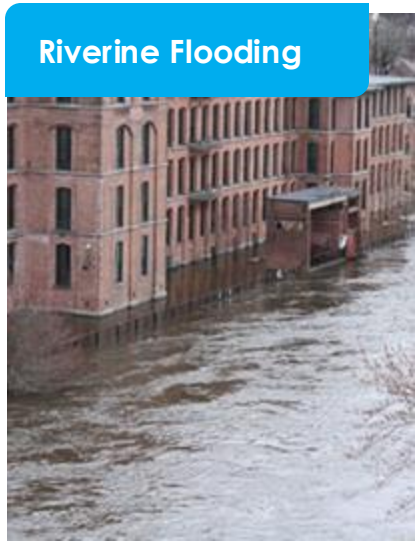


By 2100 all counties could experience over 10 inches of rainfall during a 24-hr 100-yr storm.

Providence County currently has the highest rainfall totals and is projected to continue experiencing the greatest rainfall through 2100.

Data Sources: NOAA, NRCC, IPCC AR6: 24-hr 100-year storm

Riverine Flooding



Approximately **10%** of the assets assessed for riverine flooding **currently face high or very high risk**.

Approximately 17% Community Resilience assets face high or very high risk, totaling 128 at-risk assets including **more than one out of every ten PreK-12 school or college and university**.

Data Sources: FEMA

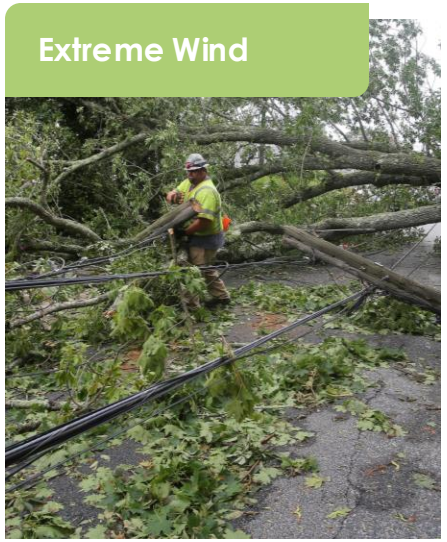
Extreme Heat



By 2100 under the SSP5-8.5 scenario, **all counties are projected to experience over 30 days per year above 90°F.**

Data Sources: NASA Earth Exchange GDDP: Heat Index; NOAA: *Annual Number of Days above 90 °F and 95°F*

Extreme Wind



Present-day extreme wind speeds are relatively consistent across counties, ranging from approximately 130 to 140 mph.

By 2100, wind speeds are projected to rise sharply, with Newport and Washington counties projected to reach 150 mph.

Data Sources: ASCE7 Hazard Tool; IPCC AR 5: *Design Wind Speeds*

Resilient Rhody 2025
Actions



George Washington Management Area in Glocester © RIDEM

Resilient Rhody 2025 *Resilient Rhody* Actions

79 State Resilience Actions

Four Categories:

1. **Critical Infrastructure** & Systems
2. **Natural Systems**, Preservation, and Restoration
3. **Community Resilience**, Funding, & Financing
4. **Emergency Preparedness**, Response, Procedures, and Coordination

Asset Type	Number of Actions
Critical Infrastructure	**38**
Statewide Resilience: All Critical Systems	14
Drinking Water	4
Wastewater	3
Dams	1
Stormwater Infrastructure	3
Ports	2
Electric Grid	4
Fuel Supply	2
Roads, Bridges, and Culverts	3
Public Transportation	2
Natural Systems	**14**
Beaches and Barriers	5
Coastal Wetlands	3
Forests	4
Water Resources	2
Community Resilience	**18**
Community Health & Resilience	10
Resilience Funding	5
Cross Sector Resilience	3
Emergency Preparedness	**9**
Building Design and Construction	3
Evacuation Routes & Emergency Shelters	2
Emergency Services	4

Resilient Rhody 2025 *Resilient Rhody* Action Examples

Dams

1 Action

Action 3.01 - Dam Safety: "A. Develop updated Emergency Action Plans (EAPs) for all statewide high hazard and significant hazard dams, including identifying evacuation routes. Coordinate the development of Emergency Action Plans (EAPs) for dams with municipal emergency management agencies and regional watershed resilience plans to ensure consistency and operational readiness. B. Develop a robust and enforceable statewide program to ensure compliance with dam safety and resilience standards. Conduct a statewide, state-funded legal assessment of dam ownership, including a legal analysis of State and municipal rights regarding orphaned dams. Create procedures for those building downstream of dams to consider inundation area below the dam through the State Building Code Commission, as required by regulation. Continue to implement the Dam Failure Warning System. **C. Continue to prioritize remediation and removal investments as informed by the 2017 Dam Hazard Study, as well as through findings of this statewide resilience plan. Establish State funding program for dam resilience & removal, to benefit both community resilience and habitat connectivity."**

Roads, Bridges, and Culverts

3 Actions

Action 8.02 - Wildlife Corridors: "**Establish a wildlife crossing initiative to study, identify, and prioritize target areas for restoring habitat connectivity, enhancing biodiversity corridors, and improving public safety** through reduced wildlife-vehicle collisions. **Identify undersized culverts and bridge crossings, and prioritize for upgrades** and up-sizing to both improve aquatic connectivity and reduce flooding."

Resilient Rhody 2025 *Resilient Rhody* Action Examples

Beaches and Barriers

5 Actions

Action 10.03 - Nature Based Shoreline Solutions*: "A. Develop a map of existing hardened shoreline structures and utilize to identify areas for nature-based solutions with Save The Bay's existing map. **Identify areas where future hardening would impact adjacent habitats** and public access. **Support the enforcement of state coastal regulations that encourage nature-based shoreline solutions and prohibit structural shoreline protection** and increase resources and capacity for enforcement. B. **Ensure that state funding programs include dedicated funds and incentives for nature-based solutions.** Support identification of opportunities for less utilized offshore nature-based solutions, such as reefs and sills, through funding and assistance. **Identify areas where future hardening would impact adjacent habitats** and public access and assess public use of existing hardened spaces to ensure future nature-based solutions are designed to maintain cultural uses."

See also Action 10.04 Resilience of Coastal Features, which expands to support identification & funding of marsh migration pathways and adaptation at parks & beaches.

Action 10.05 - Coastal Resources Planning: "A. **Update the Coastal and Estuarine Land Conservation Plan (CELCP) plan to incorporate State resilience objectives** and create public education materials for this plan and for the need to protect coastal lands. B. **Revisit and revise Special Area Management Plans** for Greenwich Bay, Narrow River, Metro Bay, and the Salt Pond Region. Update Shoreline Change SAMP **to incorporate most recent climate and coastal hazard."**

Resilient Rhody 2025 *Resilient Rhody* Action Examples

Coastal Wetlands

3 Actions

Action 11.01 - Coastal Wetland Restoration & Migration: "A. Continue monitoring and assessment of coastal wetland habitats and management practices to evaluate and prioritize future actions. Statewide models, such as the **Sea Level Affecting Marshes Model (SLAMM) and the Statewide Coastal Rapid Assessment Method (MarshRAM) should be expanded and updated** to identify opportunities for conservation and restoration to assist in planning for future marsh migration. Expand wetland and riparian protection. B. **Establish habitat restoration standards that incorporate climate resilience** and develop incentives for these standards to be implemented locally. Increase resources and technical assistance for coastal habitat restoration and protection."

Forests

4 Actions

Action 12.01 - Forest Preservation: "A. **Encourage the protection and restoration of remaining intact forest cover and migration corridors between them**, conserving the landscape values of larger, unbroken tracts of land. **Consider wildfire and drought risk** in planning efforts. This will require considerable collaboration, outreach, and communication with private landowners, who own about 72% of forested land area in the State, as well as creative sustainable investment ideas. B. To accomplish this, **support coordination among forestry plans (such as The Value of Rhode Island Forests and the State Forest Action Plan)**, stakeholders, and agencies. **Support implementation and enforcement of solar siting legislation** to ensure that clean energy solutions do not conflict with the resilience benefits of forested lands (ex. flood and heat reduction). In addition, **continue to provide State funding for the preservation of open space**, and study and reduce the regulatory and financial barriers between State and local resources.

Resilient Rhody 2025
Climate Adaptation & Resilience Solutions



Prudence Island © RIDEM

Resilient Rhody 2025 Prioritization Approach

Step 1: Statewide Climate Vulnerability Assessment

Assets determined to be at **high or very high risk** in the Statewide Climate Vulnerability Assessment were considered for inclusion in the prioritization process. This initial screening encompassed approximately **10,000 assets**.

Step 2: Intra-Asset Comparison

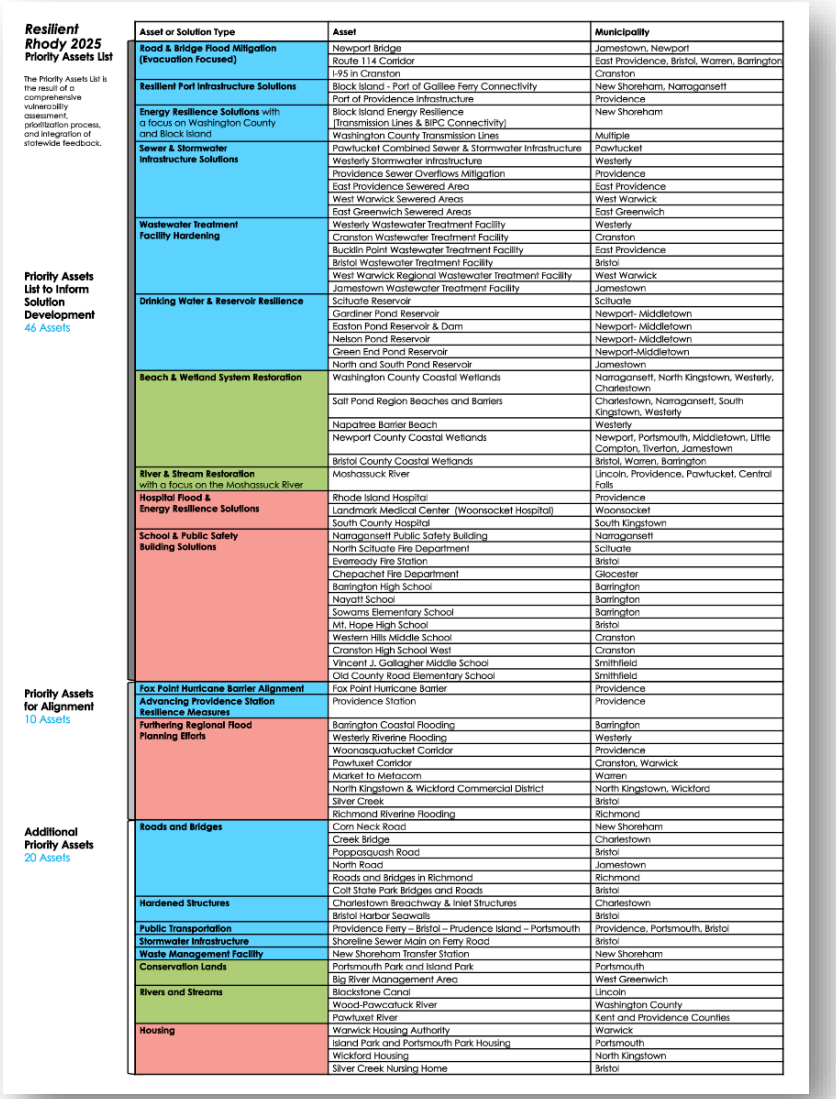
Assets were evaluated within their respective categories using **criteria tailored to each asset type**, such as role in emergency response, service capacity, and redundancy. This process reduced the list to approximately **200 assets**.

Step 3: Cross-Type Comparison

From an initial screening of approximately **200 assets**, assets were compared across categories using a **weighted scoring system**. Weightings for criteria were developed based on **aggregated feedback from stakeholder working sessions and community forums**. This approach ensured alignment with the Plan's objectives and strategic priorities.

Review & Engagement Process

After the list was narrowed to approximately **40 assets**, sites identified during community forums, municipal stakeholder sessions, technical assistance meetings, and annual resilience updates were reviewed and added. Assets were then added or removed assets as appropriate, ensuring that the final list reflected both technical criteria and community priorities.



***Resilient Rhody 2025* Priority Assets List**

The Priority Assets List is the result of a comprehensive vulnerability assessment, prioritization process, and integration of statewide feedback.

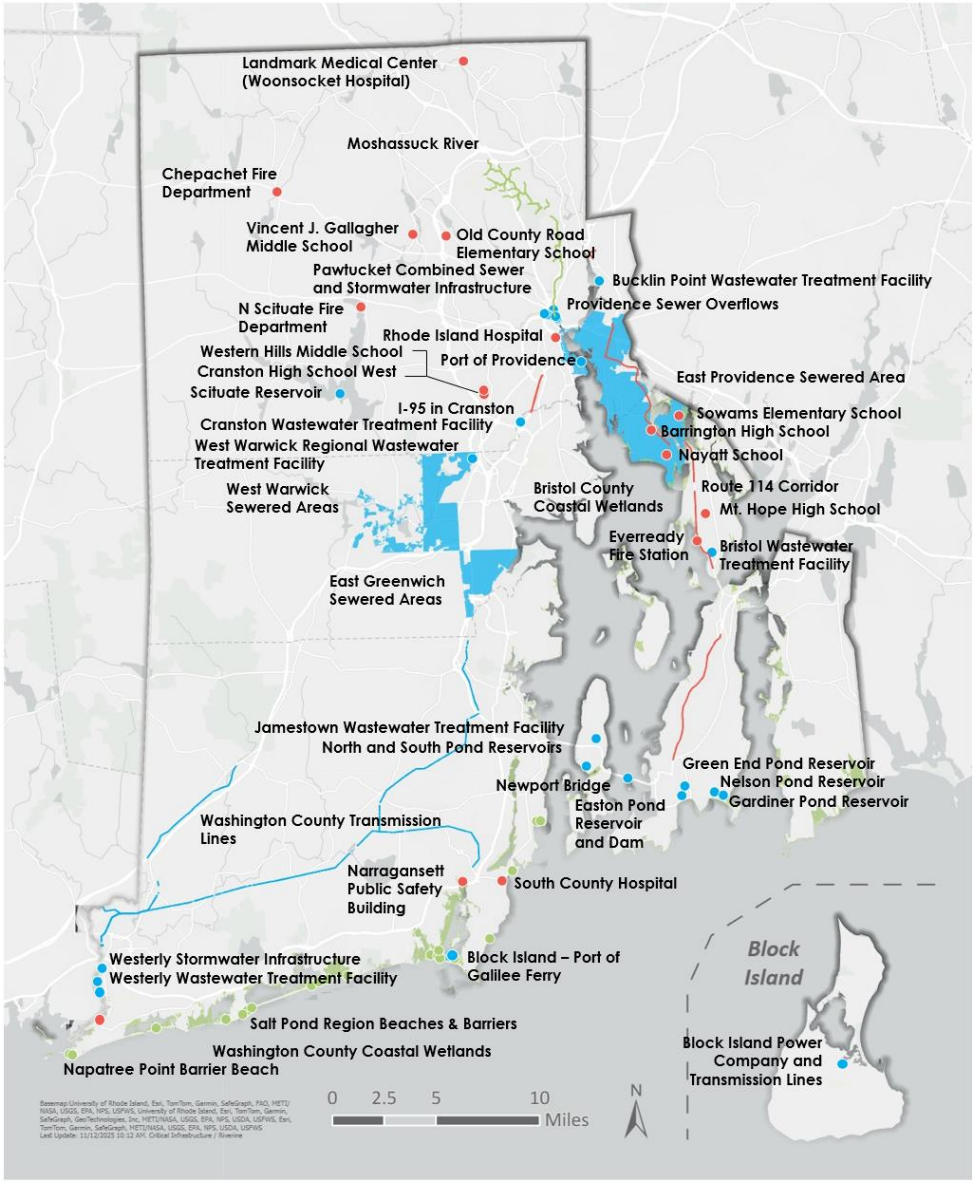
	Asset or Solution Type	Asset	Municipality
Priority Assets List to Inform Solution Development 46 Assets	**Road & Bridge Flood Mitigation (Evacuation Focused)**	Newport Bridge	Jamestown, Newport
		Route 114 Corridor	East Providence, Bristol, Warren, Barrington
		I-95 in Cranston	Cranston
	Resilient Port Infrastructure Solutions	Block Island - Port of Galilee Ferry Connectivity	New Shoreham, Narragansett
		Port of Providence Infrastructure	Providence
	Energy Resilience Solutions with a focus on Washington County and Block Island	Block Island Energy Resilience (Transmission Lines & BIPC Connectivity)	New Shoreham
		Washington County Transmission Lines	Multiple
	Sewer & Stormwater Infrastructure Solutions	Pawtucket Combined Sewer & Stormwater Infrastructure	Pawtucket
		Westerly Stormwater Infrastructure	Westerly
		Providence Sewer Overflows Mitigation	Providence
		East Providence Sewered Area	East Providence
		West Warwick Sewered Areas	West Warwick
		East Greenwich Sewered Areas	East Greenwich
	Wastewater Treatment Facility Hardening	Westerly Wastewater Treatment Facility	Westerly
		Cranston Wastewater Treatment Facility	Cranston
		Bucklin Point Wastewater Treatment Facility	East Providence
		Bristol Wastewater Treatment Facility	Bristol
		West Warwick Regional Wastewater Treatment Facility	West Warwick
		Jamestown Wastewater Treatment Facility	Jamestown
	Drinking Water & Reservoir Resilience	Scituate Reservoir	Scituate
		Gardiner Pond Reservoir	Newport- Middletown
		Easton Pond Reservoir & Dam	Newport- Middletown
		Nelson Pond Reservoir	Newport- Middletown
		Green End Pond Reservoir	Newport-Middletown
		North and South Pond Reservoir	Jamestown
	Beach & Wetland System Restoration	Washington County Coastal Wetlands	Narragansett, North Kingstown, Westerly, Charlestown
		Salt Pond Region Beaches and Barriers	Charlestown, Narragansett, South Kingstown, Westerly
		Napatree Barrier Beach	Westerly
		Newport County Coastal Wetlands	Newport, Portsmouth, Middletown, Little Compton, Tiverton, Jamestown
		Bristol County Coastal Wetlands	Bristol, Warren, Barrington
	River & Stream Restoration with a focus on the Moshassuck River	Moshassuck River	Lincoln, Providence, Pawtucket, Central Falls
	Hospital Flood & Energy Resilience Solutions	Rhode Island Hospital	Providence
		Landmark Medical Center (Woonsocket Hospital)	Woonsocket
		South County Hospital	South Kingstown
	School & Public Safety Building Solutions	Narragansett Public Safety Building	Narragansett
		North Scituate Fire Department	Scituate
		Eveready Fire Station	Bristol
		Chepachet Fire Department	Glocester
		Barrington High School	Barrington
		Nayatt School	Barrington
		Sowams Elementary School	Barrington
		Mt. Hope High School	Bristol
		Western Hills Middle School	Cranston
		Cranston High School West	Cranston
		Vincent J. Gallagher Middle School	Smithfield
		Old County Road Elementary School	Smithfield
Priority Assets for Alignment 10 Assets	**Fox Point Hurricane Barrier Alignment**	Fox Point Hurricane Barrier	Providence
	Advancing Providence Station Resilience Measures	Providence Station	Providence
	Furthering Regional Flood Planning Efforts	Barrington Coastal Flooding	Barrington
		Westerly Riverine Flooding	Westerly
		Woonasquatucket Corridor	Providence
		Pawtuxet Corridor	Cranston, Warwick
		Market to Metacom	Warren
		North Kingstown & Wickford Commercial District	North Kingstown, Wickford
		Silver Creek	Bristol
		Richmond Riverine Flooding	Richmond
Additional Priority Assets 20 Assets	**Roads and Bridges**	Corn Neck Road	New Shoreham
		Creek Bridge	Charlestown
		Poppasquash Road	Bristol
		North Road	Jamestown
		Roads and Bridges in Richmond	Richmond
		Colt State Park Bridges and Roads	Bristol
	Hardened Structures	Charlestown Breachway & Inlet Structures	Charlestown
		Bristol Harbor Seawalls	Bristol
	Public Transportation	Providence Ferry – Bristol – Prudence Island – Portsmouth	Providence, Portsmouth, Bristol
	Stormwater Infrastructure	Shoreline Sewer Main on Ferry Road	Bristol
	Waste Management Facility	New Shoreham Transfer Station	New Shoreham
	Conservation Lands	Portsmouth Park and Island Park	Portsmouth
		Big River Management Area	West Greenwich
	Rivers and Streams	Blackstone Canal	Lincoln
		Wood-Pawcatuck River	Washington County
		Pawtuxet River	Kent and Providence Counties
	Housing	Warwick Housing Authority	Warwick
		Island Park and Portsmouth Park Housing	Portsmouth
		Wickford Housing	North Kingstown
		Silver Creek Nursing Home	Bristol

Resilient Rhody 2025 Priority Asset List

This process resulted in **46 priority assets to inform solution development**, 10 for state alignment, and 20 additional priority assets.

These assets were identified as high-risk to one or more assessed hazards, aligned with prioritization criteria, and confirmed through the engagement process.

These assets informed the ten developed and costed strategies described in Chapter 5: Climate Adaptation & Resilience Solutions.



Assets

- **Critical Infrastructure & Facilities**
- **Natural Systems**
- **Community Resilience & Emergency Preparedness Structures**

Resilient Rhody 2025 Adaptation & Resilience Solutions

Critical Infrastructure & Facilities

1. **Road & Bridge Flood Mitigation Solutions** with a focus on evacuation routes
2. **Resilient Port Infrastructure Solutions**
3. **Energy Resilience Solutions** with a focus on Washington County and Block Island
4. **Sewer & Stormwater Infrastructure Solutions**
5. **Wastewater Treatment Facilities Hardening**
6. **Drinking Water & Reservoir Resilience**

Natural Systems

7. **Beach & Wetland System Restoration**
8. **River and Stream Restoration** with a focus on the Moshassuck River

Community Resilience & Emergency Preparedness Structures

9. **School & Public Safety Building Solutions** with a focus on hardening and relocation opportunities
10. **Hospital Flood & Energy Resilience Solutions**

These **10 solutions with over 40 sub-strategies were developed and costed as outlined in Chapter 5: Climate Adaptation & Resilience Solutions based on the priority assets identified herein** while remaining flexible to accommodate additional assets as needed.

Resilient Rhody 2025 Adaptation Solutions Framework

Solution Mechanism	Protect	Accommodate	Restore	Rethink
	Defend vulnerable areas using **physical or engineered measures**	**Adapt buildings and infrastructure** to withstand changing conditions	**Rehabilitate natural systems** to buffer against hazards	**Reevaluate planning strategies** and support people, infrastructure, and critical assets relocate away from high-risk areas
Strategy Examples	**Building & Infrastructure Retrofits**	**Shoreline Protection**	**Green Infrastructure Solutions**	**Zoning & Regulation**
				
	Ex. **Elevating** and **reinforcing structures**	Ex. Engineered measures such as berms and **living shorelines** that stabilize coasts	Ex. **Nature-based solutions** like rain gardens that capture and filter stormwater	Ex. Implementing land-use **policies** and **development standards** that steer growth away from high-risk areas

Resilient Rhody 2025 Adaptation Solutions Examples

Sewer & Stormwater Strategies

Develop Nature-based Flood Storage

Safely storing stormwater during flood events can reduce hydraulic loads to the conveyance system and move stormwater away from infrastructure. Storage opportunities exist in rural and urban conditions. Examples include designing and utilizing floodable parks, enhanced floodplains, and other open space to store water during floods when those spaces are not used. This approach is also a good way to create community co-benefits.



Floodable park space. Providence, RI
© Fuss & O'Neill, Inc.

Solution Mechanism
- Protect
- Accommodate
- Restore
- Rethink

Scale of Innovation
- Innovative
- Hybrid
- Traditional

Relevant Hazards
- Coastal Flooding
- Stormwater Flooding
- Riverine Flooding

Cost
$$$$
$1.5M - $6M

Assumption: excavation, geotextile and for ~1 acre, ~1M gallon reservoir w/drainage and native planting strip around perimeter

Cost Benchmark: Nichols Nature-based Stormwater Park

Replace Undersized Culverts

Culverts convey stream and river flows beneath roadways, and when undersized, they can restrict flow and contribute to roadway overtopping and upstream flooding during storm events. Strategically upsizing culverts is an effective approach to reducing stormwater-related flooding and improving resilience to more intense rainfall, though downstream conditions should be evaluated to avoid increased flooding or erosion. New culverts can also be designed to improve aquatic organism passage, utilizing open bottom and box culvert techniques.



Upsized culverts on Belfield Dr. Johnston, RI
© Fuss & O'Neill, Inc.

Solution Mechanism
- Protect
- Accommodate
- Restore
- Rethink

Scale of Innovation
- Innovative
- Hybrid
- Traditional

Relevant Hazards
- Stormwater Flooding
- Riverine Flooding

Cost
$$$$
$700K - $3M

Assumption: remove existing culvert, install larger culvert, reinstate site

Cost Benchmark: Belfield Drive Floodplain Restoration, Johnston, RI

Beach & Wetland Strategies

Restore Wetlands and Buffer Zones

Restoring tidal wetlands and buffer zones helps absorb floodwaters, filter pollutants, and provide critical habitat. This strategy focuses on improving hydrologic connectivity, maintaining tidal exchange, and planting vegetation of native species to stabilize soils and support biodiversity. Techniques such as sediment placement raise marsh elevation to keep pace with sea-level rise, while hydrological restoration corrects drainage issues. When combined with land acquisition, marsh migration corridors can also be preserved to provide continued ecological and resilience wetland benefits. Long term success requires ongoing adaptive management of salt marsh restoration areas and marsh migration corridors as sea levels rise.



Sediment Replacement Project at Quonochontaug Pond © NOAA

Solution Mechanism
- Protect
- Accommodate
- Restore
- Rethink

Scale of Innovation
- Innovative
- Hybrid
- Traditional

Relevant Hazards
- Coastal Flooding
- Stormwater Flooding
- Riverine Flooding

Cost
$$$$
$6M - $20M

Assumption: earth moving, thin layer soil placement, trees and in-water plantings for 1 mile (50' width)

Cost Benchmark: Ninigret Pond Restoration, Charleston, RI

River & Stream Restoration Strategies

Reconnect Floodplains and Increase Riparian Buffer Capacity

Conserving and restoring floodplains allows rivers to spread naturally during storms, reducing pluvial flooding and increasing riparian buffer capacity as climate-driven extreme rainfall becomes more frequent. Along the Moshassuck River, suitable sites can be identified by targeting low-lying parcels with frequent overbank flooding or previously filled floodplain areas. Some projects require removing structures or impervious surfaces, but restoration offers long-term benefits with minimal maintenance beyond periodic vegetation and debris management.



Floodplain restoration in West Warwick, RI © Fuss & O'Neill, Inc.

Solution Mechanism
- Protect
- Accommodate
- Restore
- Rethink

Scale of Innovation
- Innovative
- Hybrid
- Traditional

Relevant Hazards
- Stormwater Flooding
- Riverine Flooding

Cost
$$$$
$1.5M - $6M

Assumption: earthwork, plantings, and other works to improve drainage and reconnect floodplains

Cost Benchmark: Maidford River Restoration, Middletown, RI

Resilient Rhody 2025
Future Investment Strategy



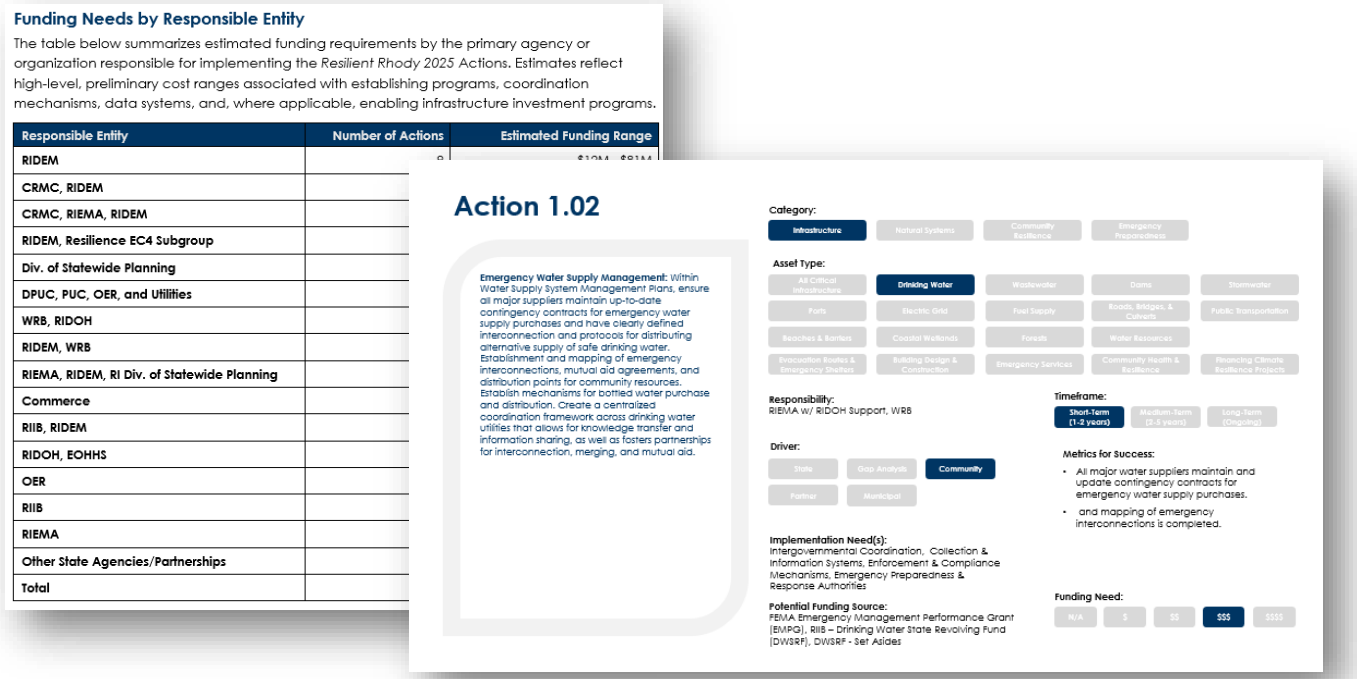
East Beach © RIDEM, RI State Parks

Resilient Rhody 2025 Future Investment Strategy

Actions Funding Assessment

Each Action includes an estimated funding need, potential funding sources, and implementation requirements, which may fall under one or more of the following categories: Funding, Policy & Compliance, Tools & Training, and Coordination.

The Strategy additionally provides a summary of funding needs organized by agency, asset type, and focus area.



Funding Needs by Responsible Entity

The table below summarizes estimated funding requirements by the primary agency or organization responsible for implementing the *Resilient Rhody 2025* Actions. Estimates reflect high-level, preliminary cost ranges associated with establishing programs, coordination mechanisms, data systems, and, where applicable, enabling infrastructure investment programs.

Responsible Entity	Number of Actions	Estimated Funding Range
RIDEM		
CRMC, RIDEM		
CRMC, RIEMA, RIDEM		
RIDEM, Resilience EC4 Subgroup		
Div. of Statewide Planning		
DPUC, PUC, OER, and Utilities		
WRB, RIDOH		
RIDEM, WRB		
RIEMA, RIDEM, RI Div. of Statewide Planning		
Commerce		
RIIB, RIDEM		
RIDOH, EOHHS		
OER		
RIIB		
RIEMA		
Other State Agencies/Partnerships		
Total		

Action 1.02

Emergency Water Supply Management: Within Water Supply System Management Plans, ensure all major suppliers maintain up-to-date contingency contracts for emergency water supply purchases and have clearly defined interconnection and protocols for distributing alternative supply of safe drinking water. Establishment and mapping of emergency interconnections, mutual aid agreements, and distribution points for community resources. Establish mechanisms for bottled water purchase and distribution. Create a centralized coordination framework across drinking water utilities that allows for knowledge transfer and information sharing, as well as fosters partnerships for interconnection, merging, and mutual aid.

Category: Infrastructure | Natural Systems | Community Resilience | Emergency Preparedness

Asset Type: All Critical Infrastructure | **Drinking Water** | Wastewater | Dams | Stormwater | Ports | Electric Grid | Fuel Supply | Roads, Bridges, & Culverts | Public Transportation | Beaches & Barriers | Coastal Wetlands | Forests | Water Resources | Evacuation Routes & Emergency Shelters | Building Design & Construction | Emergency Services | Community Health & Resilience | Financing Climate Resilience Projects

Responsibility: RIEMA w/ RIDOH Support, WRB

Timeframe: **Short-Term (1-2 years)** | Medium-Term (2-5 years) | Long-Term (Ongoing)

Driver: State | Gap Analysis | **Community** | Partner | Municipal

Metrics for Success:
- All major water suppliers maintain and update contingency contracts for emergency water supply purchases.
- and mapping of emergency interconnections is completed.

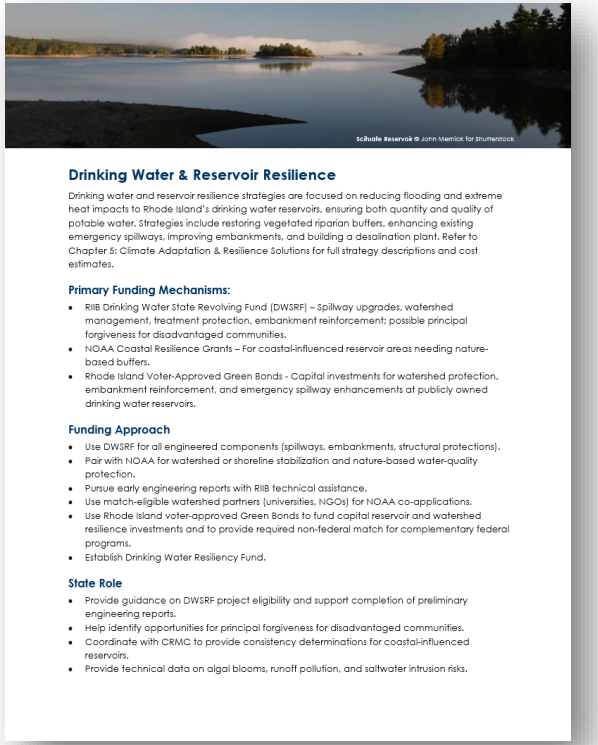
Implementation Need(s): Intergovernmental Coordination, Collection & Information Systems, Enforcement & Compliance Mechanisms, Emergency Preparedness & Response Authorities

Potential Funding Source: FEMA Emergency Management Performance Grant (EMPG), RIIB – Drinking Water State Revolving Fund (DWSRF), DWSRF - Set Asides

Funding Need: N/A | $ | $$ | **$$$** | $$$$

Climate Adaptation & Resilience Solutions Assessment

The Strategy provides a recommended funding approach for the 10 priority Solutions, specifying primary funding mechanisms and the State's responsibilities in advancing these projects.



Resilient Rhody 2025 Future Investment Strategy

Prioritization Framework

Provides an effective, transparent, and equitable roadmap to support state and local climate leaders systematically evaluate other candidate assets and projects beyond this Plan.

Criteria		
Need: How vital an asset is to the safety, stability, and functioning of interconnected systems or sectors.	N1	Life Safety
	N2	Urgency
	N3	Criticality
	N4	Redundancy
	N5	Number of People Impacted
Equity and Community Support: Whether an asset serves or protects vulnerable populations, aligns with community priorities, promotes environmentaljustice, and protects economic opportunities.	E1	Supports Vulnerable Populations
	E2	Community Supported
	E3	Advances Environmental Justice
	E4	Protects Economic Resources
Strategic Alignmen municipal, regional comprehensive an		
Holistic Resilience: term environmenta its primary function.		

Criteria		
Cost Factors: Captures the overall financial commitment required to implement and sustain the project.	C1	Initial Capital Costs
	C2	Ongoing Costs
	C3	Cost of Doing Nothing
	C4	Potential Economy of Scale
Impact: Reflects the extent to which the project benefits people and businesses in the broader community.	I1	Impacted Populations
	I2	Economic Resilience and Business Impact
	I3	Number of Assets and Services Impacted
	I4	Ecosystem Health and Environmental Resilience
Lifespan: Indicates how long the investment will deliver value and remain functional without major reinvestment or degradation in performance.	S1	Longevity of Investment
Implementation and Maintenance Feasibility: Measures the ease of successful implementation based on funding availability, organizational capacity, and project complexity.	F1	Funding Source
	F2	Leading Entity
	F3	Complexity
	F4	Adaptability

Funding & Financing Mechanism Inventory

Over 80 funding sources organized into three categories: federal funding, state funding, and non-traditional funding.

Rhode Island Infrastructure Bank (RIIB)

- Resilient Rhody Infrastructure Fund
- Municipal Resilience Program (MRP)
- Municipal Infrastructure Grant Program (MIGP)
- Clean Water State Revolving Fund (CWSRF)
- Drinking Water State Revolving Fund (DWSRF)
- Stormwater Project Accelerator (SPA)
- Municipal Road & Bridge Revolving Loan Fund (MRBRF)

Rhode Island Department of Environmental Management (RIDEM)

- RI Climate Resilience Fund (CRF)
- Bay and Watershed Restoration Fund
- State Land Conservation Program
- Local Open Space Grants
- Wastewater Treatment Facility Resilience Fund (RIDEM & RI Infrastructure Bank – RIIB)
- Ocean State Climate Adaptation & Resilience Fund (OSCAR) (RIDEM & RI Coastal Resources Management Council – CRMC)

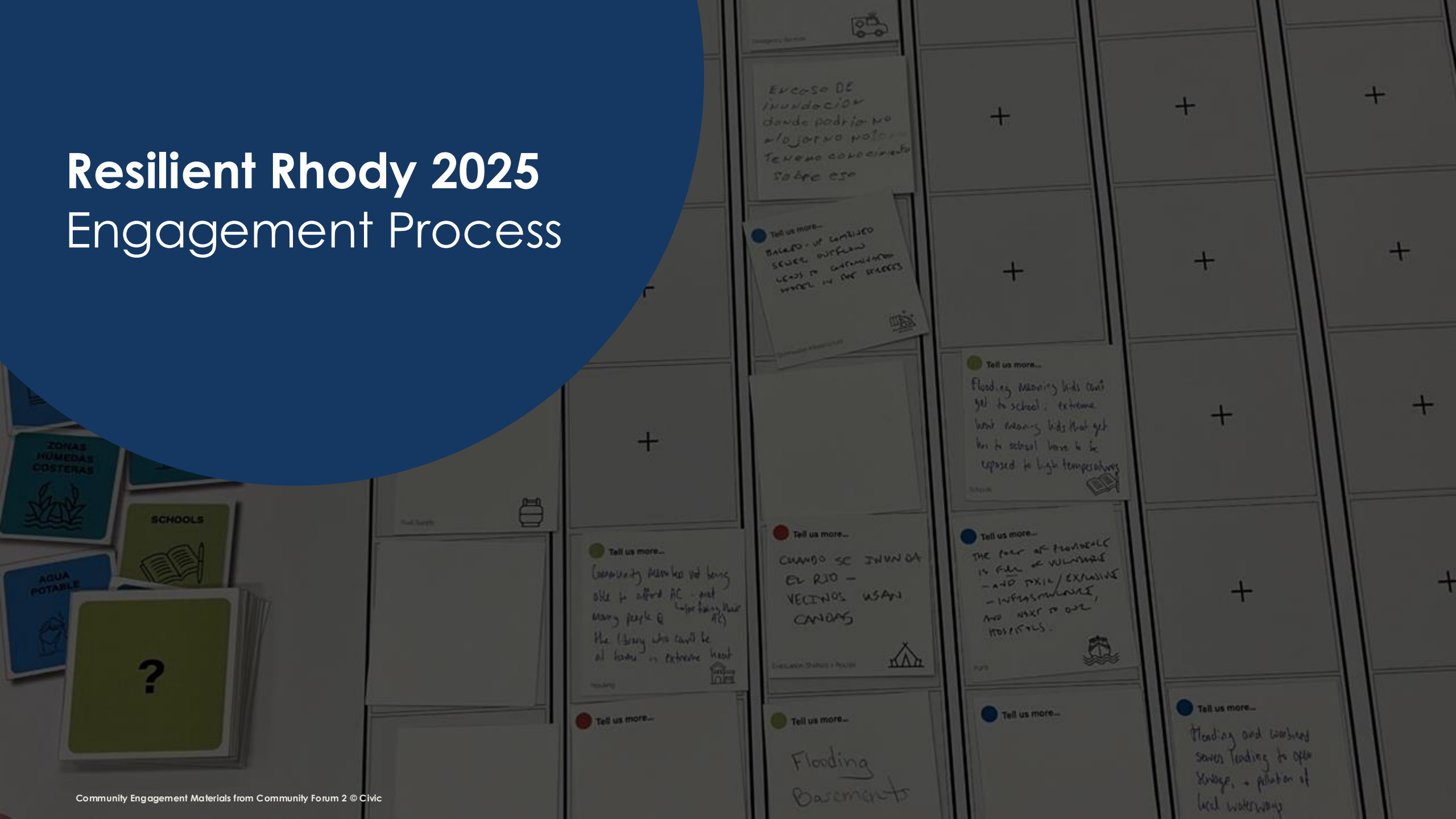
Additional State Programs

- RI Green Economy and Clean Water Bonds (State of RI)
- RI Department of Transportation Capital Improvement Program (RIDOT)
- Energy Resilience & Emergency Planning (RI Office of Energy Resources – OER)

Non-Traditional Funding Mechanisms

- Tax Increment Financing (TIF)
- Special Assessment Districts
- Developer Impact Fees / Resilience Exactions
- Transfer of Development Rights (TDR)
- Catastrophe / Resilience Bonds
- Blue Bonds
- Environmental Impact Bonds
- Dedicated Utility Fees
- Community-Based Public-Private Partnerships (CBP3)
- Parametric Insurance
- Insurance Premium Discounts

Resilient Rhody 2025
Engagement Process



Community Engagement Materials from Community Forum 2 © Civic

Resilient Rhody 2025 Engaged Partners

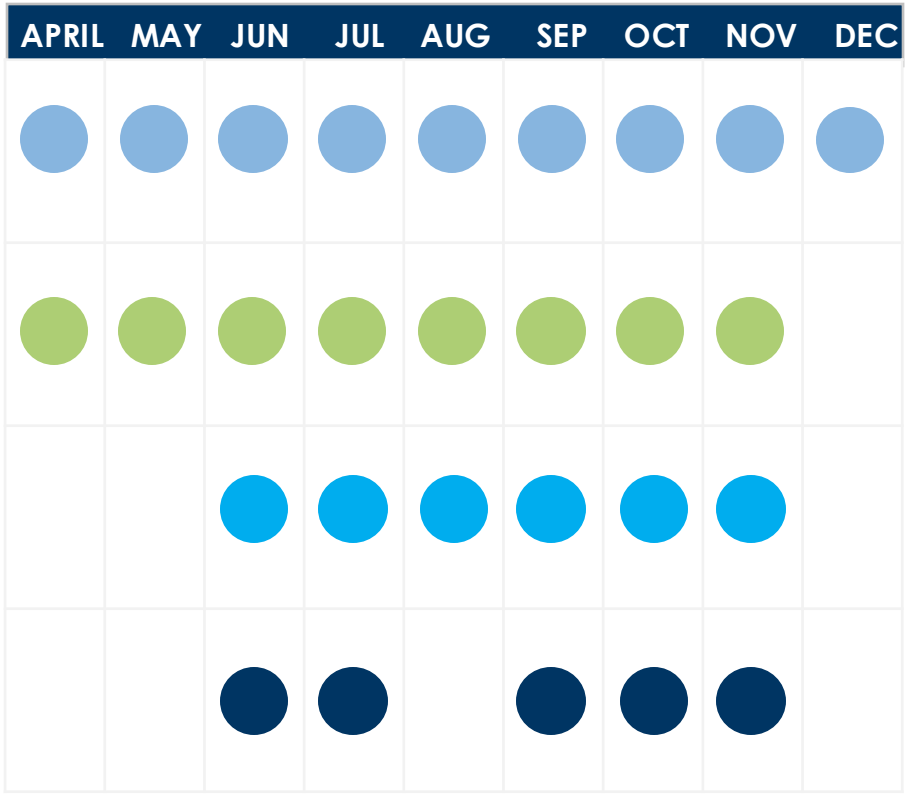
In total, ***Resilient Rhody 2025* hosted 11 engagement sessions** with more than **280 participants** representing municipalities and residents, complemented by **17 meetings** with the Resilience EC4 Subgroup and Rhode Island Resilience Partner Group representatives.

Resilience EC4 Subgroup: Monthly meetings with 14 State Agencies

Rhode Island Resilience Partner Group: Monthly meetings with over 40 entities including non-profit organizations, institutions, and subject matter experts

Municipal Stakeholders: Over 130 people in attendance at six working sessions

Community Forums: Over 150 attendees at five community forums



Resilient Rhody 2025 Community & Municipal Forums

Resilient Rhody 2025 Engagement Goals

1. **Build** trust and interest.
2. **Learn** about community priorities and concerns.
3. **Gather** local knowledge and insights.
4. **Grow** communities' awareness of the Plan.



Participants at HEZ Frontline Community Forum in Olneyville, Providence, RI © CIVIC

Resilient Rhody 2025 Community & Municipal Forums

04

Community Forums

With a total of **116 attendees**

+

06

Municipal Stakeholder Meetings

With a total of **130 attendees**

+

01

HEZ Frontline Community Forum

With a total of **42 attendees**

=

11

Total Meetings

With a total of **288 attendees**

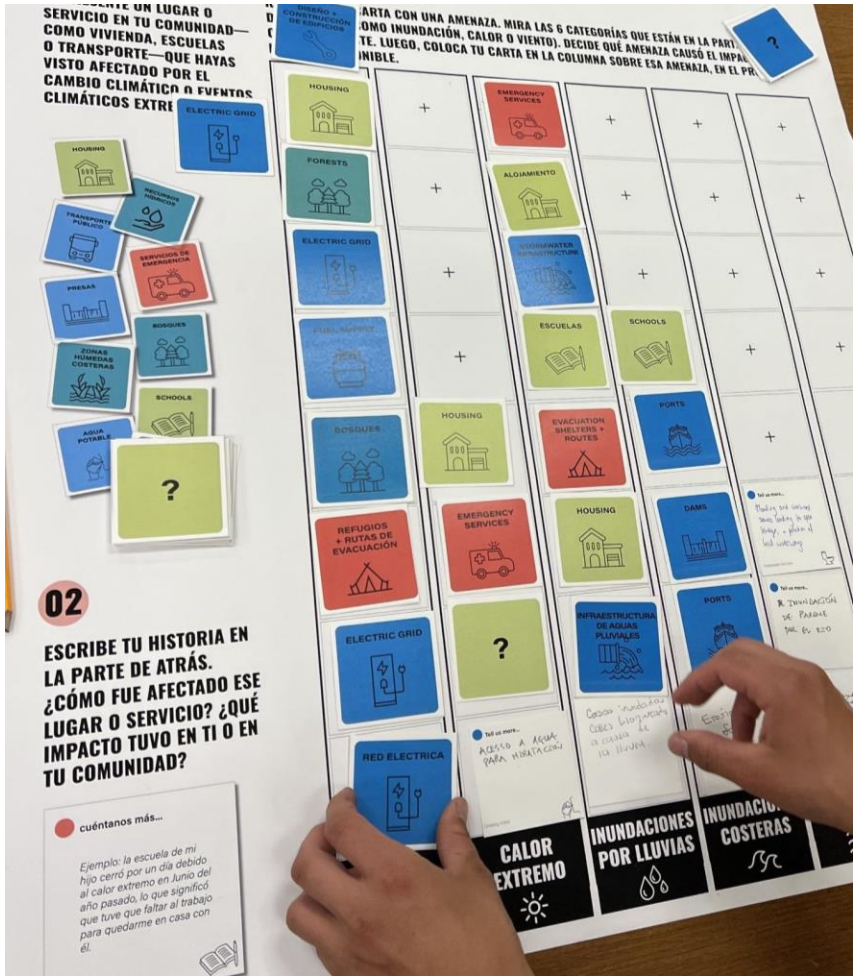
Resilient Rhody 2025 Community & Municipal Forums

Community Forum 2: Asset Hazard 'Bingo'

Stormwater and **coastal flooding** were the most frequently discussed hazards, while **housing and schools** were the most identified assets.

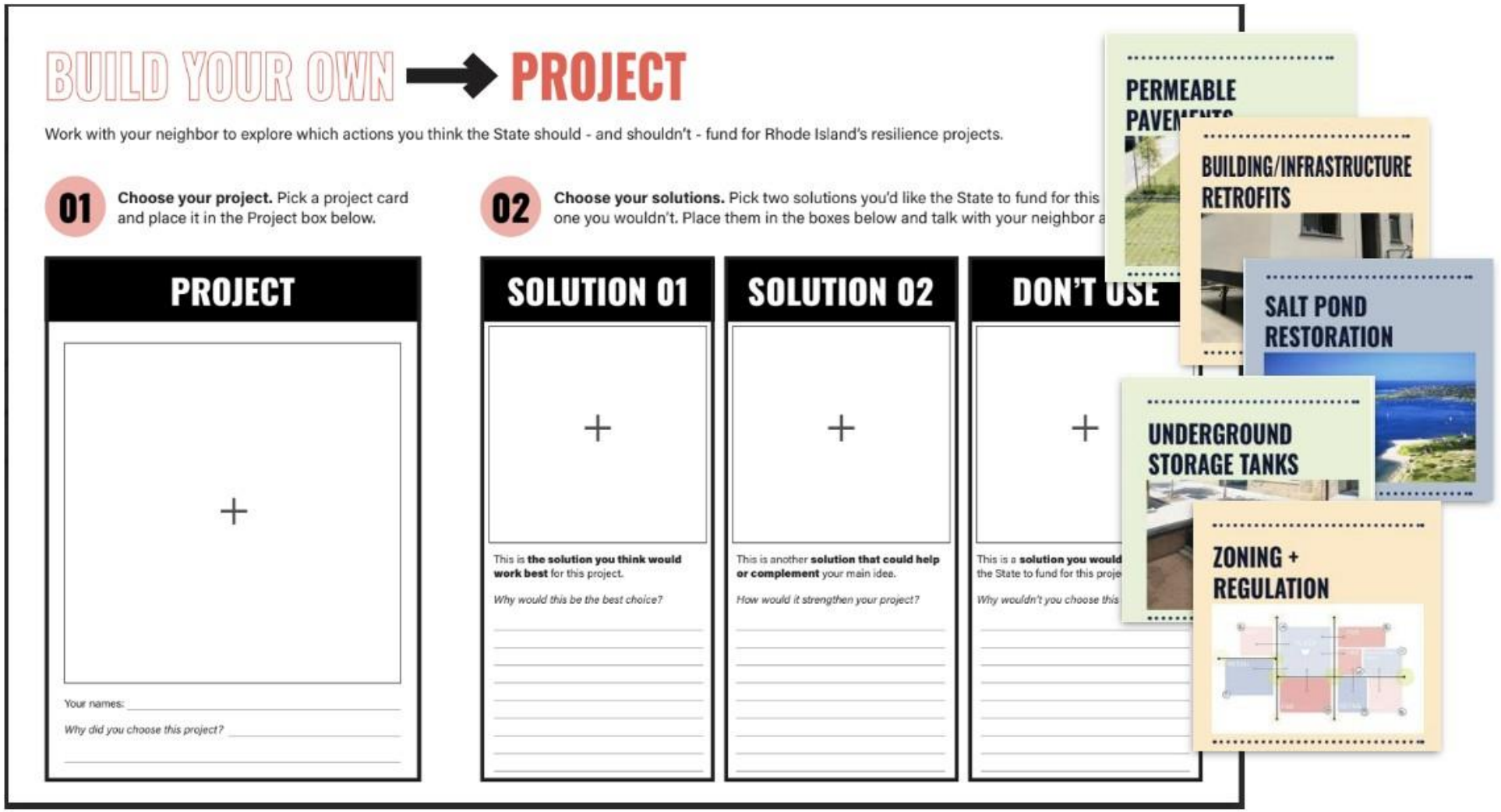
Community members shared experiences with climate hazards. Local experiences were then matched with previously drafted asset and hazard typologies, with the goal of **identifying asset-hazard pairs that should be added to the Vulnerability Assessment.**





Resilient Rhody 2025 Community & Municipal Forums

Community Forum 4: Build Your Own Project



Resilient Rhody 2025
Key Takeaways



Resilient Rhody 2025 Key Takeaways

Key Take-Aways

How Resilient Rhody 2025 Responds

Growing Climate Risks Will Require Proactive Solutions

Today, 13% of all assessed assets are considered high or very high risk to coastal flooding. By late century, this could grow to **18%** under the most extreme scenario. **That is nearly one in five assets.**

Key actions emphasize proactive climate solutions, including:

Action 14.05 State Resilience Standards

Action 11.03 Develop Retreat & Voluntary Buyout Programming

Need for Systems-Based Approaches that Prioritize Community and Natural Resource Health

Stormwater flooding emerged as the top concern expressed by community members during the development of this Plan, largely due to its **cascading effects** on daily life and emergency response.

Actions prioritize **regional collaboration** particularly regarding natural systems that span jurisdictional boundaries. In addition, Actions aimed at strengthening **local community resilience** include:

Action 13.01 Water Resources Coordination & Monitoring

Action 18.03 Resilience Hubs

Evolving Risks Call for Flexible Funding and Technical Assistance

The estimated funding required to realize the *Resilient Rhody 2025* Actions ranges from $119 million to $298 million. This excludes implementation and construction costs.

***Resilient Rhody 2025* outlines funding strategies for each Action and Solution identified herein.** The Plan also includes multiple actions to expand available funding. Key actions related to technical assistance and funding include:

Action 18.01 Resilience Technical Assistance

Action 19.03 Resilience Loans

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