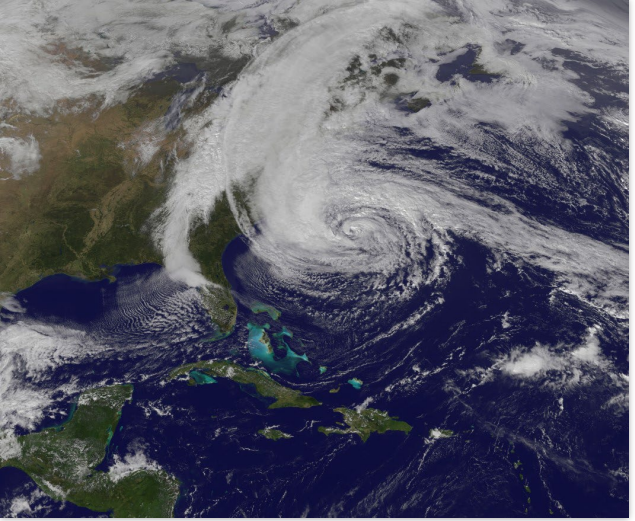


Resilient Rhody 2025

Executive Climate Change Coordinating Council

March 2026

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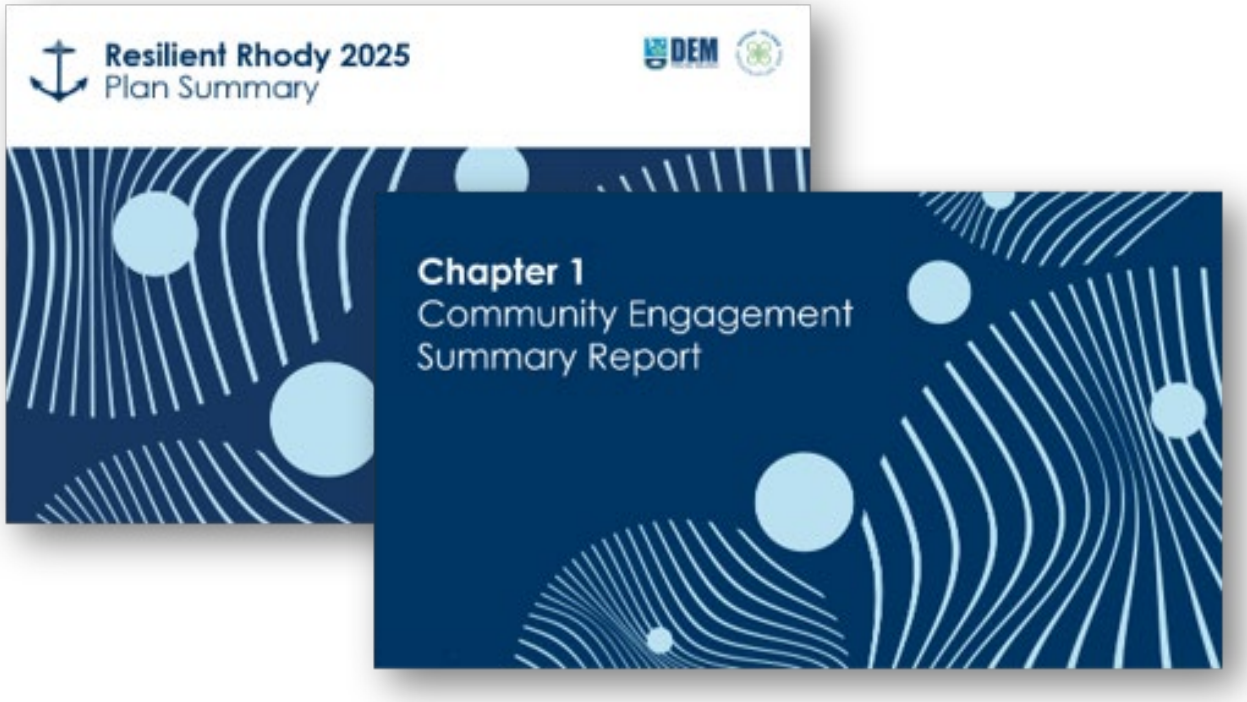
Resilient Rhody 2025 Agenda

- **Introduction**
  - *Resilient Rhody 2025* Overview
  - Scope
- **Statewide Climate Vulnerability Assessment**
- ***Resilient Rhody 2025* Actions**
- **Priority Assets & Solutions**
- **Future Investment Strategy**
- **Engagement Outcomes & Highlights**
- ***Resilient Rhody 2025* Key Takeaways**
- **Conclusion**
  - Open Discussion

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.

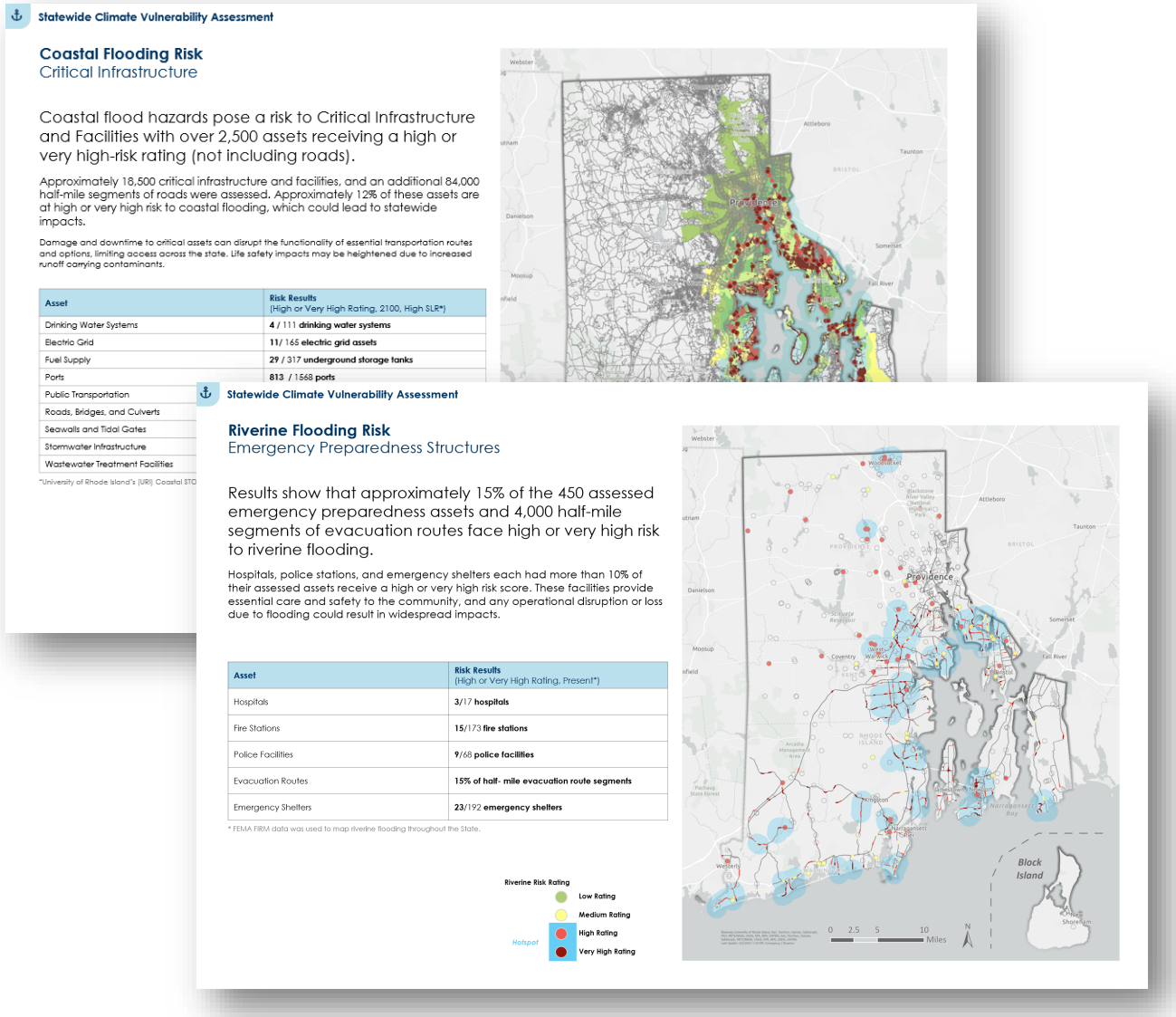
These hazards were assessed across **four time horizons** (current, 2035, 2050, and 2100), using **two greenhouse gas emission scenarios**—intermediate (SSP2-4.5) and very high (SSP5-8.5).

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

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

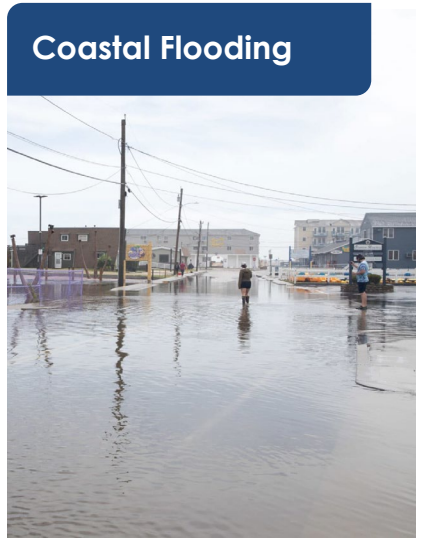
A total of over **130,000 assets** were analyzed, including nearly 90,000 half-mile segments of roads and evacuation routes.

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

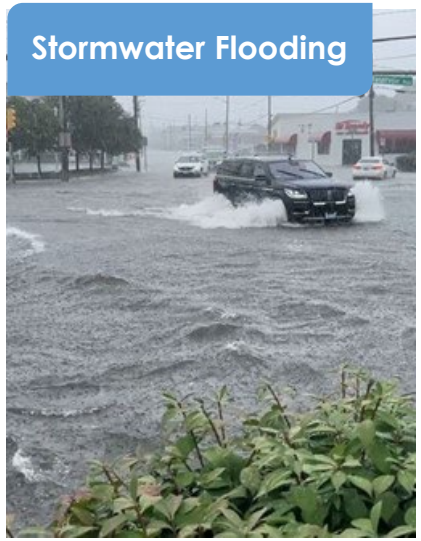


Approximately **18%** of the assets assessed for coastal flooding will have **high or very high risk by 2100**.

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

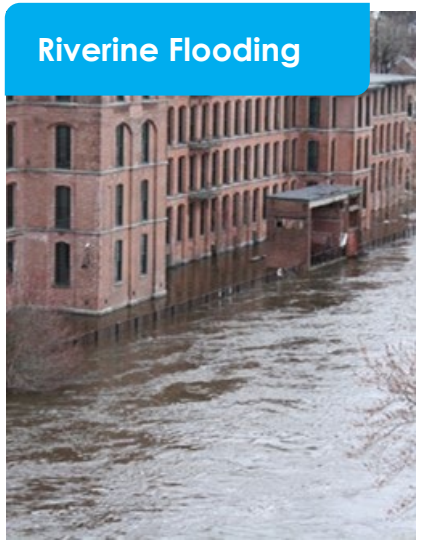


By 2100 all counties could experience over 10 inches of rainfall during a 24-hr 100-yr storm.

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**.

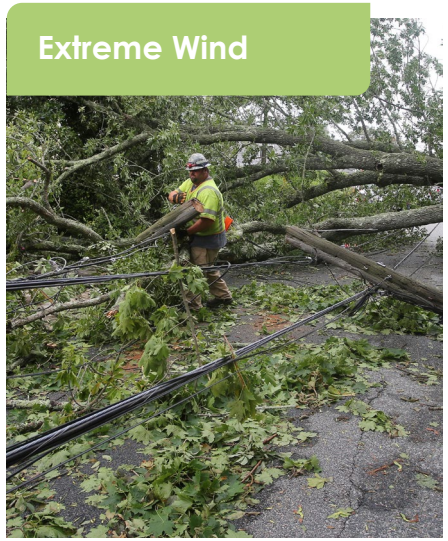
Data Sources: FEMA

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* Actions

Action Components

1. **Action Language & Asset Type**
2. **Responsibility**
   (Lead Agency)
3. **Action Driver**
   (Community/Municipal Forum, State Agency, State Partner)
4. **Timeframe**
   (Short 1-2yr, Medium 2-5yr, or Long/Ongoing)
5. **Metrics for Success**
6. **Implementation Needs**
   (Funding, Policy & Compliance, Tools & Training, Coordination)
7. **Funding Needs**
8. **Potential Funding Source**

Action 14.01

State Resilience Action Tracking: Refine the tracking system for State resilience actions identified in this plan to continually measure progress and demonstrate alignment with EC4 climate resilience goals. Make sure tracking includes agency ownership, defined timelines, and regular progress updates through the EC4 and Resilience EC4 Subgroup.

Building upon the structure of the 2024 State of Resilience Report and Resilience EC4 Subgroup, continue to grow a coordinated, publicly-accessible mechanism to share progress, foster collaboration across agencies, and build coalitions across sectors and communities.

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:
RIDEM, Resilience EC4 Subgroup

Timeframe:

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

Driver:

- **State**
- Gap Analysis
- Community
- Partner
- Municipal

Metrics for Success:

- A coordinated, publicly-accessible tracking system to measure and share progress of State resilience actions is refined and made publicly accessible.

Implementation Need(s):
Intergovernmental Coordination, Collection & Information Systems, Education, Engagement, & Awareness

Potential Funding Source:
National Coastal Resilience Fund (NCRF)

Funding Need:

- N/A
- **$**
- $$
- $$$
- $$$$

$	$$	$$$	$$$$	Non-monetary
Less than $500k	$500k - $1M	$1 - $5M	> $5M	Advocacy, efficiency, or priority setting actions where a dollar amount is not applicable, warranted, or quantifiable

Resilient Rhody 2025 *Resilient Rhody* Action Examples

Stormwater Infrastructure

3 Actions

Action 4.02 - Green Infrastructure & Water Quality: "...**Encourage the integration of green infrastructure to enhance the capacity of traditional stormwater systems** while delivering co-benefits such as improved water quality, ecosystem health, and community resilience... **Build incentives to utilize green infrastructure solutions into criteria for funding programs**. Publicize successful examples of green infrastructure projects. **Simplify the permitting process for these projects** (eg. streamlining, certification, etc.) and ensure guidance is clear on requirements for retrofits versus new development. Ensure there is also **guidance on the maintenance requirements** for green infrastructure."

Financing Climate Resilience Projects

5 Actions

Action 19.01 - Resilience Funding: "Develop **incentives to support the statewide adoption of climate resilience standards** and establish a consistent funding stream to assist municipalities in developing resilience ordinances. Strengthen State grant assistance for climate adaptation, including restoration, elevation, and buyout initiatives, to better leverage federal funding and assistance programs. Create new funding programs to specifically to **support voluntary buyouts; local vulnerability studies, hydrologic analyses, and watershed assessments, to inform best placement of adaptation solutions; emergency relief for non-federally declared disasters; maintenance of installed resilience solutions; and for other key needs** established throughout the State resilience actions. **Establish annual funding support** for these funds through State budget line items..."

Resilient Rhody 2025 *Resilient Rhody* Action Examples

Community Health & Resilience

10 Actions

Action 18.02 - Model Ordinances: "Develop **model municipal ordinances** to ensure climate resilience goals are met, ensuring that development does not occur in floodplains, highly erosive areas, and other climate vulnerable locations. **Make model ordinances accessible to municipalities** through a web library of these resources. Support implementation of resilience ordinances locally, including grant funding for municipalities needing legal assistance to implement. **Build off the existing model floodplain ordinance** that gets adopted by each municipality affected by a FEMA map update."

Action 18.09 - Community Resilience Planning: "Continue to develop **technical assistance and statewide support for bottom-up, community-led groups and Health Equity Zone (HEZ) community members, and Green Justice Zone (GJZ) curriculum stewards** to carry out planning and action to make their communities more climate resilient, including coordinated guidance on identifying and securing funding. **Engage community groups at the very beginning** of any State planning process. Continue to **develop Community Assessments for Climate Resilience & Implementation** as a partnership between the Executive Office of Health and Human Services and the Health Equity Zones as a part of this process."

Resilient Rhody 2025 *Resilient Rhody* Action Examples

Statewide Resilience: All Critical Systems

14 Actions

Action 14.05 - State Resilience Standards: "Develop **strengthened resilience standards across agencies and programs** that consider various assets, such as residential, commercial, roads, wastewater, stormwater, drinking water infrastructure, electrical infrastructure, and open space. Ensure that these resilience standards and any related permitting processes are streamlined and time effective.

Consider different timelines & scenarios across these categories, and establish a statewide, EC4 determination for SLR projection timelines to consider for specific assets. **Build upon existing State building codes and stormwater design standards** to inform this process. **Create a collaborative, consensus-driven process**—featuring municipal workshops and community engagement—to shape these standards, ensuring they reflect local needs and include input from vulnerable populations.

Conduct a **socioeconomic analysis of potential impacts to communities and businesses** to inform this process. As a part of this analysis, consider interaction of standards with insurance markets and funding & financing programs.

Provide **outreach and educational opportunities** to raise awareness of the new standards and clearly communicate them to municipalities (beyond just property owners)."

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

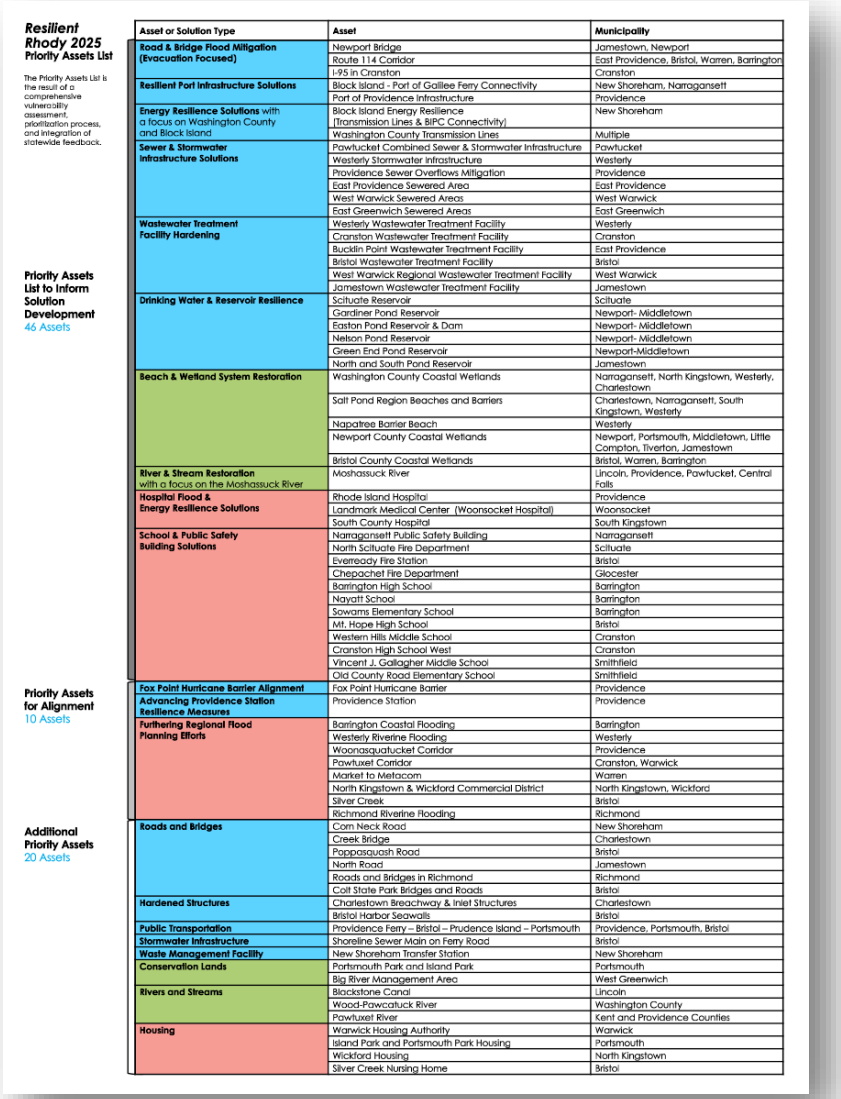
Assets were evaluated within their respective categories using **criteria tailored to each asset type**, such as role in emergency response, service capacity, and redundancy. This process reduced the list to approximately **200 assets**.

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.

Priority Assets List to Inform Solution Development
46 Assets

Priority Assets for Alignment
10 Assets

Additional Priority Assets
20 Assets

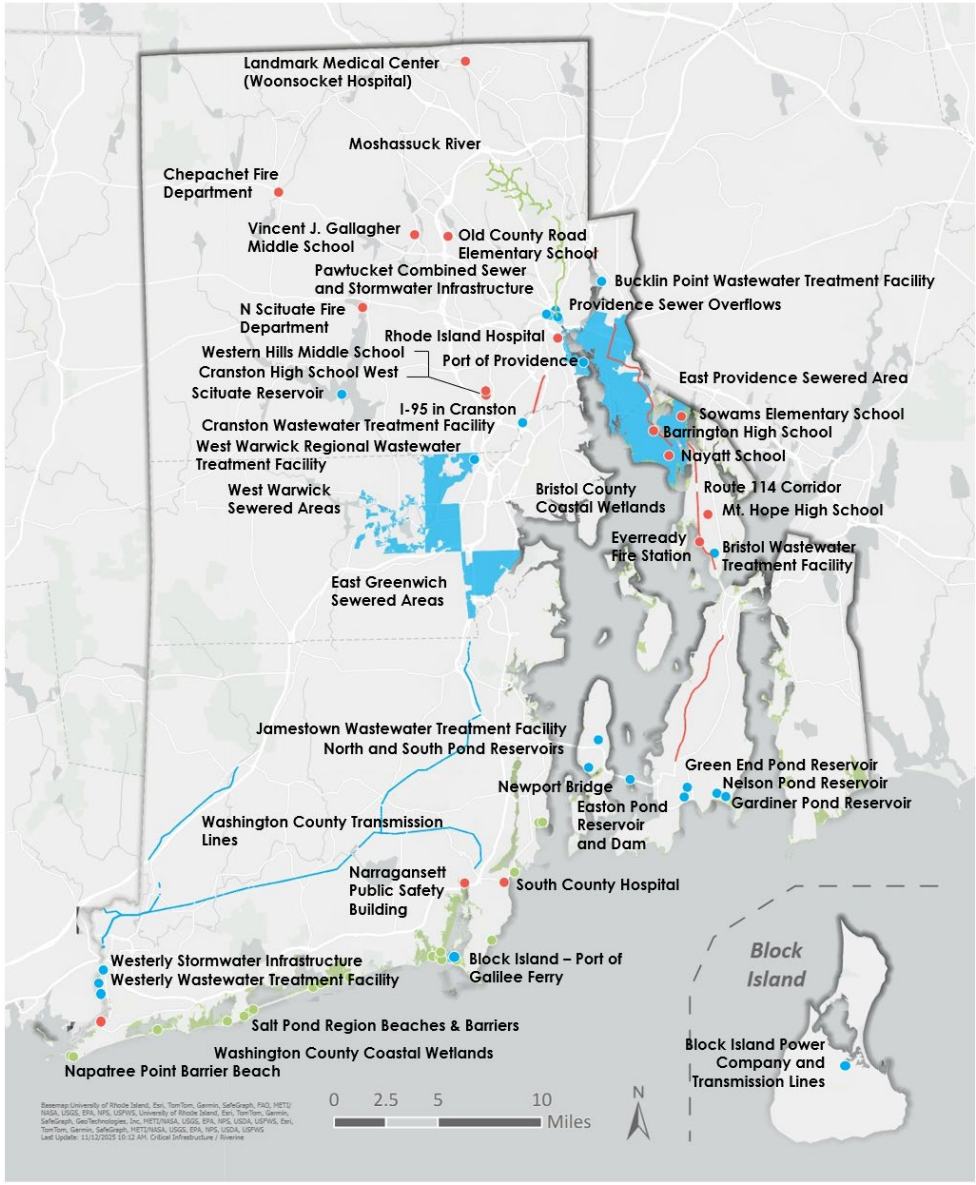
Asset or Solution Type	Asset	Municipality
Road & Bridge Flood Mitigation (Evacuation Focused)	Newport Bridge	Jamestown, Newport
	Route 114 Corridor	East Providence, Bristol, Warren, Barrington
	I-95 in Cranston	Cranston
Resilient Port Infrastructure Solutions	Block Island - Port of Galilee Ferry Connectivity	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
	Everready 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
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
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

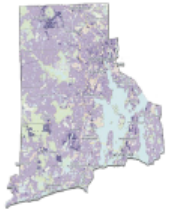
7. **Beach & Wetland System Restoration**
8. **River and Stream Restoration** with a focus on the Moshassuck River

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

A Priority Assets Summary Pages

- Overview of asset type and climate hazard challenges
- List of at-risk assets and statewide map

B Solution Summary Pages

- Past and ongoing state initiatives
- Steps for Implementation

C Solution Strategy Pages

- Details on strategy mechanisms, innovation level, hazards addressed, and relative cost

D Funding Strategy Pages

- Summary of costs, benefits, and economic impacts of intervention
- Summary of cost of consequence
- Potential state and federal funding sources and mechanisms
- State role in supporting project type

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

School & Public Safety Building Strategies

Elevate Critical Infrastructure

Raise electrical panels, mechanical systems, and emergency generators above anticipated flood levels to maintain functionality during storm events and reduce downtime. Where elevation is not feasible, use waterproof enclosures and secure anchoring to prevent damage. Aging school infrastructure often lacks elevated critical equipment, making these measures essential to withstand future storms.

High Efficiency Boils mounted above the BFE
© Steven Winters Associates and Enterprise

Solution Mechanism
- Protect
- Accommodate ●
- Restore
- Rethink

Scale of Innovation
- Innovative
- Hybrid ●
- Traditional

Relevant Hazards
- Coastal Flooding
- Stormwater Flooding
- Riverine Flooding

Cost
$$$$
$50K - $250K

Assumption: clear 500sf equipment room, raise equipment, and other supportive works

Beach & Wetland Strategies

Weeakapug, RI © Redfin

Implement Voluntary Buyout Program

This strategy reduces risk by controlling where and how development occurs and by planning for the relocation of critical infrastructure away from eroding shorelines.

A voluntary buyout program for the most vulnerable coastal communities is recommended. The program will build off RI CRMC's existing adaptive development regulations that mandate setbacks and coastal buffer zones for new construction. However, this program will target existing buildings, offering incentives like voluntary buyouts and relocation programs. The time and resources required to acquire parcels will vary greatly based on market conditions, location, and assets located on the real estate of interest. Public engagement and equity considerations are essential to ensure fair implementation and community support.

For new development, additional regulations should limit new construction in high-hazard zones and require resilient design for redevelopment, while infrastructure planning focuses on phased relocation of roads, utilities, and public facilities to safer areas.

Rhode Island's Beach SAMP (Shoreline Change Special Area Management Plan) is central to this approach, providing science-based tools such as updated shoreline change maps, STORMTOOLS flood projections, and the Coastal Hazard Application process, which evaluates erosion and sea level rise risks before permits are issued.

Solution Mechanism
- Protect
- Accommodate
- Restore
- Rethink ●

Scale of Innovation
- Innovative
- Hybrid ●
- Traditional

Relevant Hazards
- Coastal Flooding

Cost
$$$$
$500K - $1.5M

Assumption: hire consultant to develop pilot voluntary buyout program

$$$$
$1.5M - $5.5M

Assumption: purchase 5 parcels, remove homes and structures, stabilize flood prone area and revegetate

Cost Benchmark: Blue Acres Flood Buyout, Cranford, NJ

Resilient Rhody 2025
Future Investment Strategy

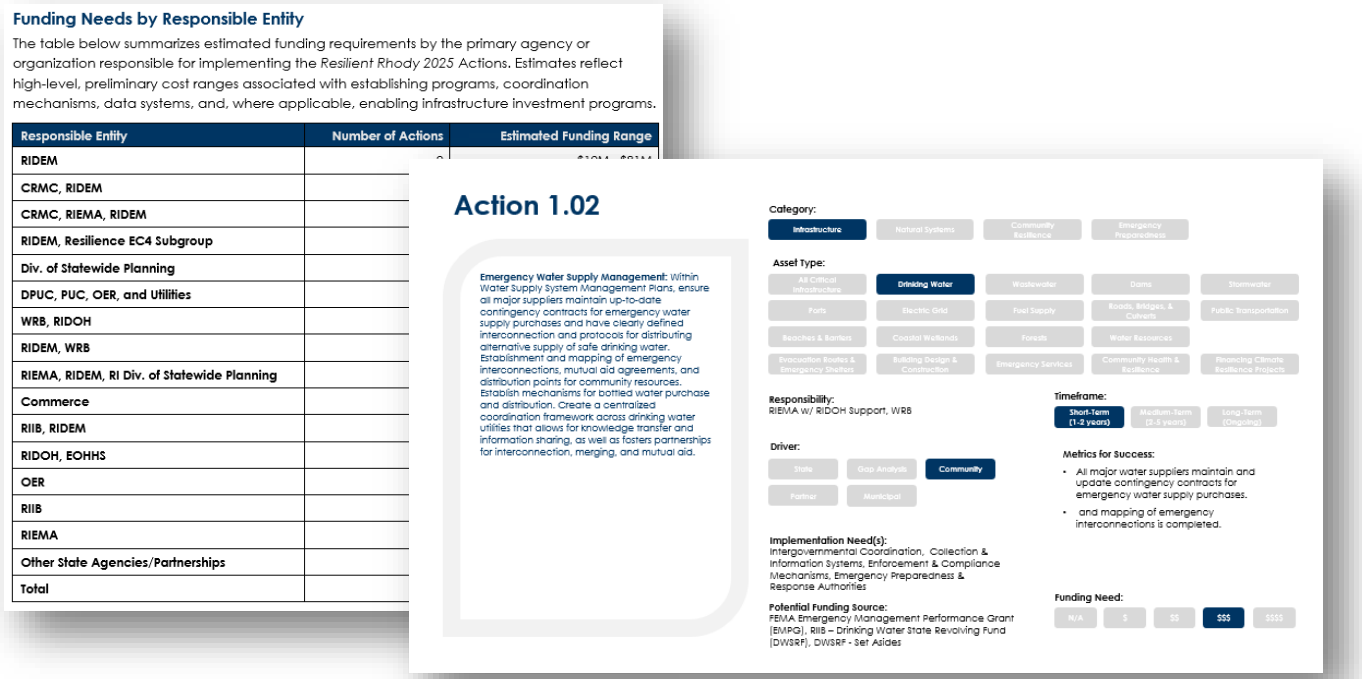
East Beach © RIDEM, RI State Parks

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.

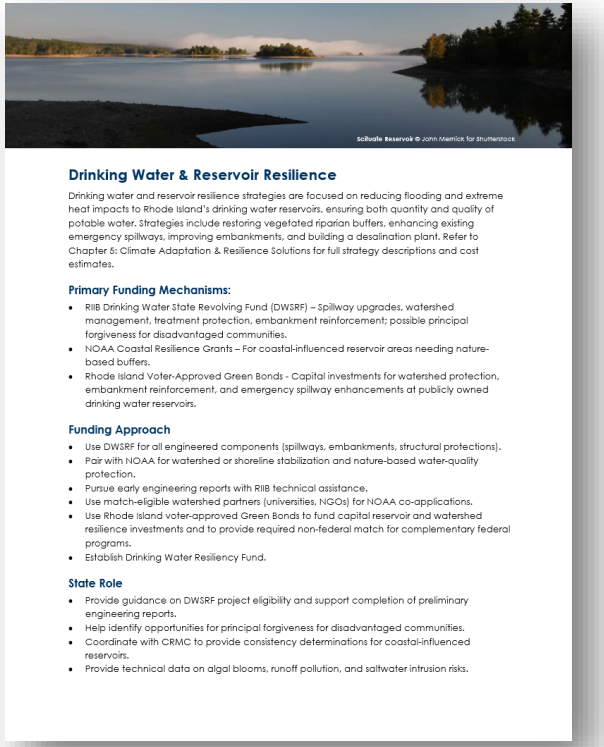
Implementation Need(s): Intergovernmental Coordination, Collection & Information Systems, Enforcement & Compliance Mechanisms, Emergency Preparedness & Response Authorities

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)

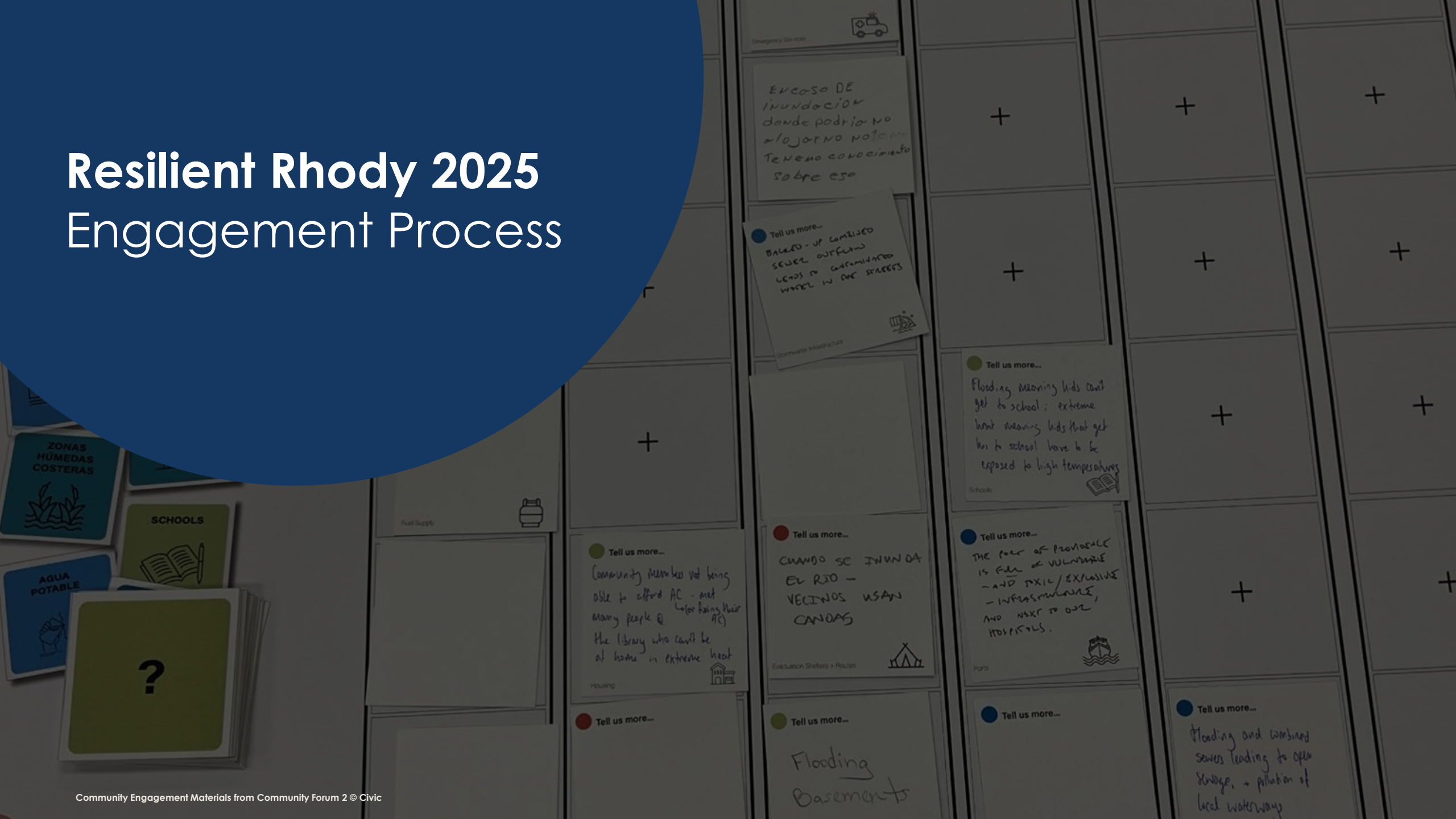
Additional State Programs

- 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



Resilient Rhody 2025 Engaged Partners

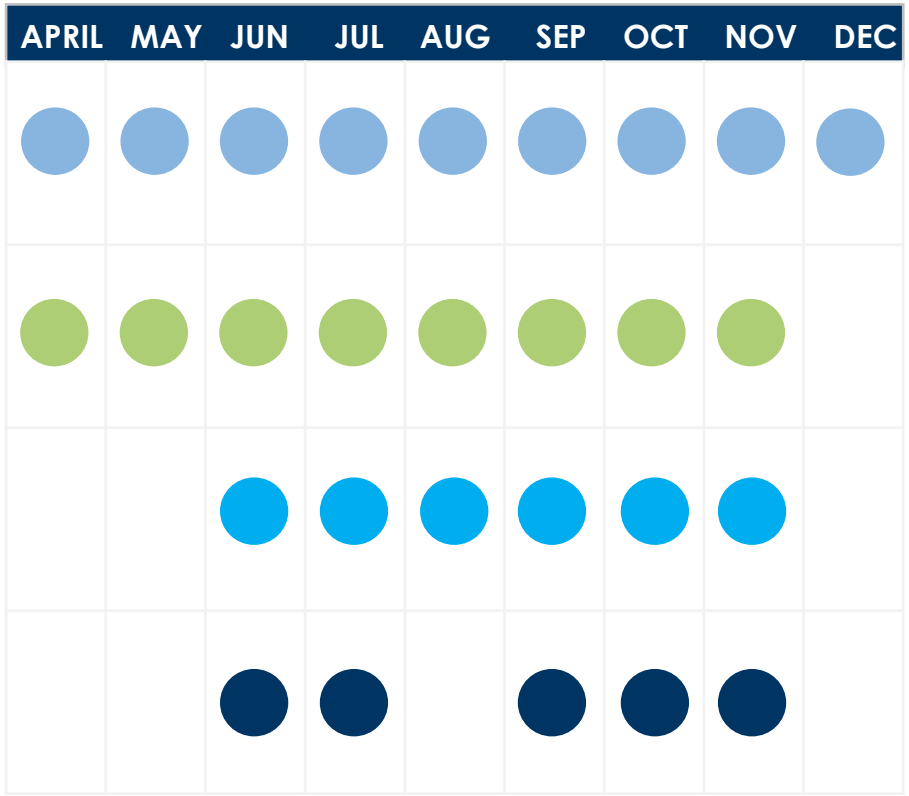
In total, ***Resilient Rhody 2025* hosted 11 engagement sessions** with more than **280 participants** representing municipalities and residents, complemented by **17 meetings** with the Resilience EC4 Subgroup and Rhode Island Resilience Partner Group representatives.

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

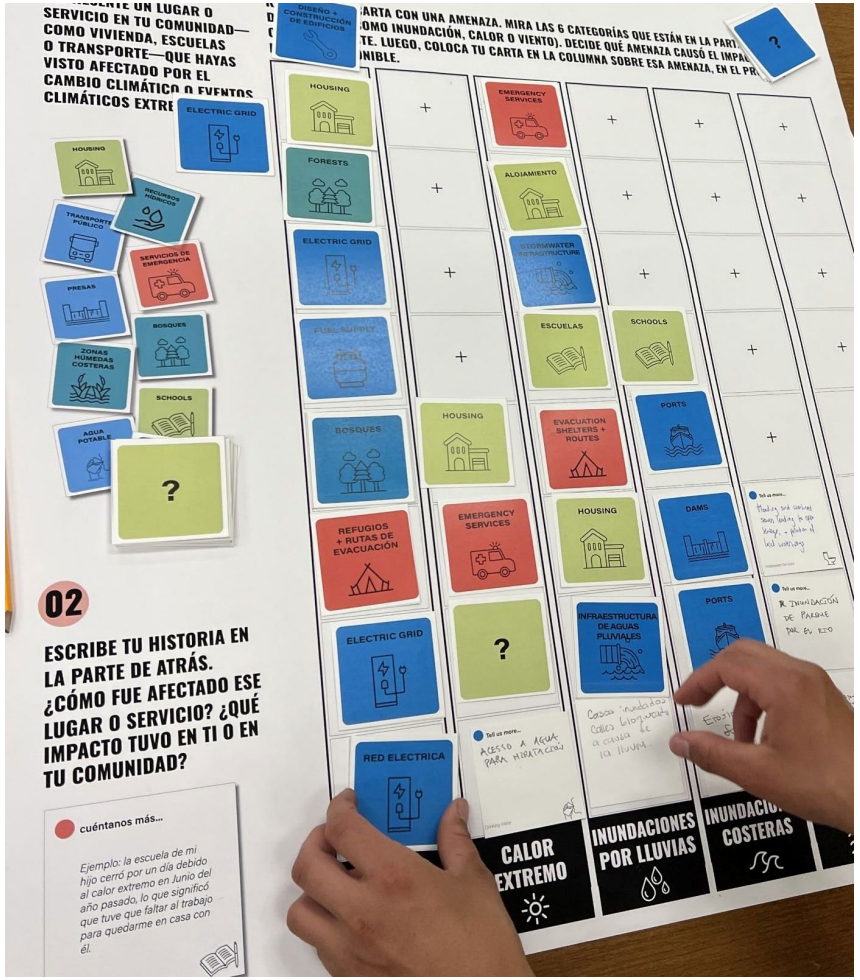
With a total of **288 attendees**

Resilient Rhody 2025 Community & Municipal Forums

Community Forum 2: Asset Hazard 'Bingo'

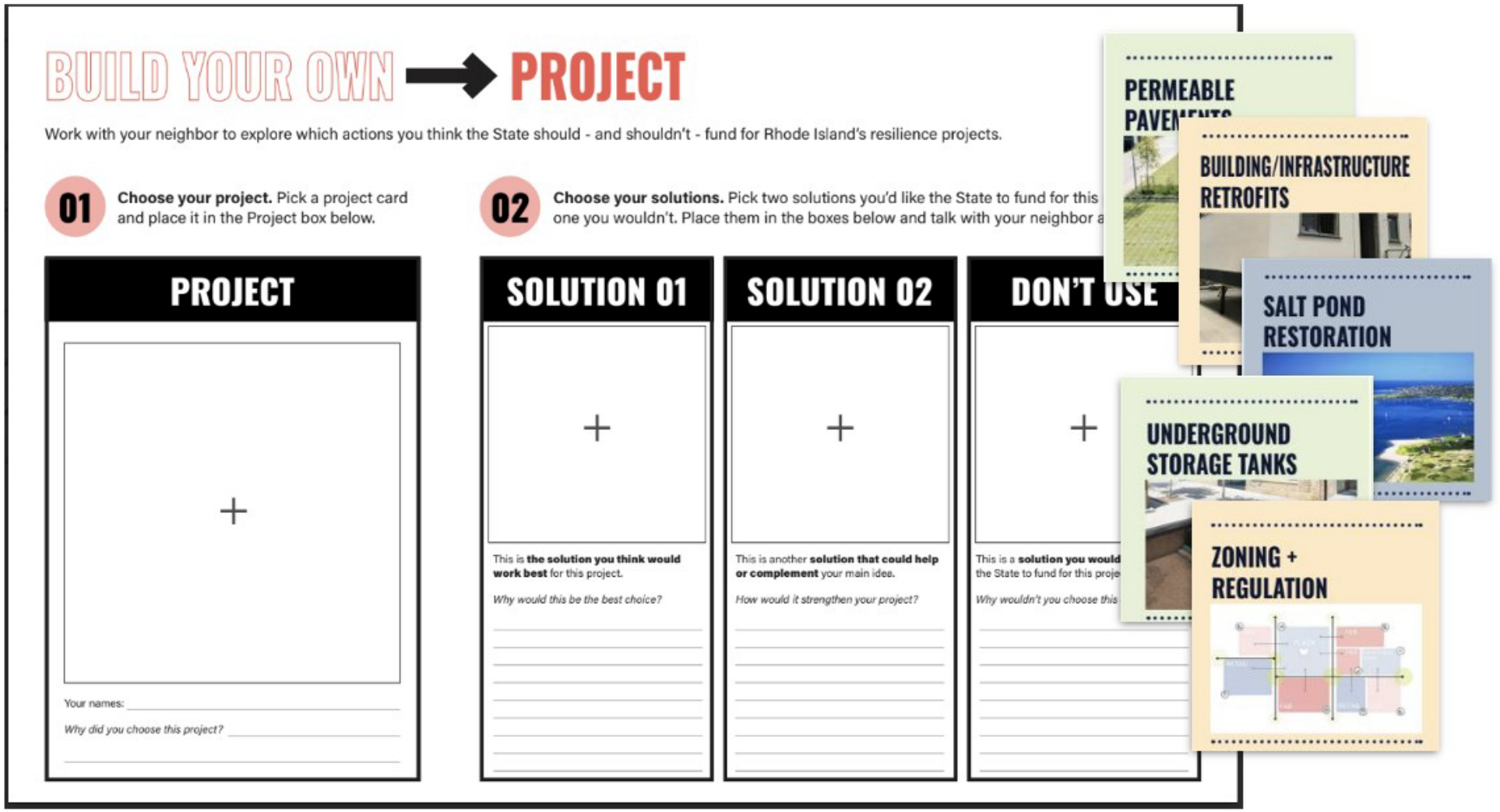
Stormwater and **coastal flooding** were the most frequently discussed hazards, while **housing and schools** were the most identified assets.

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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Resilient Rhody 2025
Open Discussion