



# RESILIENT RHODY

AN ACTIONABLE VISION FOR ADDRESSING THE  
IMPACTS OF CLIMATE CHANGE IN RHODE ISLAND





# Resilient Rhody by the Numbers

- 61 actions with 1,3,5-year goals
  - 50 of 61 actions achieved year 1 goals
- Accelerate funding and financing
  - Resilient Rhody has been a catalyst for \$13mm in new climate resilience funding
  - \$7mm for Municipal Resilience Program proposed in 2021 budget
- Establishing a process for building a pipeline of climate resilience projects



# Implementation Barriers

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## **Staff capacity:**

- Ensure all major drinking water suppliers have contingency contracts
- Strengthen storm resilience and recovery at all statewide ports
- Prioritize protection of local fuel supply along evacuation routes
- Develop a petroleum set-aside program
- Create standard impacts and response procedures for critical facilities

## **Local challenges:**

- Work with local governments to establish sustainable revenue streams
- Establish a notification system for dam safety
- Develop Emergency Action Plans for all statewide high hazard and significant hazard dams

## **Funding:**

- Provide additional fuel-storage at major wastewater treatment facilities
- Expand flood modeling and mapping within inland areas
- Conduct statewide reassessment of evacuation routes and signage

# Resilient Rhody Success Stories

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## Urban Forests for Climate and Health Initiative

- Collaboration with the Resilient Rhody Leadership Team, U.S Climate Alliance, and American Forests.
- Establish a statewide urban tree planting goal, create an online decision support tool for optimizing tree planting and public health, and enable a support system that gives each municipality the opportunity to deploy local tree planting

## Health Equity Zone Resiliency Project – Department of Health

- Three Health Equity Zones were funded to assess their strengths and vulnerabilities associated with the effects of climate change on human health, identify strategies to reduce climate hazards, and implement a local resiliency project.

## Small Business Resilience – Statewide Planning

- Provides actionable recommendations for reducing risk to extreme weather events across eight small business sectors: Restaurant/Food • Retail • Lodging & Accommodations Water-Dependent • Manufacturing • Service Provider • Construction • Real Estate / Property Management



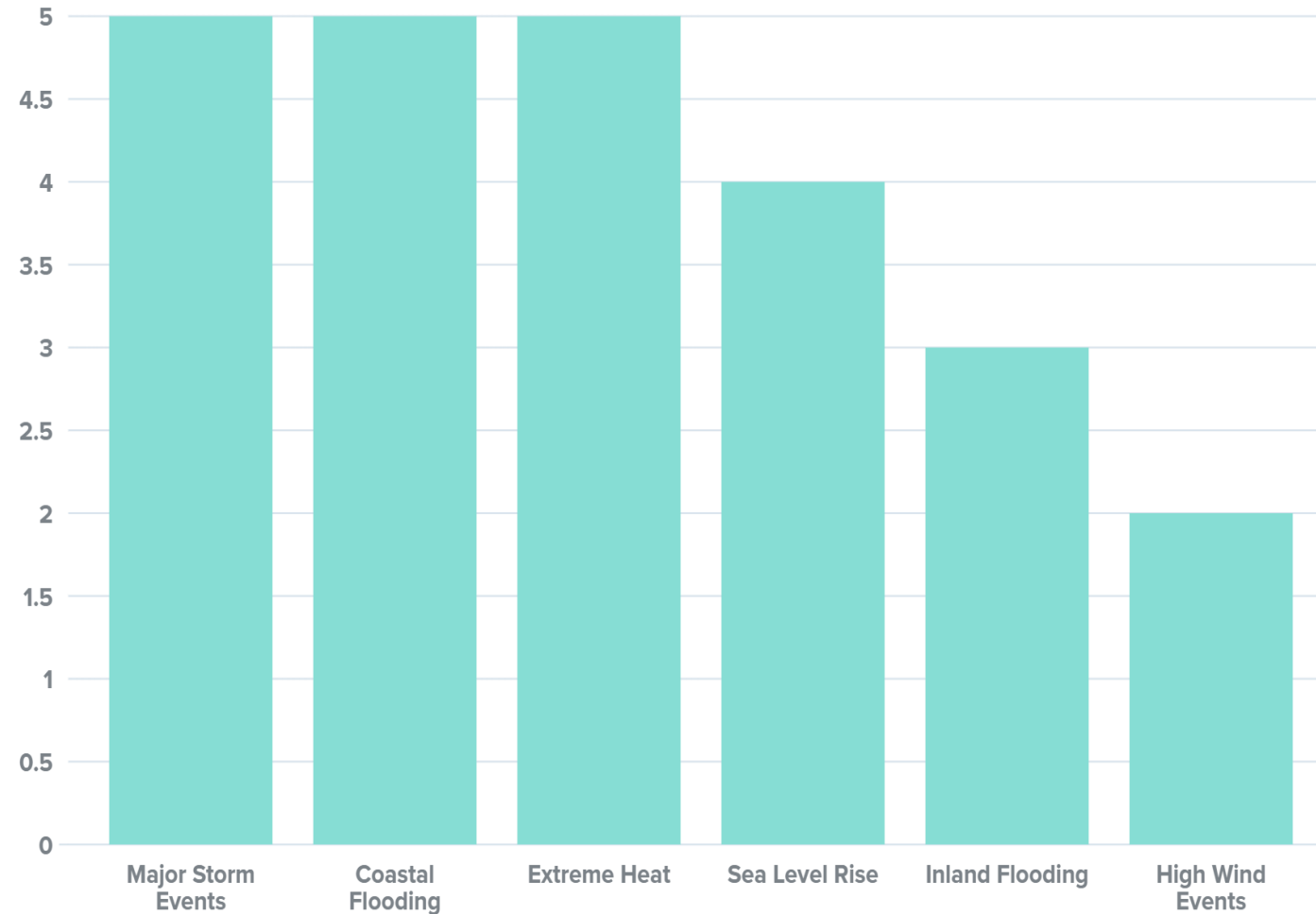


# Resilient Rhody: Municipal Resilience Program

## 2019 Cohort Workshops

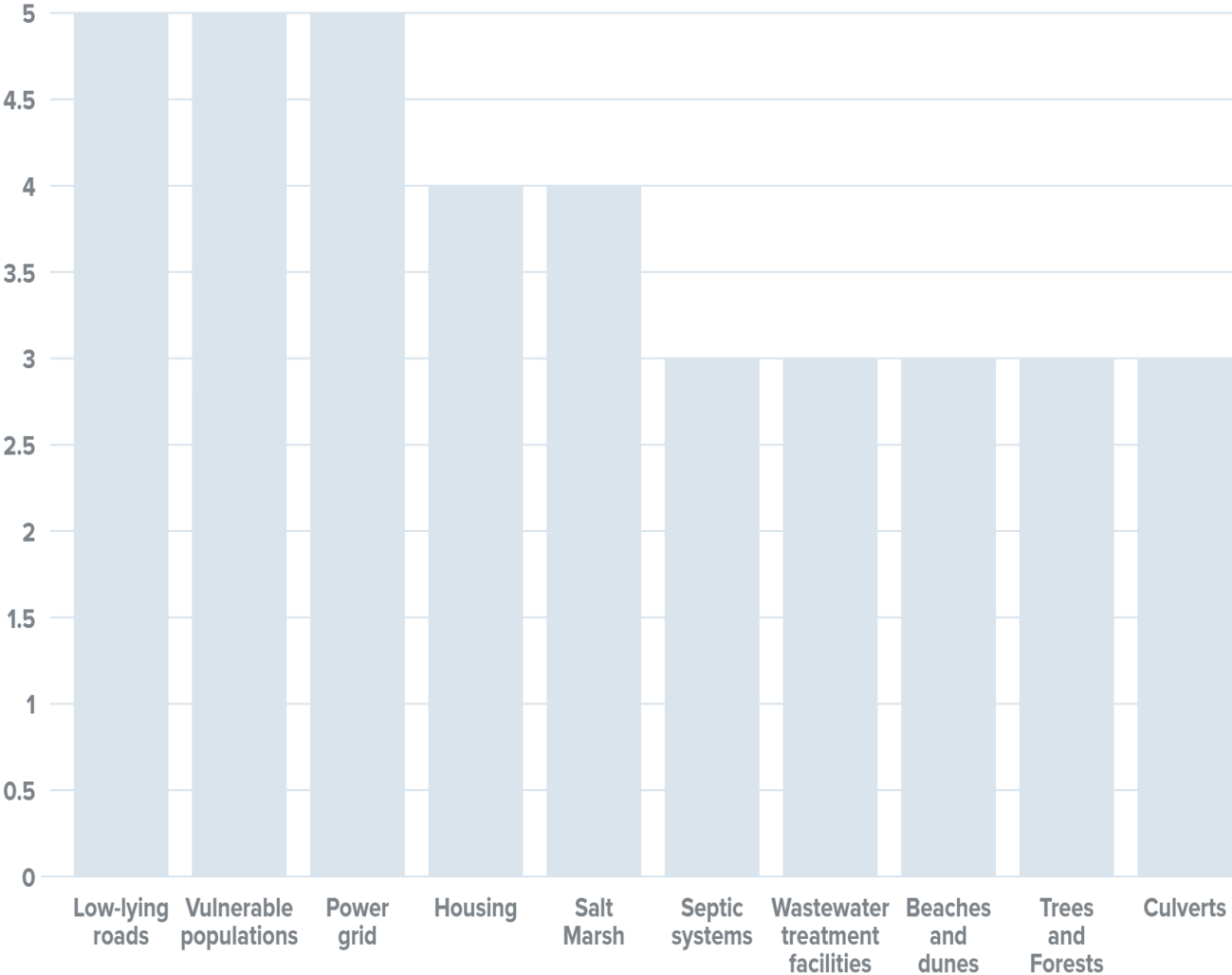
### Top Hazards

- 1 Major storm events  
Hurricanes, Nor'easters,  
Winter (snow/ice) storms
- 2 Coastal Flooding  
Storm surge
- 3 Extreme heat  
Heatwaves



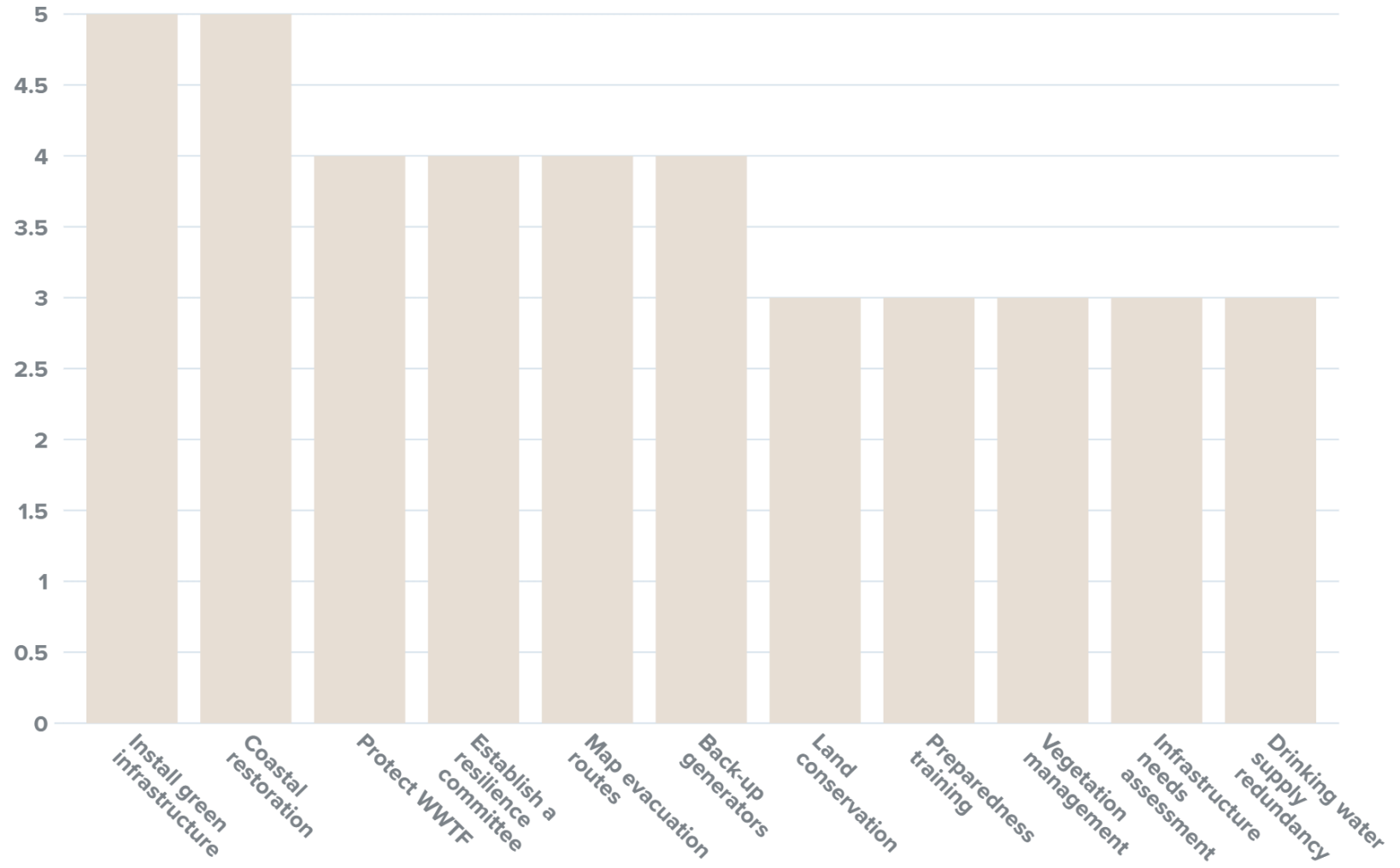
# Resilient Rhody: Municipal Resilience Program

## 2019 Cohort Workshops Top Municipal Concerns / Vulnerabilities



# Resilient Rhody: Municipal Resilience Program

## 2019 Cohort Workshops Top Priority Actions





# Resilient Rhody: Municipal Resilience Program

- MRP is building a project pipeline and accelerating implementation
  - 2019 Cohort: Identified 48 Projects totaling ~\$14mm
  - 2019 Cohort: \$1mm in Action Grants allocated from Rhode Island Infrastructure Bank

2019 MRP Action Grants		
Municipality	Project Type	Action Grant Award
Barrington	Coastal restoration and green stormwater infrastructure projects	\$201,000
Portsmouth	Dam rehabilitation and green stormwater infrastructure for flood mitigation and water quality benefit	\$339,000
Warren	Green stormwater infrastructure at public access points	\$156,000
Westerly	Flood protection at wastewater treatment facility pump station	\$304,000
		\$1,000,000

# 2020 Priorities

## Do

### Implement High Impact Resilience Projects

- All MRP funded projects
- Accelerate state-funded projects (Climate Resilience Fund and Wastewater Treatment Facility Resilience)

## Support

### Build a centralized resource for funding and financing opportunities

- Resource to be updated regularly and includes timelines, project applicability, and key contacts

## Inspire

### Update on Resilient Rhody progress and project case studies

- Publish an update to Resilient Rhody with progress made to identified actions and new climate science available.

# [www.climatechange.ri.gov](http://www.climatechange.ri.gov)

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# RHODE ISLAND URBAN FORESTS FOR CLIMATE & HEALTH

Goal:

Create Technical, Finance and Policy Tools that optimize Urban Forests to Slow Climate Change and Improve Public Health.

RI EC4 Update – April 2020



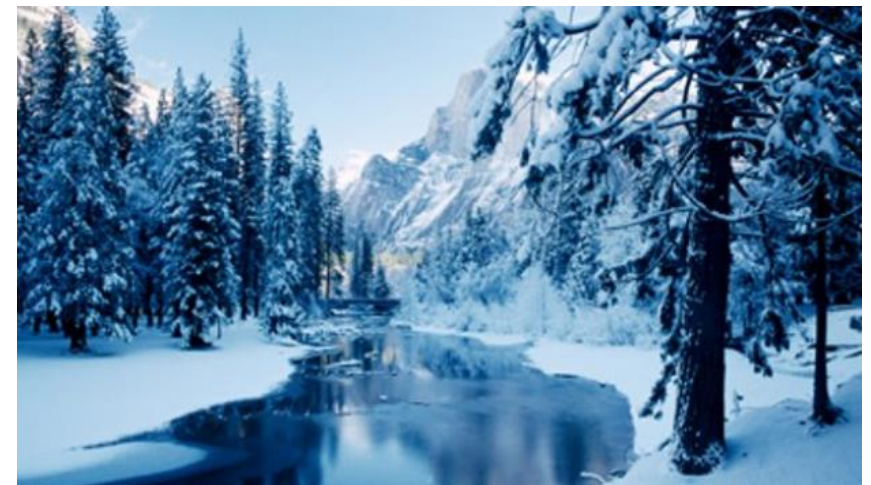


# ABOUT AMERICAN FORESTS



AMERICAN FORESTS  
- SINCE 1875 -

- Founded in 1875
- Oldest national non-profit conservation organization
- Mission: To **Inspire** and **Advance** the **conservation** of forests, which are essential to life



# URBAN FORESTS FOR CLIMATE AND HEALTH INITIATIVE

Why focus on urban trees to address climate and health issues?

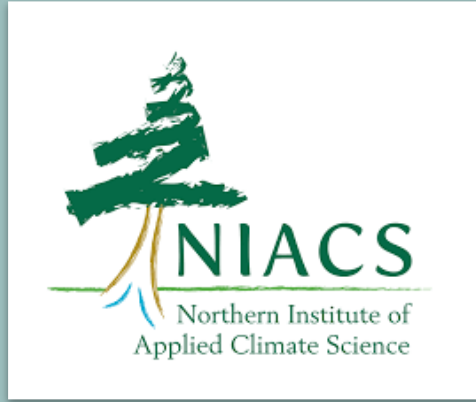


## Climate:

- Urban forests contribute significantly to reducing the rate of global temperature increases.
- Urban forests in the U.S. currently sequester 1.8 percent of U.S. emissions and reduce residential energy use for heating and cooling by 7.2 percent.
- A major goal of this project is to define how much more U.S. urban forests can contribute to reducing global temperatures and create tools to achieve that goal in Rhode Island and then nationwide.

## Public Health:

- Heat has caused more deaths in the US than any other type of extreme weather event, including tornadoes, hurricanes, floods, earthquakes, and lightning. By 2070, Rhode Island could have up to 50 days over 90°F per year. (RIDOH Climate Change and Heat Resiliency Report, 2015).
- Research from the Rollins School of Public Health projects a ten-fold increase in heat related deaths in eastern U.S. cities by 2050.
- This project will strategically target tree canopy growth in the most health- vulnerable populations like low-income families with no air conditioning, and neighborhoods with high concentrations of youth and elderly.



# CORE PROJECT PARTNERS





# Project Components

1. Climate &  
Health Forestry  
Action Tool

2. Climate &  
Health Action  
Guide

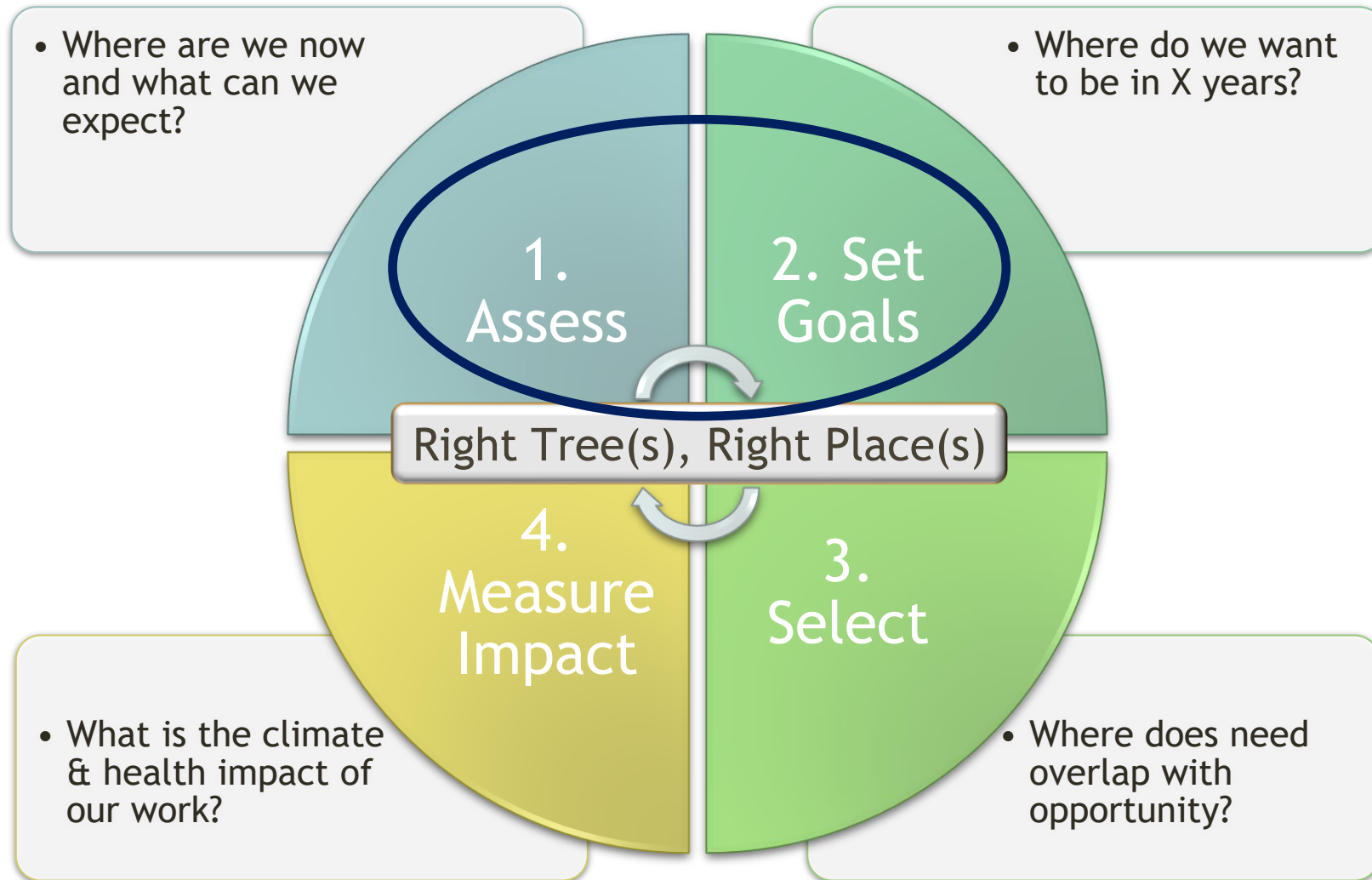
3. City Forest  
Credits

4. Policy &  
Financing

5. Public  
Engagement &  
Training



# CLIMATE & HEALTH FORESTRY ACTION TOOLS



# TREE EQUITY SCORE: DEFINED

**TREE EQUITY SCORE** IS A WAY TO MEASURE HOW WELL A NEIGHBORHOOD, MUNICIPALITY OR REGION IS ENSURING THE BENEFITS OF URBAN TREE CANOPY ARE REACHING POPULATIONS THAT ARE PARTICULARLY SUSCEPTIBLE TO EXTREME HEAT AND OTHER CONDITIONS.



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# TREE EQUITY SCORE

*TREE EQUITY SCORE = CANOPY GAP\* PRIORITY INDEX*

**PRIORITIZES TREE PLANTING ACROSS NEIGHBORHOODS WITH CANOPY GAPS.**

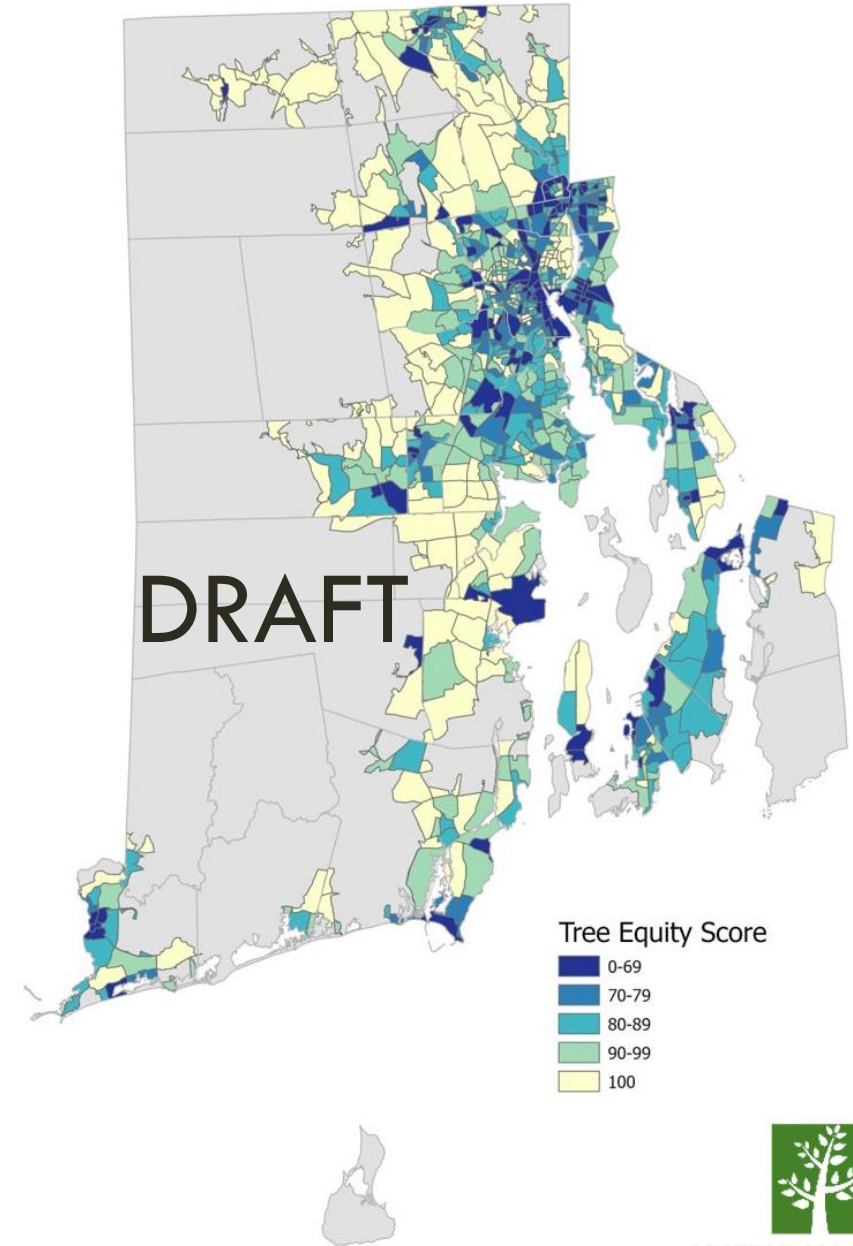
*PRIORITY INDEX: - FIVE EQUALLY WEIGHTED CHARACTERISTICS:*

- INCOME: % POPULATION BELOW 200% OF POVERTY
- EMPLOYMENT: UNEMPLOYMENT RATE
- RACE: % NOT WHITE NON-HISPANIC
- CLIMATE: URBAN HEAT ISLAND SEVERITY
- DEPENDENCY RATIO (SENIORS & CHILDREN, COMING SOON)

*NOTES:*

*LOWER NUMBERS (DARKER COLORS ON MAP) MEAN GREATER PRIORITY*

*THE GREATER THE NEED (CANOPY GAP) AND THE GREATER THE PRIORITY, THE LOWER THE SCORE*



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# NEXT STEPS

