



Preparing for Climate Change

NJLM Conference 2019



Speakers

Moderator: Mayor Ravinder Bhalla, Hoboken

In order of presentation:

Nancy Quirk, Sustainable Jersey

Nathaly Agosto Filión, City of Newark

Walter Lane, Somerset County

Robert Gregory, Princeton Emergency & Safety Services

Christine Symington, Sustainable Princeton

Kelly Mooij, NJ Board of Public Utilities

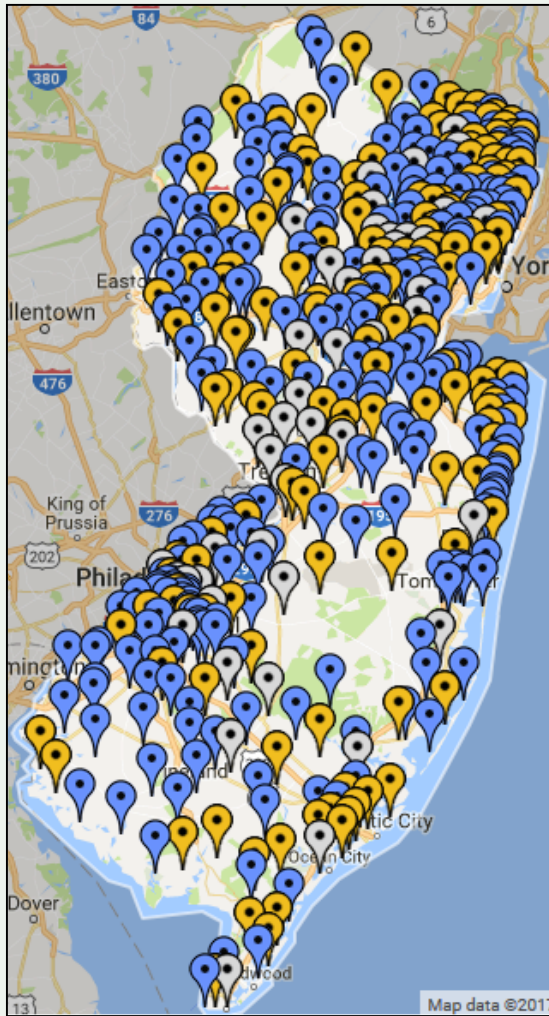


What is Sustainable Jersey?

- Certification program for municipalities and schools
 - **Tools, resources, and guidance** to help municipalities and schools become more sustainable
 - **Grants and funding** for municipalities and schools
 - **Regional Hubs**



Program Participants



Municipal Program



Schools Program

Municipal Program

445 (79%) participating
200 Certified

- 152 Bronze
- 48 Silver

Schools Program

290 Districts (49%)
732 Schools
194 Schools Certified

- 181 Bronze
- 13 Silver



Preparing for Climate Change

Climate Adaptation

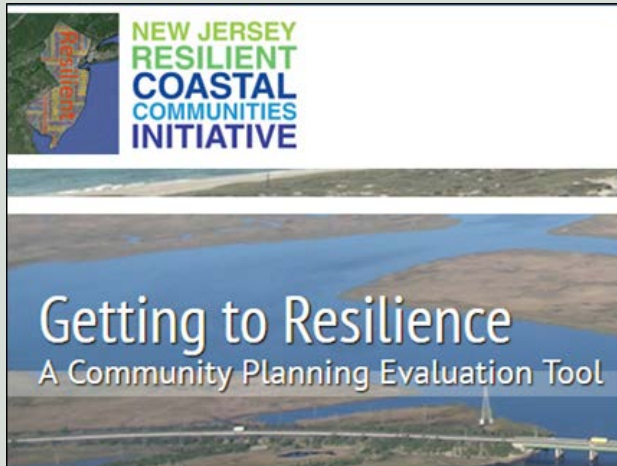
Reduce risk

- Heat Island Assessment
- Extreme Temperature Event Plan
- Green Infrastructure Planning
- Flood Risk Assessment
- Coastal Vulnerability Assessment

Climate Mitigation

Reduce GHG emissions

- Energy efficiency
- Renewable energy
- Alternative fuel vehicles
- Land-use planning



Sustainable Jersey Supporters & Sponsors

Program Underwriters



Grants Program



Corporate Sponsors

* 10th Anniversary Sponsors

PLATINUM



GOLD



SILVER



BRONZE





Nathaly Agosoto Filión
City of Newark

Preparing for Climate Change

Walter C. Lane, PP/AICP
Director of Planning
Somerset County Planning Division

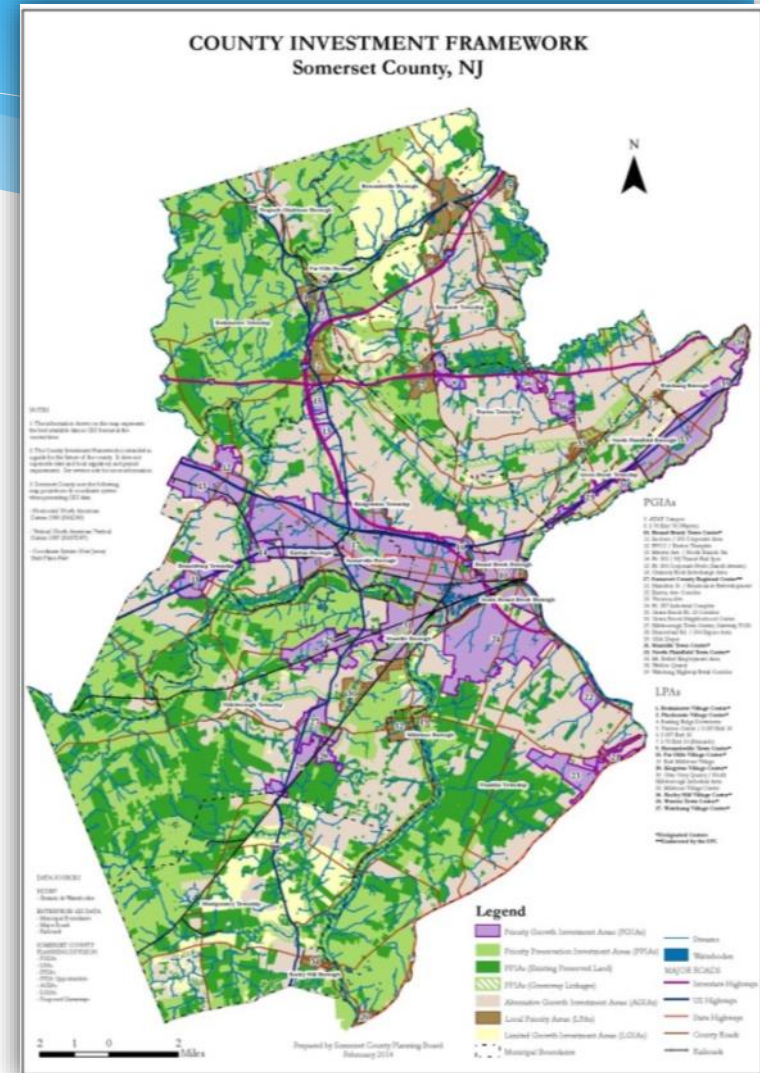
**League of Municipalities Conference
November 20, 2019**



Somerset County Master Plan

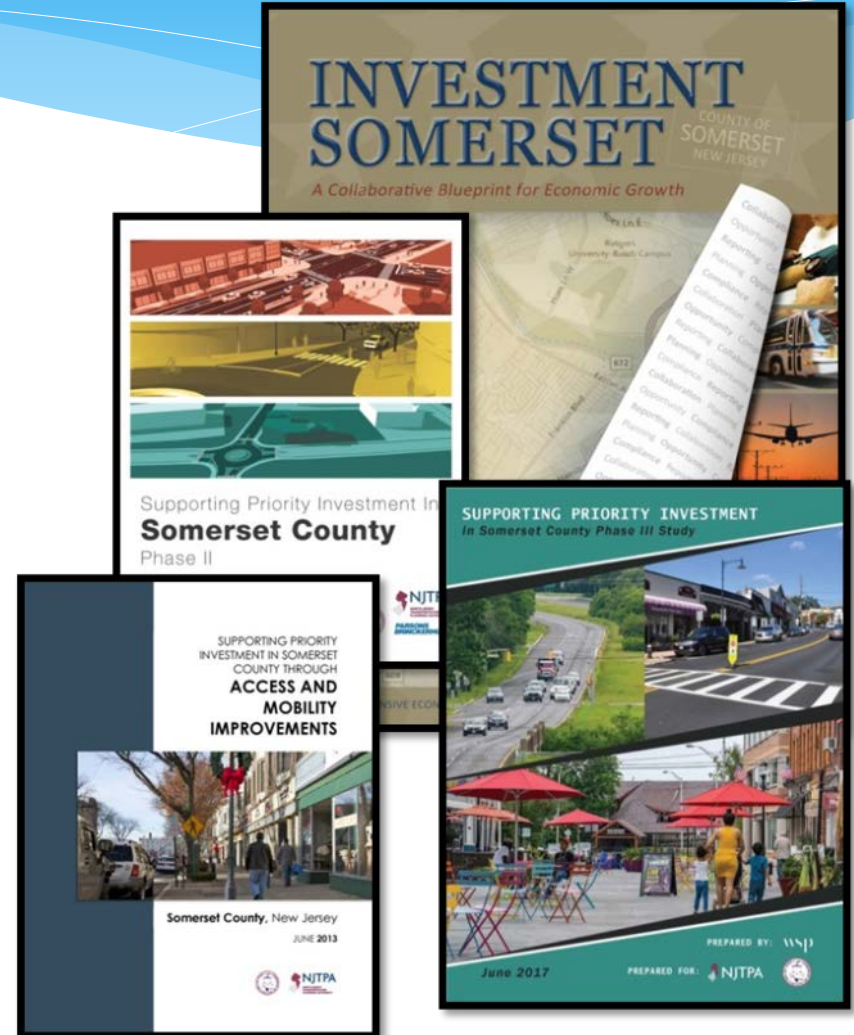
2014 Somerset County Master Plan County Investment Framework (CIF) Map

- ❖ Priority Growth Investment Areas
- ❖ Priority Preservation Investment Areas
- ❖ Local Priority Areas
- ❖ Alternative Growth Investment Areas
- ❖ Limited Growth Investment Areas



Supporting Priority Investment In Somerset County

- ❖ Somerset County Comprehensive Economic Development Strategy
- ❖ Supporting Priority Investment in Somerset County through Access and Mobility Improvements
- ❖ Supporting Priority Investment in Somerset County Phases I, II, III



Supporting Priority Investment In Somerset County




Land Use and Planning Scenarios

Raritan Borough, though part of the broader Regional Center PGIA, has its own distinctive small town character. While other planning efforts are already addressing opportunities along the riverfront, near the train station, and in the vicinity of the Washington School, additional opportunities were examined for focus areas along the Somerset Street and Orlando Drive corridors and at the Raritan Mall shopping center.

Focus Area 1: Raritan Mall Shopping Center

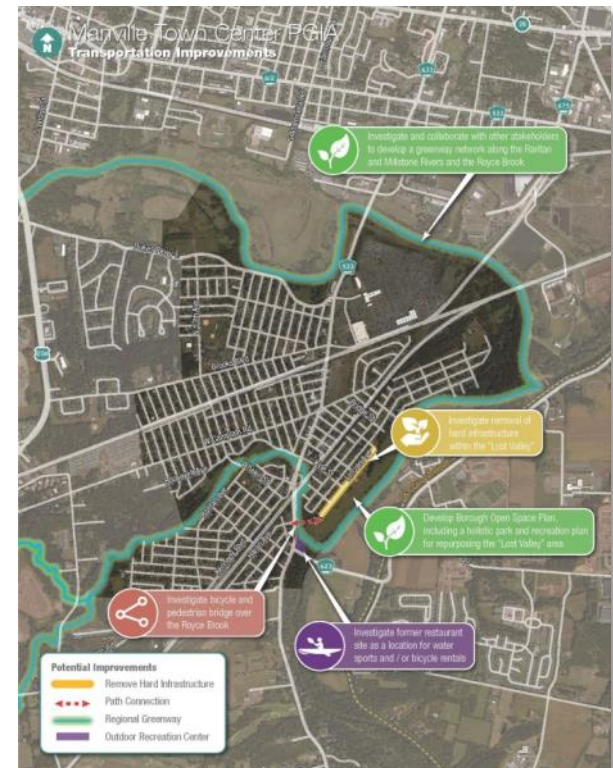
The Raritan Mall shopping center fronts U.S. Route 206 and is currently developed as a single-story, supermarket-anchored retail center comprising approximately 110,000 square feet, plus a 10,000 square foot pad site. There are vacancies throughout the mall and concerns that a supermarket anchor use may not have long-term viability based on strong competition elsewhere in the market. Other existing uses in the strip center are generally quick service food and restaurants, with some retail and personal service.



The site is located within the B-2 Shopping Center Business District, which is designated for large lot, highway-oriented commercial areas serving both local residents and the regional market. Permitted retail uses include supermarkets, personal service establishments, and indoor recreation facilities. While the site is located near the Borough's downtown and is adjacent to residential areas, its highway scale and size, orientation towards U.S. Route 206, and parking lot frontage separate it from the surrounding community. Only the rear employee entrances and loading areas face to the neighboring Busky Lane. Sidewalks connecting to and from the neighboring property and an adjacent children's park lead only to blank walls and service roads.

In each of the following scenarios, site planning, pedestrian, and connectivity improvements can reconnect the site to the eastern end of the Somerset Street corridor and the adjacent Regional Center to the east. Integration with the Raritan River Greenway would enhance local and regional linkages and support opportunities for value added uses, including both recreation and river and trail front dining. Improvements to north/south linkages, including Newton Street and Busky Lane, would better connect the site and the Orlando Drive corridor to the Borough center. This combination of Greenway and local street connections would create potentially extensive of road systems between the Regional Center towns, Raritan Valley Line rail service, and across the Raritan River to Hillsborough and Duke Farms.

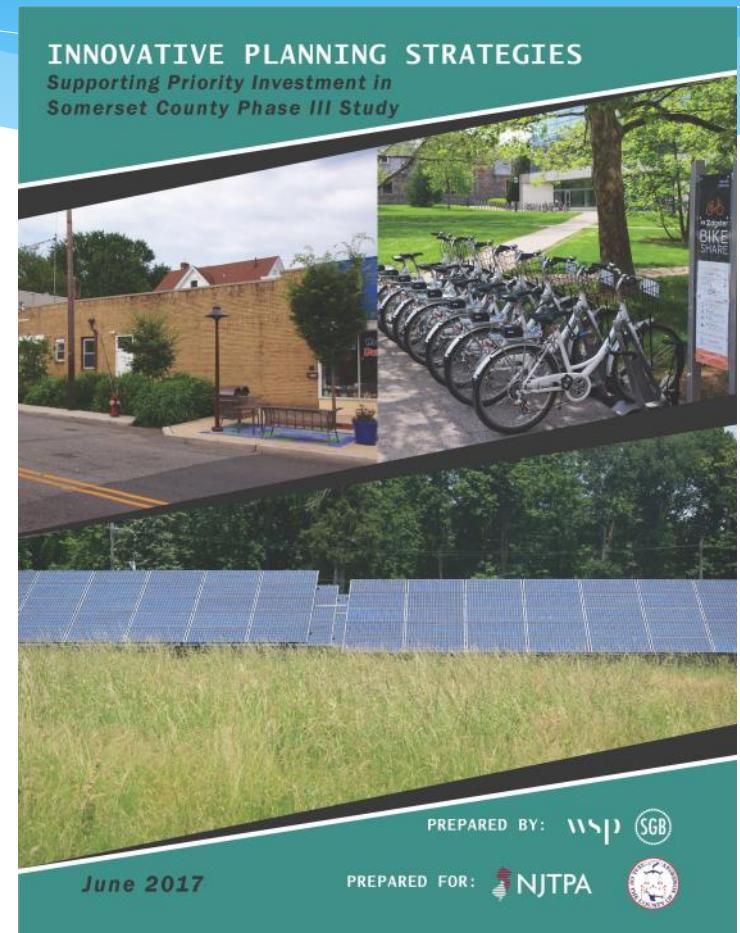
Regional Center PGIA | Raritan Borough 3



Supporting Priority Investment In Somerset County

Planning for Resilient Communities

- * Resilient/Renewable Energy Systems
 - * Microgrids
 - * Distributed Energy
- * Flood Hazard Planning
 - * Wetlands/Flood Plain Restoration
 - * Creating New Flood Storage Capacity through Redevelopment
- * Green Infrastructure
 - * Bioswales
 - * Rain Gardens



Somerset County Hazard Mitigation Plan

2019 Hazard Mitigation Plan

- * Provides a framework to coordinate land use planning and mitigation planning strategies and policies
- * Advances the implementation of the County Investment Framework
- * Contains a Flood Resiliency Framework and an Energy Resiliency Framework
- * Coordinated with the Somerset County Preservation Plan

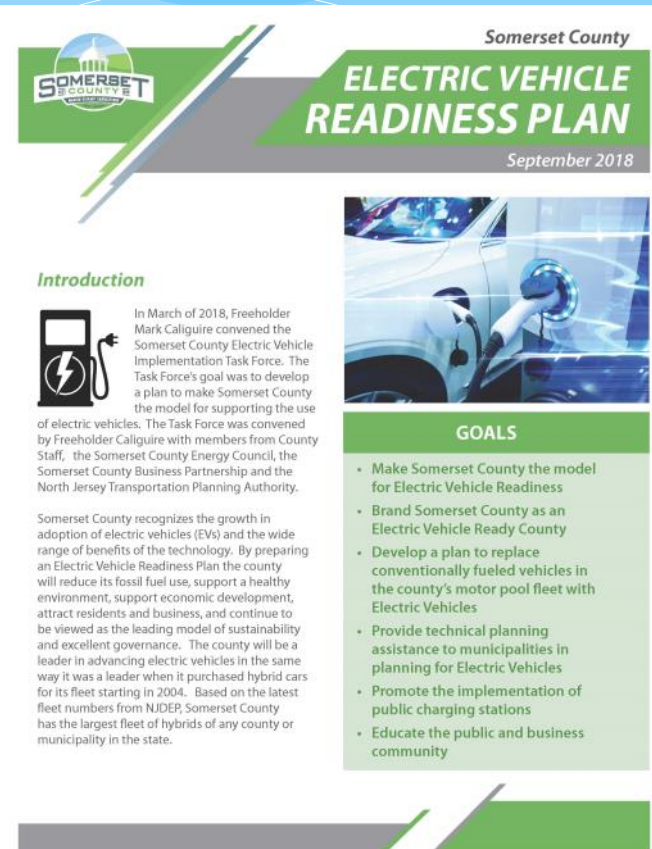


Source: Senatenj.com

Somerset County Electric Vehicle Readiness Plan

Electric Vehicle Readiness Plan Goals

- * Somerset County will be the model for Electric Vehicle Readiness
- * Brand Somerset County as an Electric Vehicle Ready County
- * Develop a plan to replace conventionally fueled vehicles
- * Provide technical planning assistance to municipalities
- * Promote the implementation of Public Charging Stations
- * Educate the public and business community



Thank you!

Walter C. Lane, PP/AICP, Director
Somerset County Planning Division
20 Grove Street, Somerville, NJ 08876
(908) 231-7021
PlanningBd@co.somerset.nj.us



Emergency Services, Emergency Management and Climate Change?

“I don’t care about climate change”

I plan for the worst and hope for the best!

Bob Gregory

Director – Princeton
Department of Emergency &
Safety Services



How does climate change effect Emergency Services?

- Surprise attacks
 - Flash floods
 - Wildfires
 - Flooding
- Evacuations = displace civilians
- Illness
 - Rising temperatures
 - Declining air quality
 - Extreme weather
 - Vector-borne illnesses
- damage to infrastructure
- strain budgets



How can Emergency Management Battle Climate Change?

- Planning
- Response
- Mitigation
- Recovery
- Building strategic partnerships and overcoming barriers



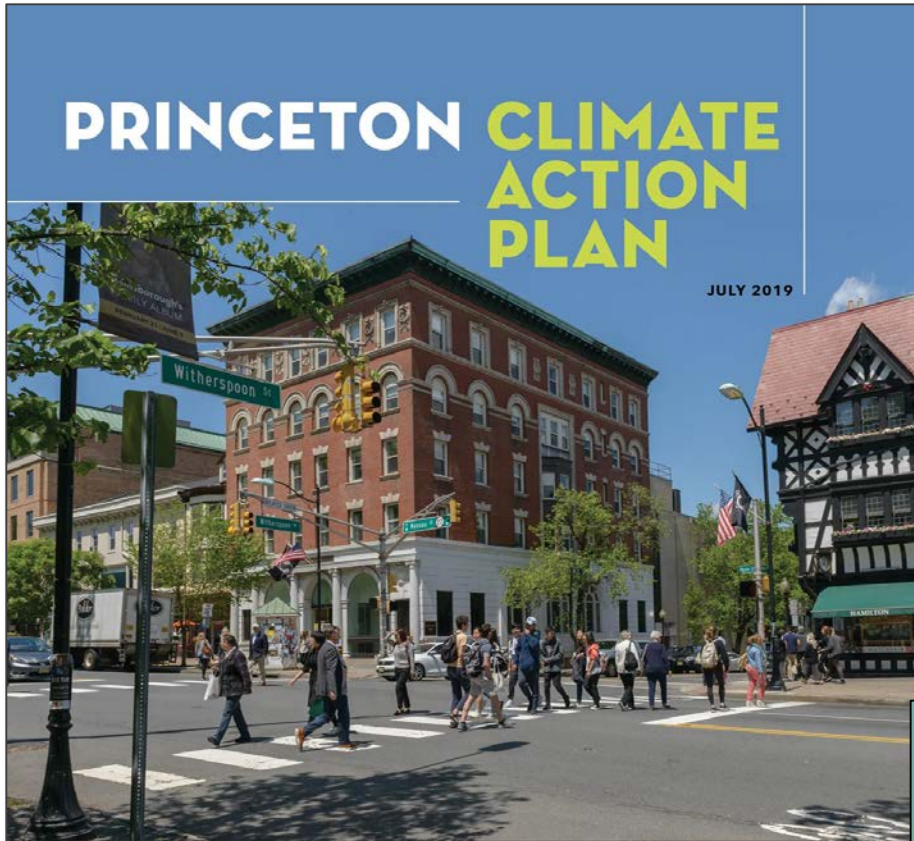
We need a Common Sense Approach ... Finding the middle ground

- What have we done in Princeton?
 - Climate Action Plan
 - Create working groups, Princeton created a resiliency group.
 - Addressed the issue in the Emergency Operations Plan
 - We have developed a climate action hazard annex.
 - We are working on a flood hazard annex.
 - We have developed a better way to identify and provide information to our vulnerable population.
 - Building Bridges, Emergency Management, Sustainability, Engineering and Health & Human Services have a working relationship to address the issues presented by climate change.



PRINCETON CLIMATE ACTION PLAN

JULY 2019



THE LOCAL CLIMATE IS CHANGING



More Frequent High Heat Days



Increase in Vector-Borne Diseases



Increase in Heat-Related Illnesses



Heavier Rains



Increase in Average Temperatures



Impacts to Mental Health and Wellbeing



Decline in Outdoor Air Quality



Potentially Longer Dry Spells



Climate change affects everyone in Princeton and disproportionately affects our most vulnerable community members.



Sustainable Princeton

Change a habit, change the world

STEERING COMMITTEE

WORKING GROUPS



Energy



**Land Use &
Transportation**



**Natural
Resources**



**Materials
Management**



Resiliency

Resiliency Working Group

George DiFerdinando, Jr. MD MPH

Princeton Board of Health, NJ Climate Change Alliance

Mark Freda

President, Princeton First Aid & Rescue Squad

Bob Gregory

Director, Princeton Department of Emergency and Safety Systems

Jeff Grosser

Asst. Administrator & Health Officer, Princeton

Edith Juarez

Resident Service Coordinator, Princeton Community Housing

Mia Sacks

Member, Princeton Planning Board

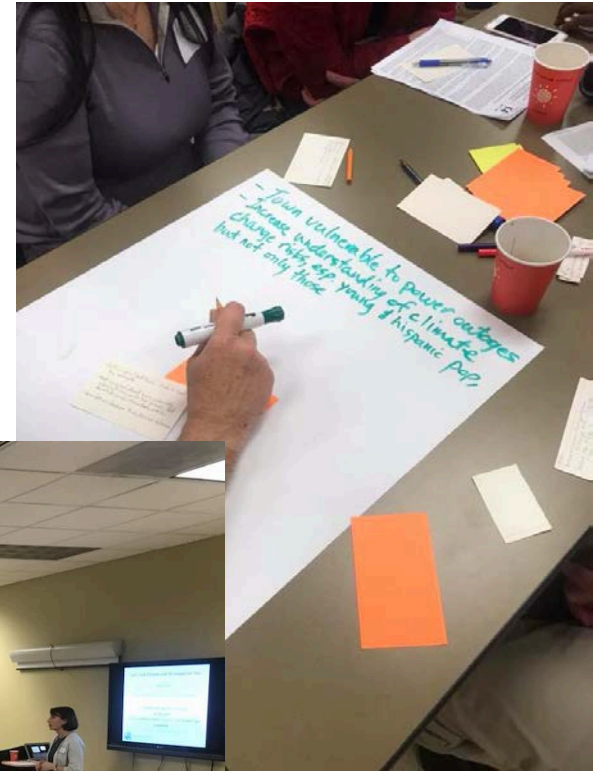
Frank Setnicky

Director of Operations, Princeton First Aid & Rescue Squad



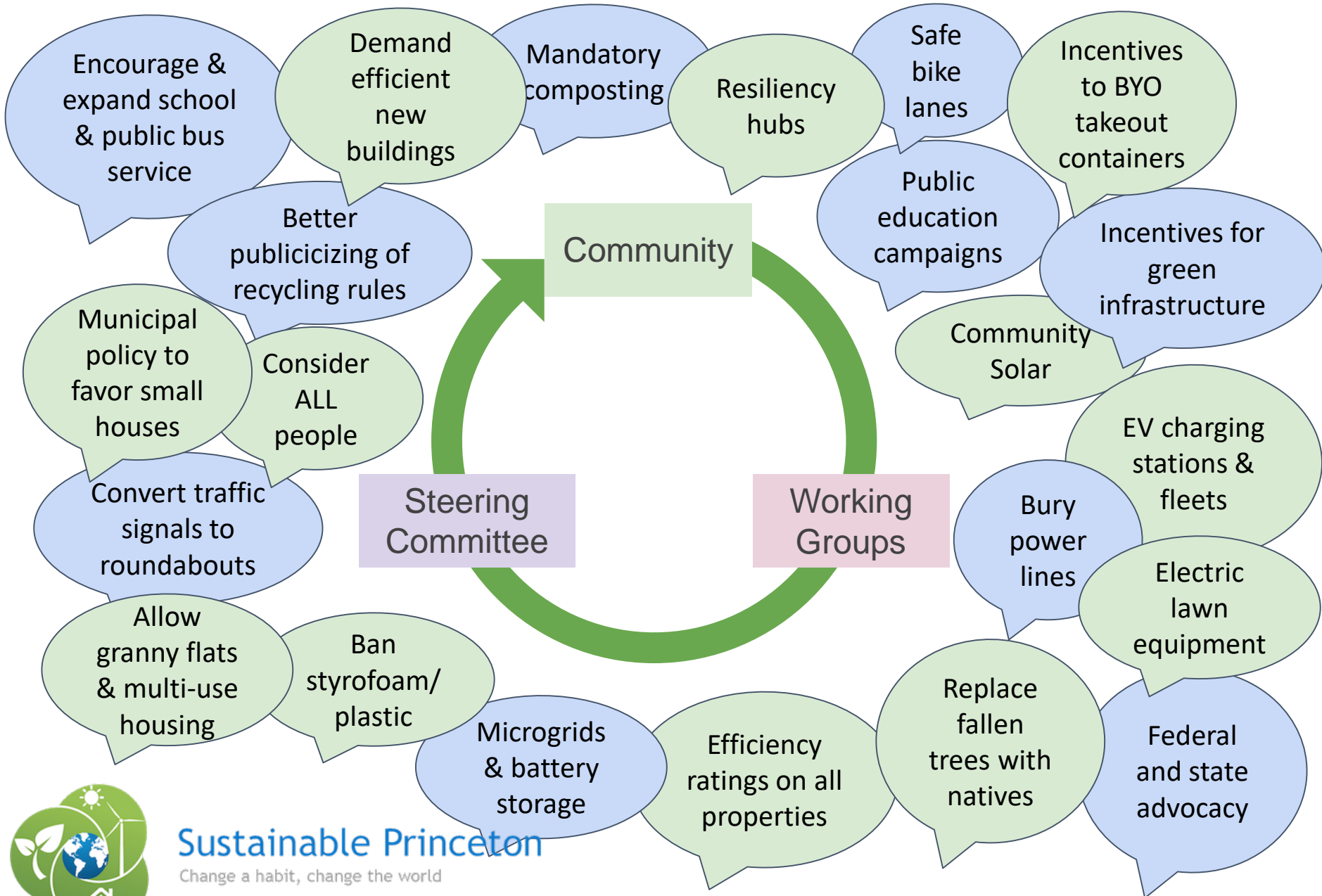
Sustainable Princeton

Change a habit, change the world



Sustainable Princeton
Change a habit, change the world

What We've Learned From the Princeton Community



Sustainable Princeton

Change a habit, change the world



RESILIENCY

OUR VISION: All Princeton community members are prepared for the impacts of climate change.

OBJECTIVE 11 Protect lives, property and critical facilities from the impacts of stormwater flooding

OBJECTIVE 12 Build Municipal and community capacity to prepare for and respond to climate change

OBJECTIVE 13 Prepare for the impact of climate change on human health

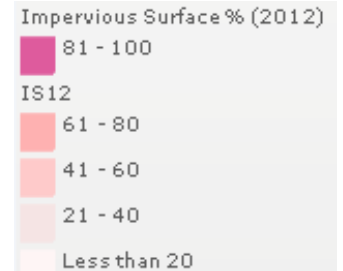
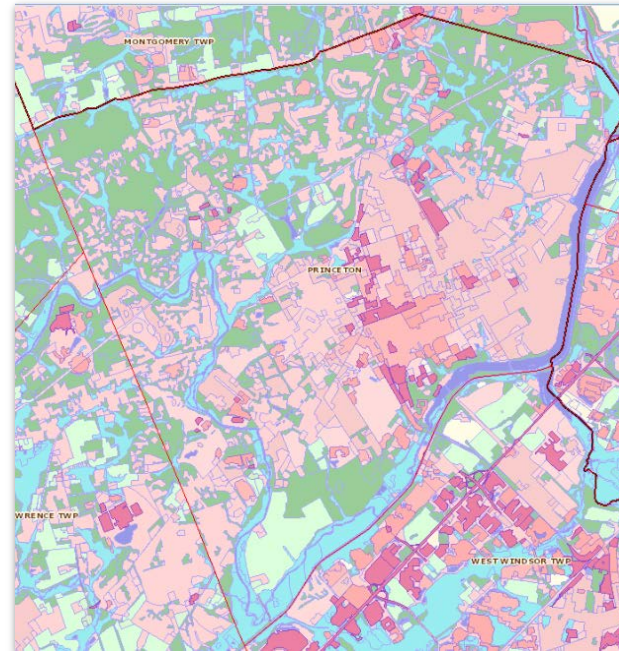


Sustainable Princeton

Change a habit, change the world

RESILIENCY

Our Vision: All Princeton community members are prepared for the impacts of climate change.



Year	Acres	Impervious cover (% of land area)
1995	1521.18	13.13
2002	1598.58	13.80
2010	1634.16	14.12
2012	1644.08	14.19



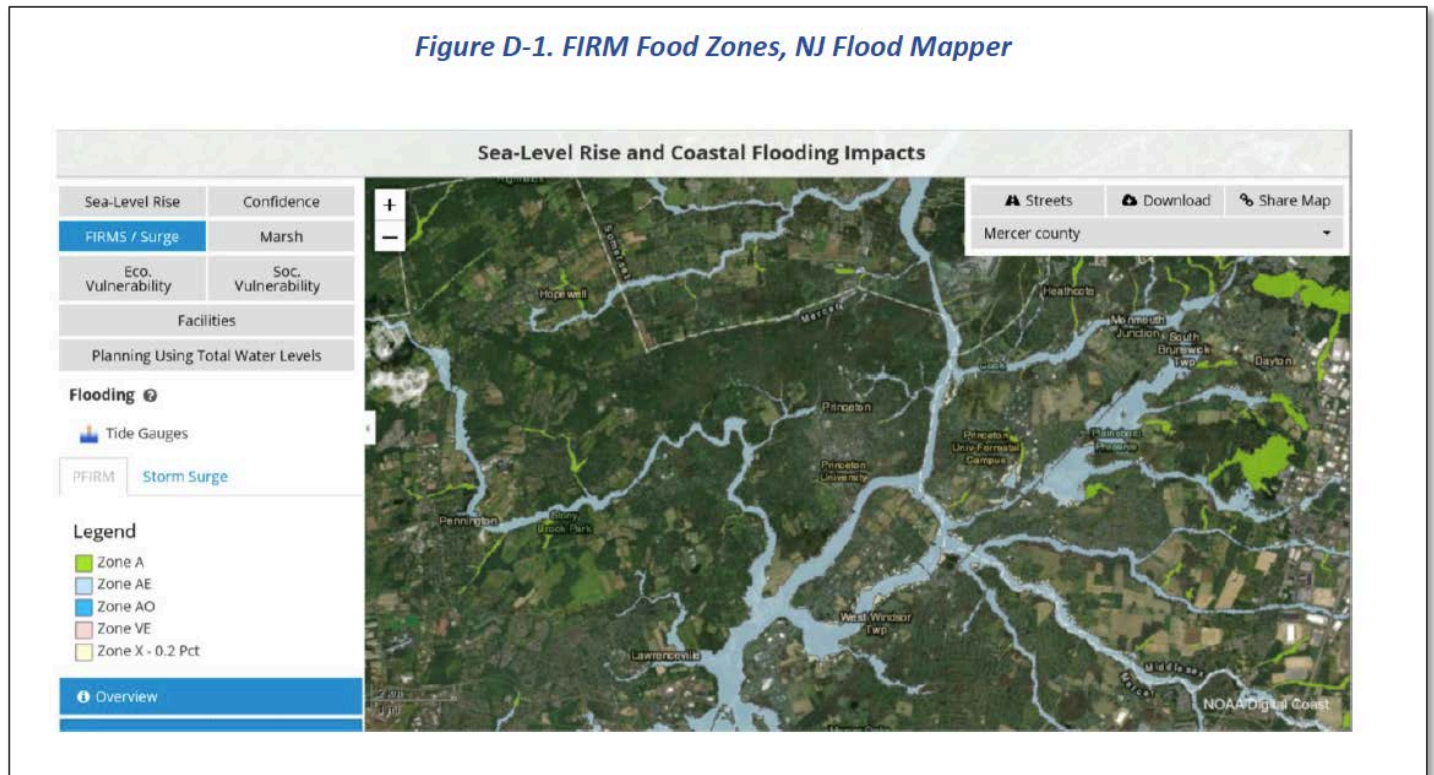
Sustainable Princeton
Change a habit, change the world

RESILIENCY

Our Vision: All Princeton community members are prepared for the impacts of climate change.



Figure D-1. FIRM Food Zones, NJ Flood Mapper



Sustainable Princeton

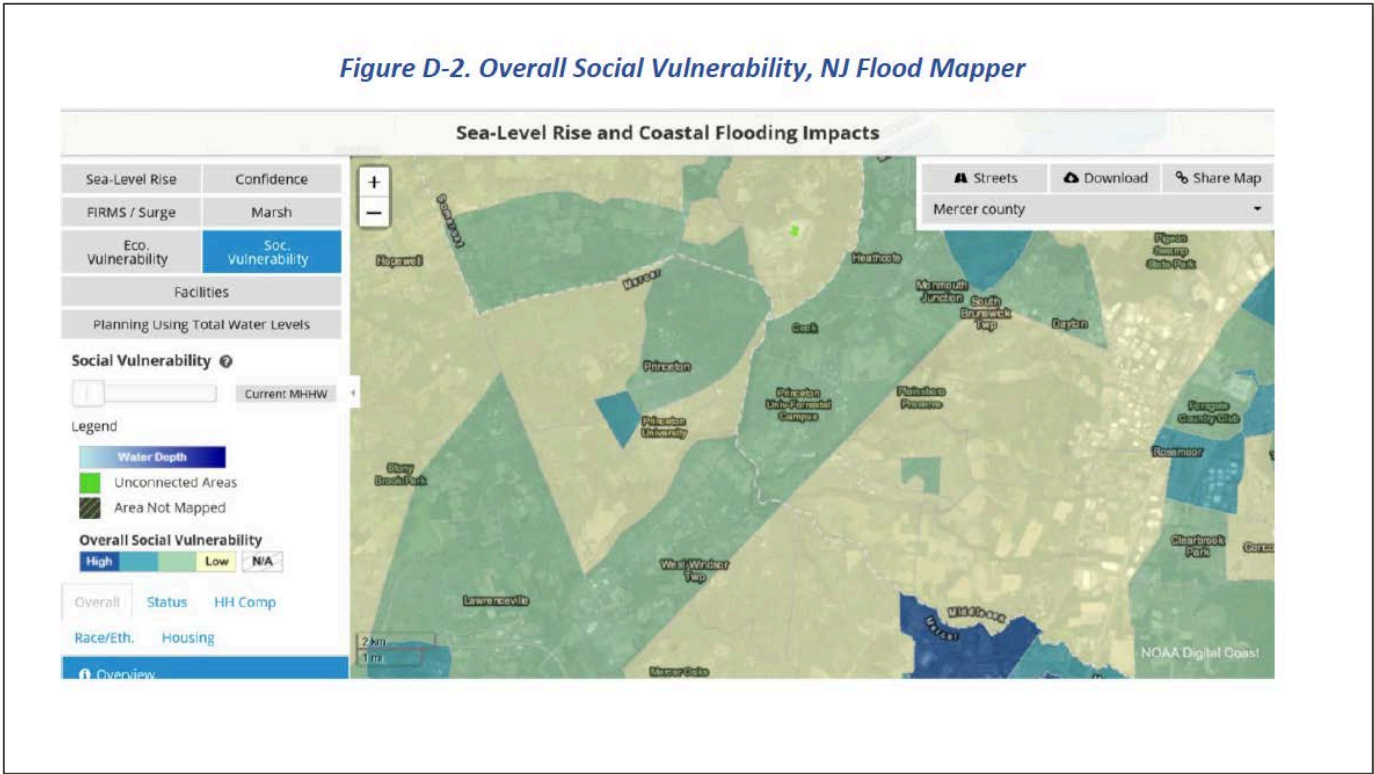
Change a habit, change the world

RESILIENCY

Our Vision: All Princeton community members are prepared for the impacts of climate change.



Figure D-2. Overall Social Vulnerability, NJ Flood Mapper



Sustainable Princeton

Change a habit, change the world

RESILIENCY

Our Vision: All Princeton community members are prepared for the impacts of climate change.



Figure E-1. New Jersey Heat Island Map, Princeton and Surrounding Municipalities.



Sustainable Princeton

Change a habit, change the world

RESILIENCY

Our Vision: All Princeton community members are prepared for the impacts of climate change.



GREEN INFRASTRUCTURE GUIDANCE MANUAL

FOR NEW JERSEY

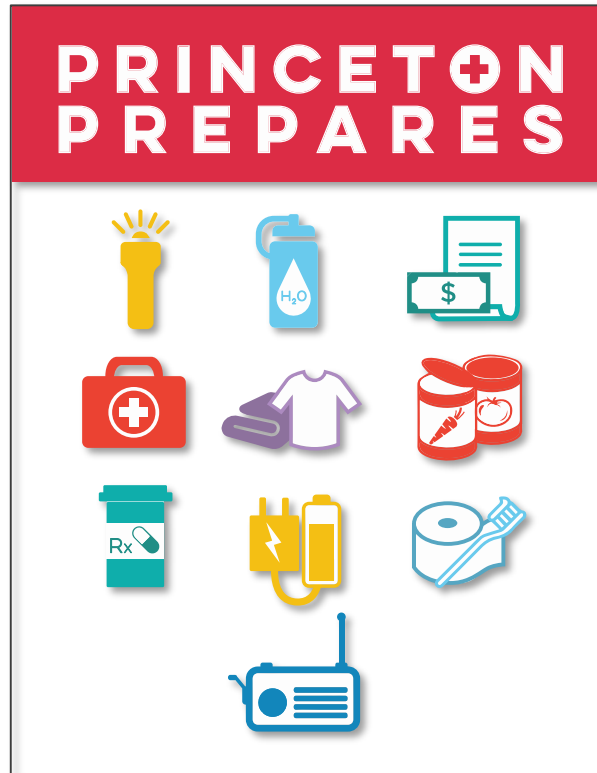


Sustainable Princeton

Change a habit, change the world

RESILIENCY

Our Vision: All Princeton community members are prepared for the impacts of climate change.



Sustainable Princeton

Change a habit, change the world

Fix this!



Sustainable Princeton

Change a habit, change the world



New Jersey's Clean Energy Program™

Resiliency Programs



NJCEP Background

ADMINISTERED BY

New Jersey Board of Public Utilities' Office of Clean Energy

FUNDING

Societal Benefits Charge (SBC) on utility bill

PROGRAM GOALS

- Education
- Change behavior
- Provide opportunity for ALL NJ residents to reduce energy and lower operating cost
- Protect the environment and lower emissions
- Meet Governor's goal of 100% clean energy by 2050



COMMUNITY ENERGY PLANS



Community Energy Plan Grant

NJCleanEnergy.com/GRANTS

Localizing the 2020 Energy Master Plan Goals



ENERGY USE



**TRANSPORTATION
PLANNING**



LAND USE



**WATER
MANAGEMENT**



**WASTE
MANAGEMENT**

Community Energy Plan Grant

NJCleanEnergy.com/GRANTS

- Planning grant
- Looks at energy use as a whole
 - Residential
 - Business
 - Government
- Identify areas for improvement
- Create a plan to reduce energy use, increase renewables and meet the 2020 EMP goals
- Application is available at NJCleanEnergy.com/CEP
- Grants are based on population size

ENERGY RESILIENCY



- NJBPU Town Center Distributed Energy Resources (TCDER) Microgrids Program
 - TCDER Microgrid is a cluster of critical facilities within a municipal boundary that may also operate as shelter for the public during and after an emergency event or provide services that are essential to function during and after an emergency situation. These critical facilities are connected to a single or series of DER technologies that can operate while isolated and islanded from the main grid due to a power outage
- Board funded 13 feasibility studies
- Feasibility studies completed and being reviewed

- EDCs fully engaged in program
- Barriers to TCDER Microgrids
 - Regulatory
 - Funding
- To address funding issue, the Board, with NJIT and Rutgers, received DOE Grant of \$300,000 for a microgrid financing study
 - Result will be a public “financing tool” for use by microgrid developers
 - Study to be completed within 2 years

Commitment to Resiliency

- The Clean Energy Act also required the Board to conduct an Energy Storage Resource analysis for submission to the Governor and the Legislature. In doing so, the Board was required to consult with various stakeholders, including PJM
- Rutgers (RU-LESS) was retained to complete the study



- Study to address:
 - Resiliency
 - Effects on ratepayers
 - Impacts on renewable energy and EVs
 - Optimal amount of storage
 - Technologies
 - Optimal points of entry (customer sited, utility scale)
 - Cost-benefit

Battery Storage

- Final report accepted by the Board in June 2019
- CEA requires Board to initiate a proceeding within six months of completion of report to establish a process and mechanism for achieving energy storage goals



More Information

KELLY MOOIJ

Deputy Director, Division of Clean
Energy

Kelly.mooij@bpu.nj.gov

609-292-1421

VISIT

NJCleanEnergy.com

NEWSLETTER

NJCleanEnergy.com/NEWSLETTER

LISTSERVS

NJCleanEnergy.com/LISTSERVS



[@NJCleanEnergy](https://www.facebook.com/NJCleanEnergy)

THANK YOU



Speakers

Moderator: Mayor Ravinder Bhalla, Hoboken

In order of presentation:

Nancy Quirk, Sustainable Jersey

Nathaly Agosto Filión, City of Newark

Walter Lane, Somerset County

Robert Gregory, Princeton Emergency & Safety Services

Christine Symington, Sustainable Princeton

Kelly Mooij, NJ Board of Public Utilities

