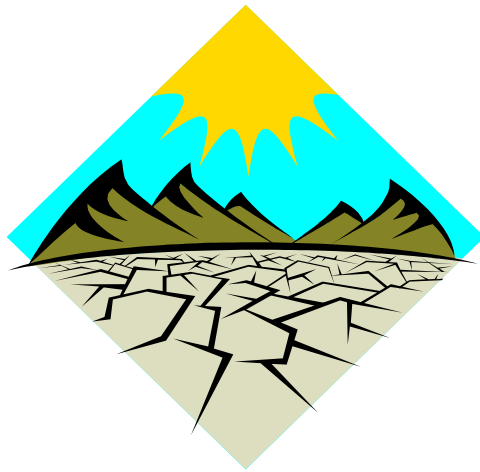


# Appendix C: Utility and Lifeline Meeting Materials

# HAZARD MITIGATION PLAN UPDATE AND “RESILIENT CONNECTICUT 2.0”

## Shaping a New Hazard Mitigation and Climate Adaptation Plan (HMCAP) for the Capitol Region



Local Planning Meeting for  
Windham Water Works  
July 14, 2023

# MEET YOUR PLANNING TEAM



Mary Buchanan, PhD



Nicole Govert, MS



David Murphy, PE, CFM

# AGENDA

- Purpose and Need for Hazard Mitigation Plan
- SCCOG HMCAP Status
- CRCOG HMCAP Hazards
- *Resilient Connecticut*
- View Flood and Heat Vulnerabilities in Mansfield
- Open Discussion
- Next Steps



Summer 2021 Damage; Photo Courtesy of Town of Manchester

# PURPOSE AND NEED FOR HAZARD MITIGATION PLAN

## Authority

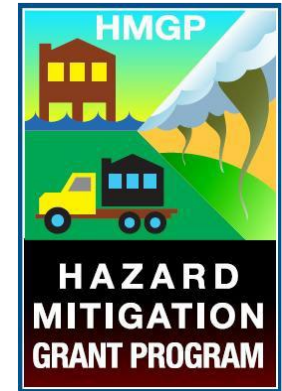
- Disaster Mitigation Act of 2000

## Goal of Disaster Mitigation Act

- Promote hazard mitigation *actions* to *reduce losses*

## Eligibility for Three Primary Hazard Mitigation Assistance (HMA) Grant Programs

- Building Resilient Infrastructure and Communities (BRIC)
- Flood Mitigation Assistance (FMA)
- Hazard Mitigation Grant Program (HMGP)
- Next opportunity for BRIC and FMA grant applications will be fall 2023
- The new DEEP Climate Resilience Fund (DCRF) asks if the application is related to actions in the Hazard Mitigation Plan, demonstrating expanded uses for these plans



**This is the Region's 4<sup>th</sup> Plan**

# PURPOSE AND NEED FOR HAZARD MITIGATION PLAN

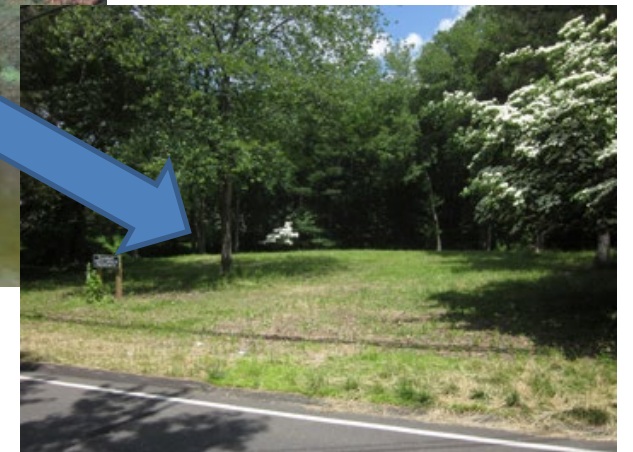
## What is a Natural Hazard?

- An extreme natural event that poses a risk to people, infrastructure, and resources.



## What is Hazard Mitigation?

- Actions we take now that reduce or eliminate long-term risk to people, property, and resources from natural hazards and their effects.



# COMBINING PROGRAMS TO BENEFIT THE REGION

## Hazard Mitigation Plan Update

Through the Hazard Mitigation Plan:

- **engage** with municipalities and tribes to identify concerns and priorities
- **assess** community vulnerabilities and asset
- **identify** opportunities to reduce losses
- **develop** hazard mitigation projects for FEMA funding

## *Resilient Connecticut*

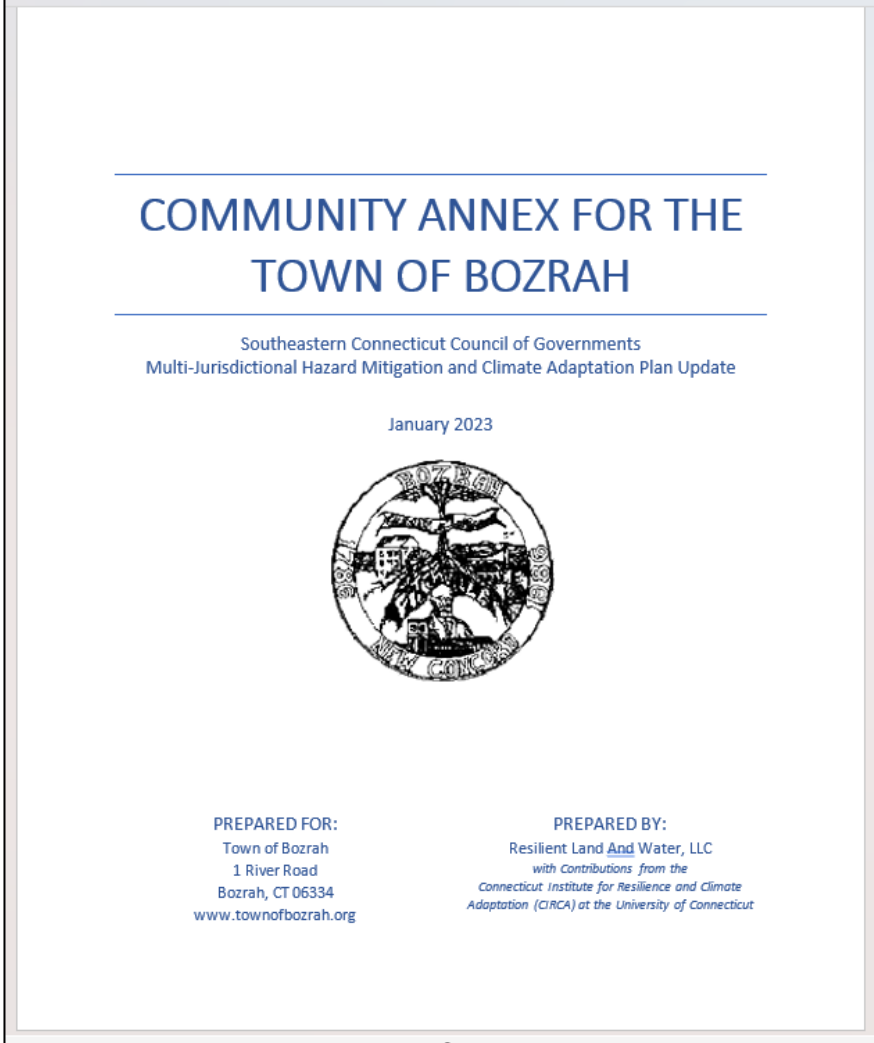
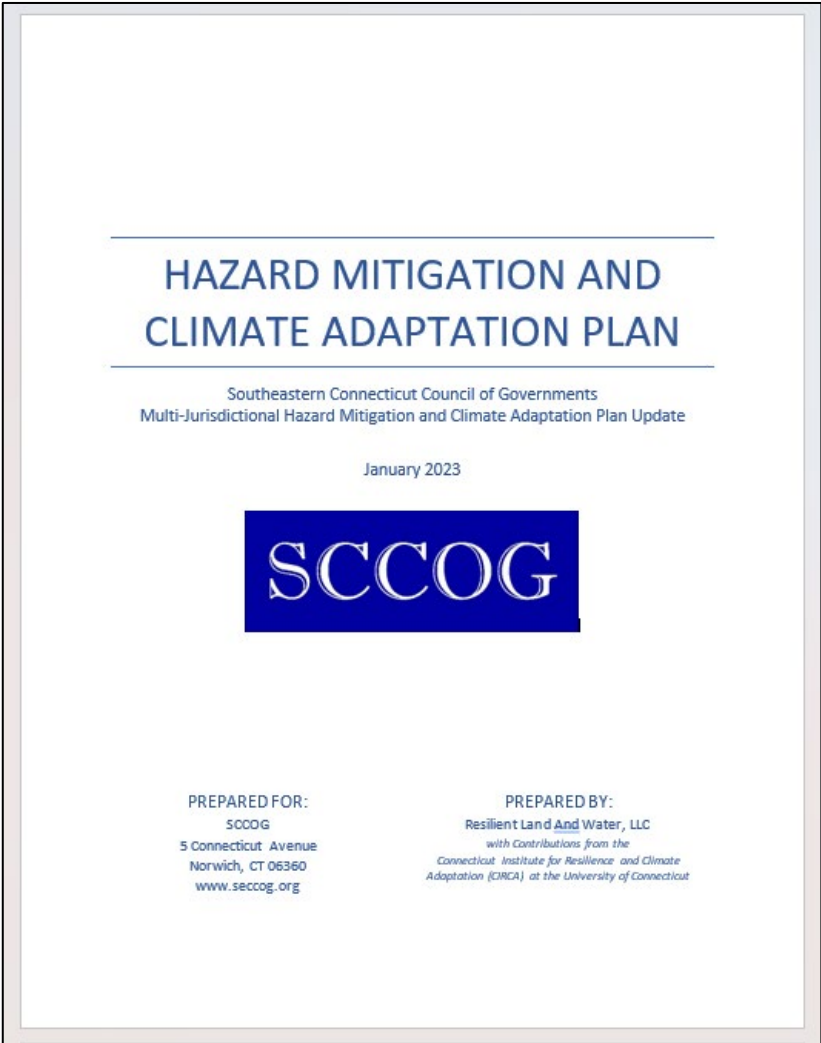
Through *Resilient Connecticut*, CIRCA and its partners:

- **engage** with municipalities and tribes to identify concerns and priorities
- **assess** community vulnerabilities and assets
- **identify** opportunities for increased resilience
- **develop** pilot projects to directly fund

Combined  
Hazard  
Mitigation and  
Climate  
Adaptation  
Plans in two  
Regions  
(CRCOG and  
SCCOG)

# SCCOG HMCAP UPDATE

- These are the documents





# SCCOG HMCAP UPDATE

- These are the actions

The goals are new      The types are the same      Many funding sources are new      PERSISTS criteria are new      STAPLEE criteria are not new

Community	Action Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approximate Cost Range	Potential Funding Sources	Timeframe	Community Priority	PERISTS Criteria										Weighted STAPLEE Criteria										Column1					
										Permittable	Equitable	Realistic	Safe	Innovative	Scientific	Transferable	Sustainable	Total PERISTS Score	Social Benefit	Social Cost	Technical Benefit	Technical Cost	Administrative	Administrative Cost	Political Benefit	Political Cost	Legal Benefit	Legal Cost	Economic Benefit		Economic Cost	Environmental	Environmental Cost	Total STAPLEE Score	
Bozrah	BZ1	Pursue the American Red Cross-certification to make Fields Memorial School the primary shelter and a cooling center, and additional certifications if needed for the back-up shelters which include both Bozrah Moose Lodge 950 (alternate shelter) and the Volunteer Fire Company.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Office of the Chief Elected Official	\$50,000 - \$100,000	Municipal Operating Budget	7/2023 - 6/2025	High	3	3	3	3	0	0	2	2	16	2	0	1	0	0	1	1	1	0	1	0	0	1	0	0	4	64
Bozrah	BZ2	Acquire standby power for Town Hall and Senior Center, especially given their importance as cooling centers; and secure reliable transportation options for people to access these cooling centers.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Office of the Chief Elected Official	\$100,000 - \$500,000	FEMA HMA; Other Preparedness Grants; STEAP	7/2023 - 6/2025	High	3	3	3	3	0	0	2	2	16	2	0	2	0	1	1	1	1	0	1	0	0	1	0	0	6	96
Bozrah	BZ3	Partner with chicken farms and related facilities to develop reliable, drought-resilience water supplies and standby power that is capable of operating cooling equipment.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & Emergency Response	Office of the Chief Elected Official	\$100,000 - \$500,000	USDA/NRCS; STEAP	7/2023 - 6/2026	High	3	2	3	3	1	1	2	2	17	1	0	1	0	1	1	1	1	0	0	0	1	1	2	0	6	102
Bozrah	BZ4	Partner with chicken farms and related facilities to develop emergency response plans that describe how to manage extreme heat events, droughts, power outages, and avian	Address risks associated with extreme heat events, especially as they interact with other hazards.	Preparedness & Emergency Response	Office of the Chief Elected Official	\$0 - \$10,000	USDA/NRCS; SCCOG funds	7/2023 - 6/2026	High	3	2	3	3	1	1	3	2	18	1	0	1	0	1	1	1	1	0	0	0	1	0	2	0	8	144
Bozrah	BZ5	Install a snow fence along areas with snow drift related challenges including along Brush Hill Road and Wawecus Road.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Projects	Public Works	\$10,000 - \$25,000	Municipal CIP Budget	7/2023 - 6/2024	Low	3	2	3	3	0	0	0	3	14	1	0	1	0	1	1	1	1	0	0	0	0	1	0	0	2	28
Bozrah	BZ5	Consider flood mitigation study along Yantic River to characterize risks to properties and Stockhouse Road.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Office of the Chief Elected Official	\$50,000 - \$100,000	FEMA HMA Scoping Study; DEEP Climate Resilience Fund; CIRCA Resilient Connecticut	7/2024 - 6/2025	Low	3	2	3	3	2	2	0	3	18	1	0	1	0	1	1	1	1	0	0	0	1	1	2	0	6	108
Bozrah	BZ7	Partner with CT DEEP's Dam Safety team to deliver a unified message to dam owners that inspections and risk communication are necessary. Target year 1 for working with DEEP and year 2 for the messaging to dam owners. Require floodplain manager and land use staff to take free	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Preparedness & Emergency Response	Emergency Management	\$0 - \$10,000	Municipal Operating Budget	7/2023 - 6/2025	Medium	3	2	2	3	0	0	0	2	12	1	0	1	0	1	1	1	1	0	0	0	0	0	2	0	6	72

# SCCOG HMCAP UPDATE

- These are the funding sources

Acronym or Name	Description
CIRCA MRG	Connecticut Institute for Resilience and Climate Adaptation (CIRCA) Municipal Resilience Grant
CWSRF	Clean Water State Revolving Fund
DEEP Climate Resilience Fund	DEEP Climate Resilience Fund - new for 2022-2023; anticipated for 2023-2024
DWSRF	Drinking Water State Revolving Fund
EPA 319	Environmental Protection Agency (EPA) grants through Section 319 water quality programs
HHMP	Rehabilitation Of High Hazard Potential Dam Grant Program
HMA	Hazard Mitigation Assistance
BRIC	Building Resilient Infrastructure and Communities
FMA	Flood Mitigation Assistance
HMGP	Hazard Mitigation Grant Program
IJA	Infrastructure Investment and Jobs Act
AOP	National Culvert Removal, Replacement, and Restoration Grants (Culvert AOP Program)
BIP	Bridge Investment Program
BBFP	Buses and Bus Facilities Program
RFPBR	Restoring Fish Passage through Barrier Removal Grants - may have been 2022 only
SLCGP	State and Local Cybersecurity Grant Program
LISFF	Long Island Sound Futures Fund
LOTICIP	Local Transportation Capital Improvement Program
Municipal CIP Budget	Municipal Capital Improvement Program or equivalent local program
Municipal Operating Budget	Staff time or operational budgets
NOAA/NFWF	National Oceanic and Atmospheric Administration (NOAA) grants administered by the National Fish and Wildlife Foundation
NPU	Norwich Public Utilities
Save the Sound	Save the Sound is a resource for partnering to seek grant funds; Save the Sound also has some funding available
seCTer	Southeastern Connecticut Enterprise Region
SHPO	State Historic Preservation Office
STEAP	Small Town Economic Assistance Program
Transit District	The local transit district (this can vary from community to community, such as Southeast or Windham Region)
USDA/NRCS	U.S. Department of Agriculture Natural Resources Conservation Service
WWW	Windham Water Works

# SCCOG HMCAP UPDATE

- These are new summary sheets

## Climate Change Summary Sheet for Town of Bozrah

What are the Town's Top Climate Change Concerns?

**Flooding:** The Yantic River flows through the town and poses risk to Stockhouse Road. Trading Cove Brook in the southeastern corner of the town is also a concern. The Town is concerned with dam conditions throughout Bozrah.

**Extreme Heat:** The Town has increasing concerns about the effects of extreme heat events on chicken and other agricultural and livestock operations. Avian flu and other health-related cascading impacts of extreme heat events.

**Others:** The Town wishes to address remaining needs related to critical facilities that are needed to help address impacts of climate change.

Which Hazard Mitigation and Climate Adaptation Actions Will Address Climate Change Concerns?

**Flooding:** Partner with CT DEEP's Dam Safety team to deliver a unified message to dam owners that inspections and risk communication are necessary. Target year 1 for working with DEEP and year 2 for the messaging to dam owners.

**Extreme Heat:** Partner with chicken farms and other facilities to develop reliable, drought-resilience water supplies and standby power that is capable of operating cooling equipment.

**Others:** Pursue American Red Cross certification to make Fields Memorial School the primary shelter and a cooling center, and additional certifications for the back-up shelters which include both Bozrah Moose Lodge 950 (alternate shelter) and the Volunteer Fire Company.

## Climate Change Summary Sheet for Town of Windham

What are the Town's Top Climate Change Concerns?

**Flooding:** The wastewater treatment plant (WWTP) and a sewer pumping station are at risk of future riverine flooding which is projected to continue or worsen even with an upstream flood control dam in place.

**Extreme Heat:** The Town has a large socially vulnerable population that cannot be without access to viable cooling centers. The Town Hall and Senior Center, which are cooling centers, need standby power such as generators.

**Others:** The Town's water utility, Windham Water Works, has a complex set of climate change challenges related to sedimentation, water quality, the reservoir dam, and power redundancies.

Which Hazard Mitigation and Climate Adaptation Actions Will Address Climate Change Concerns?

**Flooding:** Compare elevations of WWTP assets and the pumping station to the base flood elevations associated with the Natchaug River and Willimantic River plus applicable freeboard (likely two feet); and determine if funds should be set aside for resiliency projects.

**Extreme Heat:** Acquire generators for the Town Hall and the Community Center/Rec Center/Senior Center. Ensure that cooling centers are accessible using transit or alternate transportation options.

**Others:** Execute the FEMA BRIC Scoping Grant for Windham Water Works and determine appropriate next steps for climate resiliency strategies, whether related to sediment removal, dam and intake modifications, or other needs.

# HAZARD PROFILES FOR CRCOG HMCAP

## Organization in your current plan:

- Hurricanes and Tropical Storms
- Riverine and Pluvial Floods
- Dam Failure
- Severe Winter Storms
- Tornadoes and High Winds
- Earthquakes
- Droughts
- Wildfires



# HAZARD PROFILES FOR CRCOG HMCAP

## Change to organization by climate driver

### ➤ Extreme and Severe Storms

- Hurricanes and Tropical Storms
- Tornadoes and High Winds
- Severe Winter Storms



### ➤ Sea Level Rise

- Tidal Connecticut River Flooding

### ➤ Changing Precipitation Patterns

- Riverine and Pluvial Floods
- Droughts
- Dam Failure

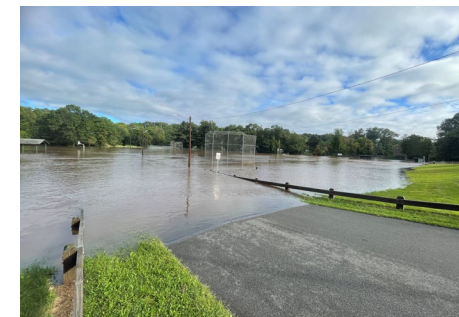


### ➤ Rising Temperature

- Extreme Heat
- Wildfires

### ➤ Earthquakes

- Not affected, but addressed in the plan as always



# RESILIENT CONNECTICUT

**Resilient Connecticut 1.0** was funded by the National Disaster Resilience Competition and focused on regional resilience and adaptation planning for flooding and extreme heat in Fairfield and New Haven Counties.

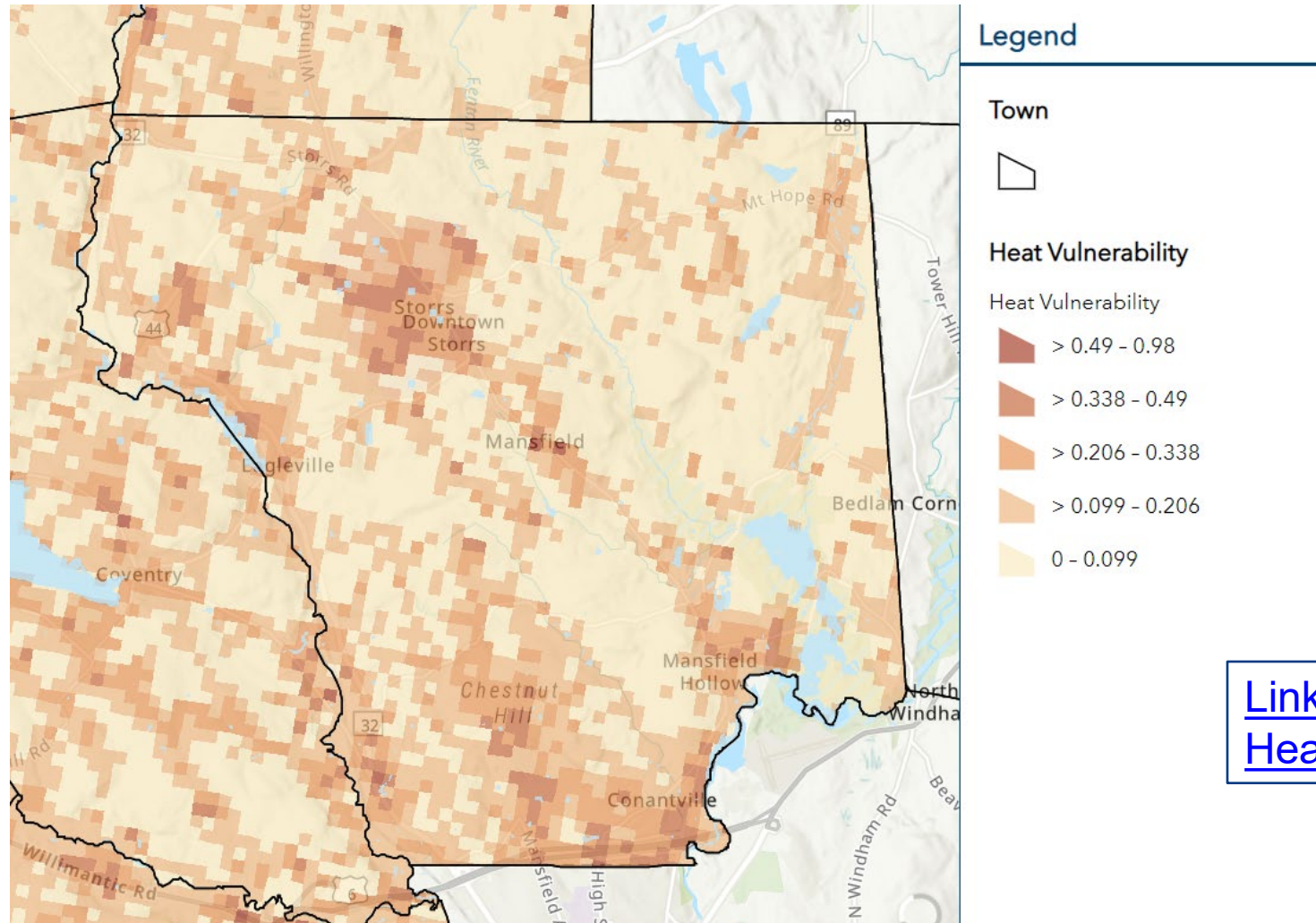
- Emphasized transit-oriented development, affordable housing, critical infrastructure, and regional assets.
- Developed Social Vulnerability Index (SVI), Climate Change Vulnerability Index (CCVI), Zones of Shared Risks (ZSR), and Resilience Opportunity Areas (ROARs)

**Resilient Connecticut 2.0** extends this effort using State funds.

- Increases flexibility to address the climate concerns unique to other regions.
- CRCOG is a partner in the deployment of the program in north-central Connecticut



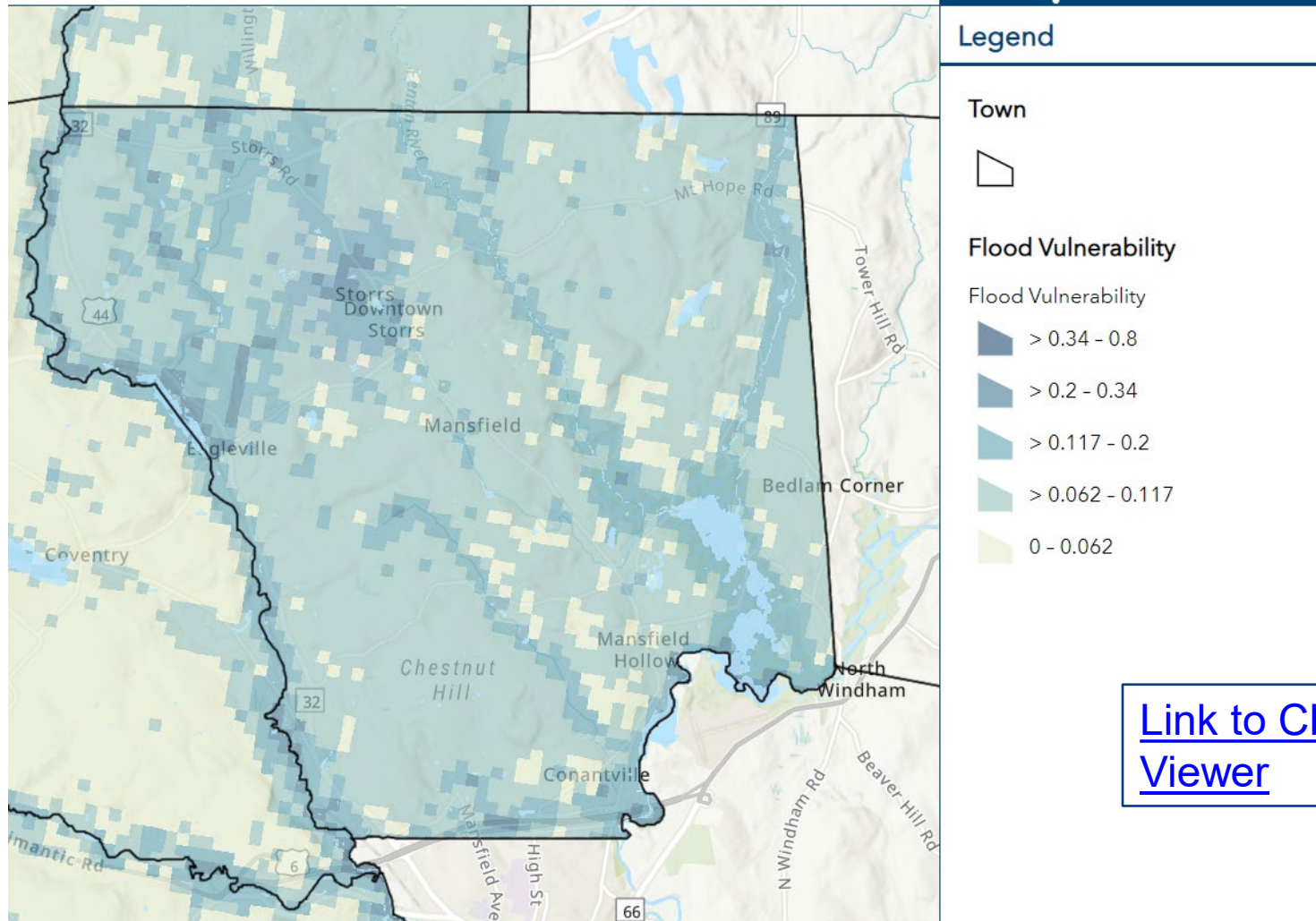
# VIEW OF THE EXTREME HEAT CCVI



[Link to CRCOG CCVI Heat Viewer](#)

$$\text{Vulnerability} = \frac{\text{Sensitivity} \times \text{Exposure}}{\text{Adaptive Capacity}}$$

# VIEW OF THE FLOOD CCVI



$$\text{Vulnerability} = \frac{\text{Sensitivity} \times \text{Exposure}}{\text{Adaptive Capacity}}$$



# OPEN DISCUSSION

- Where do you see intersections of community assets and **flood-related challenges?**
- Where do you see intersections of community assets and **extreme heat-related challenges?**
- Do you see examples of unique climate driver typologies and challenges? Examples could include:
  - Clusters of critical facilities with shared needs
  - Vulnerable populations at risk in southern Mansfield
  - Development and redevelopment pressures in southern Mansfield
  - Water system infrastructure
  - Challenges in the Fenton/Mount Hope/Natchaug River watershed

# WRAP-UP AND NEXT STEPS

- Designate someone to be the primary contact for coordination and meetings
- July 24 workshop to review loss estimates, vulnerabilities, and risks in the Capitol Region
- Periodic updates related to the FEMA BRIC grant

# CONTACT INFORMATION

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David Murphy, PE, CFM

- [david.2.murphy@uconn.edu](mailto:david.2.murphy@uconn.edu)

Mary Buchanan, PhD

- [mary.buchanan@uconn.edu](mailto:mary.buchanan@uconn.edu)

Nicole Govert, MS

- [nicole.govert@uconn.edu](mailto:nicole.govert@uconn.edu)



## CRCOG Hazard Mitigation and Climate Adaptation Plan

### Meeting with Windham Water Works and CIRCA

Date: July 14, 2023

Time: 9 am

Location: Remote

Present from CIRCA: David Murphy, Nicole Govert, Mary Buchanan

Present from Windham Water Works: Michael, Christian

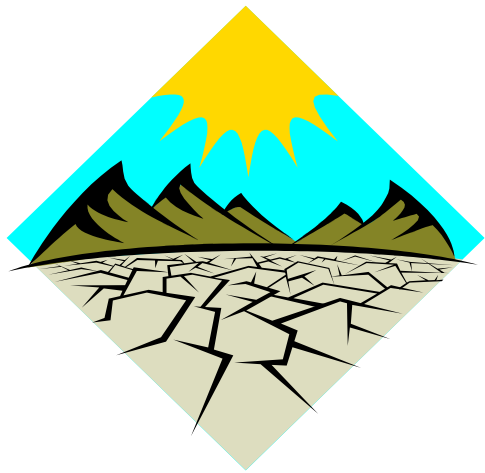
David presented an update on the SCCOG HMCAP and an overview of the CRCOG HMCAP plan and asked whether WWW had concerns related to their service area in Mansfield that should be reflected in the CRCOG plan.

- Windham Water Works staff asked whether hydropower could be a resiliency strategy. David said yes, WWW should not be boxed into only flood or heat categories of resiliency.
- Northeast Aquatic came in to do a study of the WWW reservoir. UConn did a study of this reservoir and Mansfield Hollow about 20 years ago. The updated study showed that the reservoir has filled in about 20% and also has more invasive plants. Mansfield Hollow also has invasive plants.
  - WWW will send CIRCA this report.
- David asked whether WWW wanted to work with CIRCA and Mansfield at the same time. WWW staff said there probably isn't a need for this (WWW will be "doing our own thing" with their FEMA grant), but it would be helpful if Mansfield staff were aware of their challenges with the reservoir and the FEMA grant that WWW has to do work there.
- WWW has concerns about the Kirby Mill and a few other old mills that were along the river in Mansfield. WWW is concerned that if they start doing dredging, they might find things in the sediment left over from these old mills. The question of what is in the sediment is definitely a question that will require further attention.
- WWW will be choosing this month which firm will be doing the work for them for the FEMA grant.
  - David said CIRCA will check in with WWW in a few months in case there are any early recommendations to include in the Mansfield section of the plan.

Michael and Christian will continue to be the contacts for WWW.

# HAZARD MITIGATION PLAN UPDATE AND “RESILIENT CONNECTICUT 2.0”

## Shaping a New Hazard Mitigation and Climate Adaptation Plan (HMCAP) for the Capitol Region



Local Planning Meeting for  
The Metropolitan District  
September 13, 2023

# AGENDA

- Purpose and Need for Hazard Mitigation Plan
- Why Expand the Hazard Mitigation Plan?
- What is *Resilient Connecticut*?
- Why are we Meeting with MDC?
  1. Accurate Accounting of Lifelines and Critical Facilities
  2. FEMA Grants
  3. Respond to 2019 HMP
  4. Dams
  5. FEMA Policy Guidance
- Open Discussion
- Next Steps



Summer 2021 Damage; Photo Courtesy of Town of Manchester

# PURPOSE AND NEED FOR HAZARD MITIGATION PLAN

## Authority

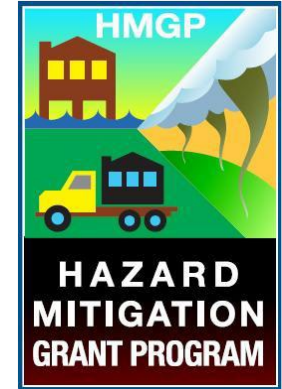
- Disaster Mitigation Act of 2000

## Goal of Disaster Mitigation Act

- Promote hazard mitigation *actions* to *reduce losses*

## Eligibility for Hazard Mitigation Assistance (HMA) Grant Programs

- **Building Resilient Infrastructure and Communities (BRIC)**
- **Flood Mitigation Assistance (FMA)**
- **Hazard Mitigation Grant Program (HMGP)**
- Next opportunity for BRIC and FMA grant applications will be fall 2023
- *The new DEEP Climate Resilience Fund (DCRF) asks if the application is related to actions in the Hazard Mitigation Plan*



**This is the Region's 4<sup>th</sup> Plan**

# PURPOSE AND NEED FOR HAZARD MITIGATION PLAN

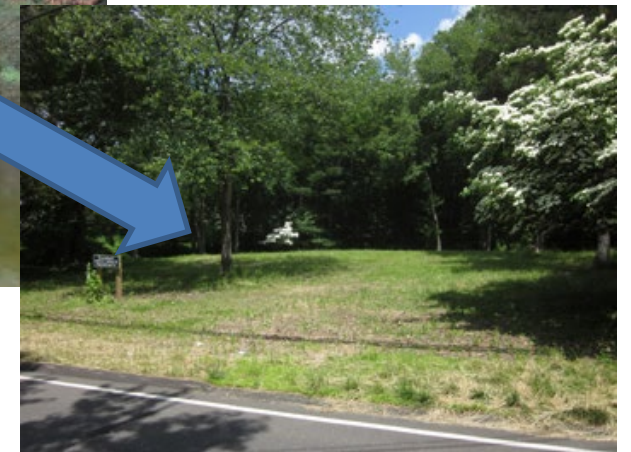
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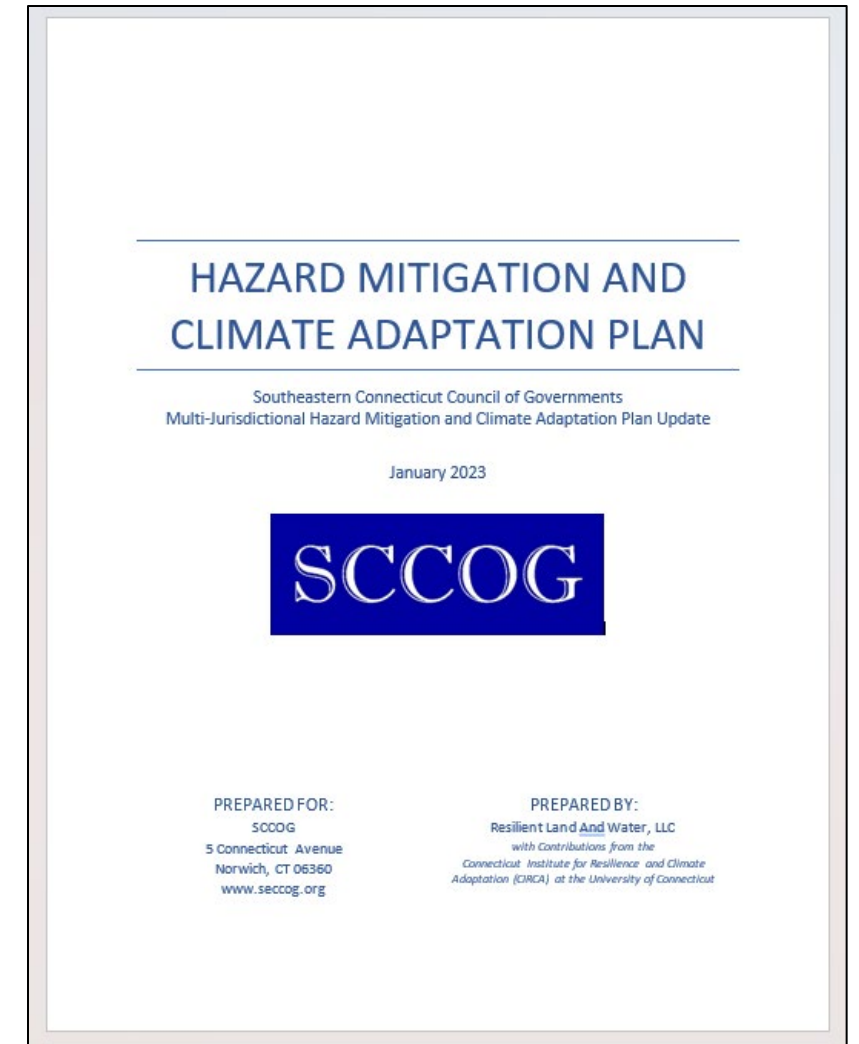
# WHAT IS A CLIMATE ADAPTATION PLAN?

## Climate Adaptation

- Adjusting social, ecological, infrastructural, or economic systems to respond to, and manage, risks from climate change

## Climate Adaptation Plan (CAP)

- A plan that sets policy and actions for adapting to the effects of climate change
- Southeastern CT HMCAP is first in State
- Not the same as a “climate action plan,” which describes reducing carbon emissions



# WHAT IS A CLIMATE ADAPTATION PLAN?

## Change hazards to organization by climate driver

### ➤ Extreme and Severe Storms

- Hurricanes and Tropical Storms
- Tornadoes and High Winds
- Severe Winter Storms

### ➤ Sea Level Rise

- Tidal Connecticut River Flooding

### ➤ Changing Precipitation Patterns

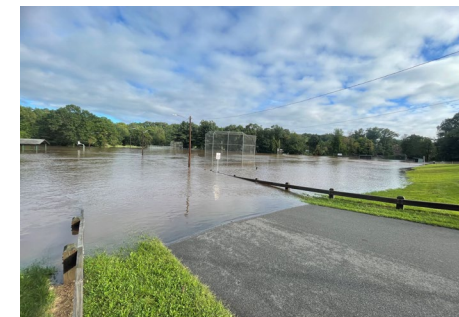
- Riverine and Pluvial Floods
- Droughts
- Dam Failure

### ➤ Rising Temperature

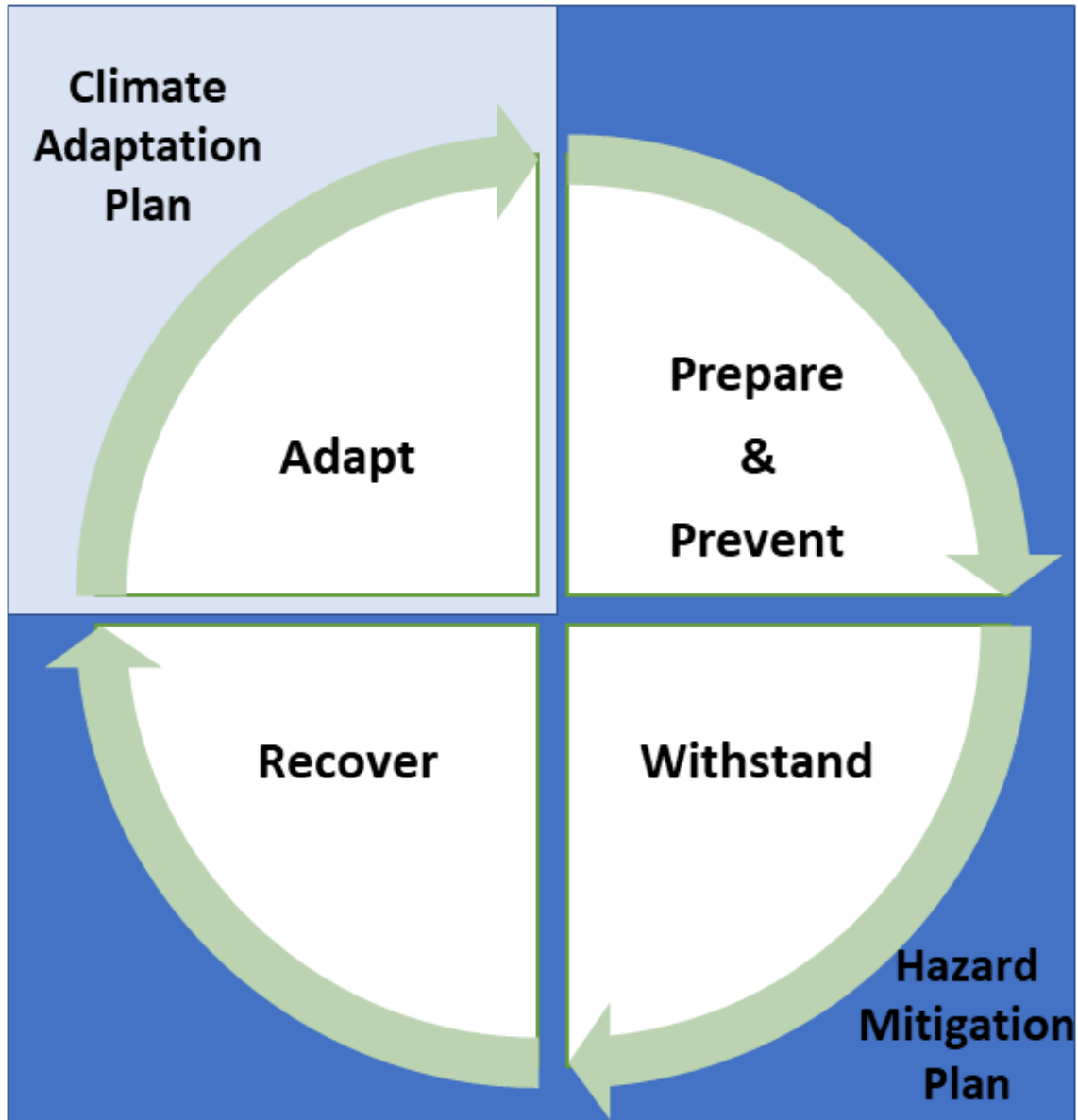
- Extreme Heat
- Wildfires

### ➤ Earthquakes

- Not affected, but addressed in the plan as always



# WHY EXPAND THE HAZARD MITIGATION PLAN?



1. This is the 4<sup>th</sup> Hazard Mitigation Plan and it's time for a refresh
2. This will be the second HMCAP in the State, and will align with the goals of the Governor's Office for Climate Change
3. The HMCAP will more ideally position you for new funding sources like BRIC and the DEEP Climate Resilience Fund
4. The HMCAP will more effectively incorporate CIRCA's *Resilient Connecticut* program

# WHAT IS *RESILIENT CONNECTICUT*?

***Resilient Connecticut 1.0*** was funded by the National Disaster Resilience Competition and focused on regional resilience and adaptation planning for flooding and extreme heat in Fairfield and New Haven Counties.

- Emphasized transit-oriented development, affordable housing, critical infrastructure, and regional assets.
- Developed Social Vulnerability Index (SVI), Climate Change Vulnerability Index (CCVI), Zones of Shared Risks (ZSR), and Resilience Opportunity Areas (ROARs)

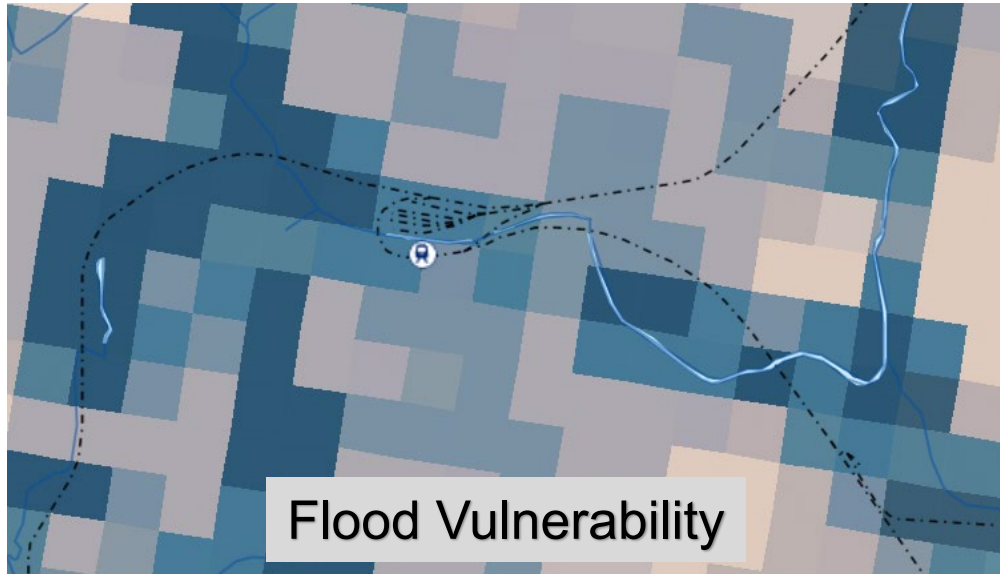
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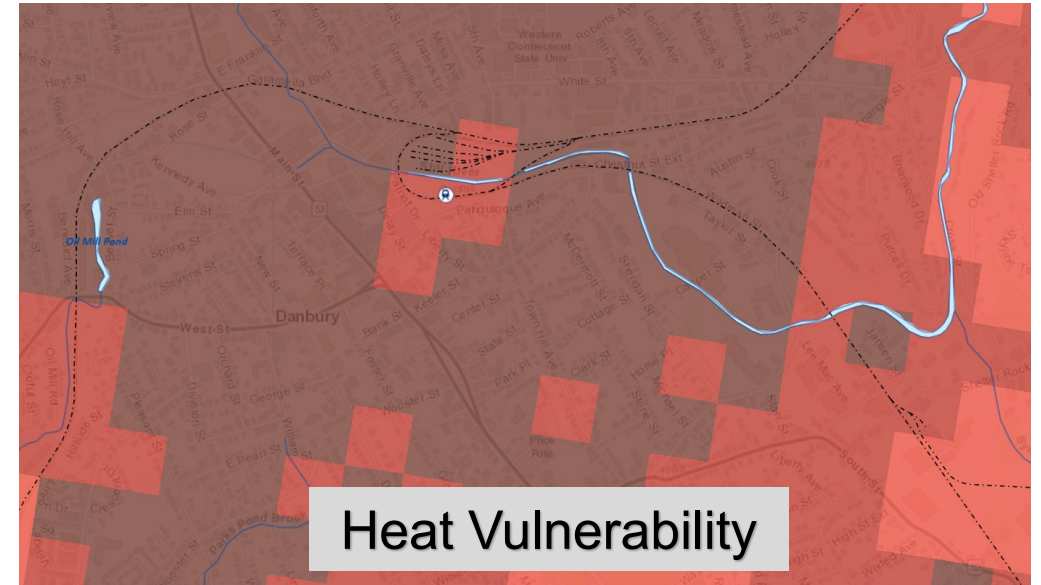


# RESILIENT CONNECTICUT 1.0

- A Climate Change Vulnerability Index (CCVI) was developed in the pilot area



Flooding can be coastal, riverine, or pluvial (heavy rain)



Considers where extreme heat is more likely as well as inability to seek respite

$$\text{Vulnerability} = \frac{\text{Sensitivity X Exposure}}{\text{Adaptive Capacity}}$$

# RESILIENT CONNECTICUT 1.0

- Climate Challenges were Recognized as Opportunities to Address Unmet Needs

## Resilient Connecticut Phase II

### Regional Adaptation/Resilience Opportunity Areas

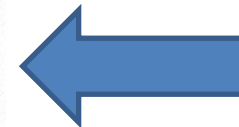
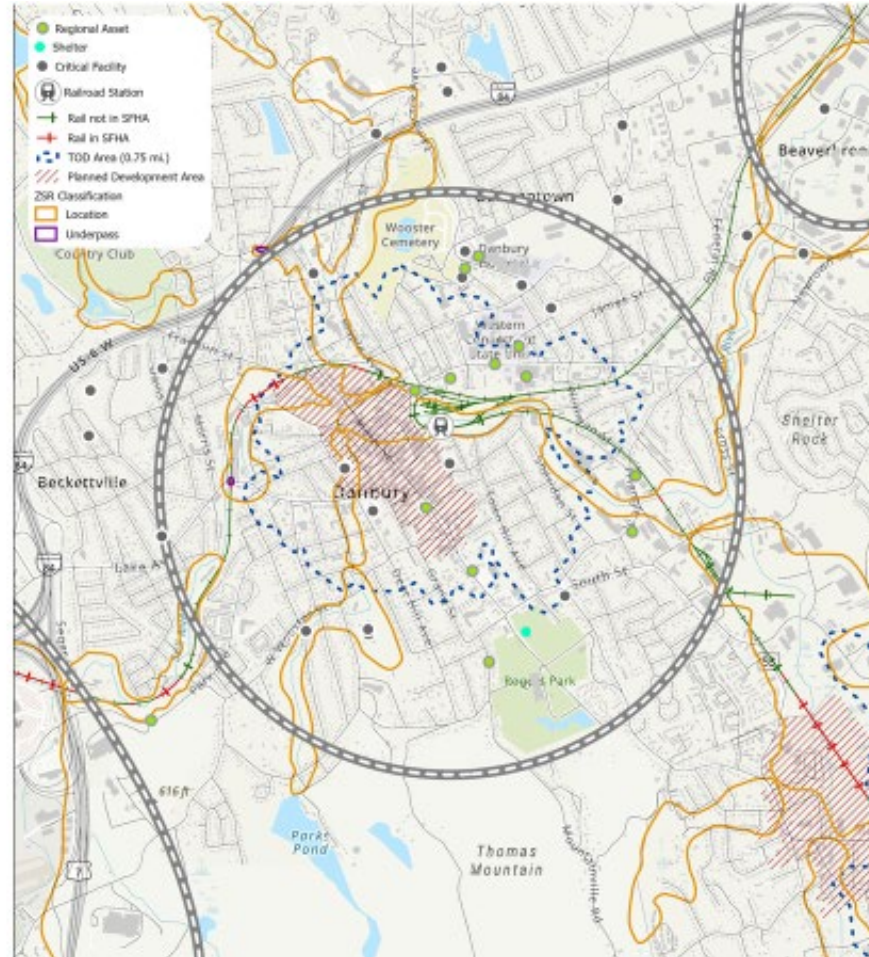
Name: Downtown Danbury

Location: Danbury

Considerations	Characteristics of Area
Flood Vulnerability	●●●●●●●●
Heat Vulnerability	●●●●●●●○
Social Vulnerability	●●●●●●●●

The center of Danbury is characterized by zones of shared risk associated with the confluence of Padanarum Brook, Kohanza Brook, and the Still River. Despite many flood risk reduction projects undertaken over decades, TOD and planned development areas are located in close proximity to – or within – these zones of shared risk. Numerous critical facilities, historic resources, and the terminus of the MetroNorth Danbury line are also located in the area. Downtown Danbury is a regional center for northern WestCOG. Almost all of the downtown area is moderately vulnerable to heat, with the highest vulnerable area concentrate along route 53 commercial properties. Presenting few opportunities for shade or street trees, the area has high heat emittance. In addition, there is high social sensitivity throughout the area.

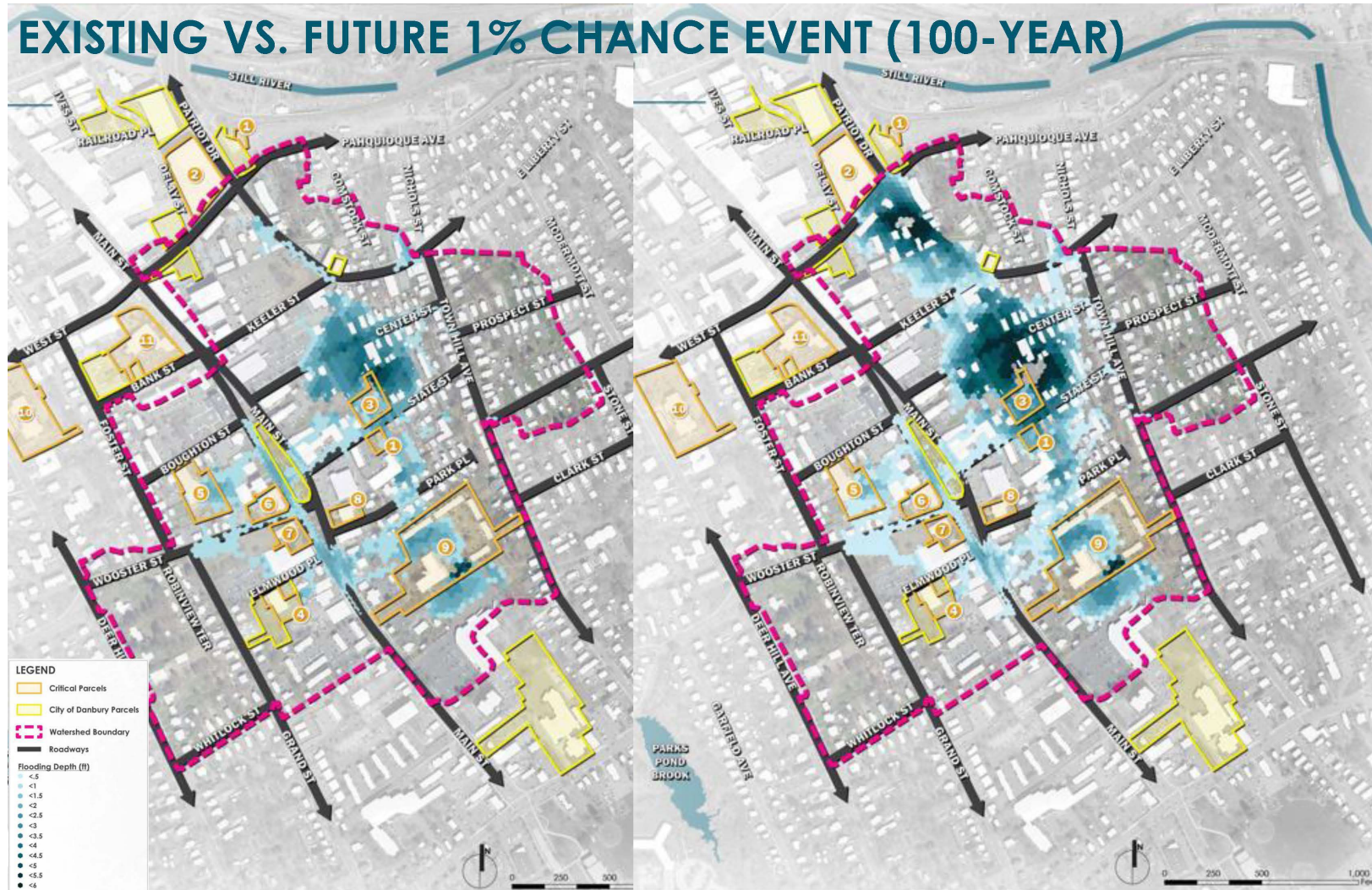
- |                                  |                            |
|----------------------------------|----------------------------|
| City Hall                        | Assisted living facilities |
| Fire headquarters                | War Memorial               |
| Hose Co. 5, 6, 7, and 9          | Substation                 |
| Danbury Hospital                 | Power plant                |
| Danbury Health and Housing Dept. | Museums                    |
| Western CT State College Police  |                            |



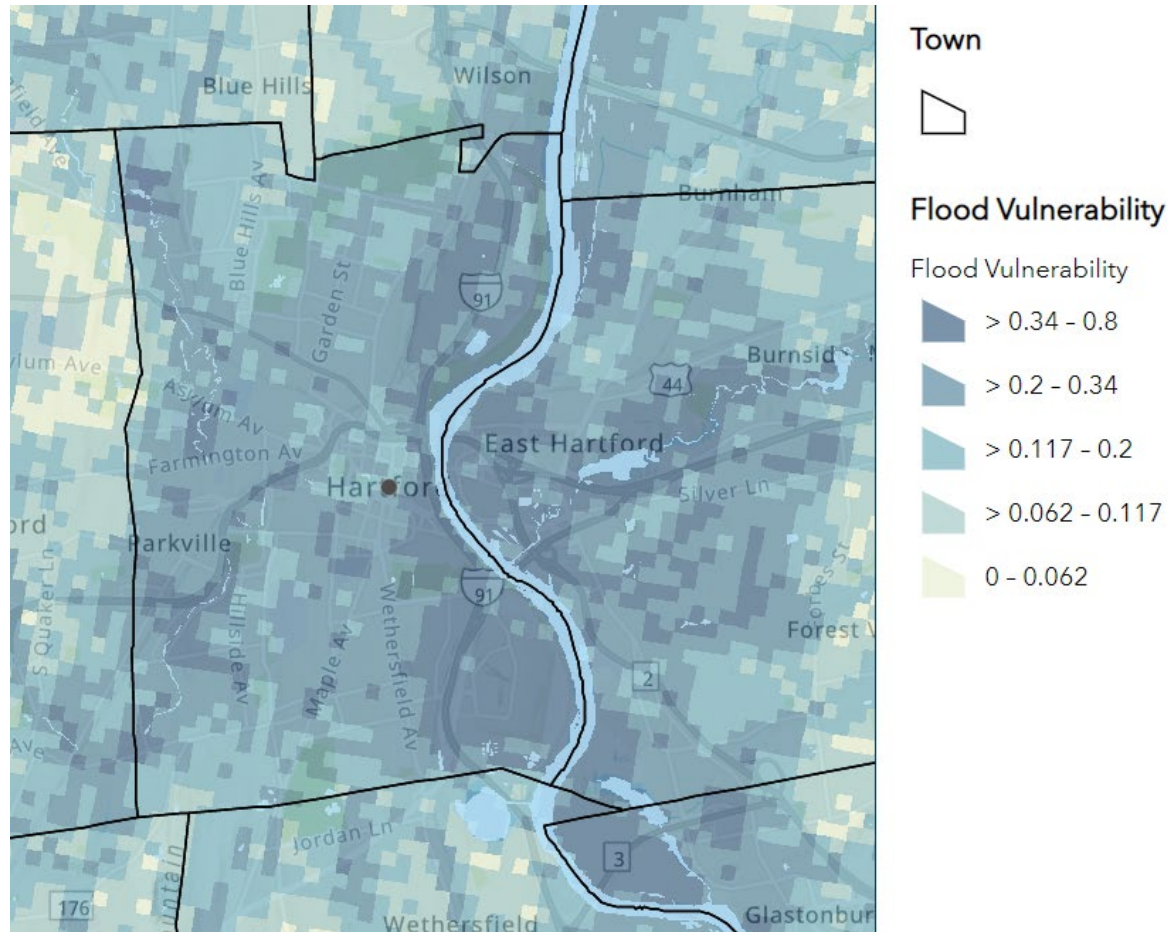
- Overlapping
  - Social vulnerability
  - Flood vulnerability
  - Heat vulnerability
  - Regional assets
  - Infrastructure
  - Critical facilities
  - Historic resources
  - TOD potential

# RESILIENT CONNECTICUT 1.0

- Some of These Opportunity Areas are Proceeding to Studies and Concept Designs



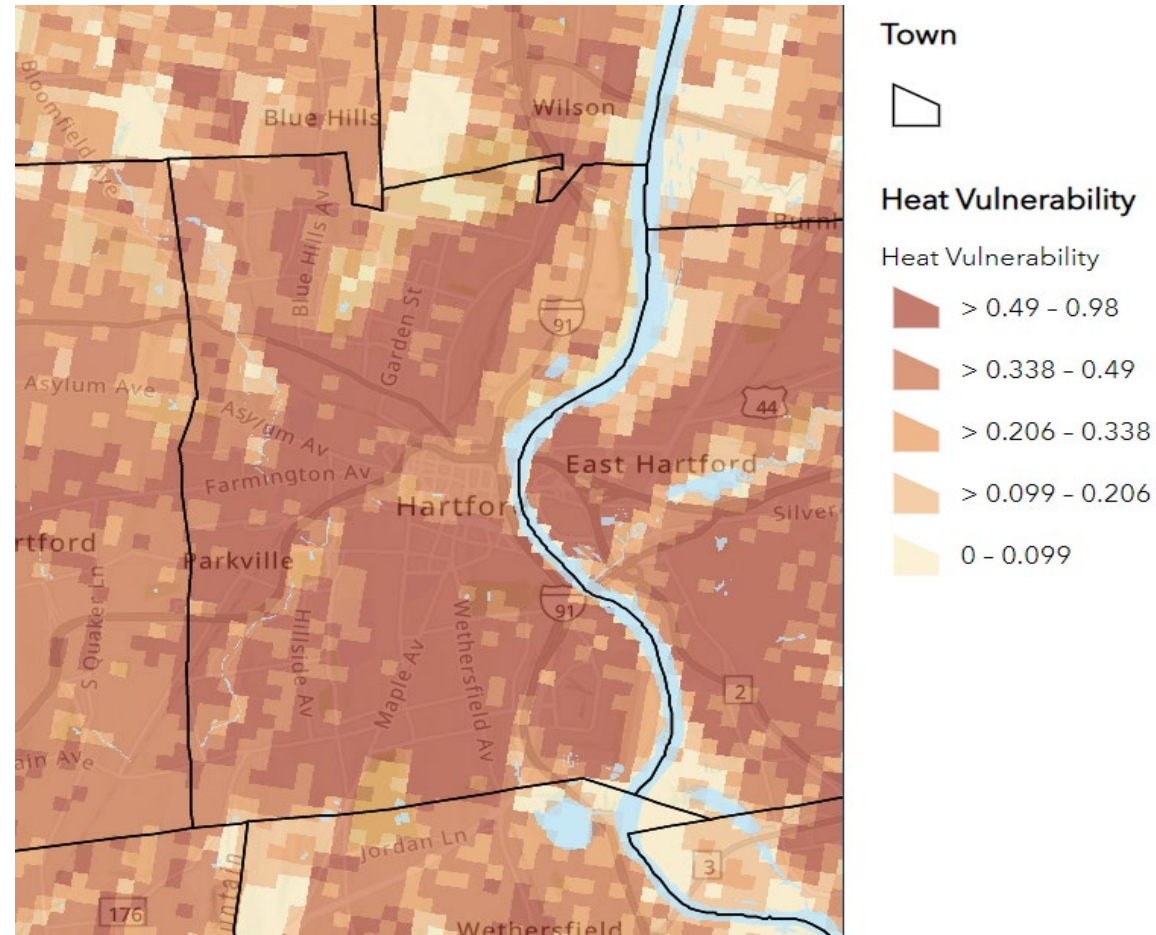
# RESILIENT CONNECTICUT 2.0: FLOOD CCVI



$$\text{Vulnerability} = \frac{\text{Sensitivity} \times \text{Exposure}}{\text{Adaptive Capacity}}$$



# RESILIENT CONNECTICUT 2.0: EXTREME HEAT CCVI



$$\text{Vulnerability} = \frac{\text{Sensitivity} \times \text{Exposure}}{\text{Adaptive Capacity}}$$

# WHY ARE WE MEETING WITH MDC?

## 1. Accurate Accounting of Lifelines and Critical Facilities

- FEMA BRIC applications ask the question “Which Lifelines will Benefit?”
- This include water and wastewater



A lifeline enables the continuous operation of **critical government** and **business functions** and is essential to **human health** and **safety** or **economic security**.

# WHY ARE WE MEETING WITH MDC?

## 2. FEMA Grants Have Benefited Utilities

- GHNWPCA – pumping station floodproofing in East Haven; **this necessitated that East Haven list the pumping stations in the hazard mitigation plan**
- Deerfield, MA – riverbank stabilization to protect sewer
- Buckland, MA – stream crossing culvert replacement to protect sewer exposed beneath



# WHY ARE WE MEETING WITH MDC?

## 3. Respond to Actions in the 2019 Edition of this Hazard Mitigation Plan

Community	Action or Strategy Number	Mitigation Actions and Strategies for CROG Communities	Regionalized Municipal Goal	FEMA Strategy Category	Status	Relevance to Climate Resilience and Adaptation
Wethersfield	1	Identify strategies for making expansion of capacity for public works trucks and equipment storage more achievable.	7. Improve the emergency response capabilities of the region and its communities	Preparedness & Emergency Response		Low
Wethersfield	2	Identify strategies for making replacement or enlargement of sand/salt storage facility more achievable. Track damages to sand/salt storage facility so that a BCA can be completed.	7. Improve the emergency response capabilities of the region and its communities	Preparedness & Emergency Response		Low
Wethersfield	3	Develop a long-range plan for expansion of the Public Works building capacity and relocation outside of flood zone.	1. Minimize the impact of natural hazards on physical buildings and infrastructure	Property Protection		Hi+A1:F3gh
Wethersfield	11	Work with MDC to identify potential hazard mitigation actions for MDC facilities, and list those actions in the next HMP Update.	5. Improve the resilience of local and regional utilities and infrastructure using strategies including adaptation, hardening, and creating redundancies.	Property Protection		Medium

# WHY ARE WE MEETING WITH MDC?

## 4. Dams

- The Farmington River towns have persistent concerns about management of upstream dams before, during, and after floods
- Ongoing coordination seems to be desired (drills, tabletop exercises, etc.)



# WHY ARE WE MEETING WITH MDC?

## 5. FEMA Policy Guidance

- *A2-a. The plan must provide documentation of an opportunity for stakeholders to be involved in the current planning process. Documentation of this opportunity must identify how each of the following types of stakeholders were presented with this opportunity, as applicable....  
Representatives of businesses, academia, and other private organizations... Examples include private utilities or major employers that sustain community lifelines.*



## Local Mitigation Planning Policy Guide

FP 206-21-0002

Released April 19, 2022, Effective April 19, 2023

OMB Collection #1660-0062



FEMA

# OPEN DISCUSSION

# WRAP-UP AND NEXT STEPS

- Designate someone to be the primary contact for coordination
- Provide information and ideas requested today:
  - Lists of critical facilities to include in the municipal annex documents
  - Any potential hazard mitigation and climate adaptation actions for the plan
  - Ideas for *Resilient Connecticut* projects



## MDC Meeting

9/13/2023

1 pm, MDC Headquarters, Hartford CT

CRCOG and its contractor (CIRCA) attended a meeting with the Metropolitan District to discuss the update of the hazard mitigation plan for the Capitol Region (the Capitol Region Hazard Mitigation and Climate Adaptation Plan, or HMCAP). District staff at the meeting represented Facilities (since they manage the treatment plants and pump stations), Engineering (due to the North Hartford sewer work starting now to address recent flooding), and Operations (since they implement the flood control plan on the sewer system, closing gates, etc.; and they have knowledge of locations where flooding has placed sewer/water mains at risk of washouts).

### Attendees included:

- Maureen Goulet, Principal Program Manager, CRCOG
- Chris Levesque, COO
- Tom Tyler, Director of Facilities
- Mike Zabilansky, Manager of Facilities
- Susan Negrelli, Director of Engineering
- Michael Curley, Manager of Engineering
- Jason Waterbury, Assistant Manager of Engineering
- David Rutty, Director of Operations
- David Banker, \_\_\_\_\_
- David Murphy, Director of Resilience Engineering, CIRCA
- Mary Buchanan, Community Resilience Planner, CIRCA

### Background Information:

- David Murphy provided general overview of HMP process and the shift to the HMCAP to align with grant programs and *Resilient Connecticut*.
- David Murphy explained why we are meeting with MDC specifically.
  - Accurate accounting for community lifelines to FEMA
  - FEMA grants have benefited utilities (MDC is likely not eligible to apply [although has received funds from DEMHS before, so maybe this is uncertain], but the MDC towns are, and could apply for grants that involve MDC facilities)
  - Respond to actions in the 2019 edition of the HMP – the action in question calls for working with MDC to list MDC facilities in each town and any specific mitigation actions
  - Concerns about dams upstream of the Farmington River communities
  - FEMA policy guidance – must document opportunities for stakeholders, including “utilities and major employers”

#### Questions/Comments/Discussion Topics:

1. Attendees believe that some flood-related mitigation activities could be done by the City of Hartford that would support MDC's needs and objectives:
  - Maintenance of stormwater pump stations, as well as modernizing some of them
  - Flood control system maintenance and improvements
  
2. Attendees asked if a FEMA grant program could be used to address impediments along and within the North Branch of the Park River:
  - South Branch of Park River is reportedly well-maintained, but the North Branch is reportedly not, and is overwhelmed by vegetation and log jams.
  - Channelization of segments, armored banks, bank erosion, and other problems exacerbate flooding, which then causes challenges for MDC infrastructure. Blockages present challenges for drainage, especially near the CSO regulators.
    - Maureen noted that the North Branch has a study underway as well.
  
3. Attendees noted some bridge and culvert crossings near water mains and sewer mains (concern is that these are undersized and could fail):
  - School street in Bloomfield
  - Some in East Hartford
  - Some DOT culverts along 84
  - Rocky Hill
  - Glastonbury
  - David asked MDC to provide a list of these sites so that we can include them in the individual town annexes – they say they will do this.
  
4. Attendees asked whether FEMA grants can be used to fix infrastructure before it fails.
  - David Murphy explained that public assistance reimbursement can help after disasters for in-kind replacements, whereas the HMA grants are for putting back better than what was there.
  - David Murphy noted that deferred maintenance is not covered by FEMA grants, but upsizing a culvert or facility may not be considered deferred maintenance.
    - MDC representatives say that Hartford's stormwater pumping stations have reportedly suffered from deferred maintenance for decades.
      - David Murphy noted that Stamford just got a BRIC grant for a pumping station according to the recent award press release, so it's possible FEMA is beginning to shift on this to be more flexible.
  
5. Attendees asked if the plan a public document, as there are some security concerns about sharing information about infrastructure locations.
  - David Murphy noted that we don't have to map anything or list addresses, and instead can just stick to general lists (ex: six pumping stations in Bloomfield). MDC representatives seem to agree that this level of detail would not be a security concern.

6. Additional discussion occurred about what FEMA grants can be used for.
  - MDC has reportedly invested a in infrastructure maintenance over the years, does not have any major concerns about something falling apart or lacking power.
  - Nevertheless, although the facilities that MDC controls are reportedly in good shape, improvements can always be made.
  - Of the approximate 100 pump stations, most have generators.
7. Levee penetrations could affect Hartford and East Hartford – this involves the Army Corps of Engineers.
  - MDC has to do the inspections/monitoring. Once these are properly abandoned, they no longer need to be monitored.
  - There are a few more than MDC would like to possibly abandon in the future.
  - Unclear how funding would work here – MDC has gotten funds from DEMHS before so maybe could be eligible for FEMA?
8. Attendees asked if or how MDC would have to coordinate with the towns about projects?
  - If FEMA funds were ever received for a project involving an MDC facility, the town would be the likely recipient of the FEMA funds, and there would likely have to be an MOU or something similar, but this would be far down the road.
  - David Murphy used residential home elevations as a similar example for how the property owner does not directly receive FEMA funds.
9. Attendees inquired about whether FEMA funds are for construction only, or more project phases.
  - Final design can be funded
  - Study phases typically are not funded.
10. Attendees explained that the large parts of the MDC systems rely on flood control systems to operate properly under high river conditions; and the last time anyone undertook a comprehensive drainage study in the city was the 1960s.
  - David Murphy noted that a city-wide drainage study would be a reasonable candidate for a DCRF project.
  - He additionally noted that there may be a current DCRF award for a city-wide desktop analysis to look for focus areas, and promised to check on the status.
  - He then explained that the DCRF application asks whether potential projects are listed in hazard mitigation plans.
11. MDC provided DEEP with a list of wastewater pumping stations a few months ago. Attendees discussed whether this could be related to DCRF or other funding sources.

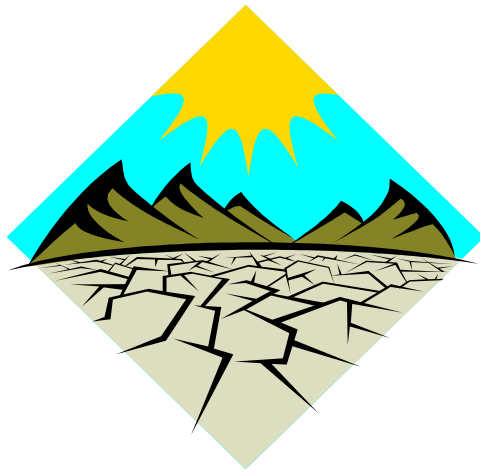
Follow-Up:

- David Banker will be the primary contact.
- MDC will provide the following:

- List of water and sewer pump stations in each MDC town, identified by town, with no address or map needed
  - CIRCA already has wastewater treatment plants in the critical facilities layer
- The MDC operations center is protected by the flood protection system. If the levee failed there would be tremendous losses. Listing this operations center as a critical facility is a good idea.
- Any potential projects that MDC wants listed in the plan, such as specific crossings or concerns
  - North Branch improvements should be included
  - MDC representatives began a partial list during the meeting, see above note about School Street in Bloomfield.
- There will be a draft plan to review that will go out to the public and will also be shared with MDC.

# HAZARD MITIGATION PLAN UPDATE AND “RESILIENT CONNECTICUT 2.0”

## Shaping a New Hazard Mitigation and Climate Adaptation Plan (HMCAP) for the Capitol Region



Local Planning Meeting for  
Eversource  
October 5, 2023

# AGENDA

- Purpose and Need for Hazard Mitigation Plan
- Why Expand the Hazard Mitigation Plan?
- What is *Resilient Connecticut*?
- Why are we Meeting with Eversource?
  1. Accurate Accounting of Lifelines and Critical Facilities
  2. FEMA Grants
  3. FEMA Policy Guidance
- Open Discussion
- Next Steps



Summer 2021 Damage; Photo Courtesy of Town of Manchester

# PURPOSE AND NEED FOR HAZARD MITIGATION PLAN

## Authority

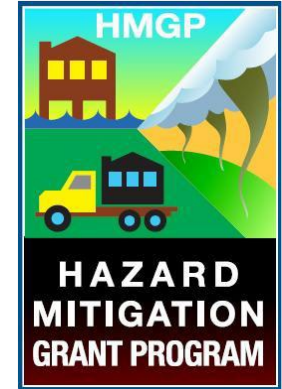
- Disaster Mitigation Act of 2000

## Goal of Disaster Mitigation Act

- Promote hazard mitigation *actions* to *reduce losses*

## Eligibility for Hazard Mitigation Assistance (HMA) Grant Programs

- **Building Resilient Infrastructure and Communities (BRIC)**
- **Flood Mitigation Assistance (FMA)**
- **Hazard Mitigation Grant Program (HMGP)**
- Next opportunity for BRIC and FMA grant applications will be fall 2023
- *The new DEEP Climate Resilience Fund (DCRF) asks if the application is related to actions in the Hazard Mitigation Plan*



**This is the Region's 4<sup>th</sup> Plan**

# PURPOSE AND NEED FOR HAZARD MITIGATION PLAN

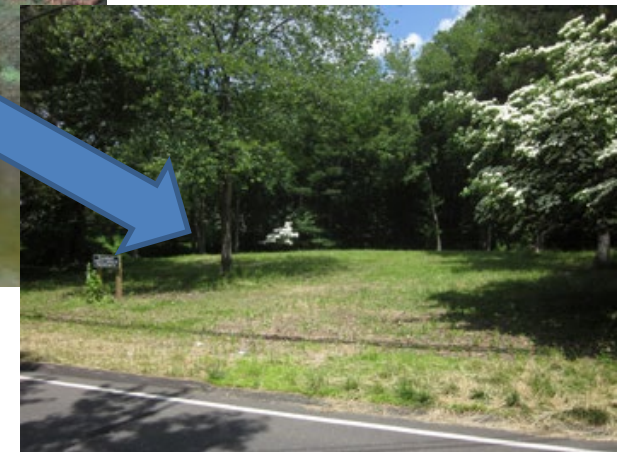
## What is a Natural Hazard?

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- Actions we take now that reduce or eliminate long-term risk to people, property, and resources from natural hazards and their effects.





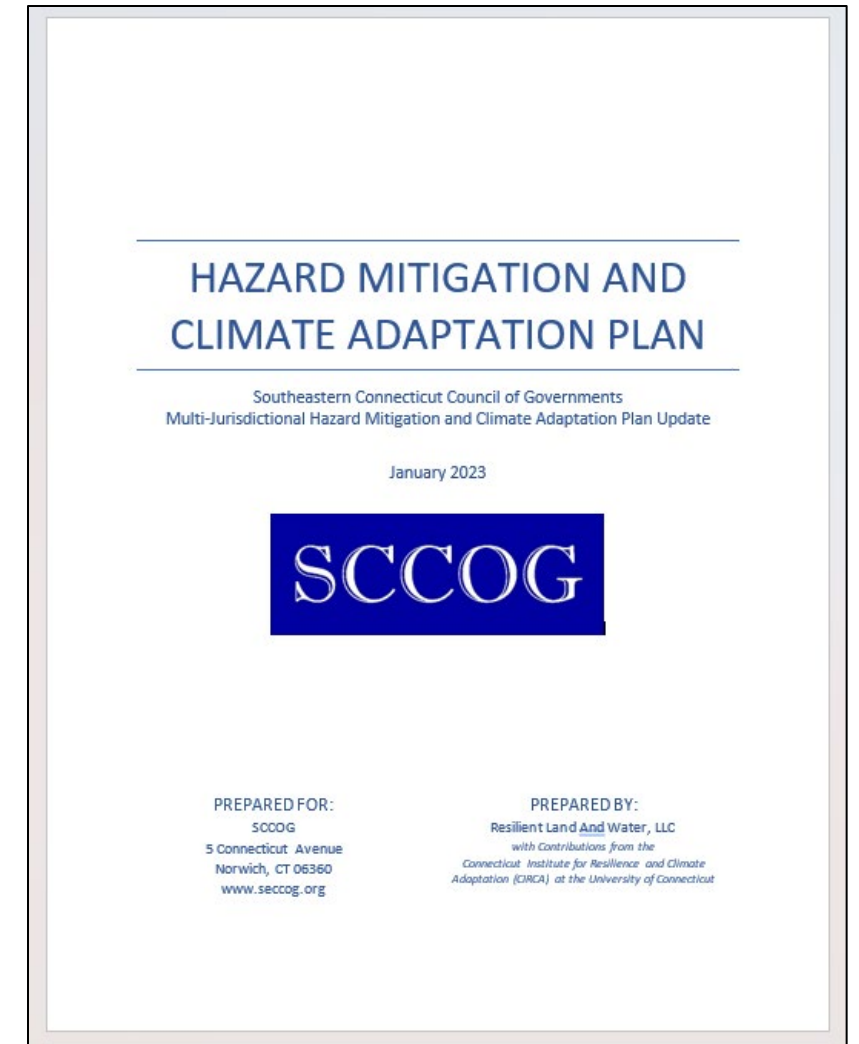
# WHAT IS A CLIMATE ADAPTATION PLAN?

## Climate Adaptation

- Adjusting social, ecological, infrastructural, or economic systems to respond to, and manage, risks from climate change

## Climate Adaptation Plan (CAP)

- A plan that sets policy and actions for adapting to the effects of climate change
- Southeastern CT HMCAP is first in State
- Not the same as a “climate action plan,” which describes reducing carbon emissions



# WHAT IS A CLIMATE ADAPTATION PLAN?

## Change hazards to organization by climate driver

### ➤ Extreme and Severe Storms

- Hurricanes and Tropical Storms
- Tornadoes and High Winds
- Severe Winter Storms

### ➤ Sea Level Rise

- Tidal Connecticut River Flooding

### ➤ Changing Precipitation Patterns

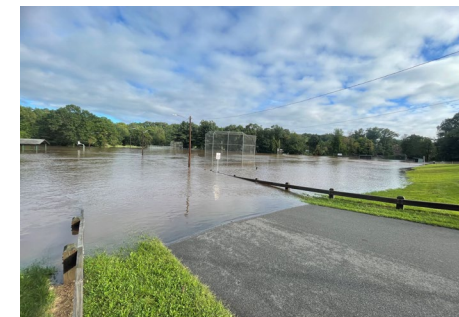
- Riverine and Pluvial Floods
- Droughts
- Dam Failure

### ➤ Rising Temperature

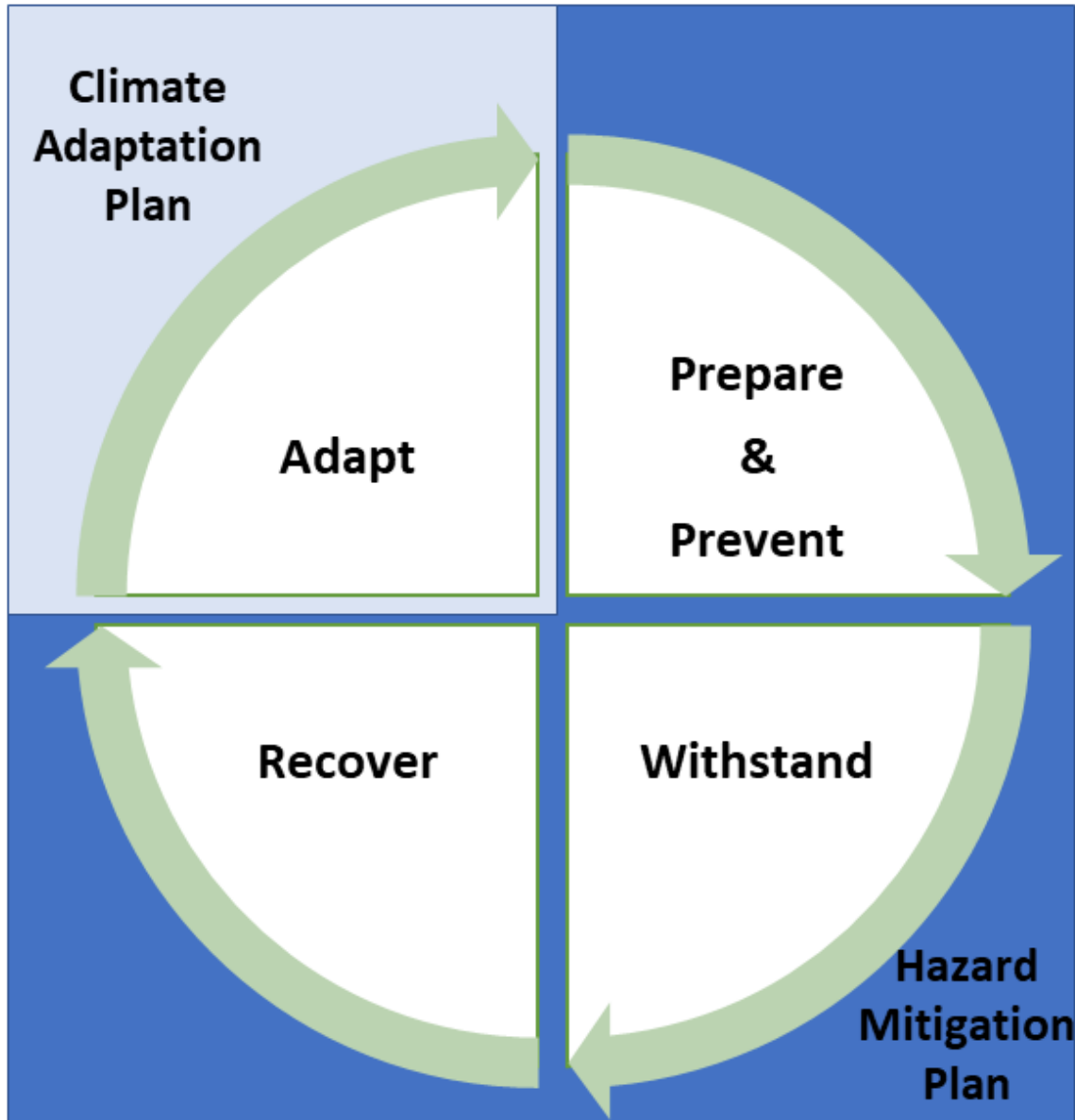
- Extreme Heat
- Wildfires

### ➤ Earthquakes

- Not affected, but addressed in the plan as always



# WHY EXPAND THE HAZARD MITIGATION PLAN?



1. This is the 4<sup>th</sup> Hazard Mitigation Plan and it's time for a refresh
2. This will be the second HMCAP in the State, and will align with the goals of the Governor's Office for Climate Change
3. The HMCAP will more ideally position towns for new funding sources like BRIC and the DEEP Climate Resilience Fund
4. The HMCAP will more effectively incorporate CIRCA's *Resilient Connecticut* program

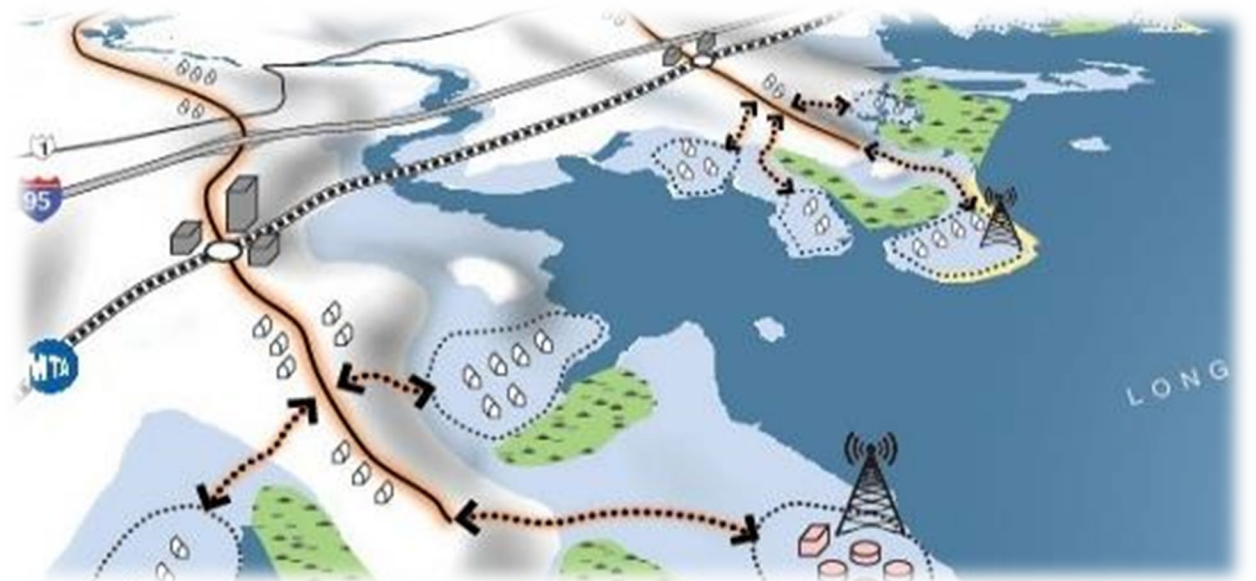
# WHAT IS *RESILIENT CONNECTICUT*?

***Resilient Connecticut 1.0*** was funded by the National Disaster Resilience Competition and focused on regional resilience and adaptation planning for flooding and extreme heat in Fairfield and New Haven Counties.

- Emphasized transit-oriented development, affordable housing, critical infrastructure, and regional assets.
- Developed Social Vulnerability Index (SVI), Climate Change Vulnerability Index (CCVI), Zones of Shared Risks (ZSR), and Resilience Opportunity Areas (ROARs)

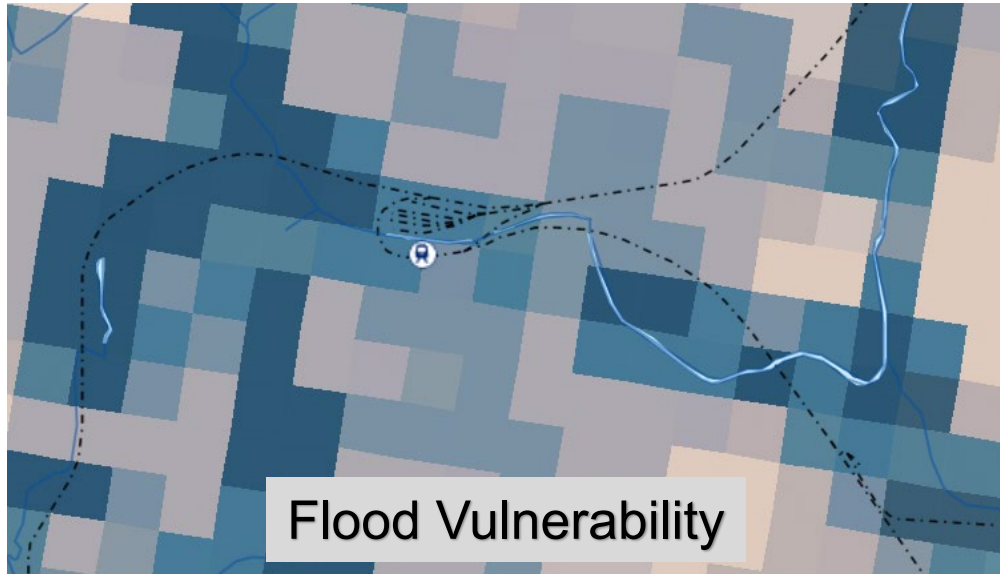
***Resilient Connecticut 2.0*** extends this effort using State funds.

- Increases flexibility to address the climate concerns unique to other regions.
- CRCOG is a partner in the deployment of the program in north-central Connecticut

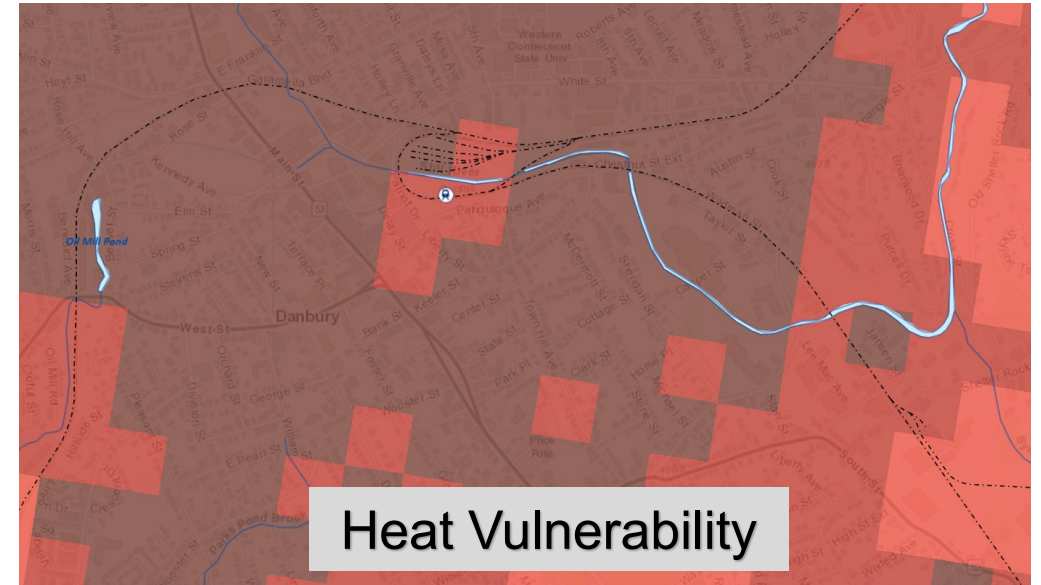


# RESILIENT CONNECTICUT 1.0

- A Climate Change Vulnerability Index (CCVI) was developed in the pilot area



Flooding can be coastal, riverine, or pluvial (heavy rain)



Considers where extreme heat is more likely as well as inability to seek respite

$$\text{Vulnerability} = \frac{\text{Sensitivity X Exposure}}{\text{Adaptive Capacity}}$$

# RESILIENT CONNECTICUT 1.0

- Climate Challenges were Recognized as Opportunities to Address Unmet Needs

## Resilient Connecticut Phase II

### Regional Adaptation/Resilience Opportunity Areas

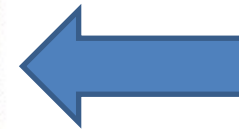
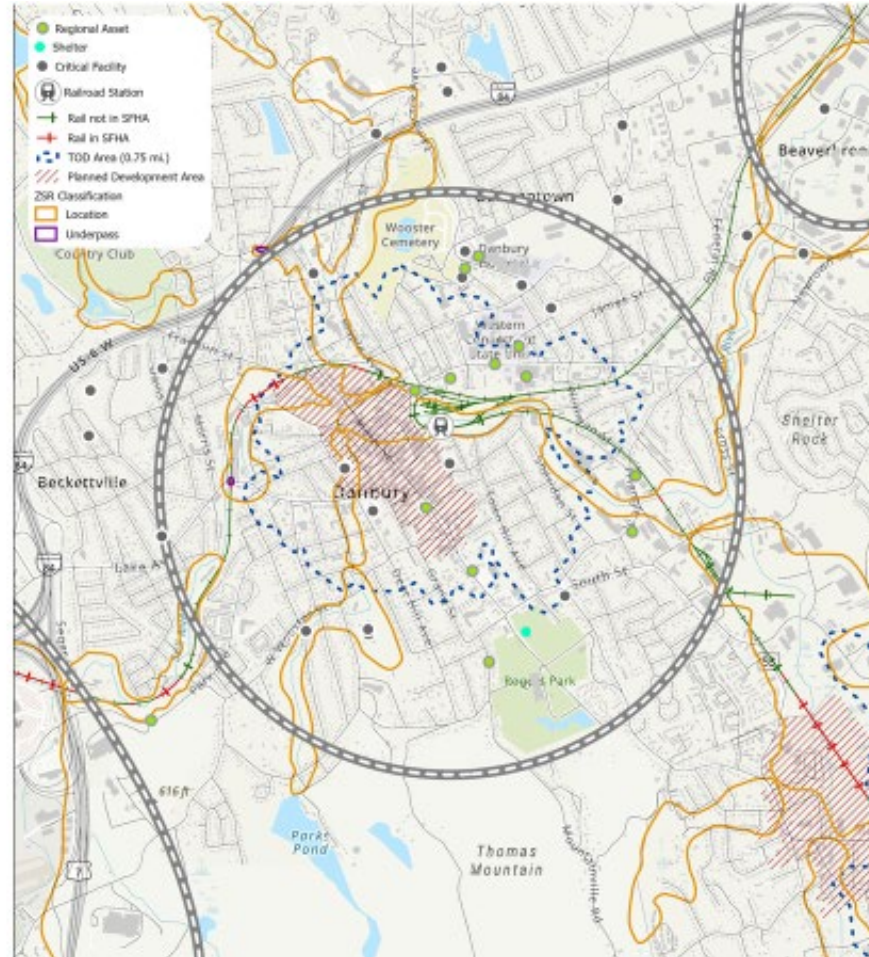
Name: Downtown Danbury

Location: Danbury

Considerations	Characteristics of Area
Flood Vulnerability	●●●●●●●●
Heat Vulnerability	●●●●●●●○
Social Vulnerability	●●●●●●●●

The center of Danbury is characterized by zones of shared risk associated with the confluence of Padanarum Brook, Kohanza Brook, and the Still River. Despite many flood risk reduction projects undertaken over decades, TOD and planned development areas are located in close proximity to – or within – these zones of shared risk. Numerous critical facilities, historic resources, and the terminus of the MetroNorth Danbury line are also located in the area. Downtown Danbury is a regional center for northern WestCOG. Almost all of the downtown area is moderately vulnerable to heat, with the highest vulnerable area concentrate along route 53 commercial properties. Presenting few opportunities for shade or street trees, the area has high heat emittance. In addition, there is high social sensitivity throughout the area.

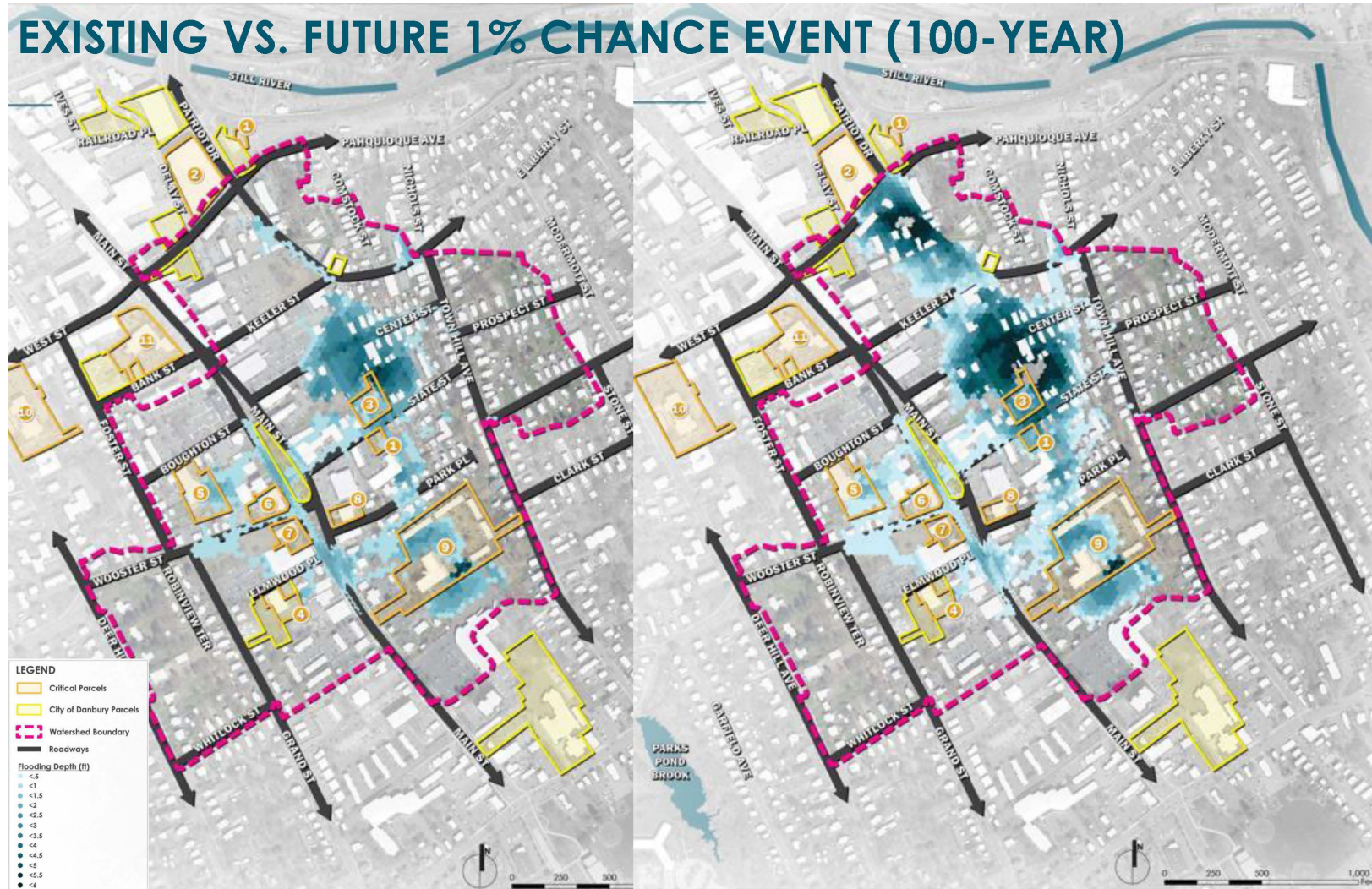
City Hall	Assisted living facilities
Fire headquarters	War Memorial
Hose Co. 5, 6, 7, and 9	Substation
Danbury Hospital	Power plant
Danbury Health and Housing Dept.	Museums
Western CT State College Police	



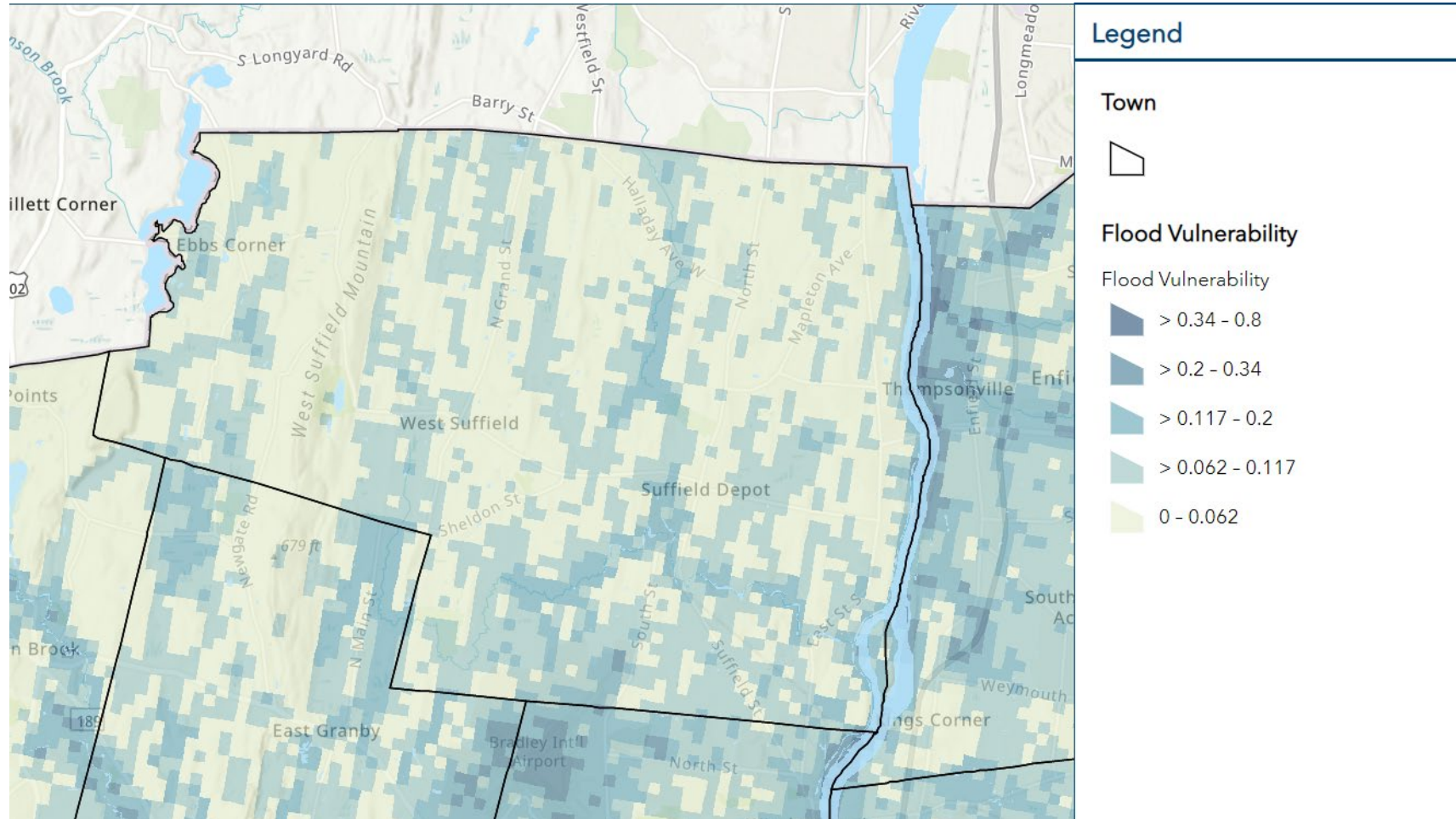
- Overlapping
  - Social vulnerability
  - Flood vulnerability
  - Heat vulnerability
  - Regional assets
  - Infrastructure
  - Critical facilities
  - Historic resources
  - TOD potential

# RESILIENT CONNECTICUT 1.0

- Some of These Opportunity Areas are Proceeding to Studies and Concept Designs



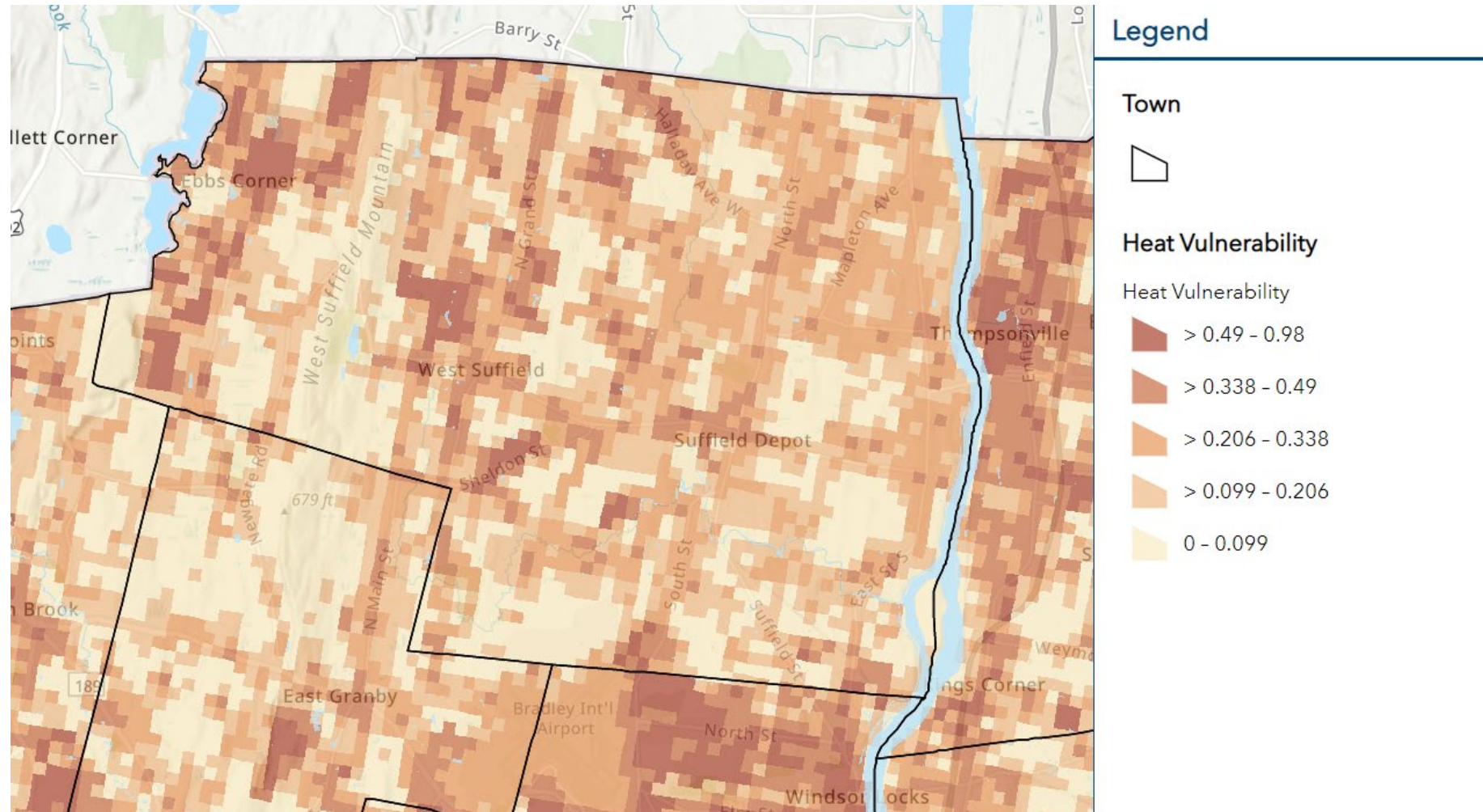
# RESILIENT CONNECTICUT 2.0: FLOOD CCVI



$$\text{Vulnerability} = \frac{\text{Sensitivity} \times \text{Exposure}}{\text{Adaptive Capacity}}$$



# RESILIENT CONNECTICUT 2.0: EXTREME HEAT CCVI



$$\text{Vulnerability} = \frac{\text{Sensitivity} \times \text{Exposure}}{\text{Adaptive Capacity}}$$

# WHY ARE WE MEETING WITH YOU?

## 1. Accurate Accounting of Lifelines and Critical Facilities

- FEMA BRIC applications ask the question “Which Lifelines will Benefit?”
- This includes energy systems



A lifeline enables the continuous operation of **critical government** and **business functions** and is essential to **human health** and **safety** or **economic security**.

# WHY ARE WE MEETING WITH YOU?

## 2. FEMA Grants Have Benefited Utilities

- GHNWPCA – pumping station floodproofing in East Haven; **this necessitated that East Haven list the pumping stations in the hazard mitigation plan**
- Deerfield, MA – riverbank stabilization to protect sewer
- Buckland, MA – stream crossing culvert replacement to protect sewer exposed beneath



# WHY ARE WE MEETING WITH YOU?

## 3. FEMA Policy Guidance

- *A2-a. The plan must provide documentation of an opportunity for stakeholders to be involved in the current planning process. Documentation of this opportunity must identify how each of the following types of stakeholders were presented with this opportunity, as applicable....  
Representatives of businesses, academia, and other private organizations... Examples include private utilities or major employers that sustain community lifelines.*



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FEMA

# OPEN DISCUSSION

- Critical facilities that should be included in the municipal annex documents?
- Any potential hazard mitigation and climate adaptation actions for the plan?
- Ideas for *Resilient Connecticut* projects?
- Other thoughts?

# WRAP-UP AND NEXT STEPS

- Designate someone to be the primary contact for coordination
- Provide information and ideas requested today:
  - Lists of critical facilities to include in the municipal annex documents
  - Any potential hazard mitigation and climate adaptation actions for the plan
  - Ideas for *Resilient Connecticut* projects

## CRCOG Hazard Mitigation and Climate Adaptation Plan

### Meeting with Eversource

Date: Oct 5<sup>th</sup>, 2023

Time: 1:30 - 2 pm

Location: Remote

Present from CIRCA: Nicole Govert and Mary Buchanan

Present from Eversource: Jeffrey Pugliese, Sean Lauziere, and Melissa Sherburne

Present from CRCOG: Maureen Goulet

#### Background Information:

- Mary Buchanan provided general overview of HMP process and the shift to the HMCAP to align with grant programs and *Resilient Connecticut*.
- Mary Buchanan explained why we are meeting with Eversource specifically.
  - o Accurate accounting for community lifelines to FEMA
  - o FEMA grants have benefited utilities
  - o FEMA policy guidance – must document opportunities for stakeholders, including “utilities and major employers”

#### Questions/Comments/Discussion Topics:

- Eversource currently has a mapping initiative under way where they are looking to ID areas where they need to update their systems to be more resilient. For example, Eversource is looking for areas where people don't have vehicles and might need to be shuttled to and from a cooling/heating center after a storm, or where there is a cluster of elderly population that might need more assistance during a storm, or where there is a large population of non-English speaking residents that might need specialized educational materials on who to prepare for a storm or adapt during storm conditions.
  - o Eversource suggested that they and CIRCA could partner up on this initiative. CIRCA provided Eversource with links to the CCVI and Environmental Justice Mapping tool.
  - o This echoes the concern about vulnerable populations that CIRCA has heard elsewhere when meeting with the municipalities.
- Eversource suggests that CIRCA should rely on the municipalities to provide the list of critical facilities. CIRCA clarified we have asked each town for their critical facilities, but Eversource facilities / stations have not been included on these lists.
- The largest concern for Eversource is their substations – Eversource is not sure if they can disclose the substation locations but will check with their security branch and provide CIRCA a list if possible. If not, CIRCA suggested that exact locations are not needed and if we have a list of the towns that substations are in, that will suffice. Eversource has a general concern about some of these substations flooding and if they are/are not resilient to flooding, especially as

storms and floods increase. This concern can be phrased in a more general way in the plan if we don't end up receiving specific town locations.

- Eversource staff express that they also have concerns about flooding in Area Work Center locations. Perhaps this could be phrased as another regional concern rather than listing specific towns.
- Eversource staff also mentioned that transmission lines are affected by storms. However, they did not provide specific locations, as this seems like a statewide concern.
- Eversource staff mentioned the impact of trees on critical infrastructure if there was a Category 1 or 2 hurricane. As with the previous point, this was more of a general statewide concern and wasn't specific to the CROG region or any area within CROG. They referred to previous research from UConn about how much of the tree canopy in the state would be affected by different hurricane scenarios.
- Eversource staff also raised the topic of gas infrastructure and shared a concern that regulator gas stations could be vulnerable to flooding. They might be able to provide CIRCA with a list of these stations, but need to discuss internally. CIRCA staff reiterated that we do not need exact locations.
- Eversource staff also asked whether the plan would consider resilience from an economic perspective. Jeff mentioned that economic resilience plans for the small business community would be helpful to have within the plan and historically this hasn't been thought of and included in plans like this. Maureen mentioned that CROG have some funds for this and are building a small resource center to connect businesses with resources and resilience plans.

#### Questions/Follow-up:

- When would Eversource have to get a list of substations to CIRCA by? CIRCA said our timeline was to have a draft done by end of fall and sent to FEMA early 2024. Eversource staff need to discuss internally, and would like to discuss this topic again in a few weeks.
- Eversource will discuss internally about the type of information they are able to provide for the substations and gas regulators. CIRCA and Eversource staff both agreed to have a follow-up meeting in a few weeks.
- Jeffrey Pugliese, Sean Lauziere, and Melissa Sherburne can all be included as contacts for the follow-up communications.



# HAZARD MITIGATION PLAN UPDATE AND “RESILIENT CONNECTICUT 2.0”

## Shaping a New Hazard Mitigation and Climate Adaptation Plan (HMCAP) for the Capitol Region



Local Planning Meeting for  
Aquarion Water Company  
October 17, 2023

# AGENDA

- Purpose and Need for Hazard Mitigation Plan
- Why Expand the Hazard Mitigation Plan?
- What is *Resilient Connecticut*?
- Why are we Meeting with Aquarion?
  1. Accurate Accounting of Lifelines and Critical Facilities
  2. FEMA Grants
  3. FEMA Policy Guidance
- Open Discussion
- Next Steps



Summer 2021 Damage; Photo Courtesy of Town of Manchester

# PURPOSE AND NEED FOR HAZARD MITIGATION PLAN

## Authority

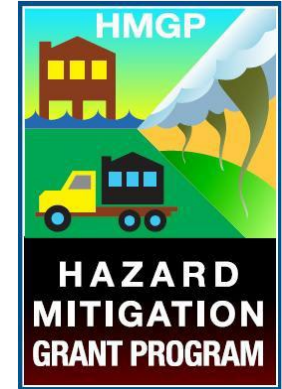
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## Goal of Disaster Mitigation Act

- Promote hazard mitigation *actions* to *reduce losses*

## Eligibility for Hazard Mitigation Assistance (HMA) Grant Programs

- **Building Resilient Infrastructure and Communities (BRIC)**
- **Flood Mitigation Assistance (FMA)**
- **Hazard Mitigation Grant Program (HMGP)**
- Next opportunity for BRIC and FMA grant applications will be fall 2023
- *The new DEEP Climate Resilience Fund (DCRF) asks if the application is related to actions in the Hazard Mitigation Plan*



**This is the Region's 4<sup>th</sup> Plan**

# PURPOSE AND NEED FOR HAZARD MITIGATION PLAN

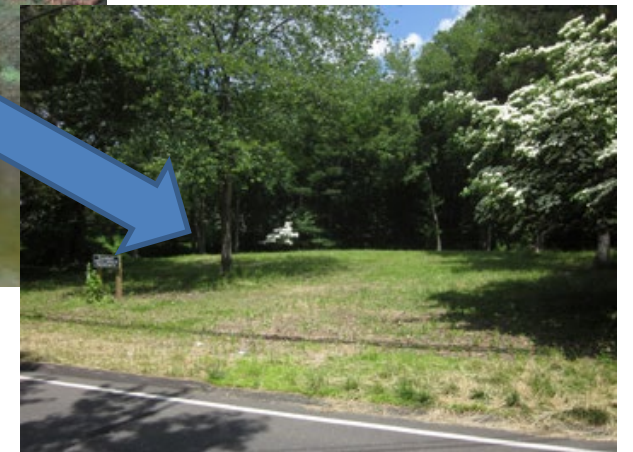
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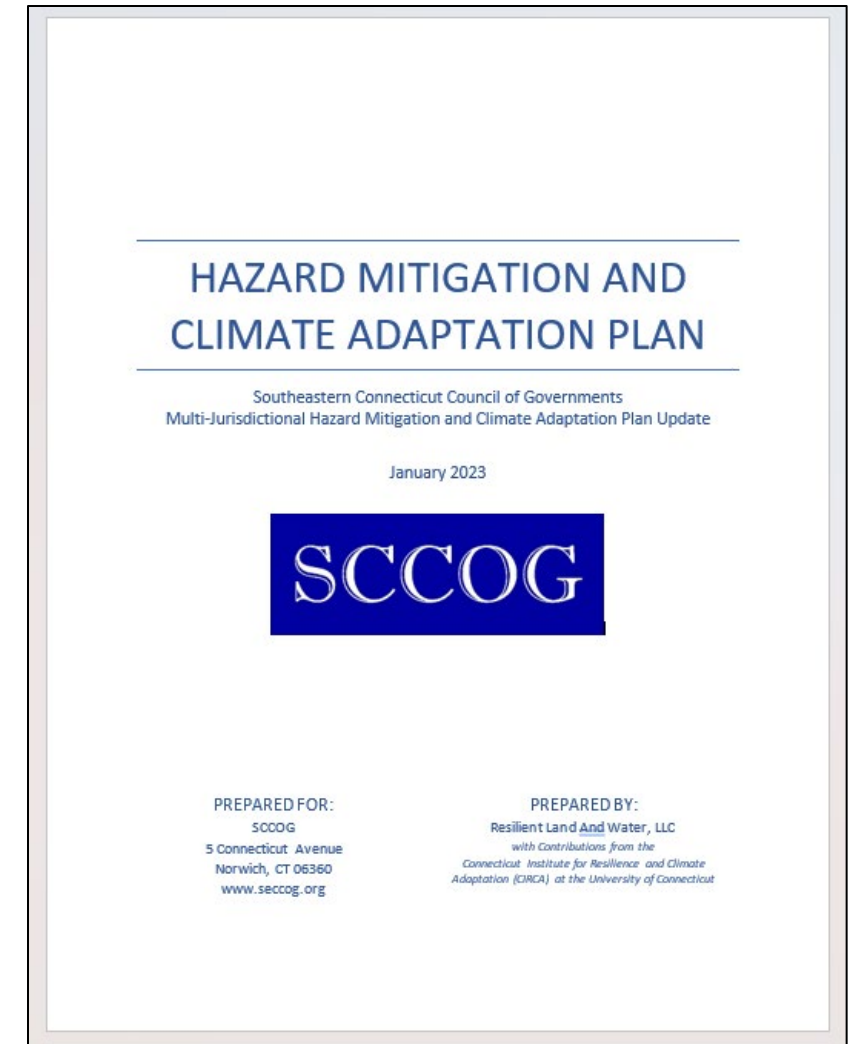
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- Southeastern CT HMCAP is first in State
- Not the same as a “climate action plan,” which describes reducing carbon emissions



# WHAT IS A CLIMATE ADAPTATION PLAN?

## Change hazards to organization by climate driver

### ➤ Extreme and Severe Storms

- Hurricanes and Tropical Storms
- Tornadoes and High Winds
- Severe Winter Storms

### ➤ Sea Level Rise

- Tidal Connecticut River Flooding

### ➤ Changing Precipitation Patterns

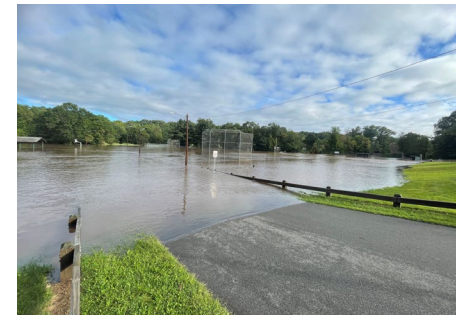
- Riverine and Pluvial Floods
- Droughts
- Dam Failure

### ➤ Rising Temperature

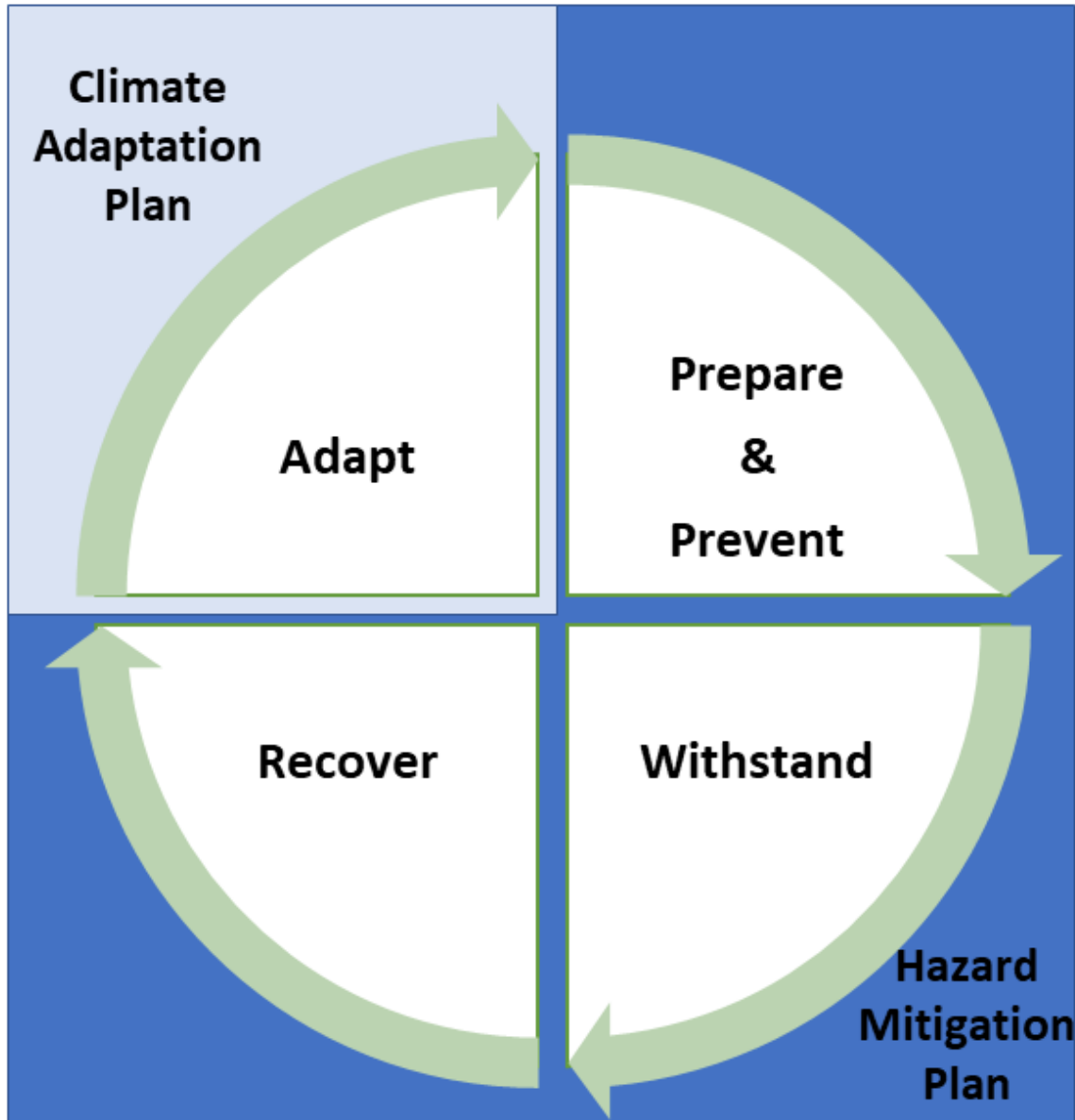
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- Wildfires

### ➤ Earthquakes

- Not affected, but addressed in the plan as always



# WHY EXPAND THE HAZARD MITIGATION PLAN?



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2. This will be the second HMCAP in the State, and will align with the goals of the Governor's Office for Climate Change
3. The HMCAP will more ideally position towns for new funding sources like BRIC and the DEEP Climate Resilience Fund
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- Developed Social Vulnerability Index (SVI), Climate Change Vulnerability Index (CCVI), Zones of Shared Risks (ZSR), and Resilience Opportunity Areas (ROARs)

***Resilient Connecticut 2.0*** extends this effort using State funds.

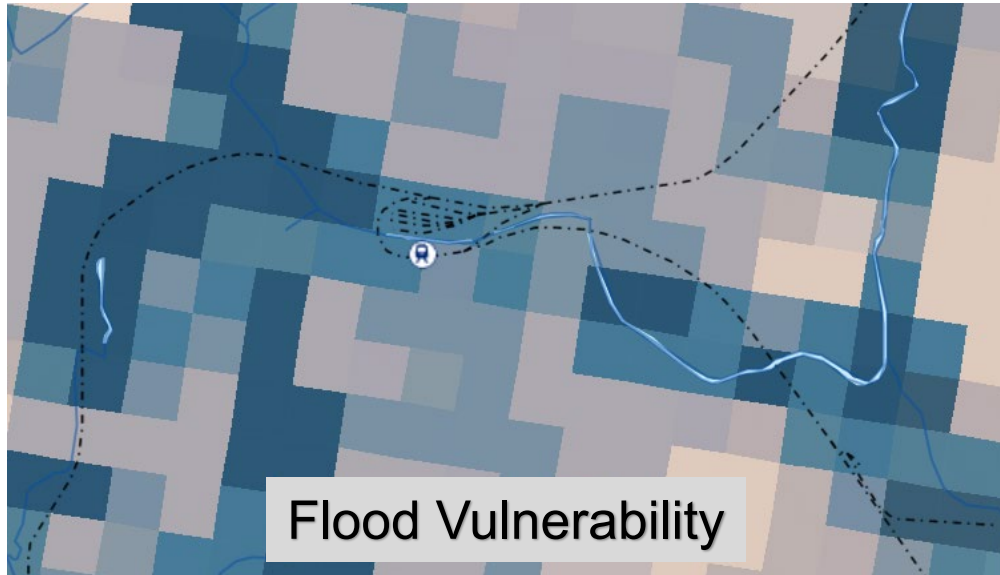
- Increases flexibility to address the climate concerns unique to other regions.
- CRCOG is a partner in the deployment of the program in north-central Connecticut



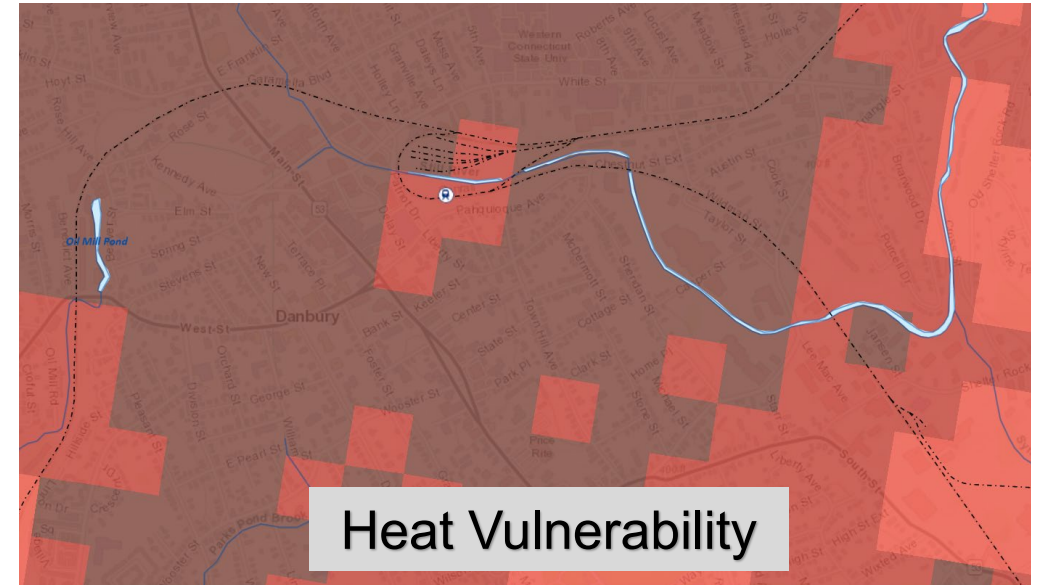


# RESILIENT CONNECTICUT 1.0

- A Climate Change Vulnerability Index (CCVI) was developed in the pilot area



Flooding can be coastal, riverine, or pluvial (heavy rain)



Considers where extreme heat is more likely as well as inability to seek respite

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# RESILIENT CONNECTICUT 1.0

- Climate Challenges were Recognized as Opportunities to Address Unmet Needs

## Resilient Connecticut Phase II

### Regional Adaptation/Resilience Opportunity Areas

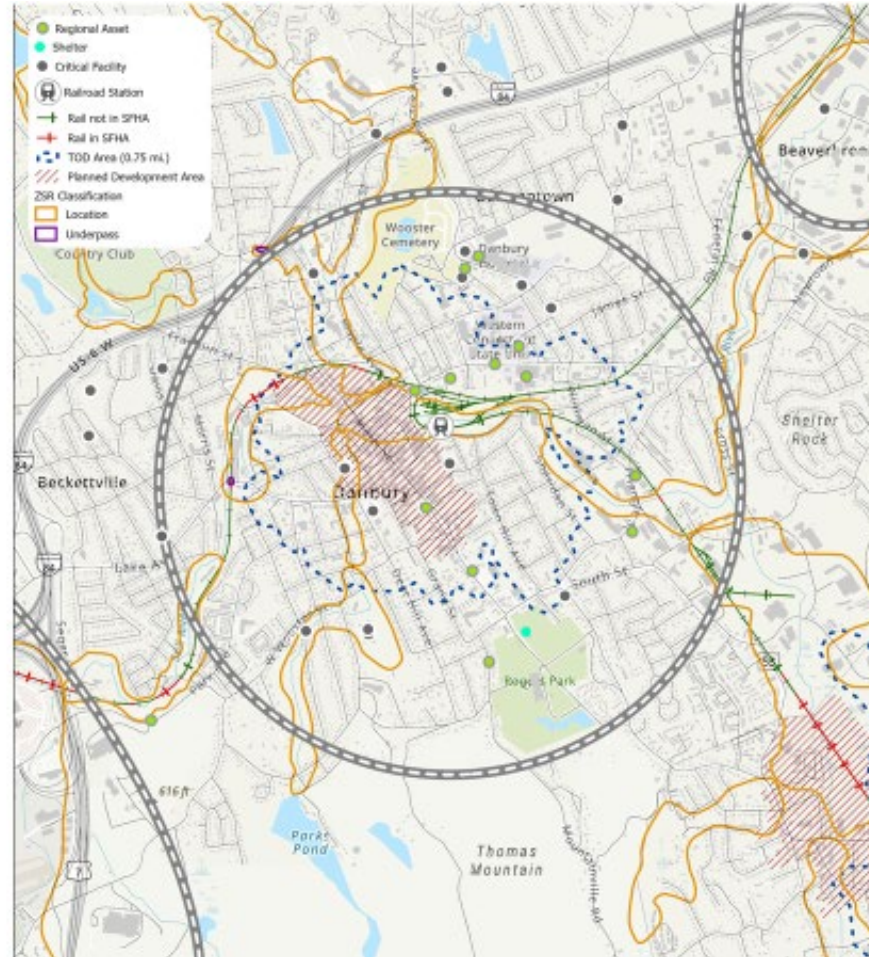
Name: Downtown Danbury

Location: Danbury

Considerations	Characteristics of Area
Flood Vulnerability	●●●●●●●●
Heat Vulnerability	●●●●●●●○
Social Vulnerability	●●●●●●●●

The center of Danbury is characterized by zones of shared risk associated with the confluence of Padanarum Brook, Kohanza Brook, and the Still River. Despite many flood risk reduction projects undertaken over decades, TOD and planned development areas are located in close proximity to – or within – these zones of shared risk. Numerous critical facilities, historic resources, and the terminus of the MetroNorth Danbury line are also located in the area. Downtown Danbury is a regional center for northern WestCOG. Almost all of the downtown area is moderately vulnerable to heat, with the highest vulnerable area concentrate along route 53 commercial properties. Presenting few opportunities for shade or street trees, the area has high heat emittance. In addition, there is high social sensitivity throughout the area.

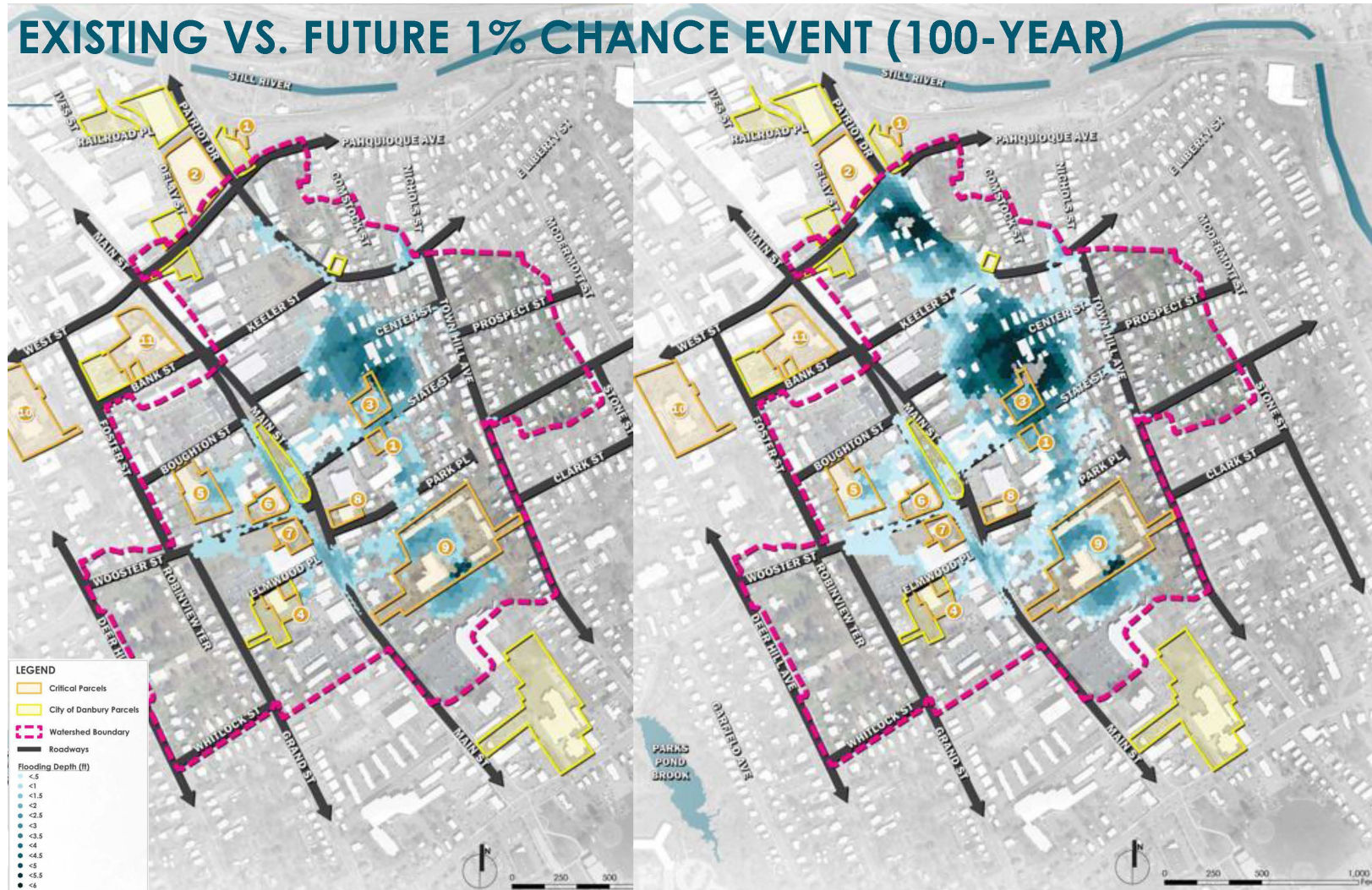
- |                                  |                            |
|----------------------------------|----------------------------|
| City Hall                        | Assisted living facilities |
| Fire headquarters                | War Memorial               |
| Hose Co. 5, 6, 7, and 9          | Substation                 |
| Danbury Hospital                 | Power plant                |
| Danbury Health and Housing Dept. | Museums                    |
| Western CT State College Police  |                            |



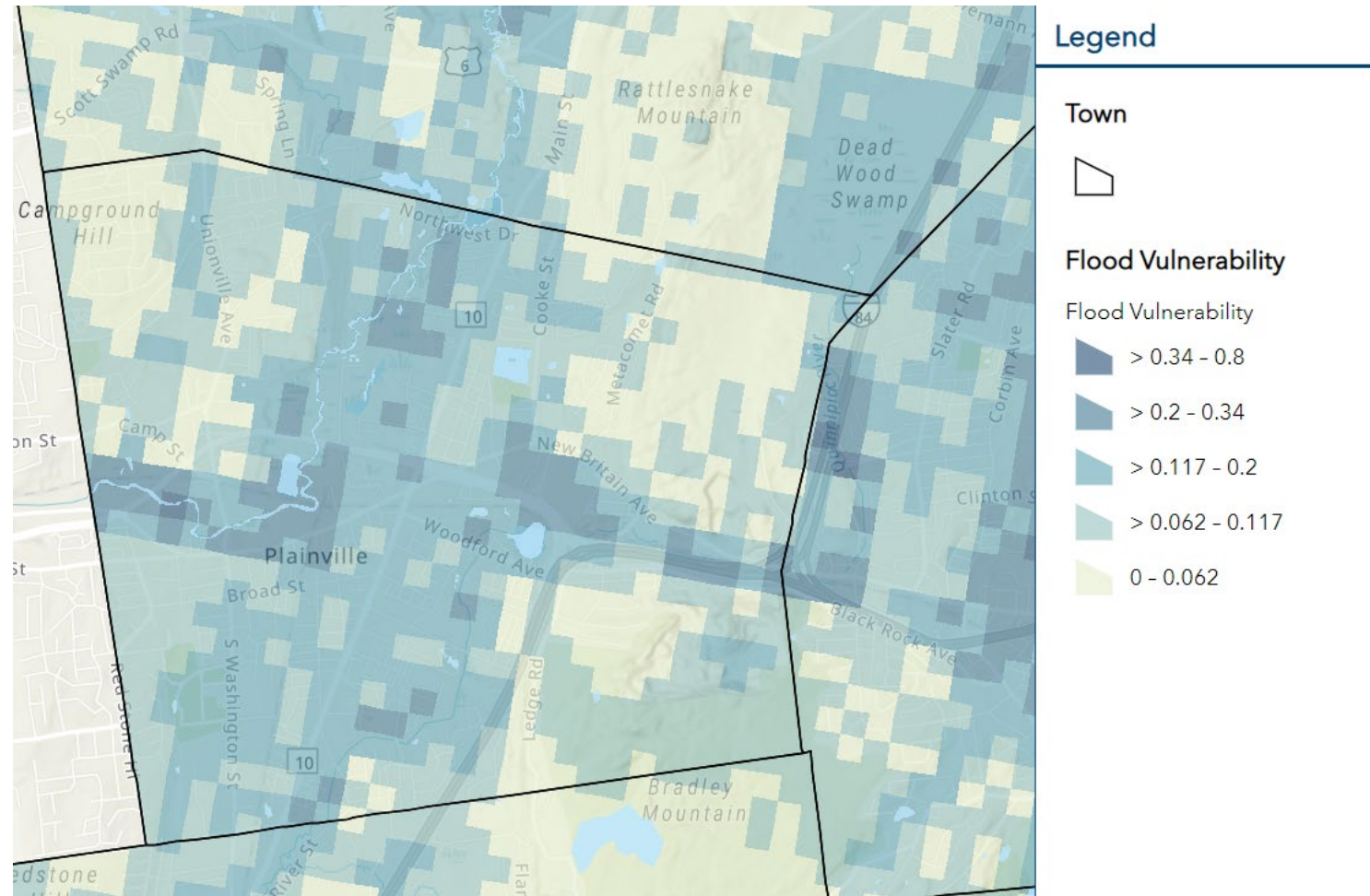
- Overlapping
  - Social vulnerability
  - Flood vulnerability
  - Heat vulnerability
  - Regional assets
  - Infrastructure
  - Critical facilities
  - Historic resources
  - TOD potential

# RESILIENT CONNECTICUT 1.0

- Some of These Opportunity Areas are Proceeding to Studies and Concept Designs

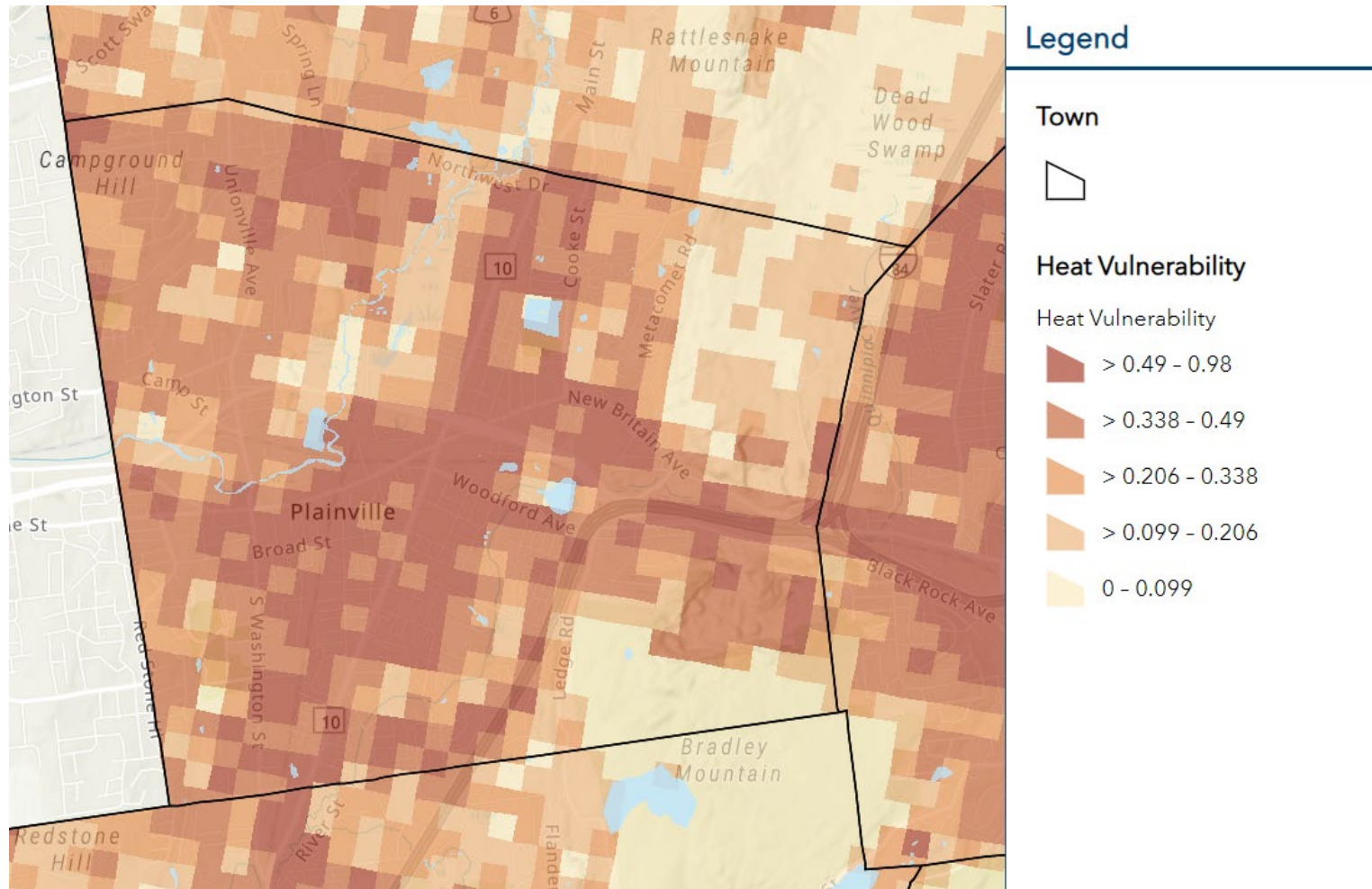


# RESILIENT CONNECTICUT 2.0: FLOOD CCVI



$$\text{Vulnerability} = \frac{\text{Sensitivity} \times \text{Exposure}}{\text{Adaptive Capacity}}$$

# RESILIENT CONNECTICUT 2.0: EXTREME HEAT CCVI



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# WHY ARE WE MEETING WITH YOU?

## 1. Accurate Accounting of Lifelines and Critical Facilities

- FEMA BRIC applications ask the question “Which Lifelines will Benefit?”
- This includes energy systems



A lifeline enables the continuous operation of **critical government** and **business functions** and is essential to **human health** and **safety** or **economic security**.

# WHY ARE WE MEETING WITH YOU?

## 2. FEMA Grants Have Benefited Utilities

- GHNWPCA – pumping station floodproofing in East Haven; **this necessitated that East Haven list the pumping stations in the hazard mitigation plan**
- Deerfield, MA – riverbank stabilization to protect sewer
- Buckland, MA – stream crossing culvert replacement to protect sewer exposed beneath



# WHY ARE WE MEETING WITH YOU?

## 3. FEMA Policy Guidance

- *A2-a. The plan must provide documentation of an opportunity for stakeholders to be involved in the current planning process. Documentation of this opportunity must identify how each of the following types of stakeholders were presented with this opportunity, as applicable....  
Representatives of businesses, academia, and other private organizations... Examples include private utilities or major employers that sustain community lifelines.*



## Local Mitigation Planning Policy Guide

FP 206-21-0002

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OMB Collection #1660-0062



FEMA



# OPEN DISCUSSION

- Critical facilities that should be included in the municipal annex documents?
- Any potential hazard mitigation and climate adaptation actions for the plan?
- Ideas for *Resilient Connecticut* projects?
- Other thoughts?

# WRAP-UP AND NEXT STEPS

- Designate someone to be the primary contact for coordination
- Provide information and ideas requested today:
  - Lists of critical facilities to include in the municipal annex documents
  - Any potential hazard mitigation and climate adaptation actions for the plan
  - Ideas for *Resilient Connecticut* projects

## Aquarion Water Company Meeting

10/17/2023

9 am, Virtual via Teams

CRCOG and its contractor (CIRCA) attended a meeting with to discuss the update of the hazard mitigation plan for the Capitol Region (the Capitol Region Hazard Mitigation and Climate Adaptation Plan, or HMCAP). District staff at the meeting represented Facilities (since they manage the treatment plants and pump stations), Engineering (due to the North Hartford sewer work starting now to address recent flooding), and Operations (since they implement the flood control plan on the sewer system, closing gates, etc.; and they have knowledge of locations where flooding has placed sewer/water mains at risk of washouts).

### Attendees included:

- Ingrid Jacobs, Aquarion Water Company
- Melissa Ahrens-Viquez, Aquarion Water Company
- David Murphy, Director of Resilience Engineering, CIRCA
- Nicole Govert, Community Resilience Planner, CIRCA
- Mary Buchanan, Community Resilience Planner, CIRCA

### Background Information:

- David Murphy provided general overview of HMP process and the shift to the HMCAP to align with grant programs and *Resilient Connecticut*.
- David Murphy explained why we are meeting with Aquarion specifically.
  - Accurate accounting for community lifelines to FEMA
  - FEMA grants have benefited utilities
  - FEMA policy guidance – must document opportunities for stakeholders, including “utilities and major employers”

### Questions/Comments/Discussion Topics:

- Between Simsbury and Plainville there are some significant Aquarion systems
- In Mansfield and Marlborough there are some smaller Aquarion systems. The Marlborough system Aquarion owns is in the middle of town.
- Aquarion staff report there are no heat related issues with Plainville or Simsbury.
- In Simsbury there has been an increase in demand from growth in the system and irrigation. Aquarion is in the process of looking for more resources for this area.
- In Simsbury, the town has flooding concerns along Stratton Brook where Aquarion has some well fields, but Aquarion staff report no impacts to the well fields.
- Plainville system has been recently acquired. David notes that during the rain events this year Plainville had to close Johnson Avenue, where a wellfield is located. Aquarion staff reports there

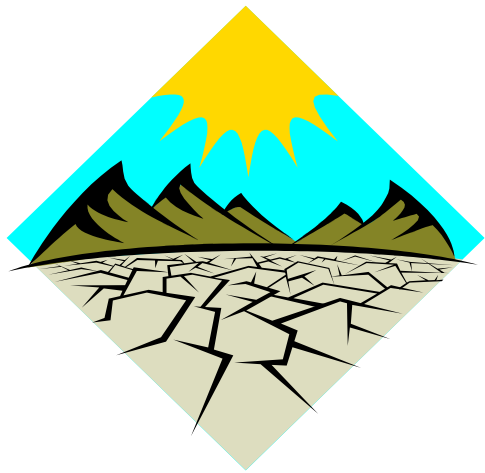
were no immediate impacts to the wellfield and they did not have to shut down any activities, but access to the site might have been temporarily limited.

Follow-Up:

- Ingrid Jacobs will be the primary contact.
- David notes that for the Plainville and Simsbury systems the plan should note the wellfields as critical facilities. Ingrid agrees, and notes that there are only 3 points of entry to the Simsbury system so these are also important access points. These should be mentioned, not mapped.

# HAZARD MITIGATION PLAN UPDATE AND “RESILIENT CONNECTICUT 2.0”

## Shaping a New Hazard Mitigation and Climate Adaptation Plan (HMCAP) for the Capitol Region



Local Planning Meeting for  
Avangrid  
December 4<sup>th</sup>, 2023

# AGENDA

- Purpose and Need for Hazard Mitigation Plan
- Why Expand the Hazard Mitigation Plan?
- What is *Resilient Connecticut*?
- Why are we Meeting with Avangrid?
  1. Accurate Accounting of Lifelines and Critical Facilities
  2. FEMA Grants
  3. FEMA Policy Guidance
- Open Discussion
- Next Steps



Summer 2021 Damage; Photo Courtesy of Town of Manchester

# PURPOSE AND NEED FOR HAZARD MITIGATION PLAN

## Authority

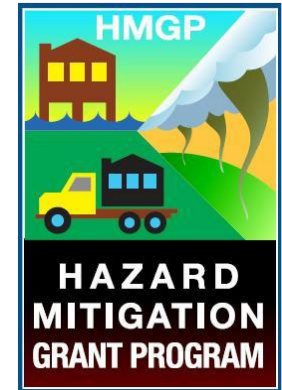
- Disaster Mitigation Act of 2000

## Goal of Disaster Mitigation Act

- Promote hazard mitigation *actions* to *reduce losses*

## Eligibility for Hazard Mitigation Assistance (HMA) Grant Programs

- **Building Resilient Infrastructure and Communities (BRIC)**
- **Flood Mitigation Assistance (FMA)**
- **Hazard Mitigation Grant Program (HMGP)**
- Next opportunity for BRIC and FMA grant applications is now (due 1/9/24)
- *The new DEEP Climate Resilience Fund (DCRF) asks if the application is related to actions in the Hazard Mitigation Plan*



**This is the Region's 4<sup>th</sup> Plan**

# PURPOSE AND NEED FOR HAZARD MITIGATION PLAN

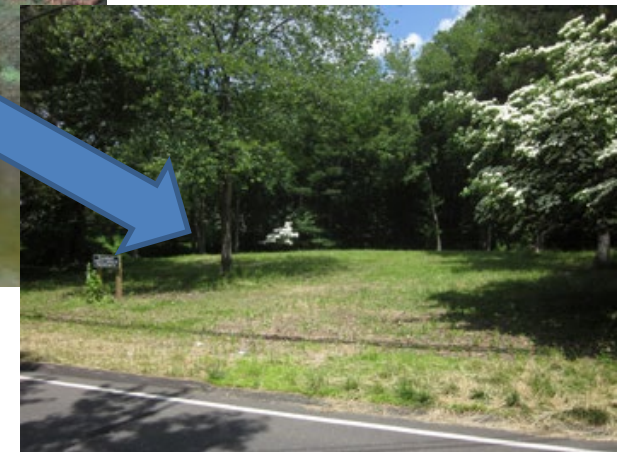
## What is a Natural Hazard?

- An extreme natural event that poses a risk to people, infrastructure, and resources.



## What is Hazard Mitigation?

- Actions we take now that reduce or eliminate long-term risk to people, property, and resources from natural hazards and their effects.





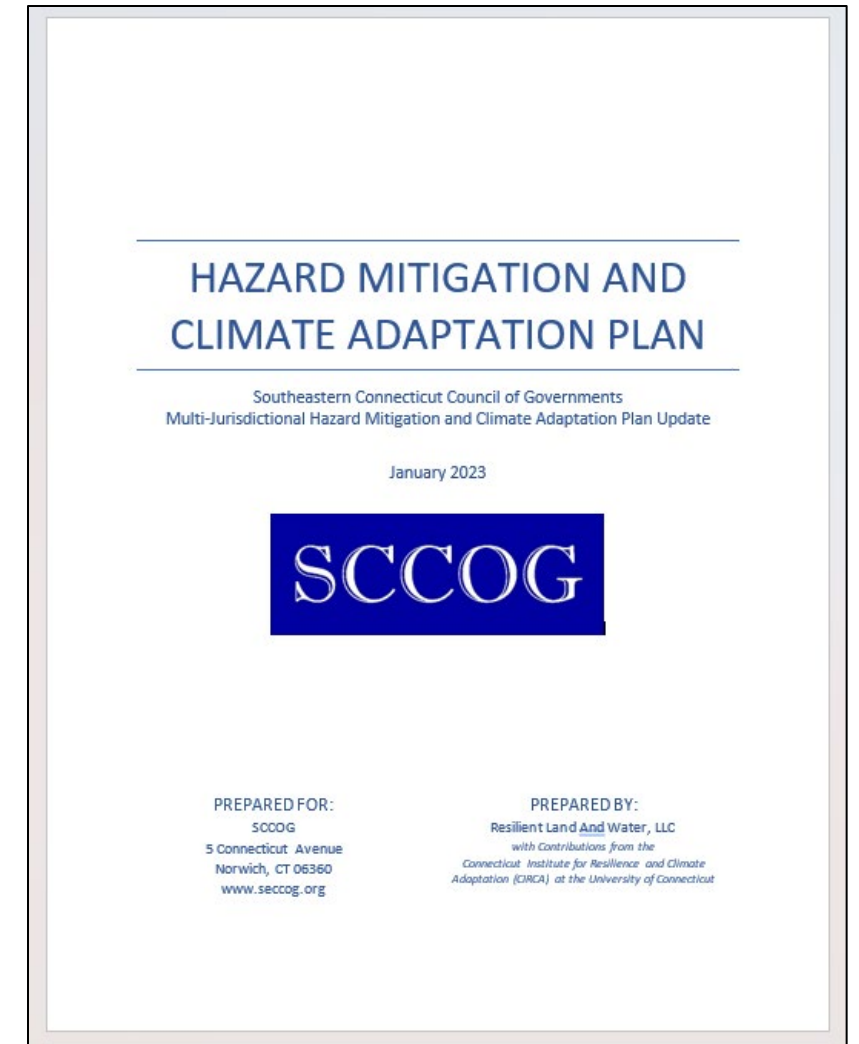
# WHAT IS A CLIMATE ADAPTATION PLAN?

## Climate Adaptation

- Adjusting social, ecological, infrastructural, or economic systems to respond to, and manage, risks from climate change

## Climate Adaptation Plan (CAP)

- A plan that sets policy and actions for adapting to the effects of climate change
- Southeastern CT HMCAP is first in State
- Not the same as a “climate action plan,” which describes reducing carbon emissions; *these are underway now*



# WHAT IS A CLIMATE ADAPTATION PLAN?

## Change hazards to organization by climate driver

### ➤ Extreme and Severe Storms

- Hurricanes and Tropical Storms
- Tornadoes and High Winds
- Severe Winter Storms



### ➤ Sea Level Rise

- Tidal Connecticut River Flooding

### ➤ Changing Precipitation Patterns

- Riverine and Pluvial Floods
- Droughts
- Dam Failure

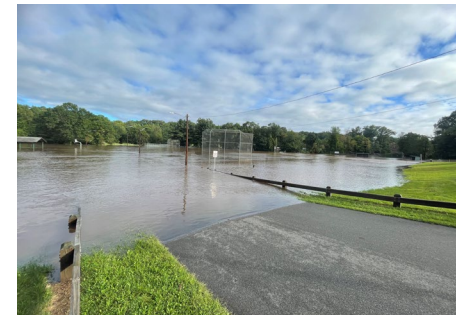


### ➤ Rising Temperature

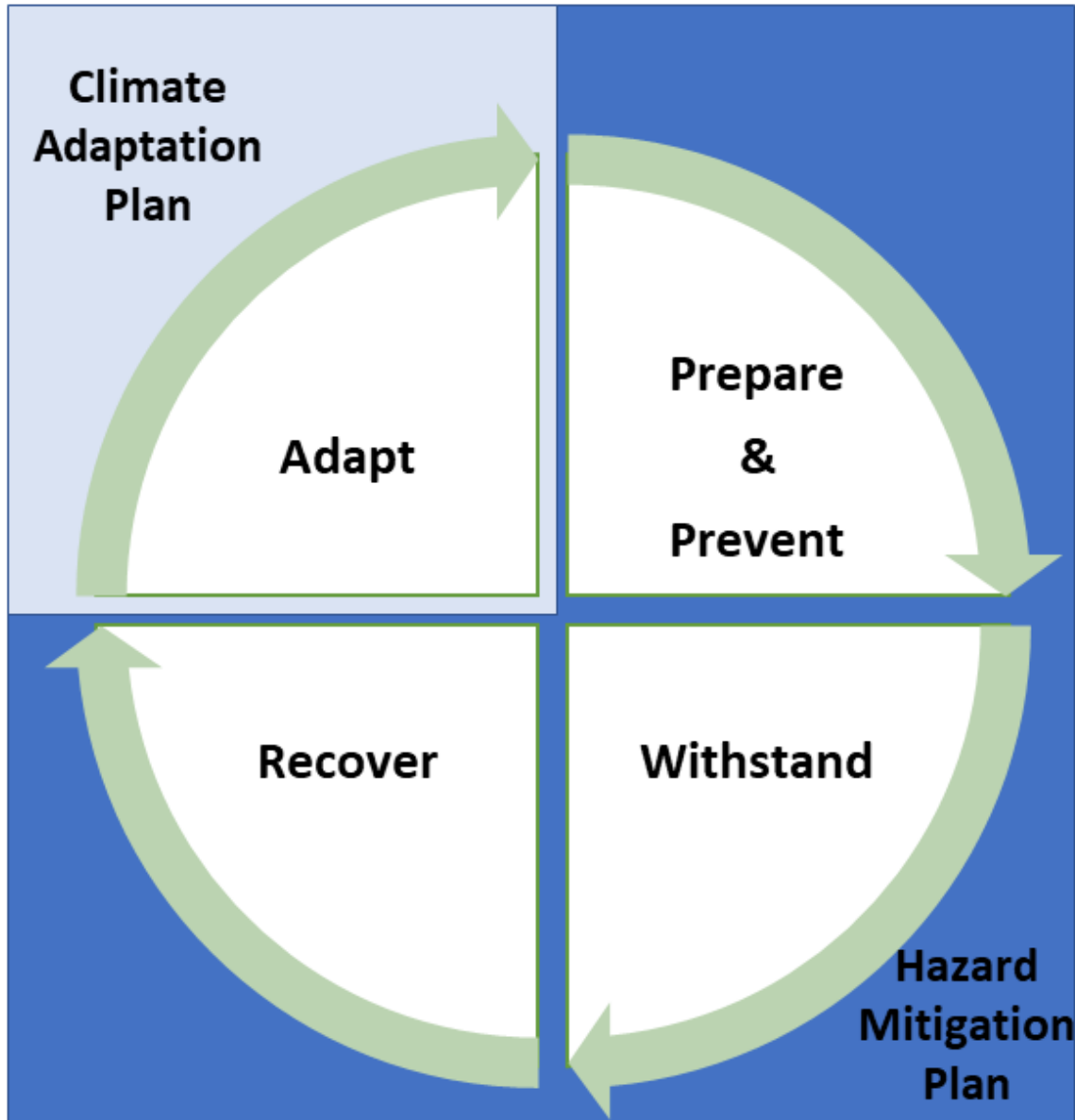
- Extreme Heat
- Wildfires

### ➤ Earthquakes

- Not affected, but addressed in the plan as always



# WHY EXPAND THE HAZARD MITIGATION PLAN?



1. This is the 4<sup>th</sup> Hazard Mitigation Plan and it's time for a refresh
2. This will be the second HMCAP in the State, and will align with the goals of the Governor's Office for Climate Change
3. The HMCAP will more ideally position towns for new funding sources like BRIC and the DEEP Climate Resilience Fund
4. The HMCAP will more effectively incorporate CIRCA's *Resilient Connecticut* program

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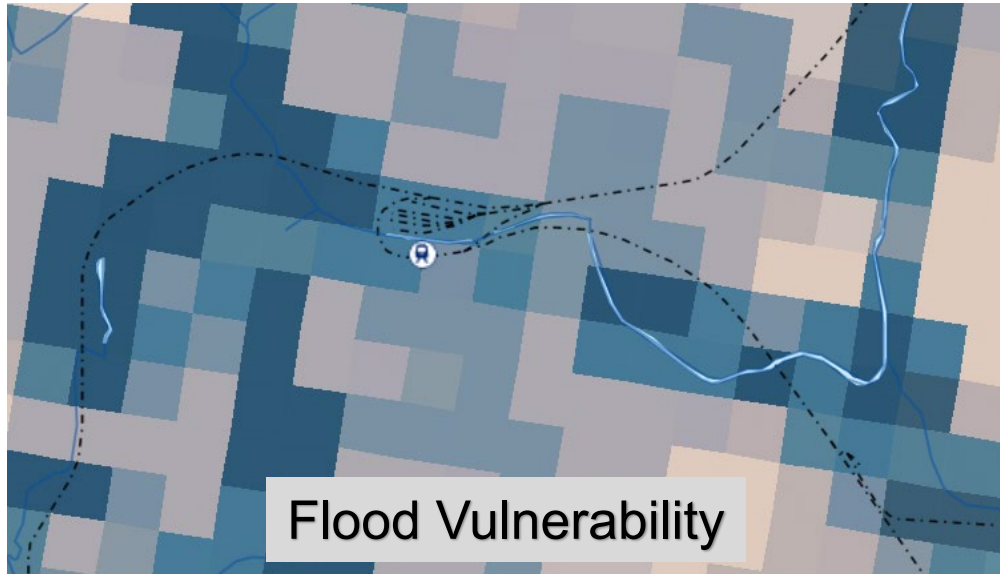
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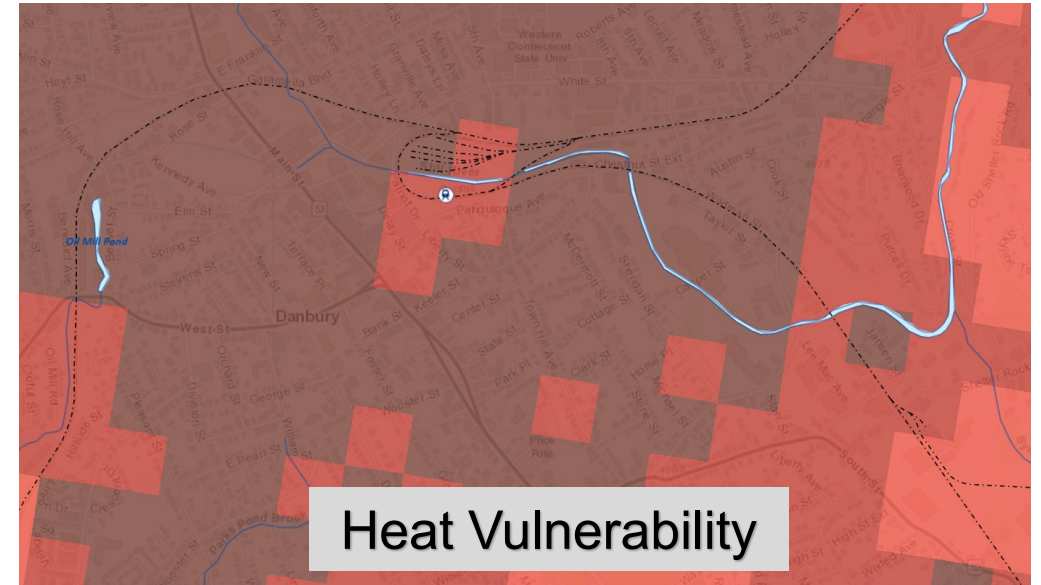


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## Resilient Connecticut Phase II

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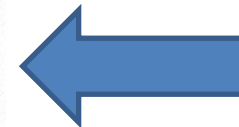
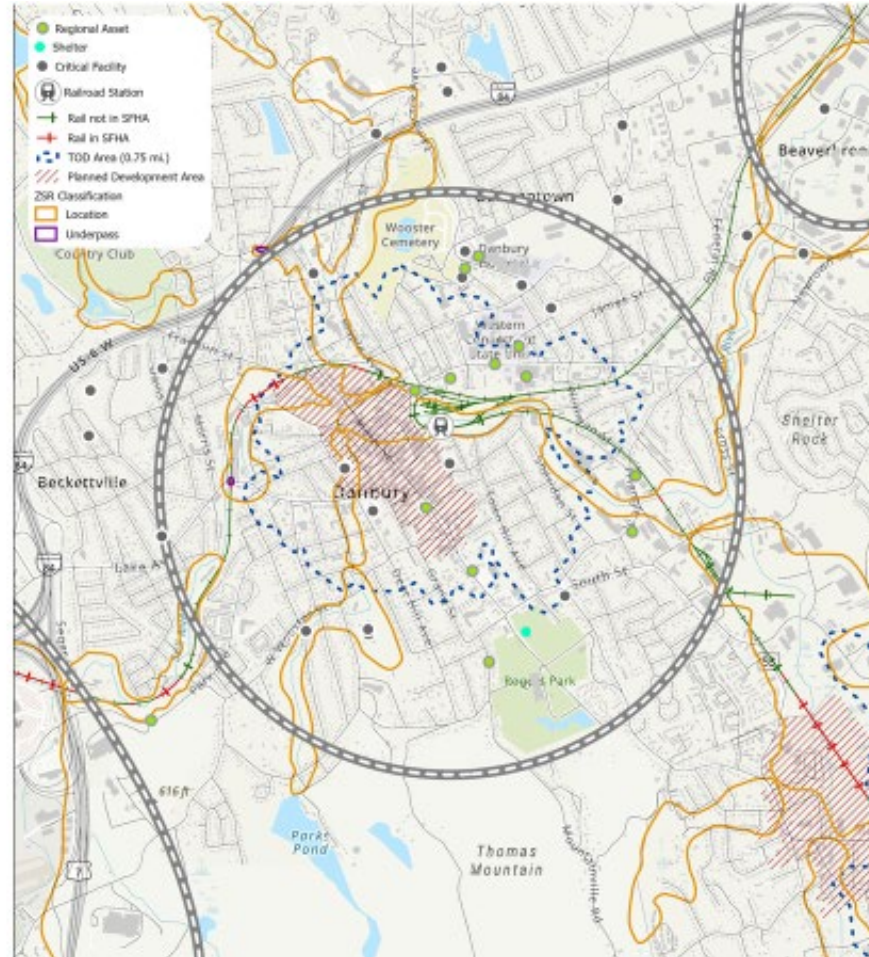
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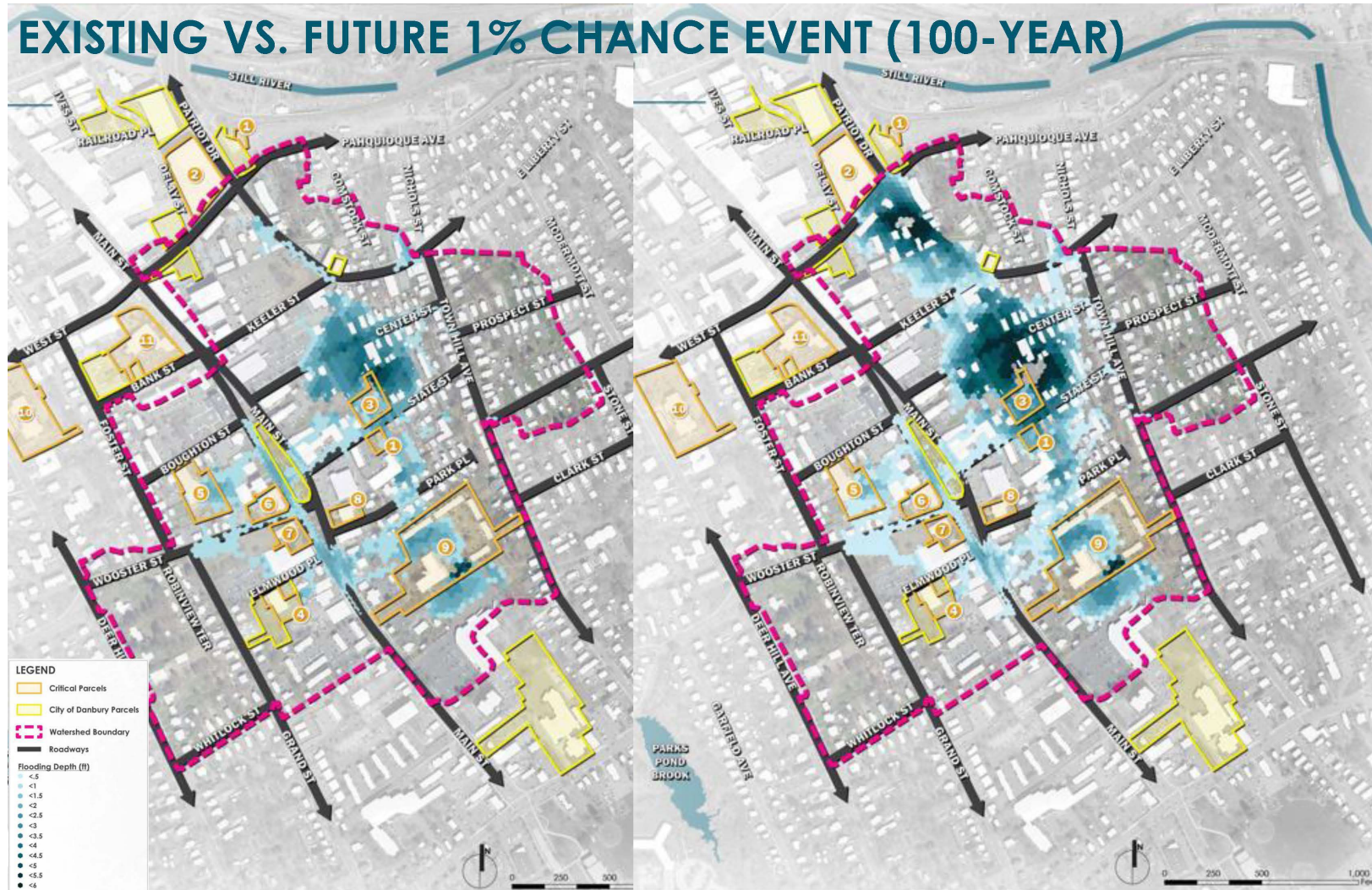
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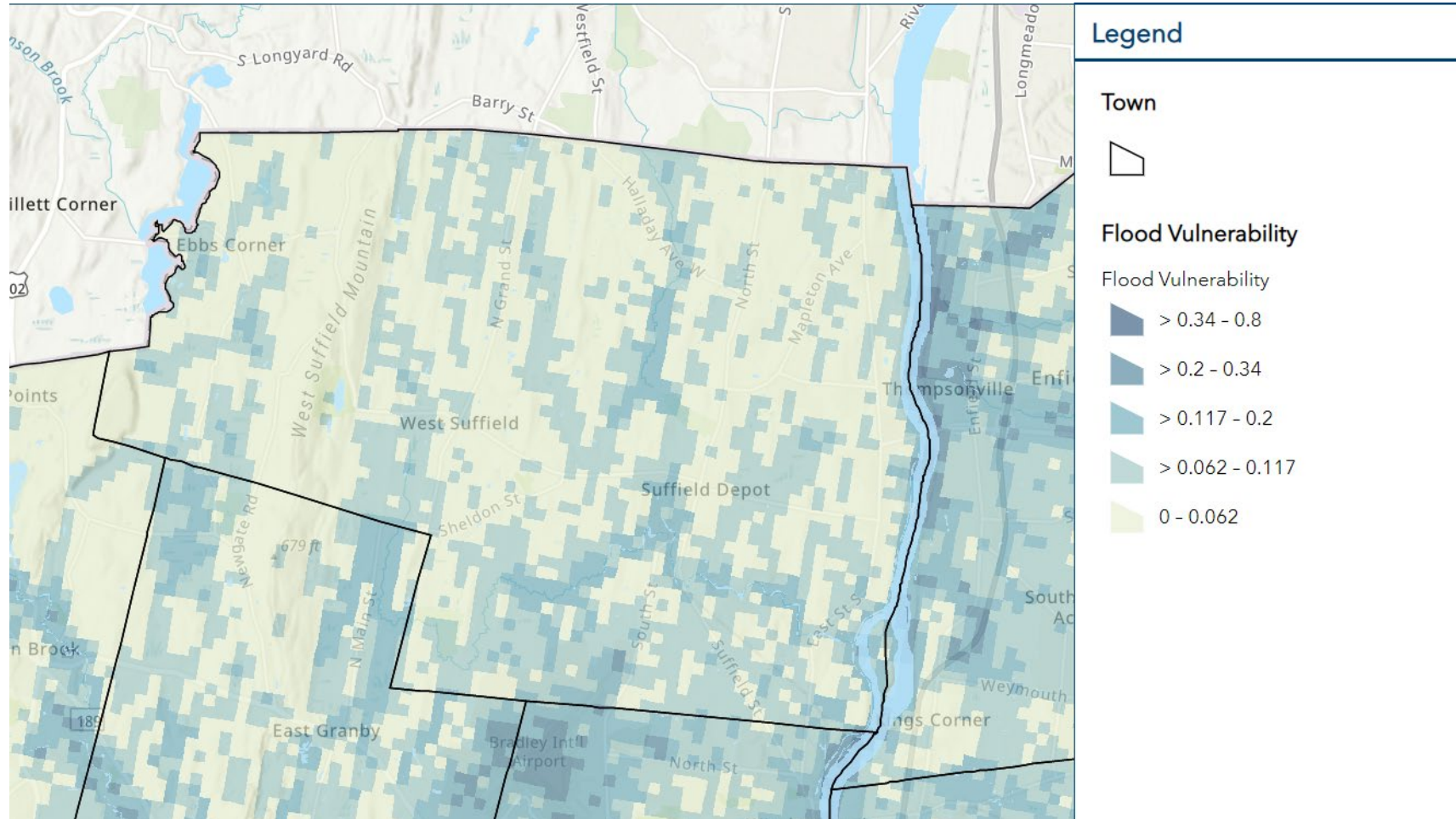
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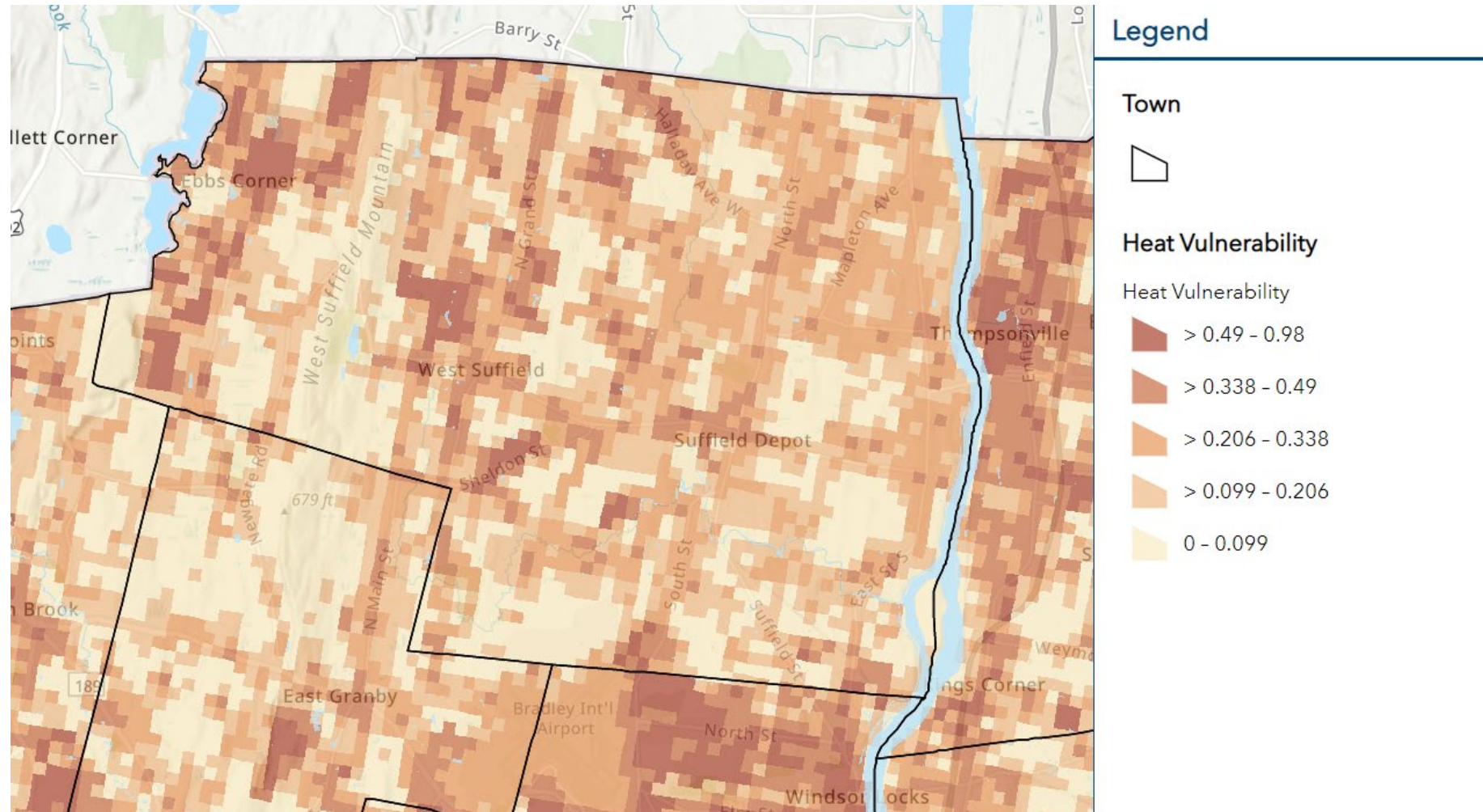
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CRCOG Hazard Mitigation and Climate Adaptation Plan  
Meeting with Avangrid

Date: Monday, December 4<sup>th</sup>, 2023

Time: 4:00 pm

Location: Remote, via Teams

Present from CIRCA: Nicole Govert and Mary Buchanan

Present from Avangrid: Elizabeth Esposito, Edward Roedel, Brian Horgan, Paul Quarfeld, Cely Vano, and Darcy Kurys

Present from CRCOG: Maureen Goulet

Background Information:

- Mary provided general overview of HMP process and the shift to the HMCAP to align with grant programs and *Resilient Connecticut*.
- Mary explained why we are meeting with Eversource specifically.
  - o Accurate accounting for community lifelines to FEMA
  - o FEMA grants have benefited utilities
  - o FEMA policy guidance – must document opportunities for stakeholders, including “utilities and major employers”

Questions/Comments/Discussion Topics:

Avangrid staff report that it is hard for them to say if any specific critical facilities should be listed. There are gate stations and district regulators/distribution facilities throughout the entire region. Mary suggests adding general language to the plan to reflect the importance of this infrastructure, and Avangrid staff agree.

Participants note that the “gas side” of energy operations are generally less vulnerable to flooding compared to electricity providers, and they do not have any immediate concerns to report. Projects are dealt with on a case-by-case basis, such as in Manchester when the culvert adjacent to a gas main collapsed – this is the type of intersection between hazards and Avangrid infrastructure that could affect operations and cause outages.

There are gate stations and district regulators/distribution facilities that can be considered critical facilities, but these are embedded into various towns and saturated throughout the region. The group agreed the plan will not list these facilities but will include general language noting them as important to maintaining the lifeline.

Avangrid staff noted that Avangrid is the umbrella company for Connecticut Natural Gas (CNG), Southern Connecticut Gas Company (SGC), and United Illuminating (UI). It may be useful to meet with these subsidiaries separately, although it should be noted that SGC and UI do not have a significant presence in the CRCOG region.

Avangrid staff report that Avangrid is 10 years into a 20-year project to replace cast iron pipes in Hartford, New Britain, Manchester, and East Hartford, which will reduce the rate of methane leaks. The

majority of the replacement work involves replacing the old, low-pressure systems with a higher-pressure system. Mary notes that the HMCAP is focused on climate adaptation and so does not focus on climate mitigation projects such as reducing methane leaks, but CROG also has a climate mitigation project underway so this is useful information for Maureen to have.

Avangrid owns a LNG plant in Rocky Hill, by the Rocky Hill / Cromwell line. The plant in Rocky Hill is on high ground and they have not had any issues with river flooding thus far, but Avangrid staff note that the possibility of flooding from the river or from excessive rain should always be kept in mind. Avangrid staff also discussed flooding concerns at their Milford plant location along the Housatonic River, which they are actively addressing. CIRCA will check to make sure the Rocky Hill is included in the maps/lists of critical facilities for Rocky Hill.

Questions/Follow-up:

The follow up coordinator for Avangrid for the HMP will be: Eliabeth Esposito