

“RESILIENT CONNECTICUT 2.0” Update

Expanding a Climate Adaptation and Resilience Planning Process in the Capitol Region Presentation for the Policy Board

March 27th, 2024



MEET THE PLANNING TEAM



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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)

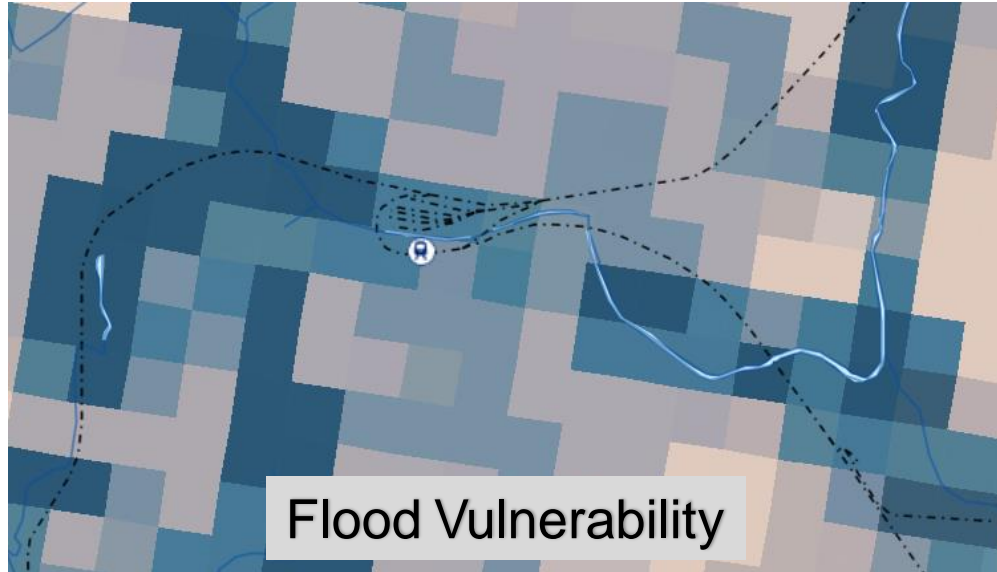
Resilient Connecticut 2.0 extends this effort using State funds.

- 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

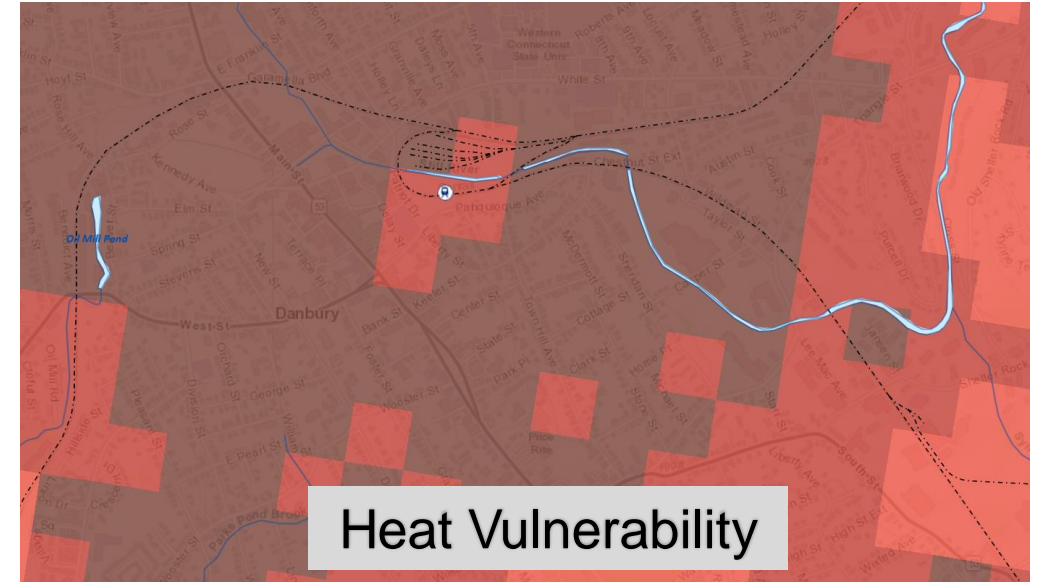


RESILIENT CONNECTICUT METHODOLOGY

- A Climate Change Vulnerability Index (CCVI) was developed statewide



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 METHODOLOGY

- Climate Challenges were Recognized as Opportunities to Address Unmet Needs

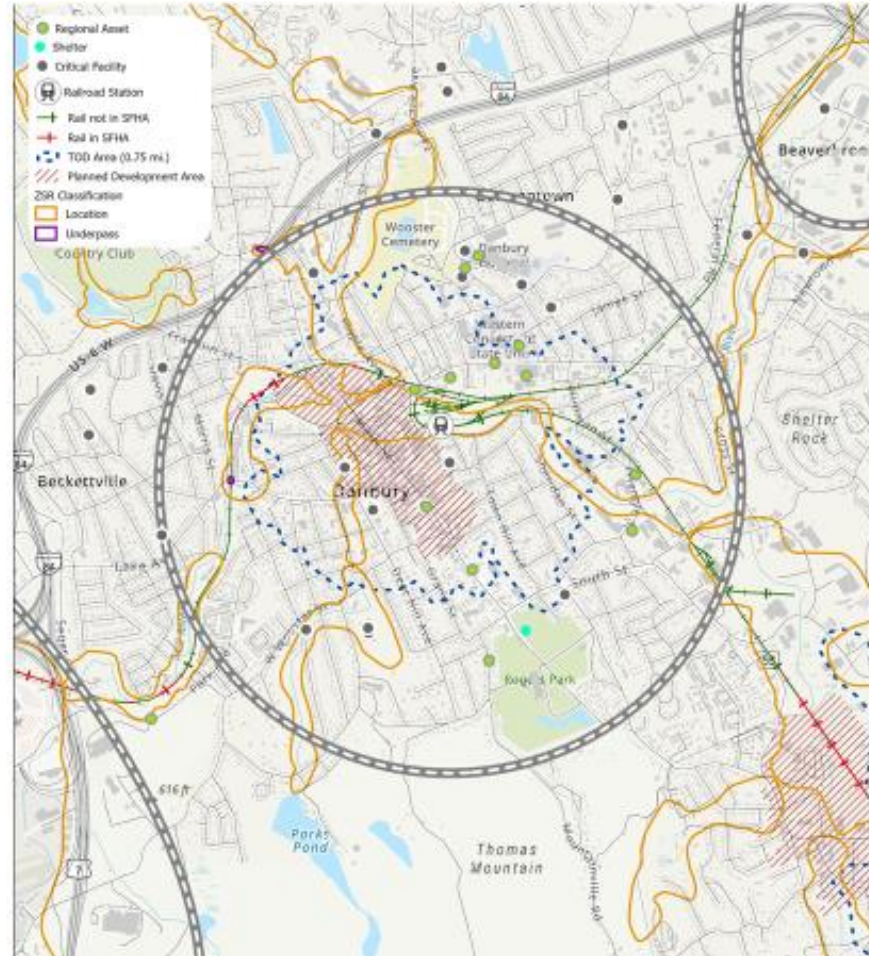
Resilient Connecticut Phase II Regional Adaptation/Resilience Opportunity Areas

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.

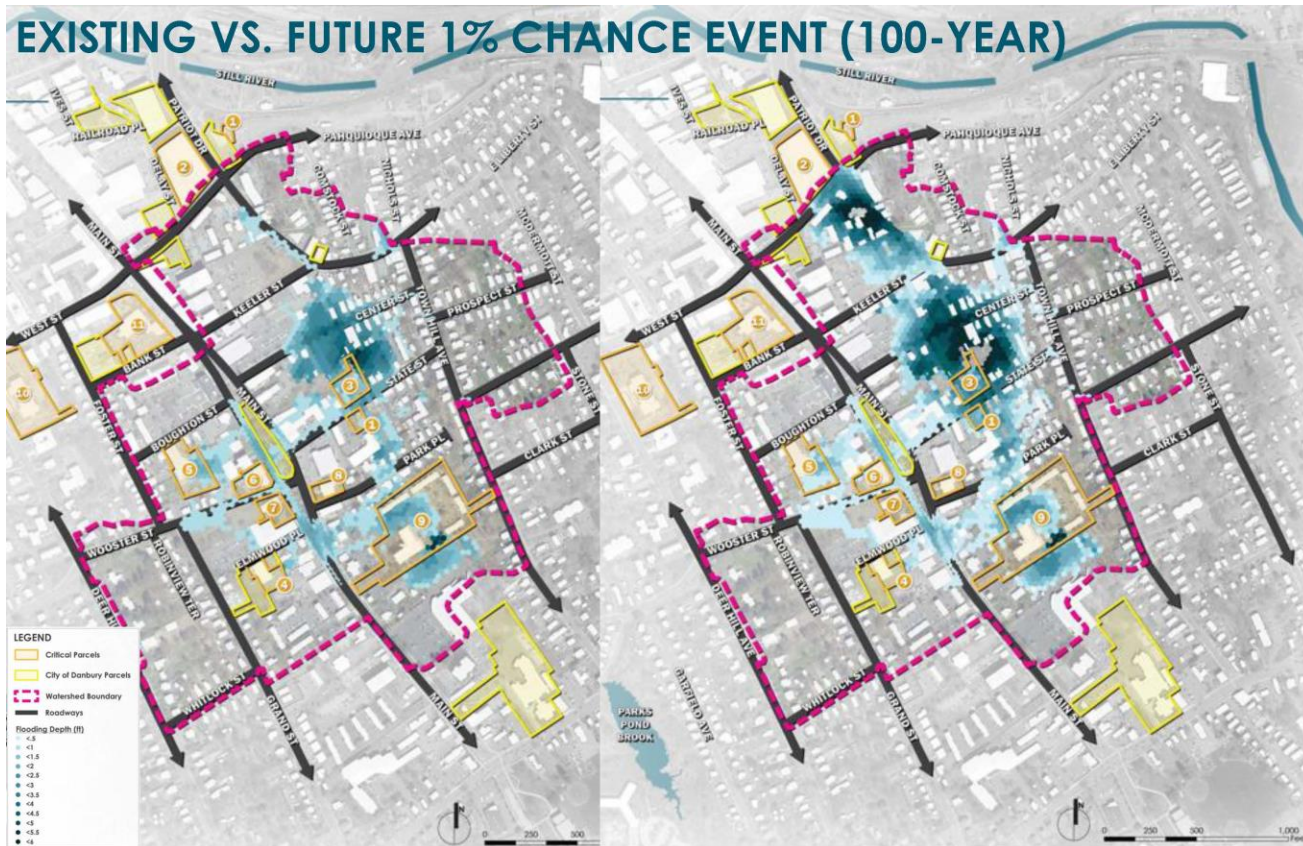
- | | |
|----------------------------------|----------------------------|
| City Hall | Assisted living facilities |
| Fire headquarters | War Memorial |
| Hose Co. 5, 6, 7, and 9 | Substation |
| Danbury Hospital | Power plant |
| Danbury Health and Housing Dept. | Museums |
| Western CT State College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



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

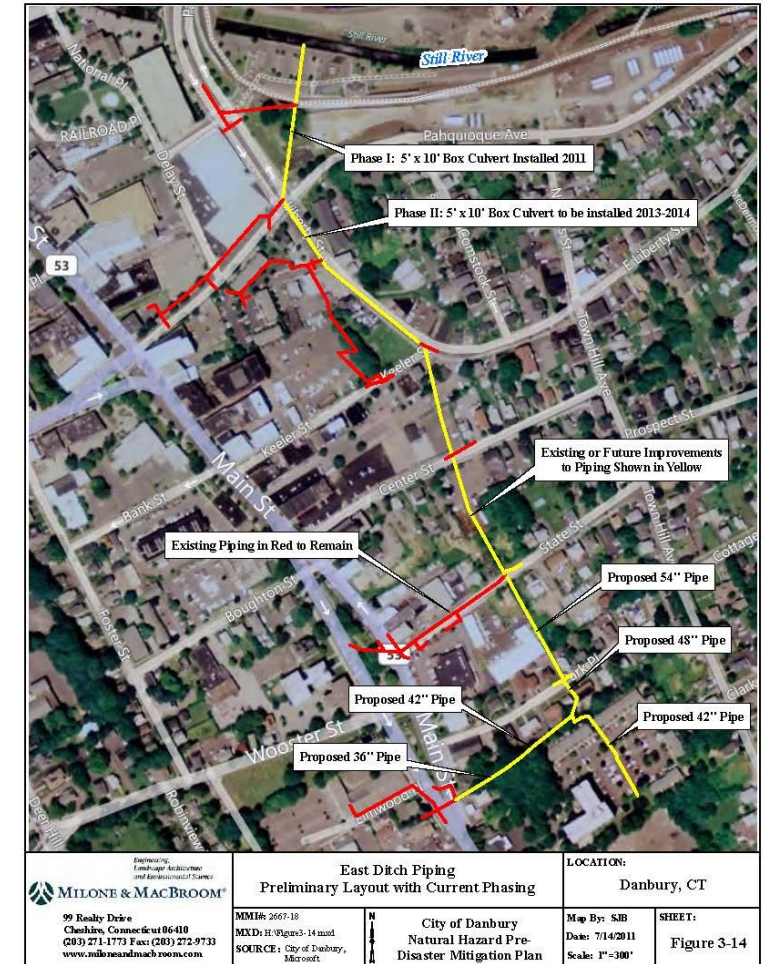
RESILIENT CONNECTICUT METHODOLOGY

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



REMEMBER THE GOAL

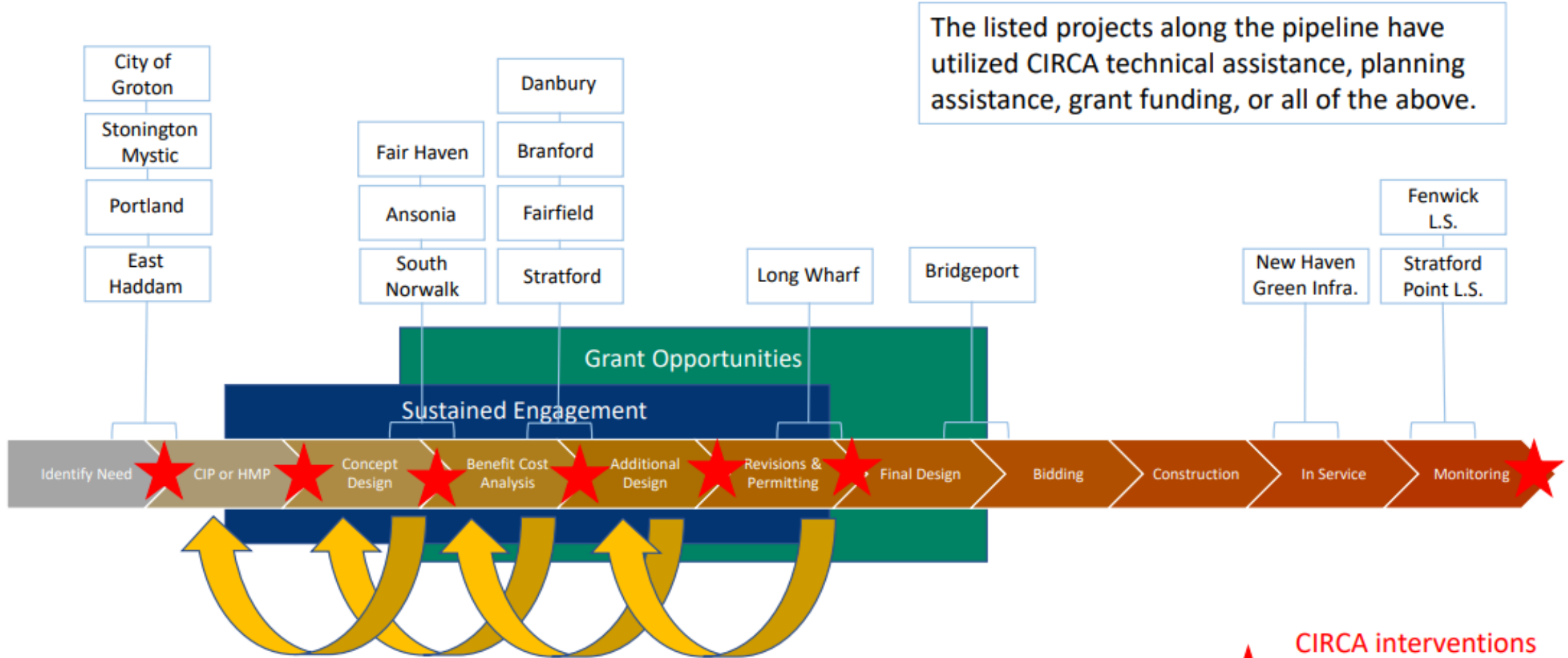
- Opportunity Areas Proceeding to Concept Design from the planning phase
 - ✓ Danbury – Flood mitigation, identification of cooling center, and green infrastructure for co-benefits
 - ✓ Norwalk – Resilient corridors and heat mitigation in South Norwalk
 - ✓ Fairfield – Addressing flooding railroad underpasses and advancing green infrastructure
 - ✓ Stratford – Re-envisioning flood solutions for the South End
 - ✓ Ansonia – “Whole downtown resilience” through heat mitigation and TOD connectivity across river
 - ✓ Branford – Using railroad grade and flood gate for flood protection
 - ✓ New Haven – Egress through areas of flood risk (underpasses, bridges, etc.) and heat mitigation for the Fair Haven neighborhood



Goal: Help populate the State's "Resilience Project Pipeline"

- Resilient CT 2.0 was expanded into RiverCOG and SCCOG with projects starting soon
- **And now: CRCOG!**

The listed projects along the pipeline have utilized CIRCA technical assistance, planning assistance, grant funding, or all of the above.



Taking a step backward is possible and often will occur, in practice, along a project pipeline

★ CIRCA interventions and value added possible

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How We ID ROARS in CRCOG

- Questions we asked:
 - Where do you see intersections of assets and **flood-related challenges?**
 - Where do you see intersections of assets and **extreme heat-related challenges?**
 - Does your municipality face any examples of unique climate driver typologies and challenges? Examples:
 - ✓ Vulnerable populations at risk for flooding and extreme heat
 - ✓ Clusters of critical facilities at risk for flooding and extreme heat
 - ✓ Lack of cooling centers or respite from extreme heat events
 - ✓ Redevelopment pressures and Transit-Oriented Development (TOD) at risk
 - ✓ Unresolved and emerging flood concerns like those of summer 2021
 - ✓ Sewer infrastructure and treatment plants at risk

CRITERIA FOR IDENTIFYING ROARS IN CRCOG

Factor	Potential Criteria to Count	Zones of Shared Risk	Mod-High Flood	Mod-High Heat
Regional Assets	One or more; use DECD and COG-provided data	Must be inside	Yes	Yes
Critical Facilities	Two or more	Must be inside	Yes	Yes
Resilient Corridors	Collectors and arterials; including State-owned	Must intersect	Yes	No
Transit Oriented Development	Rail and busway passenger stations	Must intersect	Yes	Yes
Historic Resources	One district or >10 structures	Must be inside	Yes	Yes
Existing Affordable Housing	Two or more assets	Must be inside	Yes	Yes
WWTP	Serving SV/EJ customers	Must be inside	Yes	No
Public Water Supply Watersheds	Serving SV/EJ customers	Must intersect	Yes	No
Public Water Supply Wells	Serving SV/EJ customers	Must be inside	Yes	No
Private Dams	Class A or lower; not State-owned	Must be upstream	Yes	No
Brownfields	Two or more	Must be inside	Yes	Yes
Septic Systems	>10 single family homes (>2,000 gpd)	Must be inside	Yes	No
Home elevation unmet needs	SV/EJ Census Tracts	Must be inside	Yes	No

RESILIENCE OPPORTUNITY AREA INFO SHEET

Potential Climate Adaptation and Resilience Opportunity Areas in Central Connecticut Draft: January 31, 2024

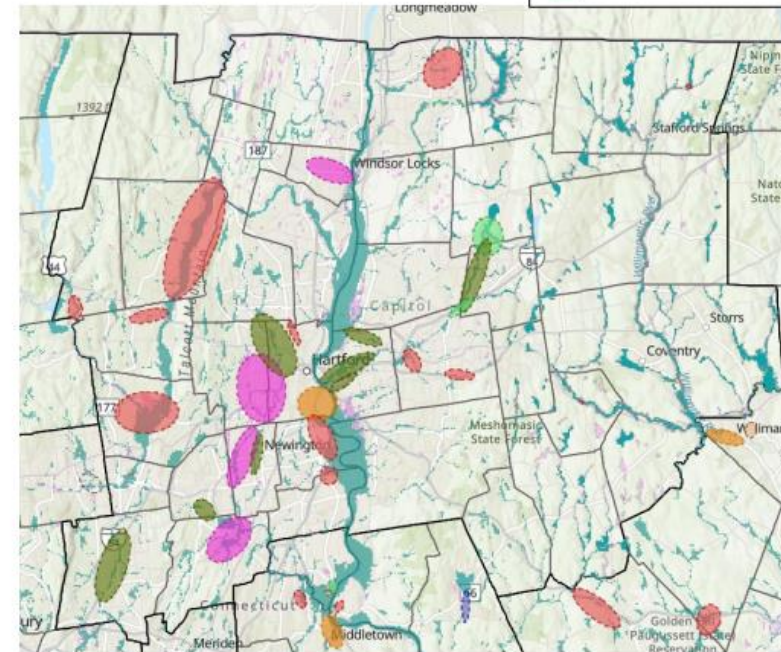


ROAR Name What is a ROAR? A ROAR is a complex climate adaptation and Resilience Opportunity Area with potentially unmet needs related to two climate change threats: flooding and extreme heat. Each of these ROARs is generally positioned where flood vulnerability is moderate to high and heat vulnerability is moderate to high.	Location These are the primary municipalities where the ROARs are located. Some of the ROARs span two municipalities.	These are some of the assets "counted" to identify ROARs. Many were provided by CRCOG in a GIS later, while some assets and resources were taken from other lists and maps. See the reverse side of this sheet for a key.									
		Critical Facilities	Regional Assets	Historic Resources	Wastewater Treatment Plants	Existing Affordable Housing	Transit Oriented Development	Building Elevations in EJ Flood Zones	"Resilient Corridor" Potential	Septic Systems	Public Water Supply Wells
Willow Brook Watershed - DCRF	New Britain	●	●								
Cross-boundary Trout Brook	Hartford & West Hartford	●	●	■							
Cross-Boundary Park River	Hartford & West Hartford	●	●	■							
Piper Brook	Newington	●	●	■							
Burnham Brook	East Hartford	●	●	■							
Willow Brook	East Hartford	●	●								
South Meadows & South End	Hartford	●	●	■							
North End Critical Facilities	Hartford	●	●	■							
Mill Brook - Newington	Newington	●	●								
Kettle Brook	Windsor Locks	●	●								
Kensington & Mattabassett River	Berlin	●	●	■							
Talcottville & Hockanum River	Vernon	●	●	■	■						
Lower Hockanum River	East Hartford	●	●	■	■						
Central Southington	Southington	●	●	■							
Enfield WPCF	Enfield	●	●		■						
Hockanum River & Tolland Turnpike	Manchester & Vernon	●	●	■	■						
South Fork Hockanum River	Manchester	●	●	■	■						
Freshwater Brook	Enfield	●	●	■							
Plainville WPCF	Plainville	●	●		■						
Nod Brook	Avon	●	●		■						
Valley Brook and Goff Brook	Rocky Hill	●	●	■							
Coventry Sewage Treatment Plant	Coventry	●	●	■	■						
Simsbury Center & Farmington River	Simsbury	●	●	■	■						
Central Wethersfield	Wethersfield	●	●	■							
Staffordville Critical Facilities	Stafford	●	○								
Farmington River	Farmington	●	●	■	■						
Collinsville	Canton	●	●	■	■						
Hop Brook & Connecting Brooks	Manchester	●	●	■							
Upper Hockanum River	Ellington	●	●	■	■						
Andover Town Garage on Hop Brook	Andover	●	●								

CIRCA contact information for questions and feedback:

Mary Buchanan, mary.buchanan@uconn.edu
Nicole Govert, nicole.govert@uconn.edu

- Critical Facilities
- Critical Facilities / Regional Assets
- Critical Facilities / EJ Elevation
- Critical Facilities / TOD
- WWTP
- Potential EJ Elevation



	>10 Critical Facilities or Regional Assets
	6-10 Critical Facilities or Regional Assets
	3-5 Critical Facilities or Regional Assets
	1-2 Critical Facilities or Regional Assets
	Critical Facilities or Regional Assets not present

Upcoming Projects in the CRCOG Region

- CIRCA will be a partner on two DEEP Climate Resilience Fund projects that overlap with ROARs within the CRCOG Region and meet Resilient Connecticut goals:
 - *Willow Brook Watershed – New Britain*
 - *Kennedy Brook & Kane Brook – Hartford / West Hartford*
- We are also looking to do **2-3** more projects in the CRCOG region.
 - These project sites have not yet been selected.
 - We'd like your input!

CIRCA's Municipal Contacts

Town	Contact Name
Andover	Eric Anderson
Avon	Bruce Appell
Berlin	Rich Cop
Bloomfield	Jon Colman
Bolton	Patrice L. Carson
Canton	Chris Arciero
Columbia	Jennifer LaVoie
Coventry	James Drumm
East Granby	Kenneth Beliveau
East Hartford	Steve Hnatuk
East Windsor	Ruthanne Calabrese
Ellington	Lisa Houlihan
Enfield	Lauren Whitten
Farmington	Arnold Russell
Glastonbury	Jonathan Luiz
Granby	Abigail St. Peter Kenyon
Hartford	Christopher Hayes
Hebron	Matthew Bordeaux
Manchester	Emma Peterson
Mansfield	Adam Libros

Town	Contact Name
Marlborough	Peter Hughes
New Britain	Mark Moriarty and Raul Ortiz
Newington	Paul Dickson
Plainville	Mark S. DeVoe
Rocky Hill	Mike Garrahy
Simsbury	Thomas Roy
Somers	Todd Rolland
South Windsor	Marco Mucciacciaro
Southington	Mark Sciota
Stafford	Jim Desso
Suffield	Bill Hawkins
Tolland	David Corcoran
Vernon	Michael Purcaro
West Hartford	Duane Martin
Wethersfield	Denise Bradley
Willington	Stuart Cobb
Windsor	Suzanne Choate
Windsor Locks	Phil Sissick

NEXT STEPS: CONTACT US!

- Let CIRCA know if your municipality would be interested in doing a project in one of the identified areas! This would involve...
 - Working with CIRCA to develop the scope of work
 - Serving on an advisory committee to work with the selected consultants
 - Participating in community outreach efforts

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