

RESILIENT CONNECTICUT 2.0



Overview for Town of Durham

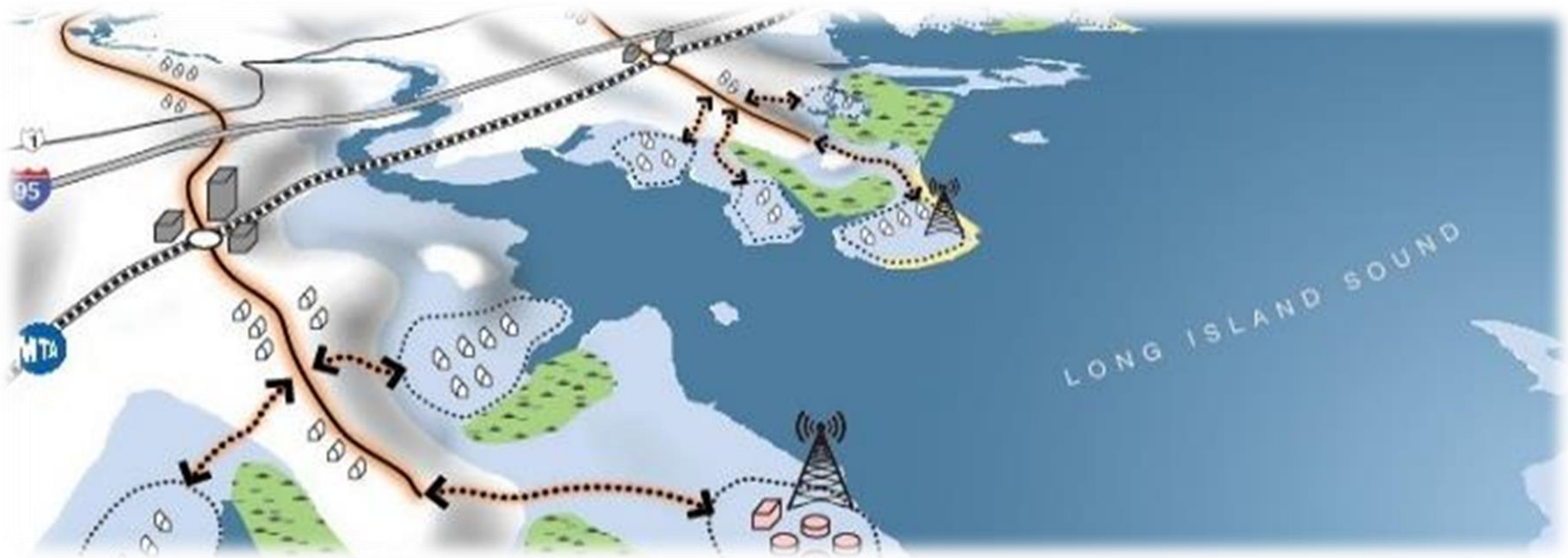
April 20, 2022

Agenda

- Review of Resilient Connecticut 1.0
- Introduction to Resilient Connecticut 2.0
- Review of Zones of Shared Risk
- Review of Hazard Mitigation Plan Actions
- Open Discussion
- Wrap-Up

Review of Resilient Connecticut 1.0

- **Resilient Connecticut 1.0** originated from a successful State application to the National Disaster Resilience Competition (NDRC) several years ago

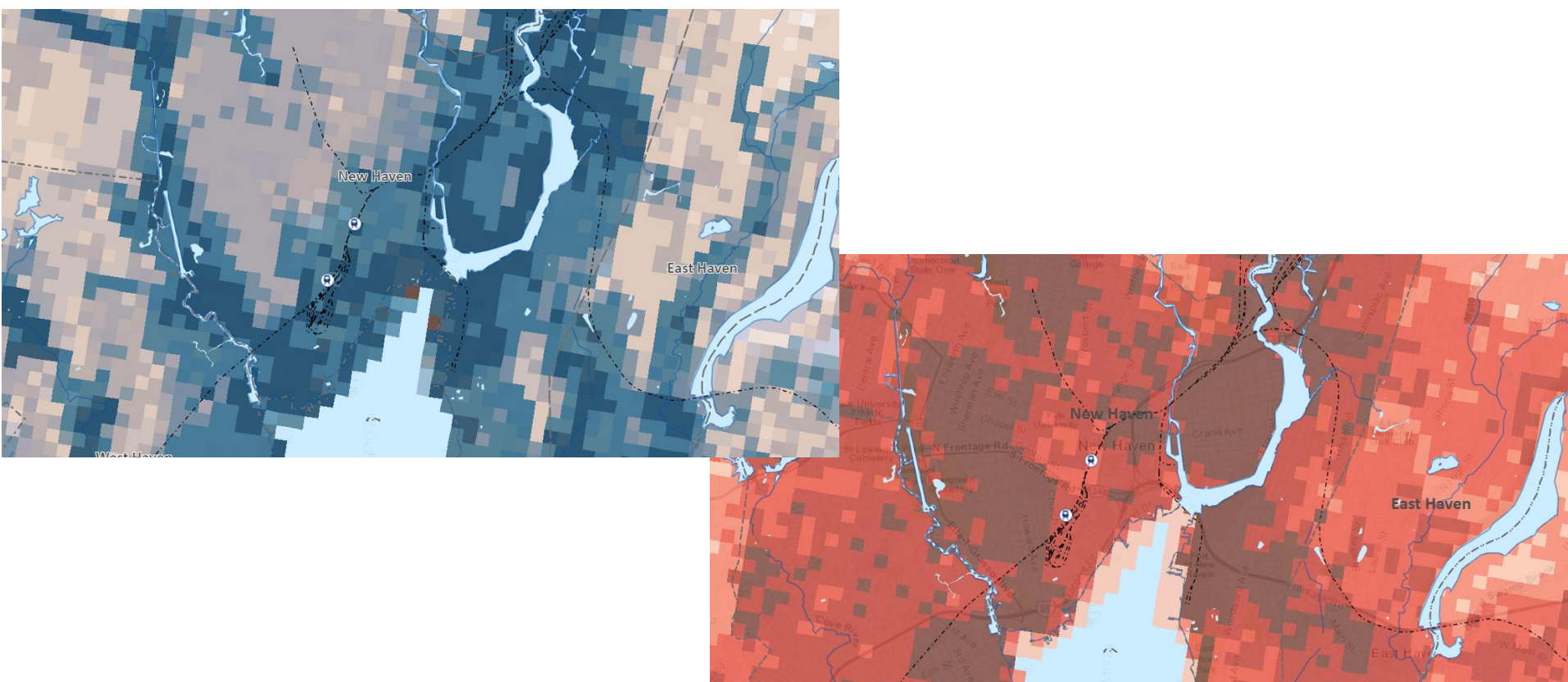


Review of Resilient Connecticut 1.0

- Originally called the “Connecticut Connections Coastal Resilience Plan,” the planning effort evolved to focus on climate drivers of **flood** and **extreme heat** hazards throughout Fairfield County and New Haven County
- Transit oriented development (TOD), affordable housing, critical infrastructure, and key assets were emphasized in the planning process
- The planning phase has ended, and CIRCA is shifting into the study and concept design phase for Fairfield County and New Haven County

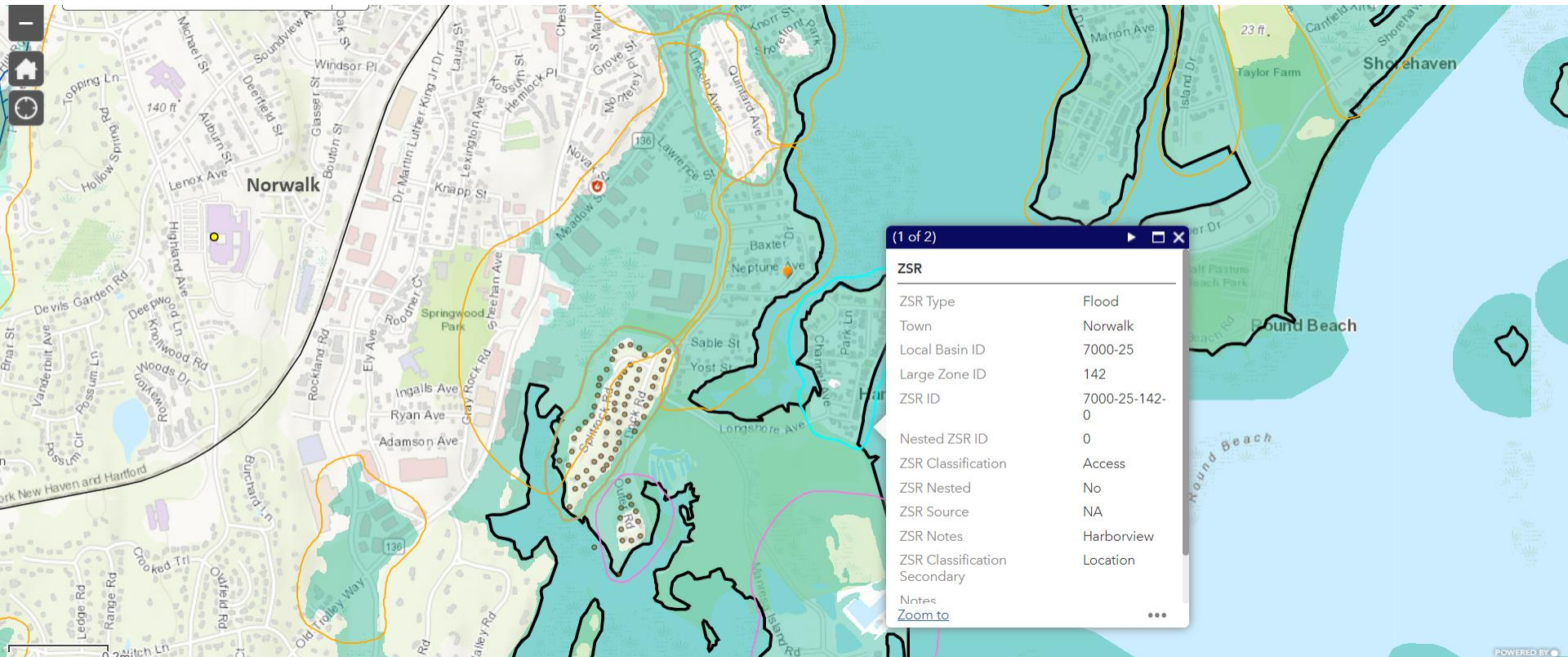
What Resulted from Resilient CT 1.0?

- Climate Change Vulnerability Index (CCVI)



What Resulted from Resilient CT 1.0?

- Zones of Shared Risk



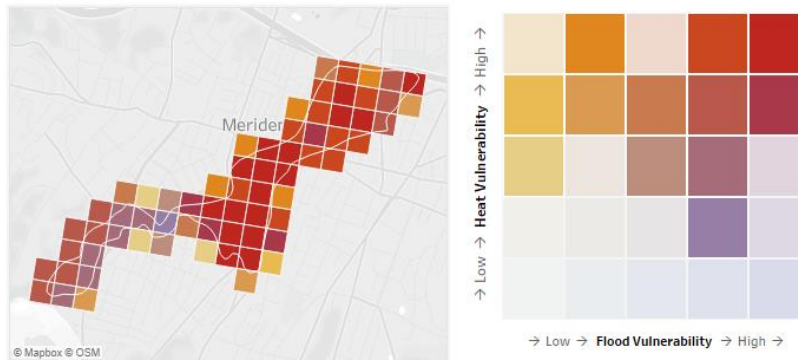
What Resulted from Resilient CT 1.0?

- Identification of Challenges that are Opportunities

Zone of Shared Risk:
5206-00-249-0
Town: Meriden
Type: Flood,
Proximity



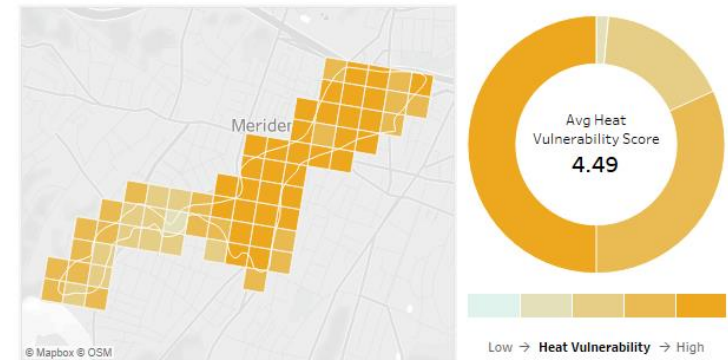
Combined Vulnerability



Flood Vulnerability



Heat Vulnerability



What Resulted from Resilient CT 1.0?

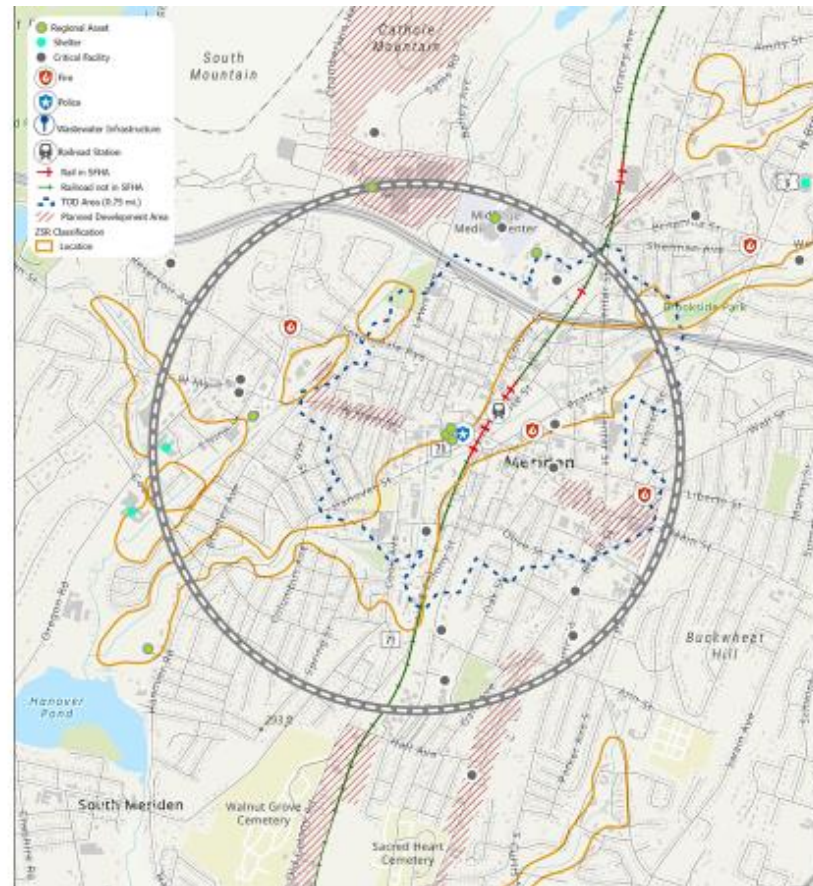
- Identification of Challenges that are Opportunities

Resilient Connecticut Phase II Regional Adaptation/Resilience Opportunity Areas

Name: Downtown Meriden
Location: Meriden

Considerations	Characteristics of Area
Flood Vulnerability	●●●●●
Heat Vulnerability	●●●●●
Social Vulnerability	●●●●●
<p>Critical facilities, historic resources, major transportation routes, and TOD intersect in downtown Meriden within the Harbor Brook zone of shared risk. The City of Meriden has already undertaken major flood risk reduction projects in this area, including the Meriden Green – a significant greenspace that doubles as a restored floodplain and provides a major public amenity to the city and the region. The City has additional opportunities to incorporate resilience into many redevelopment projects. There is strong heat related social sensitivity in the Meriden area, in addition to dense development, high amounts of impervious, and only few areas to provide ample shade.</p>	
<p>City Hall Eversource gas facility Engine co. 1, 2, and 3 Hunters Ambulance Police Department</p>	<p>Mid State Medical center Muravnik senior Center Lincoln Middle School Museums</p>

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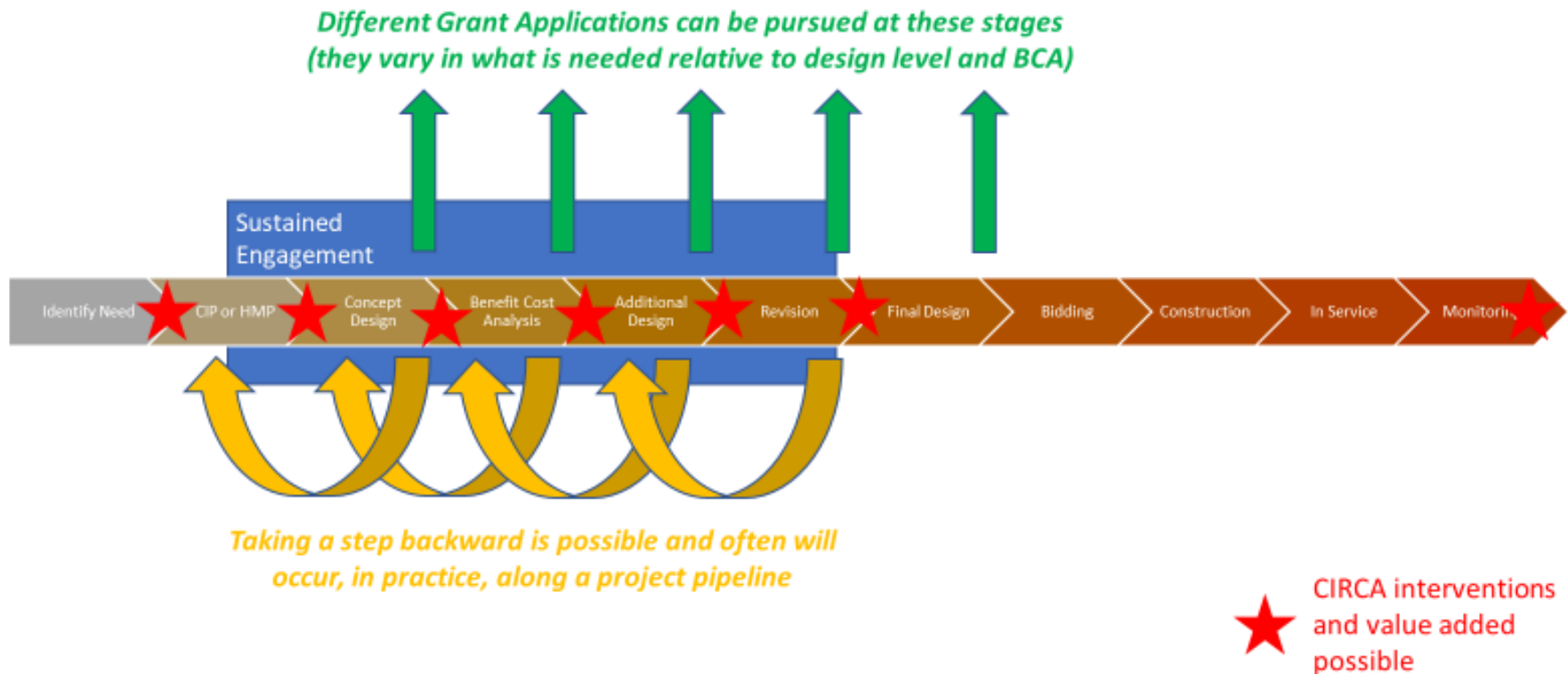


What Resulted from Resilient CT 1.0?

- Recommended Climate Adaptation & Resilience Projects
 - Danbury - Flood mitigation through stream daylighting and identification of cooling center
 - 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 - TOD connectivity across river; heat mitigation
 - Branford - Using railroad grade for flood protection
 - New Haven - Egress through areas of flood risk and heat mitigation for Fair Haven

What Resulted from Resilient CT 1.0?

- A recognition of the *Resilience Project Pipeline*



Introduction to Resilient Connecticut 2.0

- ***Resilient Connecticut 2.0*** is being deployed using State funds
- Timeframe is 2022-2023
- The CCVI will be expanded statewide
- Focused planning will include the RiverCOG, CRCOG, and SCCOG regions for:
 - Technical assistance for various challenges
 - Delineation of Zones of Shared Risk
 - Review of Flood Vulnerability Study and Hazard Mitigation Plan to help with identification of resilience opportunity areas

Resilient Connecticut 2.0

- Leverage Your Hazard Mitigation Plan
 - What can we pick up, advance, or re-cast?
- Find Complex Climate Adaptation and Resilience Projects
 - Flood mitigation
 - Erosion mitigation
 - Extreme heat
 - Combinations
- Be Flexible
 - We are no longer tied to TOD, affordable housing, and critical infrastructure ideas
 - What is important in the Lower Connecticut River region?

Resilient Connecticut 2.0

- ***What do we mean by technical assistance for various challenges?***
 - Essex: Ferry Street Flood Frequency Analysis
 - Old Saybrook: Fenwick Living Shoreline

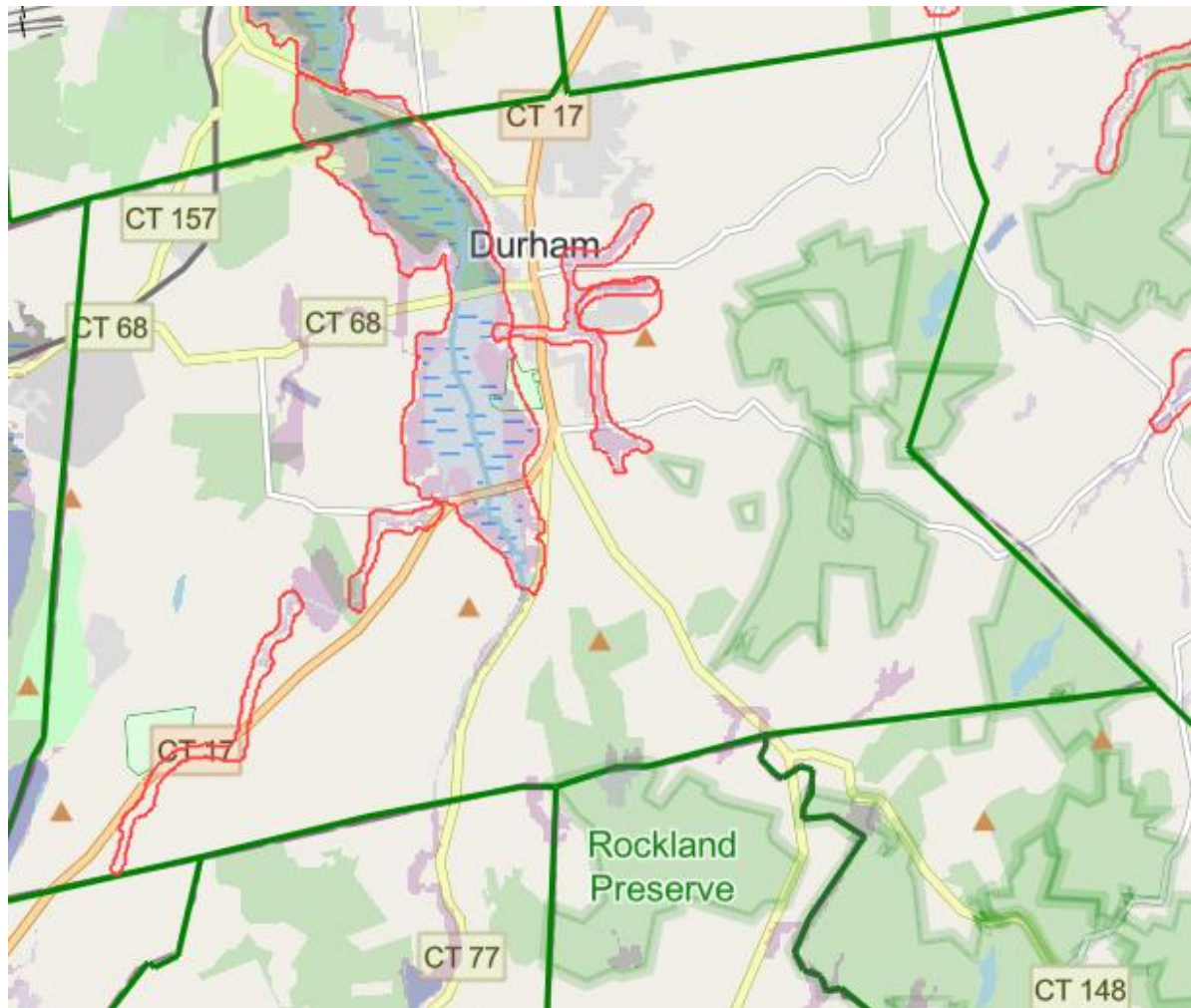


Review of Zones of Shared Risk

- Seven Types of Flood and Erosion-Based ZSRs
 - Location
 - Proximity
 - Access
 - Natural Systems
 - Underpasses
 - Single Point
 - Sewershed
 - Resources for Mapping
 - FEMA maps (**new work maps to be issued late 2022**)
 - RiverCOG Flood Vulnerability Assessment
 - RiverCOG Hazard Mitigation Plan
- Original types piloted in Guilford Resilience Plan
- Added in Resilient Connecticut 1.0
- Additional Potential Typologies for 2.0

ZSR Viewer

<https://experience.arcgis.com/experience/9a4f68dd99f44dc58b93fd85bcfe1255/>



Review of Hazard Mitigation Plan Actions

- The planning process was in 2019-2020
- DEMHS and FEMA review was 2020-2021
- Plan approved in spring 2021
- Durham listed 19 actions
- We will review each to comment on the status and note:
 - Applicability to address climate drivers of flooding and extreme heat
 - Applicability for the State's resilient project pipeline

Review of Hazard Mitigation Plan Actions

Activity #	Goal/Objective	Activity Description	Lead Agency	Est. Cost*	Potential Funding Sources	Timeframe	Hazard (s) Addressed	STAPLEE Score/Priority	Status	Potential for Climate Adaptation / Resilience Characteristics
1	1-1	Incorporate additional natural hazard mitigation concerns into Zoning Regulations, Subdivision Regulations and Stormwater Management Regulations	Planning	\$0-\$10,000	CIP, OP	2020	SW, TW, ET, WS, F, TI, WF, D, E, CC	7/H		Low
2	1-1	Incorporate additional natural hazard mitigation concerns into the Inland Wetland Regulations, including prevention of runoff near waterways	Inland Wetlands	\$0-\$10,000	CIP, OP	2020	F	4/H		Low
3	1-1	Incorporate projects identified in this table to the capital improvement plan annually	All	\$0-\$10,000	CIP, OP	2021 then annually	SW, TW, ET, WS, F, TI, WF, D, E, CC	4/H		Medium; depends on specific needs
4	1-1	Update emergency shelters with technology, space, and supplies. Actions include adding repeaters to ensure complete internet coverage in shelters and ensuring full cell coverage. Ensure shelters have installed generators, emergency light towers, and maintain supplies. Build 6-8 bay buildings for Emergency shelter storage.	BOS, BOF	\$50,000 - \$100,000	OP, DEMHS	2023	ALL	5/H		High, especially if cooling centers are included
5	1-1	Create and implement Debris Management Plan	Public Works	\$0-10,000	CIP, DEMHS, OP	2021 - 2022	SW, TW, WS, TI, WF	4/H		Low
6	1-1	Create and maintaining an inventory of dying and dead trees. Ensure budget allocates appropriate money necessary to maintain and remove dead, dying, dangerous, and diseased trees in rights-of-way and other town land.	Public Works	\$0-\$10,000	CIP, DEMHS, OP	2021 - 2022	SW, TW, WS, TI, WF	4/H		Low

Review of Hazard Mitigation Plan Actions

Activity #	Goal/Objective	Activity Description	Lead Agency	Est. Cost*	Potential Funding Sources	Timeframe	Hazard (s) Addressed	STAPLEE Score/Priority	Status	Potential for Climate Adaptation and Resilience Characteristics
7	2-1	Conduct a drainage study for Guire Road. Replace culverts as needed to reduce flooding	BOS, PW, BOF	\$25,000-\$50,000, for study	HMPG, FMA, CIP, STIP, TIP, RTP	2022 - 2023	F, SW, WS	11/H		High
8	2-1	Coordinate with CT DOT to conduct a drainage study for Stagecoach Rd near Route 17. Replace culverts with larger culverts to reduce flooding.	BOS, PW, BOF	\$25,000-\$50,000	HMPG, FMA, CIP, STIP, TIP, RTP	2022 - 2023	F	11/H		High
9	2-1	Design has been completed for a new culvert on Pickett Lane between Main St and Maiden Lane. Replace culverts to reduce flooding	BOS, PW, BOF	\$25,000-\$50,000	HMPG, FMA, CIP, STIP, TIP, RTP	2022 - 2023	F	11/H		High
10	2-1	Conduct a drainage study for Haddam Quarter Road. Replace culverts as needed to reduce flooding	BOS, PW, BOF	\$25,000-\$50,000	HMPG, FMA, CIP, STIP, TIP, RTP	2022 - 2023	F	11/H		High
11	2-1	Conduct a drainage study for Seward Road. Replace culverts as needed to reduce flooding	BOS, PW, BOF	\$25,000-\$50,000	HMPG, FMA, CIP, STIP, TIP, RTP	2022 - 2023	F	11/H		High
12	3-1	Install redundant internet for the Town Hall to ensure continuity of government should cable go down. Continue using Comcast as primary and acquire the necessary permissions and equipment in order to use the state fiber network as backup during emergency operations. (replacing the old satellite internet backup that was discontinued in 2017/18)	Emergency Management	\$5,000-\$10,000	OP	2023	SW, TW, ET, WS	4/M		Low

Review of Hazard Mitigation Plan Actions

Activity #	Goal/Objective	Activity Description	Lead Agency	Est. Cost*	Potential Funding Sources	Timeframe	Hazard (s) Addressed	STAPLEE Score/Priority	Status	Potential for Climate Adaptation and Resilience Characteristics
13	2-1	Report new tranche of culvert work to finance committee to establish a comprehensive analysis and replacement schedule for all culverts	BOS, PW, BOF	\$0-\$1,000	FEMA HMGP or other HMA Grants, State Funding	Annual	F	2/L		Medium; high if culvert size will be increased
14	2-1	Upgrades to fire house is needed. Complete an analysis to determine if a build out of the property to accommodate a public safety complex to house Fire, EMS, RST and the Fire Marshal is feasible.	EM, FD, BOS, BOF	\$10,000-\$25,000	HMGP, OP	2025	WF, D	2/L		Low
15	1-1	Microwave Communication Enhancements. Currently Writing a grant, along with (Durham, Chester, Haddam, O.S., Lyme and Colchester) for microwave equipment in the region to enhance communication capabilities	EM, PW, BOS, BOF			2020				Low
16	1-1	Diseased and Dead Tree Removal: Develop a program to migrate from a tree- to- tree removal operation to a full-on logging operation for efficiency. Pursue a RPIP grant with neighboring communities for regional logging equipment.	PW	\$10,000-\$25,000, to pursue grant	RPIP	2022	TI, WS, TW, WF, H	4/H		Low
17	1-1	Drought and Water Use Ordinance: Identify Restrictive Use Model Ordinances, conduct a literature review and draft and adopt an ordinance.	PW, Planning	\$10,000-\$25,000	HMPG, PDM, CIP, OP	2023 - 2024	D	4/L		Medium
18	2-1	Address Snow Loading on Roofs: Inspect sections of flat roof on critical and essential facilities including the high school, middle school, fire department, and library to identify risk from snow load. Investigate mitigation possibilities and implement as needed.	BD	\$1,000-\$10,000	HMPG, FMA, CIP, STIP, TIP, RTP	2022	WS	3/L		Medium
19	1-1	Plan integration: Integrate with Plan of Conservation and Development by incorporating NHMP as an annex.	Planning	\$0-\$10,000	CIP, OP	2021	SW, TW, ET, WS, F, TI, WF, D, E, CC	7/H		Low

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?
- Does Durham have examples of unique climate driver typologies and challenges?
- If so, could they lead to either:
 - Limited technical assistance (i.e., Essex Ferry Street)
 - The State's Resilience Project Pipeline

Wrap-Up

- Designate someone
 - To be the primary contact for coordination and meetings
- Maintain a local planning team
 - Planning/Land Use
 - Public Works
 - Emergency Management (if interested)
- Let us know what else is going on
 - Engagement with Sea Grant, DEEP/GC3, Sustainable CT, etc.
 - Applications for funding from FEMA, NFWF, LISS



QUESTIONS?

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