

# Resilient East Hartford

AECOM



East Hartford

## Project Site Overview

The Resilient East Hartford project study area covers Connecticut Boulevard, Pitkin Street, and the northern section of Main Street up to the railroad underpass. East Hartford is advancing revitalization efforts, especially along Main Street, to create a vibrant downtown with residential, commercial, retail, and municipal uses. Stormwater flooding remains a major challenge; contributing factors include frequent underpass flooding, poor storm drain maintenance, reduced curb height, and extensive impervious surfaces. Flooding at the underpass poses public safety risks as drivers attempt to pass through high water. The town also faces heat vulnerability due to limited tree canopy and large expanses of pavement.

## Technical Analysis

AECOM developed a stormwater model to assess drainage performance under current and future conditions, using field research, as-built plans, records, and computer modeling. The model tested 10-, 50-, and 100-year storms, finding that many of the drainage pipes in the study area are undersized, unable to convey runoff, and causing backwater. The system is frequently overwhelmed, leading to surface flooding that will worsen as rainfall intensifies. The railroad underpass in particular experiences ponding in all modeled storm scenarios.

Using the CIRCA Climate Change Vulnerability Index, the team conducted a heat vulnerability analysis in the project area and developed mitigation actions, including the identification of potential cooling centers and options for reconfiguring parking surfaces in a pilot area.

## Concept Designs



The project team assessed multiple options for heat mitigation in downtown East Hartford. Potential sites for future cooling centers include the East Hartford Public Library, the East Hartford Town Hall, and the East Hartford Community Center.



The project team assessed the capacity of the stormwater drainage system serving the Main Street area near the underpass to evaluate the upgrades needed to accommodate storm events at multiple recurrence intervals.

Lot-level improvements were conceptualized at a project site consisting of the East Hartford Public Library, the Post Office, and the former Church's Corner Inn, which is now a future site for mixed-use development. Targeted interventions within the study area could serve as a replicable model for other areas of East Hartford, with the goal of less fragmentation among parcels and more resilient, people-friendly corridors.

## Recommendations and Next Steps

### Heat Resilience:

- Advance Resilience Centers at identified sites; explore additional locations.
- Use study findings to guide green street/tree canopy planning.
- Expand cooling corridor strategies along Main Street and other major streets.

### Stormwater Management:

- Document storm events to support grants and planning.
- Pursue funding beyond FEMA for improvements.
- Implement short-term fixes (signage, interdepartmental coordination).
- Plan long-term upgrades: larger drainage, green infrastructure, tree canopy, reduced impervious cover, and improved maintenance.

Pipe Capacity Comparison		Pipe Capacity Comparison												
											Existing Pipes		Future Pipes (50-Yr. Capacity)	
		Existing			Mid-Century (2040-2069)			Late-Century (2070-2100)						
		10-year	50-year	100-year	10-year	50-year	100-year	10-year	50-year	100-year				
Pipe Section	Location	Total Flow (ft3/s)	Total Flow (ft3/s)	Total Flow (ft3/s)	Total Flow (ft3/s)	Total Flow (ft3/s)	Total Flow (ft3/s)	Total Flow (ft3/s)	Total Flow (ft3/s)	Total Flow (ft3/s)	Diameter (in)	Capacity (Full Flow) (ft3/s)	Diameter (in)	Capacity (ft3/s)
P06	Main St	12.86	18.58	21.33	16.71	28.86	36.9	14.51	22.68	27.66	21	11.07	30	29
P506	Sterling	95.58	135.97	154.06	122.31	204.75	255.71	107.11	163.79	196.05	30	59.6	48	208.16
P3602	Main St	12.58	17.04	19.02	15.62	24.17	29.25	13.9	19.98	23.36	12	6.17	24	39.18
P3968	Woodbri	12.01	15.48	16.92	14.34	20.72	24.21	13.04	17.68	20.08	12	3.58	24	22.62
PCB3968B	Main St	16.98	22.08	24.2	20.4	29.82	35	18.48	25.33	28.87	12	3.57	30	41.02

Pipe Capacity Comparison: This table summarizes the pipes in need of replacement to accommodate flow from 10, 50 and 100-year events.

### Land Use & Resilience Planning Strategies:

- Update zoning to modify parking regulations and incentivize green infrastructure.
- Coordinate with CTDOT on Main Street Redesign to integrate green infrastructure, shade trees, and complete streets.
- Advance Town-led capital projects that support enhanced resilience.
- Leverage this Pilot Study as a framework for replication in other areas and across other town functions, while also using it as a tool to promote awareness and garner support from public stakeholders and private property owners.
- Refine costs and develop plans for mixed-use redevelopment of Town-owned parcels.



Concept design for improvements to the pilot site to achieve greater access and connectivity, stormwater management, heat impact reduction, social benefits, and economic benefits.

## Stakeholder Engagement

- Three advisory committee meetings with Town and partners.
- Internal workshop and site walk to assess ground-level conditions, including impervious coverage, underused parking, and pedestrian barriers.
- Public meeting to present design opportunities and gather community input.

## Project Objectives

1. Evaluate future projections of precipitation events by 2050 and 2100 and communicate established flood and heat risks.
2. Visualize public realm improvements in the Town of East Hartford that can support greater connectivity and withstand future environmental stresses.
3. Reduce impacts on critical facilities core to the Town of East Hartford from the effects of excessive flooding and heat.
4. Ensure community and stakeholder priorities drive the selection of strategies and projects.

For more information visit: <https://resilientconnecticut.uconn.edu/resilient-east-hartford/>

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