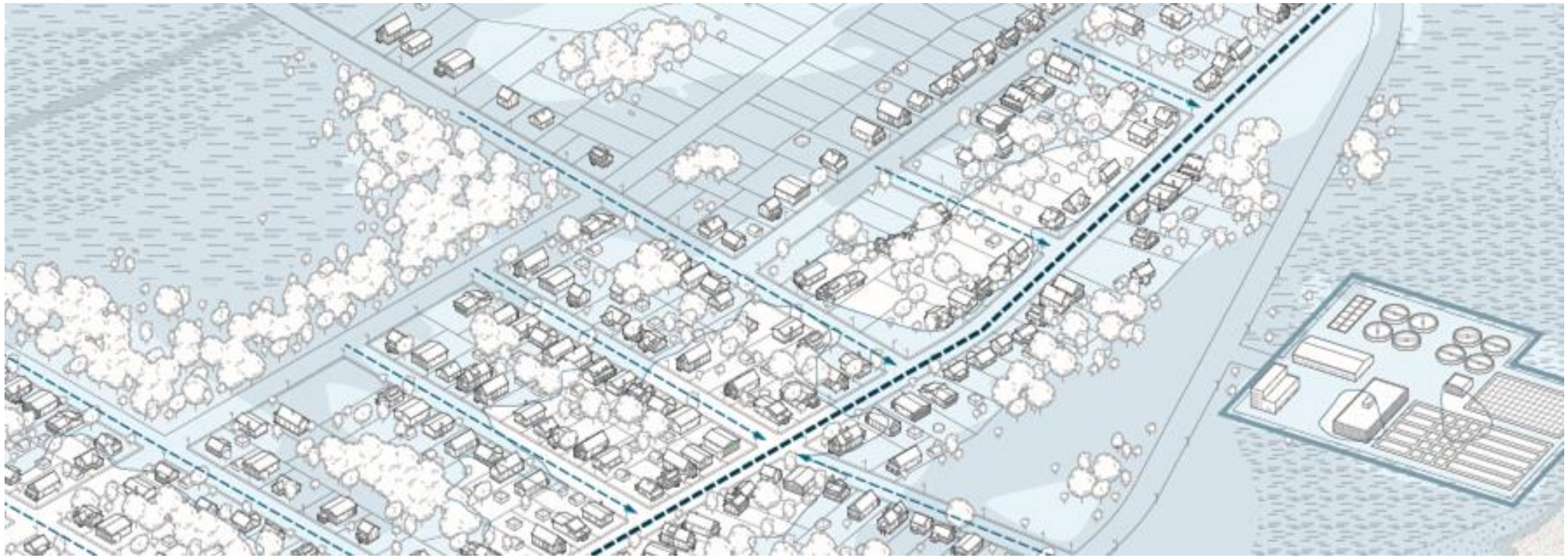


Federal Funding for Resilience and Adaptation

John Truscinski
Director of Resilience Planning
Connecticut Institute for Resilience and Climate Adaptation

April 1, 2020

Projects Types

- **Preliminary planning**
  - Workshops, community conversations, initial priorities, conceptual designs
- **Policy and program development**
  - Update building codes, ordinances, best practices
  - Pilot studies and plans
- **Design and engineering**
  - Technical analysis, feasibility studies, engineering, cost/benefit
- **Implementation**
  - Final environmental impact and permitting
  - Final design and construction
- **Operations and maintenance**
  - Ongoing costs
  - Monitoring and assessment

ID	Ongoing Practices	Who								Total Score	Priority*	Funding Source	Estimated Cost	Hazard Addressed	Approximate Timeline
1.	Provide outreach and education to all residents of their vulnerabilities to natural hazards. Ensure outreach is targeted to those with limited English proficiency, and those with visual/ auditory impairments. Including preparedness, mitigation and recovery	*OEM*	*3*	*2*	*3*	*3*	*2.5*	*3*	*3*	*2.79*	*High*	*city*	*$0*	*All*	*7/2016-6/2018*
2.	Increase harbor shore communication and create an individual resiliency plan that assists in making at-risk residents more resilient to natural hazards. For example, teaching residents how to do a flood audit to protect/ safeguard against flooding	*OEM, Residents*	*3*	*2*	*0*	*3*	*3*	*0*	*3*	*2.00*	*Medium*	*FEMA, DEMHS, DEEP, USACOE, City*	*$100,000-$500,000*	*Flooding, Hurricane, Sea Level Rise*	*7/2016-6/2018*
3.	Build a barrier system to prevent debris associated with flooding from impacting King Industries and associated chemical storage	*Private (King Chemical)*	*3*	*2*	*0*	*2*	*2*	*2*	*3*	*2.00*	*Medium*	*EPA, DECD, FEMA, DEMHS, Private*	*$3+ million*	*Flooding, Hurricane, Sea Level Rise*	*7/2019-6/2021*

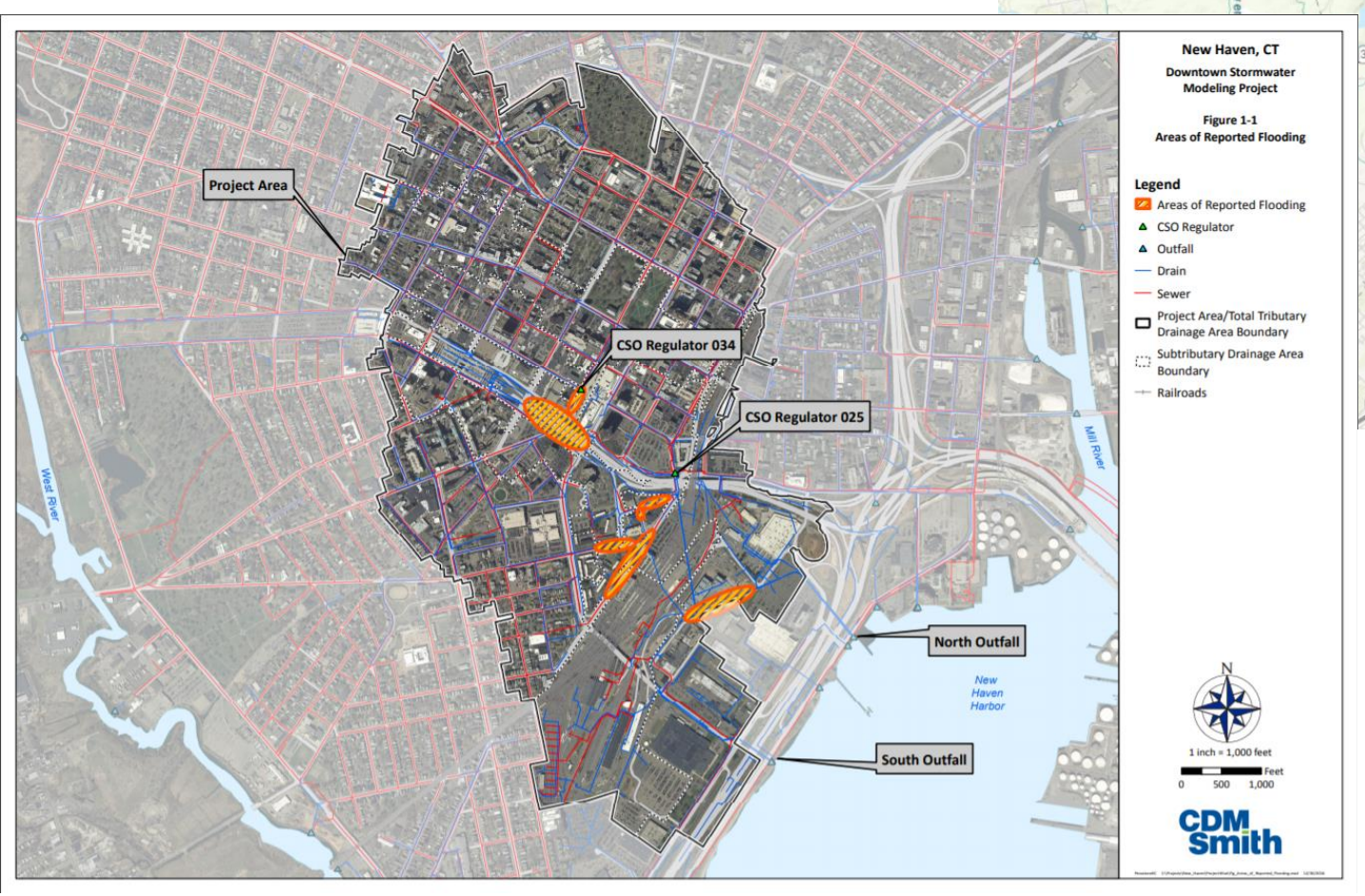
WestCOG Multi-jurisdictional Hazard Mitigation Plan: priority mitigation actions for Norwalk
https://westcog.org/wp-content/uploads/2016/05/HMP-2016-WestCOG-South-Plan.pdf

Table 4.4.3.4-4 Norwalk 2016 Mitigation Strategies Objective C: Whenever practical, incorporate natural hazard mitigation strategies into existing City projects.

ID	Supporting Recommendation	Who	Social	Technical	Administrative	Political	Legal	Economic	Environmental	Total Score	Priority*	Potential Funding Source	Estimated Cost	Hazard Addressed	Approximate Timeline
1.	Raise at-risk pump stations to make them more resilient to natural hazards.	*DPW, OEM*	*3*	*2*	*0*	*2*	*3*	*0*	*3*	*1.86*	*Medium**	*FEMA, USACOE*	*$500,000+*	*Flood, Hurricane, Sea Level Rise*	*7/2018-6/2020*
2.	Raise and expand levee protecting Wastewater Treatment Plant.	*DPW, OEM*	*3*	*3*	*3*	*2*	*3*	*2*	*3*	*2.71*	*High*	*FEMA, EPA, DEEP*	*$4+ million*	*Flood, Hurricane, Sea Level Rise*	*7/2018-6/2021*

WestCOG Multi-jurisdictional Hazard Mitigation Plan: priority mitigation actions for Norwalk
https://westcog.org/wp-content/uploads/2016/05/HMP-2016-WestCOG-South-Plan.pdf

Downtown New Haven Stormwater Drainage Analysis



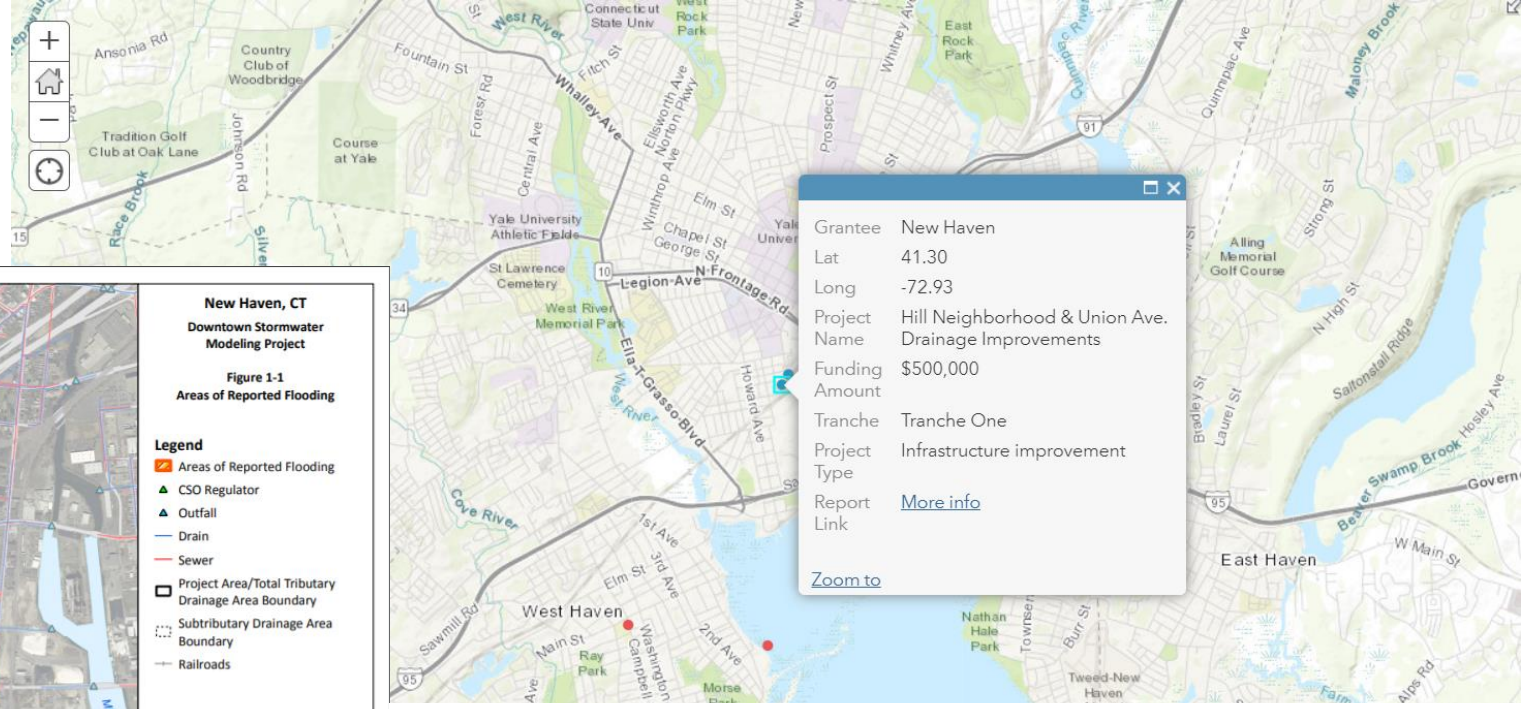


Table 5-2
Alternative 4 – Pumping and Subsurface Storage
Opinion of Probable Project Costs

Total Costs

Description	Pipe Size (in)	Quantity	Unit	Unit Cost	Estimated Cost
200-cfs Pumping Station	--	1	ea	$9,000,000	$9,000,000
Microtunnel Force Main at Railroad Tracks (500 lf)	--	1	ea	$5,000,000	$5,000,000
6-foot Diameter Force Main	72	2,800	lf	$1,550	$4,340,000
Headwall and Riprap Pad		1	ea	$100,000	$100,000
3 to 4.5-Foot Flap Gates	--	3	ea	$25,000	$75,000
3.5-Foot Diameter RCP	42	1,050	lf	$800	$840,000
4-Foot Diameter RCP	48	950	lf	$850	$807,500
Subsurface Storage (6-foot inside depth)	--	6.8	MG	$1,971,176	$13,404,000
Subsurface Storage (5.5-foot inside depth)	--	1.7	MG	$1,919,412	$3,263,000
Subsurface Storage (7.5-foot inside depth)	--	1.0	MG	$1,855,000	$1,855,000
Subtotal					**$38,684,500**
Construction Contingencies (30%)					$11,605,350
Total Construction Costs (May 2016 ENR 10,315)					**$50,289,850**
Construction Cost at Mid-Point of Construction (May 2019)					**$54,953,077**
Engineering and Implementation Costs (25%)					$13,738,269
Opinion of Probable Project Costs (Rounded)					**$68,692,000**

https://www.arcgis.com/home/item.html?id=e660068e6ec9433488384fad129605f4

Examples of Federal Funding for Resilience

https://fas.org/sgp/crs/misc/R45017.pdf

Table 1. Selected Federal Programs That Support Flood Resilience and Risk Reduction Improvements

(dollars in millions [M] or billions [B])

Program	Agency/ Dept.	Type of Assistance	FY2019 Funding[a]	FY19/FY20 Supp. Funds[b]
Flood-Specific Programs				
Flood Mitigation Assistance	FEMA	Grant	$160 M	—
Flood Damage Reduction Projects	USACE	Federal share of project	$946 M	$1.775 B
Flood-Related Continuing Authorities Programs	USACE	Federal share of project	$19.5 M	up to $25 M
Emergency Watershed Protection—Floodplain Easements	USDA	Floodplain easement	$0	$435 M
Mitigation and Resilience Programs				
Pre-Disaster Mitigation (PDM)	FEMA	Grant	$250 M[c]	—
Hazard Mitigation Grant Program	FEMA	Grant	Unknown, determined per disaster	Not directly; see program description.
Watershed and Flood Prevention	USDA	Grant	$197 M (discretionary) $47 M (mandatory)	—
National Coastal Resilience Fund and Emergency Coastal Resilience Fund (administered by NFWF)	NOAA	Grant	$30 M	$50 M
Multipurpose Programs				
Clean Water State Revolving Fund[d]	EPA	Loans and other subsidization	$1.694 B	—
Water Infrastructure Finance and Innovation Act (WIFIA) Program	EPA	Credit assistance (e.g., loan or loan guarantee)	$60 M to cover subsidy costs of ≈$6 B of credit assistance	—
Community Development Block Grant (CDBG)	HUD	Grant	$3 B	—
CDBG Section 108 Loan Guarantees	HUD	Loan guarantee	$300 M loan-commitment ceiling	—
CDBG–Disaster Recovery	HUD	Grant	—	$2.431 B;P.L. 115-254: $1.680 B

Source: Congressional Research Service.

NFWF National Coastal Resilience Fund

https://www.nfwf.org/programs/national-coastal-resilience-fund

- $31 Million annually nationwide
- Eligible applicants include non-profit 501(c) organizations, state and territorial government agencies, local governments, municipal governments, Native American tribal governments, educational institutions, or commercial (for-profit) organizations
- create and restore natural systems in areas that will both increase protection for communities from coastal storms, sea- and lake-level changes, inundation, and coastal erosion, and also improve valuable habitats for fish and wildlife species. NFWF will invest in projects in four focus areas:
  - Community Capacity Building and Planning
    Project Site Assessment and Preliminary Design
    Project Final Design and Permitting
    Restoration and Monitoring
- Capacity building, no max, grants avg. $125k
  Site assessment and preliminary design, no max, avg. $125k
  Final design, no max, avg. $250k
  Restoration and monitoring, no max, avg. $1-2M
- 1:1 Federal to non-Federal match is expected

Long Island Sound Futures Fund 2020

https://www.nfwf.org/programs/long-island-sound-futures-fund/long-island-sound-futures-fund-2020-request-proposals

- $3 Million expected in 2020
- Eligible applicants include non-profit 501(c) organizations, state government agencies, local government, municipal government, Indian tribes, and educational institutions. Ineligible applicants include U.S. Federal government agencies, businesses, and unincorporated individuals.
- ~$20-$300k depending on type of project. Up to $500k for the project with highest impact
- minimum 50/50 federal to non-federal match
- Coastal Resilience & Sustainability – implementing or designing: Natural or green/gray hybrid coastal resilience infrastructure (beneficial use of suitable materials to restore tidal marsh, living shorelines etc.) particularly in vulnerable communities that tend to be disproportionally impacted by stressors.
- New or updated municipal, watershed or regional coastal resilience/sustainability/natural hazard mitigation plans that evaluate the vulnerability of infrastructure, riparian and coastal areas and develop strategies for making these features and infrastructure more resilient to hazardous events (sea level rise and/or weather events).
- Technical assistance to help local communities to build capacity to plan for or to implement resilience through nature-based infrastructure.

US Dept. of Transportation BUILD Grants

(Better Utilizing Investments to Leverage Development)

https://www.transportation.gov/buildgrants/build-nofo

- $7.9 Billion since 2009, ~$1Billion annually
- "BUILD can provide capital funding directly to any public entity, including municipalities, counties, port authorities, tribal governments, MPOs, or others in contrast to traditional Federal programs which provide funding to very specific groups of applicants (mostly State DOTs and transit agencies). This flexibility allows BUILD and our traditional partners at the State and local levels to work directly with a host of entities that own, operate, and maintain much of our transportation infrastructure, but otherwise cannot turn to the Federal government for support."
- $5-25 Million for planning grants

  Activities eligible for funding under BUILD Transportation planning grants are related to the planning, preparation, or design—including environmental analysis, feasibility studies, and other pre-construction activities—of eligible surface transportation capital projects
  - (4) Risk assessments and planning to identify vulnerabilities and address the transportation system's ability to withstand probable occurrence or recurrence of an emergency or major disaster.
- 80/20 federal to non-federal match
- the FY 2020 BUILD program will also give special consideration to projects which emphasize improved access to reliable, safe, and affordable transportation for communities in rural areas, such as projects that improve infrastructure condition, address public health and safety, promote regional connectivity or facilitate economic growth or competitiveness

US Army Corps. of Engineers

Flood Resilience and Risk Reduction

https://www.usace.army.mil/corpsclimate/Climate_Preparedness_and_Resilience/Coastal-Risk-and-Reduction-and-Resilience/

- $ Amount depends on project-specific authorization of appropriations.
- Improvements that reduce riverine and coastal storm damages. These improvements are pursued as individual projects rather than under an authorized national program.
- Flood-damage reduction works, typically engineered works (e.g., levees, engineered dunes and beaches, storm surge gates and dams). Projects generally are required to have national benefits exceeding costs, or address public safety concerns. Projects are generally limited to those that reduce riverine and coastal flood damage; projects generally do not address drainage within a community or flooding from groundwater.
  - Study: typically 50%/50%.
  - Construction: typically 65%/35%. When P.L. 116-20 monies are used, construction costs are 100% federal for ongoing USACE construction projects; for projects other than ongoing construction projects, typical cost sharing applies when using P.L. 116-20 monies.
  - Coastal periodic nourishment: 50%/50%.
  - Operations and maintenance (O&M): O&M is a nonfederal responsibility for most projects (some legacy projects and dams have O&M provided by USACE). Study: typically 50%/50%. When P.L. 116-20 monies are used, the study costs are 100% federal.
- Project-specific congressional authorization determines the geographic scope of the project. USACE has participated in projects in all states, some Indian Reservations, DC, American Samoa, Guam, Commonwealth of the Northern Marianas Islands, Puerto Rico, and U.S. Virgin Islands.

HUD Community Development Block Grant Funds

- Acquisition, construction, reconstruction, rehabilitation, and installation of public facilities and improvements are eligible activities.
- Eligible types of facilities and improvements include:
  - Infrastructure improvements (construction or installation) including, but not limited to streets, curbs, and water and sewer lines;
  - Neighborhood facilities including, but not limited to public schools, libraries, recreational facilities, parks, playgrounds; and
  - Facilities for persons with special needs such as facilities for the homeless or domestic violence shelters, nursing homes, or group homes for the disabled.

HUD Community Development Block Grant Funds

- Eligible costs associated with eligible activities may include:
  - Energy efficiency improvements;
  - Architectural design features and other treatments aimed at improving aesthetic quality (e.g., sculptures, fountains).
- Must meet a “national objective”
  - most commonly used is must benefit all residents of an area where population is 51% Low or Moderate Income (LMI)
- Operations & Maintenance Costs are <u>not</u> eligible activities
- CDBG funds may be used for FEMA 25% Local Match Requirement for Hazard Mitigation Assistance

HUD Community Development Block Grant Funds

For last year, 2019:

Bridgeport	CT	$3,237,448
Bristol	CT	$648,928
Danbury	CT	$605,857
East Hartford	CT	$564,561
Fairfield	CT	$494,420
Greenwich	CT	$818,682
Hamden Town	CT	$480,319
Hartford	CT	$3,517,190
Manchester	CT	$562,699
Meriden	CT	$1,056,363
Middletown	CT	$452,367
Milford Town	CT	$514,608
New Britain	CT	$1,611,445
New Haven	CT	$3,755,586
New London	CT	$839,103
Norwalk	CT	$845,023
Norwich	CT	$828,043
Stamford	CT	$903,194
Stratford	CT	$609,220
Waterbury	CT	$2,126,160
West Hartford	CT	$975,644
West Haven	CT	$735,903
Connecticut Nonentitlement	CT	$13,380,326

- CDBG has no match requirement
- CDBG is an entitlement provided to individual municipalities by formula – dollar amount varies town to town (see table)
- Eligible communities in Connecticut receive funds based on appropriations and an entitlement formula.

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

CONNECTICUT Department of Housing

Quick Guide to CDBG Eligible Activities to Support Infectious Disease Response

March 19, 2020

Grantees should coordinate with local health authorities before undertaking any activity to support state or local pandemic response. Grantees may use Community Development Block Grant (CDBG) funds for a range of eligible activities that prevent and respond to the spread of infectious diseases such as the coronavirus disease 2019 (COVID-19).

For more information, refer to applicable sections of the Housing and Community Development Act of 1974 (for State CDBG Grantees) and CDBG regulations (for Entitlement CDBG grantees).	
Buildings and Improvements, Including Public Facilities	
Acquisition, construction, reconstruction, or installation of public works, facilities, and site or other improvements. *See section 105(a)(2) (42 U.S.C. 5305(a)(2)); 24 CFR 570.201(c).*	Construct a facility for testing, diagnosis, or treatment.
	Rehabilitate a community facility to establish an infectious disease treatment clinic.
	Acquire and rehabilitate, or construct, a group living facility that may be used to centralize patients undergoing treatment.
Rehabilitation of buildings and improvements (including interim assistance). *See section 105(a)(4) (42 U.S.C. 5305(a)(4)); 24 CFR 570.201(f); 570.202(b).*	Rehabilitate a commercial building or closed school building to establish an infectious disease treatment clinic, e.g., by replacing the HVAC system.
	Acquire, and quickly rehabilitate (if necessary) a motel or hotel building to expand capacity of hospitals to accommodate isolation of patients during recovery.
	Make interim improvements to private properties to enable an individual patient to remain quarantined on a temporary basis.

Assistance to Businesses, including Special Economic Development Assistance	
Provision of assistance to private, for-profit entities, when appropriate to carry out an economic development project. *See section 105(a)(17) (42 U.S.C. 5305(a)(17)); 24 CFR 570.203(b).*	Provide grants or loans to support new businesses or business expansion to create jobs and manufacture medical supplies necessary to respond to infectious disease.
	Avoid job loss caused by business closures related to social distancing by providing short-term working capital assistance to small businesses to enable retention of jobs held by low- and moderate-income persons.
Provision of assistance to microenterprises. *See section 105(a)(22) (42 U.S.C. 5305(a)(22)); 24 CFR 570.201(o).*	Provide technical assistance, grants, loans, and other financial assistance to establish, stabilize, and expand microenterprises that provide medical, food delivery, cleaning, and other services to support home health and quarantine.

https://www.hud.gov/sites/dfiles/Main/documents/Quick-Guide-CDBG-Infectious-Disease-Response-031920.pdf

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

CONNECTICUT Department of Housing

Public Services (Capped at 15 Percent of the Grant, With Some Exceptions)[1]	
Provision of new or quantifiably increased public services. *See section 105(a)(8) (42 U.S.C. 5305(a)(8)); 24 CFR 570.201(e).*	Carry out job training to expand the pool of health care workers and technicians that are available to treat disease within a community.
	Provide testing, diagnosis or other services at a fixed or mobile location.
	Increase the capacity and availability of targeted health services for infectious disease response within existing health facilities.
	Provide equipment, supplies, and materials necessary to carry-out a public service.
	Deliver meals on wheels to quarantined individuals or individuals that need to maintain social distancing due to medical vulnerabilities.
Planning, Capacity Building, and Technical Assistance	
States only: Planning grants and planning only grants. *See section 105(a)(12).*	Grant funds to units of general local government may be used for planning activities in conjunction with an activity, they may also be used for planning only as an activity. These activities must meet or demonstrate that they would meet a national objective. These activities are subject to the State's 20 percent administration, planning and technical assistance cap.
States only: use a part of to support TA and capacity building. *See section 106(d)(5) (42 U.S.C. 5306(d)(5).*	Grant funds to units of general local government to hire technical assistance providers to deliver CDBG training to new subrecipients and local government departments that are administering CDBG funds for the first time to assist with infectious disease response. This activity is subject to the State's 3 percent administration, planning and technical assistance cap.
Entitlement only. data gathering, studies, analysis, and preparation of plans and the identification of actions that will implement such plans. *See 24 CFR 570.205.*	Gather data and develop non-project specific emergency infectious disease response plans.

https://www.hud.gov/sites/dfiles/Main/documents/Quick-Guide-CDBG-Infectious-Disease-Response-031920.pdf

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

CONNECTICUT Department of Housing

Challenges to Utilizing Federal Funds in CT

- Uneven capacity among towns
  - *Technical, planning, grant writing, local matching funds*
- Home rule and lack of county govt. makes coordinating investments difficult
  - *COGs increasingly playing role*
- Big but manageable problems
  - *Other states may require more Federal support*
- Federal funding challenges before and after COVID19
  - *Need to embed resilience as design standard into existing capital improvement processes and planning*

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

Description of the FEMA Community Lifeline Concept (FEMA, 2019).

The **Community Lifelines** concept was born as a result of the numerous unprecedented multi–billion-dollar disasters that occurred in 2017 and 2018. The Community Lifelines concept is a framework for incident management that provides emergency managers with a reporting structure for establishing incident stabilization. Introducing the Community Lifelines at the federal level was a necessary change, as it allows for FEMA to clearly visualize where to simultaneously deploy its limited resources to multiple entities, including states, tribal nations, and island territories.

https://www.fema.gov/lifelines

Community Lifelines

lifelines@fema.dhs.gov

fema.gov/media-library/assets/documents/177222

Definition

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

Purpose

- Root Cause Analysis
- Interdependencies
- Prioritization
- Ease of Communication

Assessing

- Status ⟶ What?
- Impact ⟶ So What?
- Actions ⟶ Now What?
- Limiting Factors ⟶ What's the Gap?

Stabilization

Occurs when basic lifeline services or capabilities are provided to survivors (may be temporary solutions requiring sustainment).

COMPONENTS of Lifelines

- **Safety and Security**
  - Law Enforcement/ Security
  - Fire Services
  - Search and Rescue
  - Government Services
  - Community Safety
- **Food, Water, Shelter**
  - Food
  - Water
  - Shelter
  - Agriculture
- **Health and Medical**
  - Medical Care
  - Patient Movement
  - Public Health
  - Fatality Management
  - Medical Supply Chain
- **Energy (Power & Fuel)**
  - Power (Grid)
  - Fuel
- **Communications**
  - Infrastructure
  - Alerts, Warnings, and Messages
  - 911 and Dispatch
  - Responder Communications
  - Finance
- **Transportation**
  - Highway/Roadway
  - Mass Transit
  - Railway
  - Aviation
  - Maritime
- **Hazardous Materials**
  - Facilities
  - HAZMAT, Pollutants, Contaminants

https://www.fema.gov/lifelines