Municipal Vulnerability Preparedness Program Action Grant Case Study

Municipality: City of New Bedford
Project Title: Green Infrastructure Master Strategy and Implementation Roadmap
Award Year (FY): 22
Grant Award: $ 432,440
Match: $ 156,830
Match Source: $X in-kind staff time and $X cash
One or Two Year Project: one year
Municipal Department Leading Project: Departments of Public Infrastructure and Resilience and Environmental Stewardship
Project Website URL: https://nbresilient.com/category/green-infrastructure#green-infrastructure-master-strategy-and-implementation-roadmap

Community Overview:

- What is the population size of your community and where is it located?

  New Bedford is located on the south coast of Massachusetts, about 15 miles west of Cape Cod and 45 Miles south of Boston, with a population of 101,079 residents.

- Do you have any Environmental Justice or other Climate Vulnerable communities? (Think about both those who live and work in your town.)

  The majority of New Bedford's neighborhoods are designated Environmental Justice communities whose residents also work in the City. Many of those employed on the working waterfront and other industries walk or bike to work and many work without air conditioning and/or outside, exposed to weather events.

- Other unique traits of your municipality like who the top employers are, geography, history, etc.

  New Bedford has been the Number 1 Fishing Port in the United States for the past twenty years in a row. Between the fleet and related processing and cargo handling, the Port of New Bedford provides nearly 7,000 direct jobs[1]. About 50 acres of waterfront have been or are in the process of being redeveloped to support the burgeoning off-shore wind industry, and New Bedford's focus is on supporting this growth while increasing the resilience of our fishing industries.

  Manufacturing provides nearly 13% of employment with Joseph Abboud Manufacturing, Acushnet Company/Titleist, Brittany Dye and Printing as some of the largest employers. Healthcare and education also provide substantial employment opportunities with St.

[1] Full-2019-Martin-Report.pdf (portofnewbedford.org)

Luke's Hospital, UMassDartmouth's School for Marine Science & Technology, the New Bedford campus of Bristol Community College, and New Bedford Public Schools serving 13,000 students within the City.

Project Description and Goals:

- Where was the project located?

  The project was a city-wide evaluation including all nine combined sewer overflow groups.

- What climate change impacts did the project address?

  Increasing volume of precipitation and increased heat.

- What were the specific goals and tasks of the project as stated in your application?
  - Identify G.I. opportunities throughout the City in an impactful and equitable way;
  - Develop BMPs for design, installation and maintenance of G.I. installations;
  - Provide educational opportunities about G.I. and maintenance BMPs;
  - Plan for development and provide tools to developers and engineers to comply with and implement requirements of the City's Stormwater Management Rules and Regulations;
  - Evaluate wetlands ordinances to incorporate G.I. where appropriate; and
  - Proceed strategically with cost-effective solutions to reduce urban flooding areas and improve water quality and drainage capacity, as well as improve the aesthetics and quality of life within neighborhoods.

- Did your project meet the goals set forth in your application in terms of:
  - Employing nature-based solutions

    Yes – Bioswales, street trees, and rain gardens were key components of the plan.

  - Improving equitable outcomes for and fostering strong partnerships with EJ and other Climate Vulnerable Populations

    Yes – We identified G.I. opportunities in all neighborhoods and included schools, affordable housing, and sidewalk areas.

  - Providing regional benefits

    Yes – Surface waters receiving stormwater discharge from the City are part of the Buzzards Bay Watershed and implementation of the plan will reduce volume and increase water quality.

- Implementing the public involvement and community engagement plan set forth in your application

  Yes – We presented to at least one meeting in all neighborhoods and multiple meetings in some neighborhoods. We were able to provide real examples of pilot projects throughout the City and the online survey about the project provided the opportunity for robust feedback.

- Finishing the project on time

  Somewhat – This project had been planned for a 12-month duration and we should have foreseen the 6-week delay in starting the process upon award rather than the start of the fiscal year. We needed the full 30-day "grace period" into July 2022.

Results and Deliverables:

- Describe, and quantify (where possible) project results (e.g. square footage of habitat restored or created, increase in tree canopy coverage, etc.). Report out on the metrics outlined in your application.

  Many of the metrics are long-term trends such as surface water quality improvement and reduction in beach closure days. The January 2017 *New Bedford* Long-Term CSO Control and Integrated Capital Improvements Plan (Integrated Plan) described proposed resolutions for CSO control that addressed water quality issues and needs, regulatory requirements and City initiatives for enhancement and revitalization of the community. The City identified CSO Groups 1, 2, and 3 as locations for the implementation of green infrastructure. For CSO Group 1, the Integrated Plan estimated that 65 acres of the 130 acres of the impervious area tributary to CSO Regulator 003B could be retrofitted for treatment by green infrastructure. Green infrastructure opportunities identified by this Green Infrastructure Master Strategy project within CSO Group 1 are projected to provide treatment for 157 impervious acres, far exceeding the City's goal of treating 65 impervious acres.

  Within CSO Group 2, the Integrated Plan estimated that 20 acres of the 40 acres of impervious area could be retrofitted with green infrastructure to treat the first flush of pollutants prior to discharge to Clarks Cove. The green infrastructure opportunities identified in CSO Group 2 in this Master Strategy project treat 20 impervious acres, matching the City's goal of 20 acres. For this CSO group, all of the treated impervious area will be treated in right-of-way bioswales.

  For CSO Group 3, the Integrated Plan estimated 60 acres of impervious area could be retrofitted with green infrastructure to treat the first flush of pollutants prior to

discharge to the Outer Harbor. The green infrastructure opportunities identified in CSO Group 3 is 75 acres, which is 25 percent higher than the City's goal of 60 acres.

For CSO Groups 4 through 9, the total proposed impervious area to be treated in this Green Infrastructure Master Strategy is 316 acres. Overall, this Master Strategy plan identified approximately 270 green infrastructure opportunities managing a total impervious area of 569 acres.

Provide a brief summary of project deliverables with web links, if available.

Most project deliverables are available at: https://nbresilient.com/category/green-infrastructure#green-infrastructure-master-strategy-and-implementation-roadmap

Lessons Learned:

- What lessons were learned as a result of the project? Focus on both the technical matter of the project and process-oriented lessons learned.

  These projects need to use a 10-month timeline rather than 12 months.

  There were many residents who are apprehensive about long-term project maintenance so we really need to plan ahead and commit to ensure success.

  We learned through the public survey that New Bedford citizens prefer vegetated green infrastructure with the addition of trees over hardscapes. These types of green infrastructure often require more maintenance than other types, which further emphasizes the need to plan ahead and commit to regular maintenance for success.

- What is the best way for other communities to learn from your project/process?

  The deliverables at the link above provide information for almost any level of interest and expertise from the Summary and PowerPoint presentation to the full Final Report.

Partners and Other Support:

- Include a list of all project partners and describe their role in supporting/assisting in the project.

  The City worked with the following neighborhood associations to present and discuss the project initiatives at their meetings:

  - AJ Gomes Neighborhood Association
  - North End Neighborhood Association
  - West End Neighborhood Association

- Buttonwood Neighborhood Association
- Cove Street Neighborhood Association
- Clark's Point Neighborhood Association

Groundwork South Coast provides stewardship of several open spaces throughout the City and their youth "Green Team" has undergone G.I. training necessary to execute proper maintenance activity.

The U.S. EPA provided $13,500 for three City staff to become qualified to teach Green Infrastructure techniques internally and to the public to build stewardship capacity.

The New Bedford Department of Community Services provided meeting support with translation and outreach materials.

The New Bedford Department of Parks, Recreation, and Beaches provided staffing at community meetings and discussed pilot projects in planning or implementation.

Project Photos:

- In your electronic submission of this report, please attach (as .jpg or .png) a few high-resolution (at least 300 pixels per inch) representative photos of the project. Photos should not show persons who can be easily identified, and avoid inclusion of any copyrighted, trademarked, or branded logos in the images. MVP may use these images on its website or other promotional purposes, so please also let us know if there is someone who should receive credit for taking the photo.